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The Student Career Construction Inventory

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ABSTRACT

To address counselors' need for a reliable measure of career adapting thoughts and behaviors as well as researchers' need for a specific measure of adapting as a dimension in the model of career adaptation, we developed the Student Career Construction Inventory (SCCI). In the study, 486 high school students (55% female), 290 college students (59% female), and 220 graduate students (82% female) responded to the SCCI. The SCCI contains 18 items across four scales assessing: (a) Crystallizing a vocational self-concept, (b) Exploring to gather information about occupations, (c) Deciding to commit to an occupational choice, and (d) Preparing to implement that choice. The four scales interrelate to constitute a continuum reflecting the general factor of adapting responses during the exploration stage of a career. Each scale assesses a specific group factor reflecting a particular career construction task involving crystallizing, exploring, deciding, and preparing. The results of a confirmatory factor analysis indicated that the SCCI displays configural and measurement invariance, meaning that its factor structure is replicable and generalizable across high school, college, and graduate students. The SCCI did not show scalar invariance because, as expected, the mean scores for the scales were elevated for older and more educated participants. The SCCI, as a measure of adapting responses, correlated as predicted with concurrent measures of three criteria: adaptive readiness, adaptability resources, and adaptation results. A provisional test of the career construction adaptation model indicated that, as hypothesized, adapting behaviors mediate the relationship between adaptability resources and adaptation outcomes.

1. Introduction

To address counselors' need for a reliable measure of adapting responses to career construction tasks as well as researchers' need for a specific measure of the adapting dimension in the career construction model of adaptation, we developed the *Student Career Construction Inventory* (*SCCI*). The inventory purports to measure adapting responses, which consist of vocational thoughts and behaviors, involved in constructing a career choice. This article presents the *SCCI*, which has not been previously published, and describes its construction and presents initial evidence of its validity. As an introduction, the first section of the article explains the career construction rationale for the inventory and describes the content outline. The next section discusses the item pool and how it was reduced to produce a Research Form of the *SCCI*. The final sections report the construct and criterion validity evidence for using the *SCCI* with high school, college, and graduate students.

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2. Career construction model of adaption

Given the numerous measures of career development already available, the need for a new measure must be firmly established before attempting to construct a unique inventory. The *SCCI* was designed as a *specific measure* (Hirschi, Freund, & Herrmann, 2014) of career adapting responses as linguistically explicated in the theoretical model of career adaptation (Savickas, 2013). Adapting responses constitute the third of the four dimensions in that model. The first dimension consists of *adaptive readiness*, which denotes a personality trait implying a willingness and readiness to change. Along with adaptive readiness, one needs resources with which to make fitting choices. Thus, the second dimension in the model is *adaptability resources*, which denotes psychosocial construct that denotes self-regulation resources for dealing with change. Adaptability resources condition *adapting responses*, that is, performance of actual behaviors that address changing career conditions and making occupational choices. *Adaption results*, the fourth dimension in the model, denote the outcome of adapting responses in terms of goodness of fit between the individual and occupational position as indicated by success, satisfaction, and stability. Together the four dimensions form an optimal sequence for making occupational and bridging transitions. In short, the adaptation model proposes that adaptive readiness mobilizes adaptability resources that shape adapting responses to produce adaptation results.

The step in this sequence that is most relevant to the present research states that adapting responses mediate the relation between adaptability resources and adaption results. To test the proposition requires a measure of adapting responses to the career construction tasks of planning, exploring, deciding and implementing an occupational choice. There are numerous measures of the personality dimension of adaptive readiness (e.g., proactivity, promotion focus, emotional intelligence), the psychosocial dimension of adaptability resources (e.g., attitudes, beliefs, competencies), and the person-environment fit dimension of adaptation results (e.g., decidedness, certainty, commitment, satisfaction) but there is no *specific measure* of adapting responses designed to or useful in operationally defining fully the performance dimension of the career adaptation model.

3. Measures of generic and particular adapting responses

3.1. Measures of generic adapting responses

A few measures of adapting responses do already exist, and they have been identified by Rudolph, Lavigne, and Zacher (2017) in a meta-analysis of career adaptation research. At first glance, the titles of these measures suggest that they may be used to test the career construction model of adaptation. However, none of the measures are specifically relevant to fully testing the adapting responses dimension of the adaption model. The measure most directly similar to the *SCCI* is the *Career Engagement Scale* (Hirschi et al., 2014), which is a generic measure of "the general degree to which an individual engages in adapting behaviors" (p. 576). Intended for both students and workers, the nine items in the scale ask about behaviors during the previous six months, with the last three items asking about networking, training, and advancement. Two sample items are: "Actively sought to design your professional future" and "Undertook things to achieve your career goals." The scale serves as a parsimonious measure of the *generic* construct of career adapting thoughts and behaviors at "a general level without specifically addressing differences between distinct behaviors" (p. 576). Hirschi et al. (2014) advised that "Specific measures are useful if someone is interested in testing specific theories" (p. 576). This advice applies to the *SCCI* because to fully test the career adaptation model requires not a generic measure but a *specific* measure that assesses the distinct thoughts and behaviors that compose the adapting responses dimension of the career construction model of adaptation.

3.2. Measures of particular adapting responses

A few measures of particular career adapting responses have been identified by Rudolph et al. (2017). Each of these measures was designed to asses a circumscribed set of adapting responses such as exploring *or* planning. Thus, they are not sufficiently comprehensive to test the career adaptation model that includes the adapting responses of planning, exploring, deciding, *and* implementing. The most widely used measure of particular adapting responses is the *Career Exploration Survey* (Stumpf, Colarelli, & Hartman, 1983) that assesses self-exploration (5 items) and environmental exploration (6 items) during the last six months. A sample item is "Sought information on specific areas of career interest." Career planning behaviors have been measured with two different scales. The *Career Strategies Inventory* (Gould, 1979; Penley & Gould, 1981) has been used in several studies, particularly using three items: "I am planning what I want to do in the next few years of my career," "I am thinking ahead to the next few years and plan what I need to do for my career," and "I engage in career path planning." A second measure of career planning behaviors is the six-item *Career Planning Scale* (Abele & Wiese, 2008). A sample item is: "I have a strategy for reaching my career goals."

Rudolph et al. (2017) included measures of career self-efficacy with measures of adapting responses. We prefer the more precise model of career adaptation which inserts the state of self-efficacy between adaptability resources and adapting responses. After studying these existing measures of particular adapting responses, we concluded that none of them, alone or in combination, are sufficiently comprehensive to measure adapting behaviors and test hypotheses in the career construction model of adaptation.

4. Construction of the *SCCI-Research Form*

We designed the *SCCI* to be a comprehensive and specific measure of student responses to the primary career construction tasks encountered by adolescents and emerging adults. Focusing on measuring these tasks in students avoided the measurement problems

caused by trying to measure adapting responses in adults "recycling" through the tasks (Savickas, Passen, & Jarjoura, 1988; Super & Knasel, 1981).

4.1. Conceptual model

The first step in crafting a specific measure of adapting response was to linguistically explicate a conceptual framework to structure the career constructs that form the domain. Special attention was devoted to clearly delineating the career construction tasks of the career exploration stage, which essentially involve *deciding* upon an occupational choice based on *self-knowledge* and *occupational information* and then *committing* to that choice and turning it into an actuality by pursuing relevant *training* and *searching* for a position in that occupation.

4.2. Item pool

To construct a first draft of what would become the *Student Career Construction Inventory*, we wrote 90 items that addressed the six career construction tasks of learning about self, exploring occupations, making decisions, committing to a choice, seeking relevant education or training, and searching for a position. Each task was represented by 15 items. The 90 items were stated with a verb in the form of a present participle functioning as a noun and describing an action in response to a task (e.g., Finding out where my talents lie). The adapting response options consist of five statements that form a continuum of dealing with a task that move from *anticipating* a response through *engaging* in a response to *completing* a response (Super, Zelkowitz, & Thompson, 1975). Individuals respond to the items using the following response scale: 5 = I have already done this; 4 = I am now doing what needs to be done; 3 = I know what to do about it; 2 = I have thought about it but do not yet know what to do about it; and 1 = I have not yet thought much about it.

4.3. Items' correlation to vocational identity and decisional difficulties

We evaluated the usefulness of the 90 items in two samples of students. The first sample consisted of 228 students (63% female, 32% male, and 5% unidentified) enrolled in the Education and the Mathematics Departments of a public university in the Midwest. They had a mean age of 21.2 years, with 19% freshmen, 24% sophomores, 17% juniors, 24% seniors, and 4% graduates, and 11% unidentified. The second sample consisted of 200 eleventh and twelfth grade students, 25 males and 25 females from each of four high schools located in diverse communities. Combining the samples provided for heterogeneity of chronological age and developmental level among the 428 participants.

The participants responded to 90 items along with two criterion scales. The first criterion was the total score on the unidimensional *Vocational Identity Scale* (*VIS;* Holland, Daiger, & Power, 1980), which measures possession of a clear and stable picture of one's own talents, interests, and goals. It was expected that all 90 items would correlate positively and moderately to the *VIS* total score. The second criterion measure was the *Career Factors Inventory (CFI;* Chartrand, Robbins, Morrill, & Boggs, 1990), which is a multidimensional measure of the antecedents of career indecision. The *CFI* contains two information factors (i.e., Need for Career Information and Need for Self-Knowledge) and two personal-emotional factors (i.e., Career Choice Anxiety and Generalized Indecisiveness). It was expected that the items for learning about self should correlate strongest to the *CFI* need for self-knowledge and the exploring items would correlate strongest to the *CFI* Need for Career Information scale. Furthermore, it was expected that making decisions and committing to a choice items should correlate strongest and negatively to the *CFI* Career Choice Anxiety scale, and the seeking training and searching for a position items should correlate strongest and negatively to the *CFI* Generalized Indecisiveness scale.

4.4. Item selection for the SCCI

To identify items from the pool for use in construction of a *SCCI Research Form*, the following analyses were conducted: (a) factor analysis of the item pool, (b) item correlations to the intended scales, and (c) item correlations to the criterion scales. Exploratory factor analysis of the 90 items produced five factors with eigenvalues greater than one. The first four factors coincided with intended scales for learning about self, exploring occupations, seeking relevant education or training, and searching for a position. The fifth factor combined items from the intended scales for making decisions and committing to a choice. In producing the *SCCI*, an item was eliminated from the pool if it (a) did not load on the predicted factor, (b) correlated < 0.6 with its intended scale, (c) correlated higher with a different scale, or (d) did not correlate significantly to the relevant scales among the criterion measures. A few items were also removed because they correlated almost equally with two scales, even if the higher correlation coefficient was with the intended scale.

4.5. Student Career Construction Inventory-Research Form

Based on these results, we prepared a *Research Form* of the *Student Career Construction Inventory* (*SCCI-RF*) that contained five scales with a total of 25 items*: crystallizing* vocational self-concept (7 items), *exploring* occupations (7 items), *deciding* on an occupational choice (5 items), *skilling* or instrumentation to get relevant training (4 items), and *transitioning* from school to work (2 items). Individuals responded to *SCCI-RF* using the same response options (5 = I have already done this; 4 = I am now doing what needs to

be done; 3 = I know what to do about it; 2 = I have thought about it but do not yet know what to do about it; and 1 = I have not yet thought much about it). The *SCCI-RF* appears in Appendix I.

To prepare a final form of the *SCCI*, we examined the construct validity of the *SCCI-RF* using factor analyses of responses collectively and separately by high school, college, and graduate students. We also investigated whether scalar invariance holds within an age group such as high school students but not across age groups such as high school students and graduate students. Then we studied the concurrent validity of the *SCCI* expecting that *SCCI a*dapting responses would have low to moderate correlations to criterion measures of both adaptability resources and adaptation results because in the career construction model of adaption, adapting responses mediate between adaptability resources and adaptation results.

5. Methods

5.1. Participants

To estimate the population item inter-correlations and adequately map the factor space, we used a heterogeneous sample of students. We recruited high school, college, and graduate students by visiting their classrooms and reading IRB approved participant recruitment scripts. The students who volunteered responded to the inventories during regularly scheduled class periods and received feedback information. The total sample consisted of 996 students, with 63% being female. The high school sample consisted of 486 (55% female) tenth and eleventh grade students enrolled in required English classes in a suburban school in the Midwest. They had a mean age of 16.5 years (SD = 1.23) and were 71% Caucasian, 21% African-American, 2% Asian, and 5% were another race or biracial. The high school students' data was originally collected for another project; the data from the *CAAS* and the *Vocational Identity Status Assessment* (Porfeli, Lee, Vondracek, & Weigold, 2011), but not the *SCCI*, were previously published (Porfeli & Savickas, 2012). The college sample consisted of 290 students (59% female) in their second semester of their first year at a state university in the Midwest. For those students the mean age was 18.68 (SD = 0.62). They had not declared an academic major and were enrolled in a career exploration course designed to prepare them to declare an academic major after exploring self and careers. The graduate sample consisted of 220 students (82% female) with a mean age 28.4 (SD = 8.5). They were enrolled in Master of Education programs in school counseling, vocational rehabilitation, clinical mental health counseling, and higher education administration and student personnel at the same state university in the Midwest.

5.2. Measures

All participants responded to the *SCCI-RF* and the *Career Adapt-Abilities Scale (*Porfeli & Savickas, 2012). In addition, the high school students responded to the *Vocational Identity Status Assessment* (Porfeli et al., 2011) and the college students responded to both the *Vocational Identity Scale* (Holland et al., 1980) and *Career Maturity Inventory-Form C* (Savickas & Porfeli, 2011).

5.2.1. Career Adapt-Abilities Scale (CAAS)

The *CAAS (*Porfeli & Savickas, 2012) contains 24 items that combine to form a total score which indicates career adaptability. Participants responded to each item employing a scale from 1 (not strong) to 5 (very strong). The 24 items are equally divided into four subscales that measure the adaptability resources of concern, control, curiosity, and confidence. The initial publication of the *CAAS* (Porfeli & Savickas, 2012) reported a coefficient alpha of 0.94 for the total score and alphas ranging from 0.74 to 0.85 for the four subscales. For the high school students in the present study the alpha coefficient was 0.94, with subscale alphas ranging from 0.80 to 0.90. The CAAS validity has been supported and its nomological network established by results reported in over 50 published studies.

5.2.2. Vocational Identity Status Assessment (VISA)

The *VISA* (Porfeli et al., 2011) has three dimensions that assess the vocational processes of exploration, commitment, and reconsideration that indicate progress toward identity achievement. While the conceptual model sources from the identity status literature, each *VISA* dimension also aligns well with dimensions in the career adaptation model. The *VISA* Exploration Dimension is aligned with adapting responses with 10 items split evenly across two scales. The first scale measures in-breadth exploration (e.g., “Right now I am learning about various jobs that I might like”) and the second scale measures in-depth exploration (e.g., “Right now I am identifying my strongest talents as I think about careers”). We used the two Exploration Dimension scales as measures of adapting responses, in particular information seeking from the career adaptation model. We expected lower correlations between in-breadth exploration and the *SCCI-RF* because diffuse exploration involves learning about various career options that might be of interest. We expected higher correlations between in-depth exploration and the *SCCI-RF* because focused exploration involves learning particulars about occupations actually under consideration and in reference to an emerging sense of self in the worker role.

The *VISA* Commitment Dimension scales measure adaptation results. The Dimension contains 10 items evenly split across two scales that measure extent of commitment to an occupation (e.g., “I know what kind of work is best for me”) and degree of identification with that commitment (e.g., “My career will help me satisfy deeply personal goals”). We expected the *SCCI-RF* to correlate higher to Commitment to an Occupation than to Identification with that Commitment because the Commitment Scale measures decidedness whereas the Identification Scale measures reasons that support commitment to that decision.

The Career Reconsideration Dimension scales measure adaptive readiness, although inversely. The two 5-item scales in this dimension measure reasons for remaining uncommitted to an occupational choice, and by extension lack readiness to mobilize

adaptability resources and engage in adapting responses. The Career Commitment Flexibility Scale measures the degree to which one is open to changes in themselves and their career choice (e.g., "My work interests are likely to change in the future"). The Flexibility Scale measures "active and ongoing consideration of alternatives and a recognition and acceptance that one's career choice, interests, and values might change in the future as a consequence of learning and experience" (Porfeli et al., 2011, p. 857). High scores on flexibility may be expected among individuals who are relatively early in the career decision-making process as well as individuals who acknowledge that that they have much to learn, need more experience and are open to doing so. The second scale measures self-doubt, that is, uncertainty about career choice and becoming a worker (e.g., "Thinking about choosing a career makes me feel uneasy"). Self-doubt has been shown to relate to personality characteristics that interfere with career decision making. In short, individuals who score high on flexibility and/or self-doubt display more reluctance than readiness to engage in the career decision-making process. Flexibility is a more adaptive and self-doubt a more maladaptive rationale to reduce or forestall adapting responses. We expected the *SCCI-RF* to correlate negatively to both *VISA* Reconsideration Dimension scales because self-doubt and the flexibility to remain uncommitted both suggest more reluctance than readiness to engage in adaptability responses.

All six *VISA* scales use a Likert response format ranging from (1) strongly agree to (5) strongly disagree. Prior research has shown the *VISA* to relate as expected to core self-evaluation, anxiety, and work valence. Coefficient alphas for high school students ranged from 0.60 to 0.81 and for college students from 0.62 to 0.83 (Porfeli et al., 2011). For students in the present study the coefficient alphas ranged from 0.75 to 0.84.

5.2.3. Vocational Identity Scale (VIS)

The *VIS* (Holland et al., 1980) uses 18 items answered true or false to measure the degree to which individuals possesses a clear and stable picture of their goals, interests, and talents. The 18 items evolved from research on career indecision and the *VIS* is highly correlated to decidedness. In the adaptability model, it measures an adaptation result, namely vocational identity in terms of career choice decidedness. A comprehensive summary of the evidence for the validity and reliability of the *VIS* for the period 1980–1992 concluded that the scale has substantial construct validity and retest reliability (Holland, Johnston, & Asama, 1993). We expected the *SCCI-RF* to correlate strongly and positively to the *VIS*.

5.2.4. Career Maturity Inventory–Form C (CMI)

The *CMI* (Savickas & Porfeli, 2011) is a revision of Crites' (1965) inventory that shortened it by empirically selecting 24 items from the original 75 items to compose *Form C*. The participants responded agree or disagree to the 24 items that as a total score measures attitudes toward making an occupational choice. In addition to the total score, *Form C* provides scores for four six-item subscales that measure career concern, curiosity, consultation, and confidence. In the career construction adaptation model, the *CMI-Form C* measures adaptability resources, in terms of attitudes toward career decision making. Savickas and Porfeli (2011) reported that the *CMI-Form C* had a coefficient alpha of 0.84 and correlated 0.87 to the *VIS*. The *Form C* total score also correlated highly ($r = 0.95$) with the original *CMI*, suggesting the possibility that the extensive validity evidence for the original *CMI* extends to some degree to *Form C*. We expected the *SCCI-RF* to correlate strongly and positively to the *CMI-C*.

6. Results

This section begins with the results of the exploratory and confirmatory factor analyses of the *SCCI-RF* that were used to produce the final form of the *SCCI*. The next paragraphs describe the SCCI in terms of its measurement invariance, descriptive statistics, internal consistency, and criterion-related validity.

6.1. Exploratory factor analysis

Before analyzing the *SCCI-RF* data, we randomly divided the data in half to form two groups of 498 students each. We conducted an exploratory factor analysis on the first group. Principal-axis factoring extracted four factors with eigenvalues greater than one. Together the four factors, with a total of 18 items, explained 73.05% of the variance. The first factor, with an eigenvalue of 8.45, explained 46.93% of variance. The second factor, with an eigenvalue of 2.37, explained 13.17% of the variance. The third factor, with an eigenvalue of 1.23, explained 6.81% of the variance. And the fourth factor, with an eigenvalue of 1.11, explained 6.14% of the variance.

All 18 items loaded positively on the first factor. The mean correlation between the items and the first factor was 0.55. The lowest communality was 0.36 for "knowing how other people view me." The highest was 0.84 for "selecting an occupation that will satisfy me." The high first-factor concentration combined with substantial item loading form a strong case (Comrey, 1973) for the presence of a general factor in the *SCCI*. Consistent with the saturation of item variance in a general factor, the items attained a coefficient alpha of 0.93. This index of homogeneity reflected a high degree of internal consistency among the items and justified reporting a total score. It also indicated that the inventory far exceeded the minimum level of reliability needed to evaluate individual scores.

The four extracted factors with eigenvalues greater than one were rotated to interpret the underlying factor constructs and compare these constructs to the *SCCI* scales. Because the four factors are postulated to be aspects of a more general construct, we computed an oblique rotation using Promax with Kaiser normalization. The factor correlations appear in Table 1. All the correlations were above 0.51 with exception of the 0.36 correlation between Exploring and Deciding. This suggests that the four factors share appreciable variance and may indicated the presence of a higher-order factor.

The presence of four factors was slightly inconsistent with the intent of the *SCCI* to measure five career construction tasks. The five

Table 1
Student Career Construction Inventory Factor Correlation Matrix.

Factor	1	2	3	4
1	1.00			
2	0.51	1.00		
3	0.68	0.36	1.00	
4	0.67	0.56	0.57	1.00

N = 498 Oblique rotation using Promax with Kaiser normalization.

items from the career decision-making scale remained intact. The two-item transitioning from school-to-work scale merged with the two items from the skilling scale to form one four-item factor which we called Preparing. The two items eliminated were: "Developing special knowledge or skill that will help me get the job I want" and "Making plans for my job search." Only one of the seven crystallizing items was eliminated: "Setting goals for myself." The majority of eliminated items came from the seven-item Exploring scale. Four items were eliminated because they shared a substantial amount of common variance which was unexplained by the proposed factor. The four eliminated items were: "Interviewing people in a job that I like," "Discussing my career with teachers and advisors," "Working at a part-time job related to my interests," and "Determining the training needed for jobs that interest me." Overall, the number of items in the *SCCI* was reduced from 25 to 18. The final version of the *SCCI* grouped the 18 items into four scales: Crystallizing, Exploring, Deciding, and Preparing. The four factors underlying the four scales were well-defined, having mostly large loadings as can be seen in Table 2.

Based on the exploratory factor analysis of half of the data, we concluded that the *SCCI*'s high domain generalizability and reliability supported the conclusion that the SCCI measures a narrow scope of human behavior. We concluded that the inventory measures a single general factor corresponding to career construction among students during the exploration stage of their careers and that the four group factors correspond to specific career construction tasks.

6.2. Confirmatory factor analysis

We employed the second half of the randomly assigned sample ($N = 498$) with AMOS 16 to compute a Confirmatory Factor Analysis (CFA) model for the *SCCI* items. We employed multi-group CFA (Jöreskog, 1971) to assess the measurement invariance of the model across the three age groups consisting of 243 high school students, 145 college students, and 110 graduate students.

In Table 3, the first block labeled "Combined Group" presents the results from the item-level CFA which involves modeling the data for all participants. The Comparative Fit Index (CFI) produced a value of 0.955. A value of CFI ≥ 0.95 is presently recognized as indicative of good fit (Hu & Bentler, 1999). The Roots Mean Square Error of Approximation (RMSEA) value of 0.065 is between the values of 0.05 and 0.08, the range that indicates a close to good fit. The Standardized Root Mean Square Residual (SRMR) value of 0.045 falls below 0.05 which can be interpreted as an indicator of good fit (Cangur & Ercan, 2005). The combination of the CFI indicating good fit, RMSEA indicating close to good fit, and the SRMR indicating good fit suggest that the measurement model fits the data reasonably well.

Table 2
Student Career Construction Inventory Items and Factor Loadings.

SCCI Items	Factor 1 Crystallizing	Factor 2 Exploring	Factor 3 Deciding	Factor 4 Preparing
Crystallizing: Forming a clear picture of my personality.	0.76			
Crystallizing: Recognizing my interests and abilities.	0.76			
Crystallizing: Determining what values are important to me.	0.78			
Crystallizing: Knowing how other people view me.	0.65			
Crystallizing: Identifying people that I want to be like.	0.53			
Crystallizing: Finding out what my interests are.	0.71			
Exploring: Learning about different types of jobs.		0.77		
Exploring: Reading about occupations.		0.90		
Exploring: Investigating occupations that might suit me.		0.84		
Deciding: Deciding what I really want to do for a living.			0.96	
Deciding: Finding a line of work that suits me.			0.92	
Deciding: Selecting an occupation that will satisfy me.			0.97	
Deciding: Planning how to get into the occupation I choose.			0.60	
Deciding: Reassuring myself that I made a good occupational choice.			0.69	
Preparing: Finding opportunities to get the training and experience I need				0.85
Preparing: Beginning the training needed for my preferred job.				0.89
Preparing: Qualifying for the job I like best.				0.86
Preparing: Getting a job once I complete my education or training				0.54

Table 3
Confirmatory factor analysis of Student Career Construction Inventory-Research Form.

Model	$\chi 2$	*df*	CFI	RMSEA	SRMR	$\Delta\chi 2$ (Δ *df*)	ΔCFI	ΔRMSEA
Six factor vocational identity								
a. Combined group a	401.3**	129	0.955	0.065	0.045			
b. Multi-group b unconstrained	744.6**	387	0.930	0.043	0.045			
c. Multi-group measurement weights	785.3**	415	0.928	0.042	0.046	40.6*(28)	-0.002†	-0.001†
d. Multi-group structural covariances	919.1**	435	0.906	0.047	0.081	174.5** (48)	-0.024	0.004†
e. Multi-group measurement residuals	1037.5**	471	0.889	0.049	0.085	292.9** (84)	-0.041	0.006†

Group A. N of Combined group = 498.
Group B. N of High School Sample = 243; N of Undergraduate Sample = 145; N of Graduate Student Sample = 110.
* $p < .05$.
** $p < .001$.
† ΔCFI and ΔRMSEA less than cutoffs (> -0.01 and < 0.05 respectively) suggested by Cheung and Rensvold (2002).

6.3. Configural, metric, and scalar invariance

Following the fit of the combined model within the first row in Table 3, results from a series of tests employing the multi-group CFA models are reported. These tests align with the commonly used terms configural, metric, and scalar invariance (Vandenberg & Lance, 2000). The degree of invariance was assessed with two approaches. The first involved the changes in Chi-square ($\Delta\chi 2$) as a consequence of increasing constraints on the measurement and whether or not those changes were statistically significant (French & Finch, 2006). These results are included given that they are considered the most typical test of measurement invariance. While the results suggest statistically significant differences in fit moving from configural through scalar invariance, more recent research on the validity of this test suggests that it may be too strict (Byrne, 2010).

The second approach to testing measurement invariance involved computing the change in the Comparative Fit Index (ΔCFI) and the change in Root Means Square Error of Approximation (ΔRMSEA). The full explanation and rationale behind this approach is beyond the scope of this article, so the reader is referred to the work by Cheung and Rensvold (2002). This work suggests that $\Delta CFI \geq -0.01$ and $\Delta RMSEA \leq 0.05$ can be employed to assert invariance across models at alpha = 0.01 (Cheung & Rensvold, 2002). Applying these criteria (see columns entitled ΔCFI and ΔRMSEA) leads to the conclusion that the *SCCI* exhibits metric invariance but does not exhibit scalar invariance across the three groups. This means that the pattern and magnitude of the factor loading are equivalent across the three groups, but the means differ as would be expected in comparing high school, college, and graduate students. The net of the results reported in Table 3 suggest that the measurement model adequately fits the data for the entire sample and exhibits metric invariance across the three groups. The *SCCI* items appear to assess the four underlying constructs represented by scales for *Crystallizing* vocational self-concept, *Exploring* occupations, *Deciding* on an occupational choice, and *Preparing* to implement that choice. Furthermore, the configuration of these items relative to the factors and metric of the loading appears to remain invariant across the three samples.

6.4. SCCI descriptive statistics

Both scale scores and a total score were computed from the *SCCI* items for the total group. Scores for the four scales were created from the set of item indictors so that the scale scores could be interpreted on the basis of the original scale items. The means scores and standard deviations for the three groups of participants appear in Table 4. Scores for each scale consist of the arithmetic sum of the responses to the items in that scales divided by the number of items in the scale. The scale scores, which could range from 1 to 5, indicate the amount of *focus* on each of the four tasks of career choice construction. A score below 2.0 suggests that the task has not been encountered. A score from 2.0 to 2.5 suggests that the individual is becoming concerned with the tasks and thinking about how to cope with it. A score of 2.5 to 3.5 suggests that the individual knows how to deal with the task. A score of 3.5 to 4.5 suggest that the individual is currently dealing with the task. A score of 4.5 or more suggests that the individual has completed the task represented by the scale. The total score is the arithmetic sum of the 18 items divided by 18. It indicates the absolute *degree* of vocational development that is the place reached on the continuum of the exploration stage tasks. Comparing the total score to that of others in the same age group shows whether the subject is more or less developed than peers. This comparison indicates the subject's “relative” degree or *rate* of vocational development (Crites, 1961). To sum up, the scale scores indicate *focus*, the total score indicates *degree*, and the comparison indicates *rate* of vocational development.

6.4.1. SCCI descriptive statistics for three subgroups

The means scores and standard deviations for the high school, college, and graduate student groups also appear in Table 4. There were no significant mean differences across gender. As expected the mean scores for each subscale increased at higher levels of education. The single exception was for the Deciding construct. High school students scored 3.02 while the undecided college students scored 2.86. The college students scored higher than the high school students on both self-knowledge and exploration yet had not turned these advantages into making a decision as well as did the high school students. The graduate students had high scores

Table 4
Mean scores, standard deviations, alphas, and correlations for the total group and subgroups
https://www.statstodo.com/CombineMeansSDs_Pgm.php

	Total sample (N = 996)	*M*	*SD*	α	1	2	3	4
1	Crystallizing	3.57	0.85	0.84		0.48**	0.48**	0.37**
2	Exploring	3.03	1.10	0.87			0.57**	0.55**
3	Deciding	3.24	1.14	0.94				0.68**
4	Preparing	2.73	1.12	0.89				
5	Adapting total	3.14	0.85	0.93	0.69**	0.82**	0.86**	0.82**
6	Adaptability	3.58	0.73	0.95	0.12**	0.13**	0.31**	0.19**
	High school sample (N = 486)	*M*	*SD*	α	1	2	3	4
1	Crystallizing	3.33	0.88	0.87		0.44**	0.46**	0.29**
2	Exploring	2.57	0.99	0.88			0.65**	0.57**
3	Deciding	3.02	1.16	0.94				0.59**
4	Preparing	2.34	1.03	0.86				
5	Adapting total	2.82	1.09	0.93	0.66**	0.85**	0.87**	0.77**
6	Adaptability	3.81	0.60	0.93	0.22**	0.38**	0.30**	0.26**
	Undergraduate sample (N = 290)	*M*	*SD*	α	1	2	3	4
1	Crystallizing	3.70	0.79	0.78		0.34**	0.44**	0.23**
2	Exploring	3.22	0.97	0.82			0.41**	0.34**
3	Deciding	2.86	0.93	0.91				0.62**
4	Preparing	2.56	0.92	0.84				
5	Adapting total	3.09	1.00	0.90	0.65**	0.73**	0.83**	0.74**
6	Adaptability	3.04	0.79	0.95	0.10	0.07	0.23**	0.04
	Graduate student sample (N = 220)	*M*	*SD*	A	1	2	3	4
1	Crystallizing	3.94	0.68	0.76		0.42**	0.44**	0.39**
2	Exploring	3.80	1.01	0.87			0.29**	0.27**
3	Deciding	4.23	0.73	0.89				0.50**
4	Preparing	3.82	0.79	0.80				
5	Adapting total	3.95	0.83	0.89	0.74**	0.74**	0.73**	0.72**
6	Adaptability	3.79	0.50	0.89	0.43**	0.25**	0.35**	0.37**

** $p < .01$.

on all four scales, indicating that they had completed the tasks — something we would expect of graduate students pursuing a professional degree. Correlations between the scales among the three groups were in the range of 0.23 to 0.65. The highest pair for all three groups was between Deciding and Preparing with a mean correlation of 0.57. Crystallizing and Exploring correlated roughly about 0.4 for the three groups. The correlation between Exploring and Deciding varied widely among the three groups, ranging from 0.65 for high school students, 0.41 for college students, and 0.29 for graduate students.

6.5. SCCI internal consistency and scale inter-correlations

As shown in Table 4, the SCCI for the total group had a Cronbach coefficient alpha of 0.93. Coefficient alphas for the total group of participants support the internal consistency of the scales: Crystallizing (0.84), Exploring (0.87), Deciding (0.94), and Preparing (0.89). The mean alpha coefficient of the four subscales for high school students was 0.88, for college students 0.84, and graduate students 0.83. As can be seen in Table 4, the correlation of the four scales to the total score ranged from 0.69 to 0.86, indicating that each scale focused on a single task in the sequence, presumably the task specified in the content outline. Table 4 also shows that inter-correlations between the four subscales for the total group of participants ranged from 0.37 to 0.68. The highest correlation occurred between Deciding and Preparing (0.68), as one might expect. The scale inter-correlations were moderate to strong with the single exception of the relation between Crystallizing and Preparing (0.37).

6.6. SCCI criterion-related validity

The examination of concurrent criterion-related validity focused primarily on relations between the *SCCI* and the *Career Adapt-Abilities Scale* because these were the only two measures administered to all three groups of students. Additional criterion-related validity evidence for the high school students came from correlations of the *SCCI* to the *Vocational Identity Status Assessment*. For the college students, additional criterion-related validity evidence came from correlations to the *Career Maturity Inventory-From C* and to the *Vocational Identity Scale*.

6.6.1. Relation of SCCI to Career Adapt-Abilities Scale

The correlation of *SCCI* scales to the *CAAS* scales showed a clear pattern that supported the career construction model of adaptation and the criterion-related validity of the *SCCI*. As shown in Table 5, the *SCCI* total score correlated 0.24 to the *CAAS* total score for the 996 participants, which clearly indicates that the two inventories measure distinct constructs. Among the *SCCI* scales, Deciding correlated the highest with the *CAAS* total score, 0.31. This may be because the CAAS measures resources for making career decisions. The *SCCI* Crystallizing and Exploring scales had minimal correlations to the *CAAS* total score, 0.12 and 0.13 respectively. In examining the relation of *CAAS* subscales to *SCCI* scales we found the strongest correlation (0.37) between *CAAS* Concern and *SCCI* Deciding. *SCCI* Deciding also correlated to Control at 0.21, Curiosity at 0.22, and Confidence at 0.27. The only other correlations

Table 5
Correlation of Student Career Construction Inventory to Career Adapt-Abilities Scale for total group and three subgroups.

SCCI	Concern	Control	Curiosity	Confidence	Adaptability
Total sample (N = 996)					
Crystallizing	0.12**	0.09**	.0.09**	0.11**	0.12**
Exploring	0.19**	0.04	0.12**	0.09**	0.13**
Deciding	0.37**	0.21**	0.22**	0.27**	0.31**
Preparing	0.25**	0.10**	0.13**	0.17**	0.19**
Adapting total	0.30**	0.14**	0.18**	0.20**	0.24**
High school students					
Crystallizing	0.18**	0.23**	0.14**	0.17**	0.22**
Exploring	0.36*	0.24**	0.33**	0.29**	0.38**
Deciding	0.34**	0.20**	0.22**	0.22**	0.30**
Preparing	0.24**	0.16**	0.22**	0.21**	0.26**
Adapting total	0.36**	0.26**	0.29**	0.29**	0.36**
College students					
Crystallizing	0.10	0.07	0.08	0.12	0.10
Exploring	0.06	0.07	0.08	0.03	0.07
Deciding	0.21**	0.20**	0.15*	0.22**	0.23**
Preparing	0.04	0.06	−0.01	0.04	0.04
Adapting total	0.13*	0.13*	0.09	0.13*	0.14*
Graduate students					
Crystallizing	0.22**	0.35**	0.38**	0.40**	0.43**
Exploring	0.21**	0.16*	0.24**	0.18**	0.25**
Deciding	0.33**	0.30**	0.26**	0.20**	0.35**
Preparing	0.33**	0.29**	0.30**	0.25**	0.37**
Adapting total	0.38**	0.35**	0.39**	0.34**	0.47**

** $p < .01$.

Table 6
Correlation of Student Career Construction Inventory to Vocational Identity Status Assessment for high school students (N = 486).

SCCI Scales	*VISA* commit	*VISA* identification	*VISA* flexibility	*VISA* doubt	*VISA* in-breadth	*VISA* in-depth
Crystallizing	0.12*	0.22**	−0.18**	−0.30**	0.07	0.20**
Exploring	0.37**	0.33**	−0.24**	−0.24**	0.18**	0.37**
Deciding	0.48**	0.38**	−0.44**	−0.34**	−0.02	0.37**
Preparing	0.36**	0.23**	−0.20**	−0.13**	0.03	0.22**
Total	0.43**	0.37**	−0.34**	−0.32**	0.09	0.37

* Correlation is significant at $p < .05$ level (2-tailed).
** Correlation is significant at $p < .01$ level (2-tailed).

between the two sets of subscales above 0.2 were *CAAS* Concern and *SCCI* Transitioning at 0.30.

As can be seen in Table 5, the pattern of correlation coefficients varied sharply among the three groups. The correlation between *SCCI* total and *CAAS* total was 0.36 for high school students with average for four scales being. 29 and for the graduate students the correlation was 0.47 with an average for the four scales being 0.35. The correlation patterns for the high school and graduate students differed as expected. The older students should stronger correlations. The high school students had the highest correlation between the *CAAS* total score and the *SCCI* Exploring Scale (0.38) as one might expect. The highest correlation between the *CAAS* total score and the *SCCI* scales for the graduate students was for Crystallizing (0.43) as they seemed to forming a new self-concept relative to their profession and specialty.

The correlation between the *SCCI* and the *CAAS* was only 0.14 for the undecided college students, with an average correlation of the four *SCCI* scales to the *CAAS* total being 0.11 and the highest correlation being 0.23 between *SCCI* Deciding and *CAAS*. The college students' correlation coefficient of 0.14 between the SCCI and CAAS compared to a correlation of 0.36 for high school students and 0.47 for the graduate students. While the high school students were exploring and the graduate students were crystallizing a new self-concept, the college students seemed focused on deciding. Recall that the college students were recruited from a course designed to help undecided students declare a major. The undecided college students do not seem to manifest their adaptability resources, as indicated by their mean score on the *CAAS* subscales, in adapting responses. In short, the relation of adaptability resources to adapting responses was moderate for high school and graduate students but low for undecided college students enrolled in a career decision-making course. (Appendix II presents the correlations between all the variables for the high school students, college students, and graduate students).

6.6.2. Relation of SCCI to Vocational Identity Status Assessment among high school students

The correlation of the *SCCI* scales to the *VISA* scales for exploration, commitment, and reconsideration appear in Table 6. With regard to the *VISA* Exploration Dimension, the *SCCI* total correlated 0.09 (not significant) to in-breadth exploration and 0.37 (2-tailed test significant at 0.01) to in-depth exploration. This pair of correlations suggests that the *SCCI* adapting responses relate more to in-depth exploration. The only significant correlation was.18 (2-tailed test significant at 0.01) between the *VISA* in-breath scale and *SCCI* Exploring, which adds a little more validity evidence for *SCCI* Exploration scale.

With regard to the *VISA* Commitment Dimension, the *SCCI* total correlated 0.43 to Commitment to an Occupation Choice and 0.37 to Identification with that Commitment. We expected the *SCCI* to correlate higher to Commitment than to Identification. The results support this expectation but the difference between the two scales is minimal and not statistically significant. The highest single correlation between the four *SCCI* scales and the six *VISA* scales was between *SCCI* Deciding and *VISA* Commitment to a choice, which again adds some validity evidence for the *SCCI*.

With regard to the *VISA* Reconsideration Dimension, the SCCI total correlated −0.34 to Identity Flexibility and −0.32 to Identity Self-Doubt. This pattern of results supports the proposition that a lack of adaptive readiness has a negative relation to adapting responses. Individuals burdened by self-doubt may feel uneasy and worry about engaging in career construction tasks. The second characteristic that impedes adaptive readiness is the wish to remain open to possibilities early in the decisional process. Reluctance, either in the form of self-doubt or flexibility, may hinder mobilizing adaptability resources or engaging in adapting responses.

6.6.3. Relation of SCCI to Career Maturity Inventory-Form C among college students

The college students responded to the *CMI-C*, a second indicator of adaptability resources in addition to the *CAAS*. The correlation between the *SCCI* and the *CMI-C* total score was 0.42, which indicates, as expected, a moderate relation between mature attitudes toward making a career choice and adapting responses. In terms of *SCCI* scales, the *CMI-C* total score correlated 0.28 to Crystallizing, 0.22 to Exploring, 0.45 to Deciding, and 0.29 to Preparing, each of which was significant at the 0.01 level (2-tailed). The high correlation of the *CMI-C* to the *SCCI* Deciding Scale probably was because the *CMI* measures attitudes toward making a career decision.

6.6.4. Relation of the SCCI to the Vocational Identity Scale among college students

The *VIS* served as a measure of adaptation results for the college school students. The *SCCI* correlated 0.49 to the *VIS*, which was similar to the SCCI correlation of 0.43 to the VISA Commitment to an Occupation Choice. In terms of *SCCI* scales, the *VIS* total score correlated 0.39 to Crystallizing, 0.17 to Exploring, 0.57 to Deciding and 0.33 to Preparing, each of which was significant at the 0.01 level (2-tailed). The strong correlation to the *SCCI* Deciding scale makes sense in that the *VIS* essentially measures decidedness.

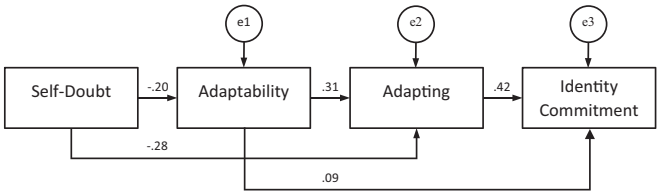

Fig. 1. Hypothesized structural model of career adaptation
Note: All reported standardized path coefficients are statistically significant at $p < .05$.

6.6.5. Test of the adaption model using the SCCI

An editorial board reviewer suggested a post hoc test of the hypothesized relationship among the four dimensions in the career construction model of adaptation. Recall from the introduction that the adaptation model proposes that adaptive readiness mobilizes adaptability resources that shape adapting responses to produce adaptation results. Together the four dimensions form an optimal sequence for making occupational choice and bridging career transitions. Using the data from the 486 high school students, we were able to make an initial test of the career adaptation model recognizing the limitations of employing cross-sectional data to test causal models. We used the measures taken by the high school students to indicate, to some degree, the four dimensions of the adaptation model. The *VISA* Self-Doubt scale served as an inverse indicator of adaptivity, namely reluctance as the opposite of readiness. Adaptivity, or lack thereof, predicts the availability of adaptability resources which was indicated by the *CAAS*. Adaptability resources are hypothesized to predict adapting responses as measured by the *SCCI*. In turn, the adapting responses predict adaptation results, in this case the outcome of Identity Commitment as indicated by the *VISA* scale. The theoretical model of career adaption is portrayed graphically in Fig. 1. This test of the model was considered to be provisional because (a) it did not use multiple measures selected specifically and prospectively to indicate dimensions of the theoretical model and (b) did not employ longitudinal data. While not ideal, the test of the hypothesized model could provide evidence concerning the validity of the SCCI, which is the topic of this article.

The results of the path analysis using AMOS indicated a good fit of the data to the model by an absolute fit index (Chi-Square = 0.053, df = 1; $p = 0.818$), an adjusted index (RMSEA = 0.00), a relative fit index (NFI = 1.00), and a parsimonious fit index (CFI = 1.00). Fig. 1 depicts the path model and the standardized path coefficients. The results suggest that self-doubt as the inverse of adaptive readiness may both slow the development of adaptability resources ($\beta = -0.20$) and impede engagement in adapting behaviors ($\beta = -0.28$). More pertinent to the present research, the results indicated that, as hypothesized, adapting behaviors mediate the relationship between adaptability resources and adaptation outcomes. Within the limits imposed by using available data from tenth and eleventh grade students, the model fit does provide preliminary evidence supporting the validity of the career construction model of adaptability.

7. Discussion

7.1. Conclusions

The present study described the construction of the *Student Career Construction Inventory* along with its psychometric properties and initial evidence of validity. The *SCCI* contains 18 items across four scales: (a) Crystallizing a vocational self-concept, (b) Exploring information about occupations, (c) Deciding to commit to an occupational choice, and (d) Preparing to implement that choice. The results indicated that the *SCCI* performs similarly with high school, college, and graduate students, with no significant gender differences.

7.1.1. Domain generalizability and reliability

The conceptual model for the *SCCI* has a narrow breadth, one focused on measuring students' responses to career construction tasks of the career exploration stage. The *SCCI*'s high domain generalizability and reliability support the conclusion that the inventory measures a narrow domain of human behavior. The primary information concerning how thoroughly the inventory covers the domain was the content outline calling for items across the tasks of crystallizing a vocational self-concept, exploring occupations, making a decision, and preparing to enter the chosen occupation. These four dimensions measured by the *SCCI* broadly spanned and adequately differentiated the exploration stage of the vocational development continuum. The item content is representative of what is known about the domain.

7.1.2. General and specific factors

The *SCCI* produces a relatively precise scaling of individuals along a continuum of vocational development during the exploration stage of a career. The *SCCI* total score is a good indicator of the common construct that runs through the scales and items. It may be concluded from the item, scales, and factor analyses that the *SCCI* four scales contribute both unique and common variance to the measurement of the domain. The four scales inter-relate to constitute a continuum reflecting the *general factor* of vocational development during the career exploration stage. Each scale assesses a *specific factor* reflecting a particular career construction task. Taken together, the results suggested that the *SCCI* scales extensively assess tasks of the career exploration stage and each one is

clearly interpretable.

7.1.3. Measurement invariance

The common classification of measurement invariance is configural, metric, and scalar (Vandenberg & Lance, 2000). The *SCCI* must show configural invariance given that it purports to measure processes that characterize career construction among high school, college, and graduate students. The *SCCI* did demonstrate configural invariance in that the number of factors and the items loading on the factors were invariant across the age periods represented by the three groups of students. The same factor structure was found for each of the three groups. The *SCCI* also achieved metric invariance because the size of the factor loadings was invariant across the three groups. In short, the results of the confirmatory factor analysis indicate that the *SCCI* displays configural and measurement invariance, meaning that its factor structure is replicable and generalizable across high school, college, and graduate students.

The theoretical model for the *SCCI* did not call for scalar invariance. In fact, a measure of career construction during the exploration stage should have the capacity to assess developmental change if it aims to be applicable across the adolescent and emerging adult periods. Such a measure should be sensitive enough to find mean differences among individuals across time and within groups of increasing age. In brief, a measure of career construction should be capable of assessing theoretically predictable developmental change. Accordingly, the *SCCI* did not show scalar invariance because the three age groups exhibited mean differences on the factors, with older groups having higher mean scores as expected. It appears that, with its stable factor structure and metric invariance, the *SCCI* has the capacity to detect the progressive developmental changes leading an individual to choose an occupation and prepare for it. Nevertheless, this assumption needs empirical support from future studies.

7.2. Counseling use

The *SCCI* may be used with individuals and groups to assess the extent to which students have engaged in adapting responses, as well as specific responses that could be increased. It may also be used to evaluate the outcomes of career intervention programs. In addition, the *SCCI* may be used in "didactic career counseling" (Healy, 1982, 9.395) with groups to develop skill at performing adapting responses. "Teaching the test" scales and items to students may help them learn to make adapting responses to the career construction tasks of crystallizing, exploring, deciding, and preparing.

7.3. Suggestions for future research

Future research might further examine the validity of the *SCCI*. The current study employed criterion-related measures of adaptability resources and adaptation results to provide an initial evidence of the *SCCI*'s validity. The results suggest that the *SCCI* is well-suited for use in a test of career construction theory's full model of adaptation, in which adapting responses mediate between adaptability resources and adaptation results. For example, such a study would use the *CAAS* as a measure of adaptability resources, the *SCCI* as a measure of adapting responses, and the *VIS* as a measure of adaptation results. Fit to the adaptation model could be tested by determining whether the *SCCI* scores fully mediate the relation between the *CAAS* and *VIS* scores. Studies of *SCCI*'s validity would also be welcome. In terms of concurrent validity, it would be useful to determine how well the Crystallizing scale relates to self-understanding, the Exploring scale relates to information-seeking, the Deciding scale relates to goal setting, and the Preparing scale relates to planning. In terms of predictive validity, it would be informative to investigate how well the *SCCI*, as a measure of dealing with the career choice construction tasks of the exploration stage, predicts mastery of the tasks of the career establishment stage, especially the tasks of stabilizing in a position and then consolidating it as well as position performance and satisfaction.

While additional studies will prove useful, the *SCCI* as currently constituted provides a reliable and valid indicator of student progress in career construction during the career exploration stage with sufficient validity evidence to justify its general use by practitioners and researchers.

Appendix I

Student Career Construction Inventory-Research Form.

Crystallizing vocational self-concept
- Forming a clear picture of my personality
- Recognizing my talents and abilities
- Determining what values are important to me
- Knowing how other people view me
- Identifying people that I want to be like
- Finding out what my interests are
- Setting goals for myself

Exploring occupations
- Interviewing people in a job that I like
- Discussing my career with teachers and advisors
- Learning about different types of jobs

Reading about occupations
Investigating occupations that might suit me
Working at a part-time job related to my interests
Determining the training needed for jobs that interest me
Making decisions
Deciding what I really want to do for a living
Finding a line of work that suits me
Selecting an occupation that will satisfy me
Planning how to get into the occupation I choose
Reassuring myself that I made a good occupational choice
Skilling
Developing special knowledge or skill that will help me get the job I want
Finding opportunities to get the training and experience I need
Beginning the training I need for my preferred job
Qualifying for the job that I like best
Transitioning from school-to-work
Making plans for my job search
Getting a job once I complete my education or training

Appendix II

High School Students (N = 486) Correlations between the Career Adapt-Abilities Scale, Student Career Construction Inventory, and Vocational Identity Status Assessment.

	1	2	3	4	5	6	7
1. CAAS Concern							
2. CAAS Control	0.55**						
3. CAAS Curiosity	0.58**	0.60**					
4. CAAS Confidence	0.63**	0.66**	0.63**				
5. CAAS Adaptability	0.83**	0.82**	0.84**	0.87**			
6. SCCI Crystallizing	0.18**	0.23**	0.14**	0.17**	0.22**		
7. SCCI Exploring	0.36**	0.24**	0.33**	0.29**	0.38**	0.44**	
8 SCCI Deciding	0.34**	0.20**	0.22**	0.22**	0.30**	0.46**	0.65**
9. SCCI Preparing	0.24**	0.16**	0.22**	0.21**	0.26**	0.28**	0.57**
10. SCCI Adapting	0.36**	0.26**	0.29**	0.29**	0.36**	0.66**	0.85**
11. VISA Commitment	0.27**	0.17**	0.19**	0.21**	0.25**	0.12*	0.37**
12. VISA Identification	0.40**	0.34**	0.34**	0.35**	0.42**	0.22**	0.33**
13. VISA Flexibility	−0.10*	−0.05	0.05	−0.04	−0.06	−0.18**	−0.24**
14. VISA Self-Doubt	0.26**	−0.19**	−0.08	−0.21**	−0.20**	−0.30**	−0.24**
15. VISA In-Breadth	0.23**	0.26**	0.40**	0.31**	0.37**	0.07	0.18**
16. VISA In-Depth	0.49**	0.35**	0.46**	0.42**	0.50**	0.20*8	0.37**

	8	9	10	11	12	13	14	15
1. CAAS Concern								
2. CAAS Control								
3. CAAS Curiosity								
4. CAAS Confidence								
5. CAAS Adaptability								
6. SCCI Crystallizing								
7. SCCI Exploring								
8 SCCI Deciding								
9. SCCI Preparing	0.59**							
10. SCCI Adapting	0.87**	0.77**						
11. VISA Commitment	0.48**	0.36**	0.43**					
12. VISA Identification	0.38**	0.23**	0.37**	0.56**				
13. VISA Flexibility	−0.44**	−0.21**	−34**	−38**	−0.16**			
14. VISA Self-Doubt	−0.34**	−13**	−0.32**	−0.12**	−0.28**	0.47**		

15. VISA In-Breadth	−0.02	0.03	0.09	0.12**	0.35**	0.34**	0.06	
16. VISA In-Depth	0.37**	0.22**	0.37**	0.48**	0.63**	−0.07	−0.22**	0.54**

* Correlation is significant at $p < .05$ level (2-tailed).
** Correlation is significant at $p < .01$ level (2-tailed).

College Students (N = 290) Correlations between the Career Adapt-Abilities Scale, Student Career Construction Inventory, Vocational Identity Scale, and Career Maturity Scale.

	1	2	3	4	5	6	7	8	9	10	11
1. CAAS Concern											
2. CAAS Control	0.69**										
3. CAAS Curiosity	0.61**	0.61**									
4. CAAS Confidence	0.69**	0.80**	0.61								
5. CAAS Adaptability	0.86**	0.91**	0.80	0.90**							
6. SCCI Crystallizing	0.10	0.07	0.08**	0.10	0.10						
7. SCCI Exploring	0.06	0.07	0.08**	0.03	0.07	0.34**					
8. SCCI Deciding	0.21**	0.20**	0.15*	0.22**	0.23**	0.44**	0.41**				
9. SCCI Preparing	0.04	0.06	01**	0.04	0.04	0.23**	0.34**	0.62**			
10. SCCI Adapting	0.13*	0.13*	0.09**	0.13*	14*	0.65**	0.73**	0.83**	0.74**		
11. Vocational Identity	0.22**	0.24**	0.13*	0.27**	0.25**	0.39**	0.17**	0.57**	0.33**	0.49**	
12. Career Maturity	0.17**	0.22**	0.21**	0.24**	0.24**	0.28**	0.22**	0.45**	0.29**	0.42**	0.74**

* Correlation is significant at $p < .05$ level (2-tailed).
** Correlation is significant at $p < .01$ level (2-tailed).

Graduate Students (N = 220) Correlations between the Career Adapt-Abilities Scale and Student Career Construction Inventory.

	1	2	3	4	5	6	7	8	9
1. CAAS Concern									
2. CAAS Control	0.47**								
3. CAAS Curiosity	0.40**	0.54**							
4. CAAS Confidence	0.49**	0.50**	0.57**						
5. CAAS Adaptability	0.73**	0.80**	0.81**	0.81**					
6. SCCI Crystallizing	0.22**	0.34**	0.38**	0.40**	0.43**				
7. SCCI Exploring	0.21**	0.16*	0.24**	0.18**	0.25**	0.44**			
8. SCCI Deciding	0.33**	0.30**	0.26**	0.20**	0.35**	0.42**	0.29**		
9. SCCI Preparing	0.33**	0.29**	0.30**	0.25**	0.37**	0.39**	0.26**	0.50**	
10. SCCI Adapting	0.38**	0.34**	0.39**	0.34**	0.47**	0.74**	0.74**	0.73**	0.72**

* Correlation is significant at $p < .05$ level (2-tailed).
** Correlation is significant at $p < .01$ level (2-tailed).

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