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# Linking Affective Commitment, Career Self-Efficacy, and Outcome Expectations: A Test of Social Cognitive Career Theory

Amanda M. Conklin<sup>1</sup>, Jason J. Dahling<sup>1</sup>, and  
Pablo A. Garcia<sup>1</sup>

## Abstract

The authors tested a model based on the satisfaction model of social cognitive career theory (SCCT) that links college students' affective commitment to their major (the emotional identification that students feel toward their area of study) with career decision self-efficacy (CDSE) and career outcome expectations. Results indicate that CDSE mediates the relationship between affective commitment to the major and career outcome expectations, specifically expected career performance and satisfaction. Further, students' perception of abilities–demands fit with their major interacts with affective commitment to moderate these direct and indirect effects. The authors discuss these findings in light of SCCT and develop recommendations for career counselors and academic advisors based on their results.

## Keywords

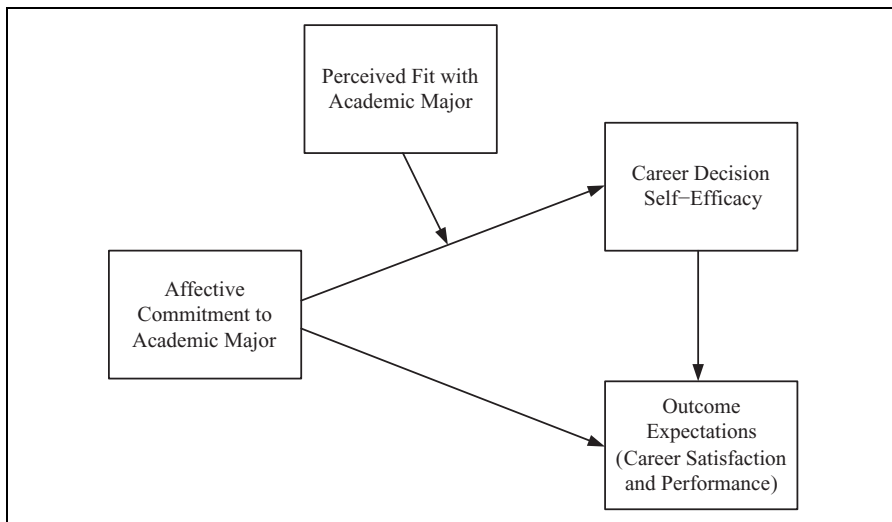
social cognitive career theory, career decision self-efficacy, commitment, fit perceptions, career outcome expectations

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**Figure 1.** Theoretical model based on social cognitive career theory.

Vocational psychologists have long been interested in understanding how situational perceptions and individual differences influence career outcomes (Swanson & Gore, 2000). A dominant theoretical perspective in this field is social cognitive career theory (SCCT; Lent, Brown, & Hackett, 1994), which proposes a triadic relationship between individual differences, environmental factors, and behaviors that together explain occupational interests and goals. The two chief mediating variables in the SCCT model are self-efficacy and outcome expectations, which are predictive of personal interests, personal goals, and, ultimately, career success (Lent et al., 1994; Tokar, Thompson, Plaufcan, & Williams, 2007). *Self-efficacy* is defined as an estimate of one's ability to successfully perform tasks in a particular domain, whereas *outcome expectations* refer to positive or negative career-related experiences anticipated to occur in the future in that domain (Lent, Sheu, et al., 2008). The SCCT model proposes that various person inputs, which are individual differences relevant to career development, affect self-efficacy through learning experiences. Self-efficacy, in turn, mediates the relationship between personal inputs and outcome expectations (Lent et al., 1994).

Lent and Brown's (2006a) extension of SCCT to work satisfaction proposed that affective states and experiences are one important type of individual input in SCCT that can directly shape self-efficacy and indirectly shape career expectations. This study will extend their reasoning in the satisfaction model of SCCT to incorporate the concept of *affective commitment to an academic major* as shown in Figure 1. Affective commitment to a major involves feelings of pride, enthusiasm, and strong identity with a field of study, which is consistent with the situational affect that Lent and Brown described as an important type of person input in the satisfaction model

of SCCT. As shown in the figure, we expect that students with high affective commitment to a major will also report more favorable career decision self-efficacy (CDSE; Taylor & Betz, 1983) and outcome expectations. However, we also expect that these relationships are moderated by perceived abilities–demands fit with the academic major, suggesting that affective commitment alone is not enough to generate CDSE and positive outcome expectations.

### *Commitment Theory and Academic Major Commitment*

Significant research on commitment has been published in the field of industrial/organizational psychology with respect to organizations (e.g., Meyer, Allen, & Smith, 1993). Meyer and Allen (1984, 1991) created a three-component conceptualization of organizational commitment that is the basis for much of this research, proposing that employees can display affective, continuance, and normative commitment to the companies for which they work. Meyer and Allen's (1991) model suggests that employees with affective commitment desire to remain with a company due to an emotional attachment to it, those with continuance commitment remain with an organization because they feel it would be too costly to leave, and those with normative commitment feel that they ought to continue working for an organization out of an obligation or sense of duty.

Wessel, Ryan, and Oswald (2008) first extended the construct of commitment to the vocational literature by examining why students desired to remain in a program of study. They found that affective major commitment, but not normative or continuance major commitment, was related to academic self-efficacy. The reasoning behind this relationship is that students who feel a strong emotional identification with their field of study are more likely to develop confidence within the domain of that field and a commitment to remain and finish their degrees. This study expands on Wessel et al.'s findings by focusing on affective major commitment as a direct predictor of a different type of self-efficacy, namely, CDSE. CDSE speaks to the confidence that one can successfully complete tasks that facilitate making, and committing to, a career choice (Taylor & Betz, 1983). We focused on CDSE over other types of self-efficacy for two reasons. First, CDSE has been tied to important educational and career outcomes in a wide body of research and is one of the most heavily researched forms of self-efficacy (Betz, 2007), suggesting that it is a critical quality for students to possess. Second, because we are examining the impact of students' commitment to academic majors on SCCT, we wanted to study a specific form of self-efficacy that is tailored to this domain (Lent & Brown, 2006b). Students who emotionally identify with a field of study are likely to appraise their experiences positively, feel comfortable setting goals to continue their studies, and make plans for future careers in that field, which are all key components of CDSE (Betz, Klein, & Taylor, 1996). Consequently, we expect that affective commitment to an academic major will be positively related to CDSE.

As shown in Figure 1, we also expect that CDSE will partially mediate the relationship between affective commitment and two key outcome expectations: expected career satisfaction and expected career performance. This pattern of relationships is consistent with Lent and Brown's (2006a) theoretical model of SCCT and satisfaction, which shows that person inputs, like personality and affective states, can influence self-efficacy directly and outcome expectations indirectly.

### *Expected Outcomes: Career Satisfaction and Performance*

Both vocational and industrial/organizational psychologists have demonstrated interest in job satisfaction and performance; however, vocational psychologists focus on individuals' outcome expectations, whereas industrial/organizational psychologists are interested in organizational consequences (Lent & Brown, 2006a). Within the vocational framework, Lent and Brown aimed to link organizational psychology with vocational psychology and demonstrate that satisfaction is both a work- and a school-related concept with similar causes and influences. Lent and Brown suggested that those high in self-efficacy will anticipate satisfaction because they are confident that they can obtain what they desire from work or school. Their model suggests that those who have greater self-efficacy and who expect to be satisfied with the outcomes of their efforts are also more likely to actually attain their desired goals. Consistent with their theory, we expect that students with high CDSE will also expect to be satisfied with their future careers.

Performance is another commonly studied variable in both industrial/organizational and vocational psychology contexts (Brown et al., 2008). SCCT's performance model proposes that performance expectations and subsequent performance attainment levels are strongly related to one's self-efficacy (Lent et al., 1994). In this study, we will be investigating expected performance as it relates to students' anticipated career development and success; again, we focused on these variables to include outcome expectations that are likely to arise as a consequence of CDSE.

Consistent with SCCT, we place CDSE as a mediator variable between students' person inputs (affective commitment to their majors) and the outcome expectations that they develop, as shown in Figure 1. We propose that affective commitment to the major will have a direct positive effect on CDSE and indirect positive effects on expected career performance and career satisfaction:

*Hypothesis 1a:* Career decision self-efficacy will mediate the relationship between affective major commitment and anticipated career performance, yielding a positive, indirect relationship.

*Hypothesis 1b:* Career decision self-efficacy will mediate the relationship between affective major commitment and anticipated career satisfaction, yielding a positive, indirect relationship.

### *The Moderating Role of Perceived Fit*

Fit perceptions may also play a role in shaping self-efficacy (Wessel, Ryan, & Oswald, 2008), particularly perceived abilities–demands fit with the major, the extent to which one perceives that one’s abilities meet the demands of an area of study. It is important to note the distinction between perceived fit with a major and affective commitment to a major. While affective commitment involves emotional identification and is rooted in feelings toward an area of study, perceived major fit concerns a cognitive evaluation of how well one’s abilities and qualities fit with the demands of the area of study (e.g., Cable & DeRue, 2002). For example, a student may be enthusiastic about a major and what he experiences in classes (high affective commitment), and yet perceive that the demands of the major exceed his abilities to perform well (low-perceived fit).

Wessel et al. (2008) examined both perceived and objective fit in relation to academic withdrawal. They found that perceived fit and affective commitment were both predictive of academic self-efficacy at the bivariate level but did not explore the interaction between these perceptions. We submit that the relationship between affective commitment and CDSE will be dependent on fit perceptions. Consistent with our previous example, a student who feels an emotional identification with a field of study may nevertheless fail to develop the CDSE necessary to succeed in that field if he feels that he lacks the skills and abilities necessary to thrive in that field. We accordingly pose the following hypothesis:

*Hypothesis 2:* Perceived fit with the academic major will moderate the relationship between affective commitment to the major and CDSE. Specifically, we predict that the relationship between affective commitment and CDSE will be weaker for students with low perceptions of abilities–demands fit.

### *Conditional Indirect Effects*

Support for Hypotheses 1 and 2 would yield a pattern of moderated mediation, as shown in Figure 1. The hypothesized indirect effects from affective major commitment to (a) anticipated career performance and (b) anticipated career satisfaction are based partly on the direct relationship between affective major commitment and CDSE. Consequently, if perceived fit with the major moderates the direct relationship between commitment and CDSE, then these indirect relationships will also be conditional on the perceived fit moderator. Accordingly, we pose the following hypothesis concerning moderated mediation:

*Hypothesis 3:* Perceived fit with the academic major will moderate the indirect effects from (a) affective major commitment to expected career performance and (b) affective major commitment to expected career satisfaction, via CDSE.

## Summary

Lent, Brown, and Hackett (1994) proposed that self-efficacy is a key mediator that shapes vocational interest development, goals, activity selection and practice, and finally performance attainments. Our objective is to integrate the constructs of academic major commitment and perceived fit into the SCCT model of satisfaction (Lent & Brown, 2006a) as person inputs, which we test among a sample of students from diverse areas of study. We propose that CDSE will mediate the relationship between academic major commitment and the outcome expectations of anticipated career satisfaction and performance. Finally, we hypothesize that perceived abilities–demands fit with the major will moderate the relationship between affective major commitment and CDSE and that support for moderated mediation will emerge.

## Method

### Participants

The sample was composed of 200 participants (28% male and 72% female) who were recruited from a small, public college in the Mid-Atlantic region of the United States. Participants were recruited publicly from the college's student center to ensure that the sample included respondents from a wide variety of majors and class levels, and participation was incentivized with a free cup of coffee while the respondents completed the survey. All participants provided informed consent and the study was conducted with approval of the college's Institutional Review Board.

The mean age of the sample was 19.8, ranging from age 17 to 32 ( $SD = 1.65$  years). In terms of race/ethnicity, 69.5% self-identified as Caucasian, 8.5% as Asian American, 8% as Hispanic/Latino, 5% as African American, and 5% as belonging to some other group. First-, second-, third-, fourth-, and fifth-year students accounted for, 22%, 20%, 26.5%, 29.5%, and 0.5% of the sample, respectively. The majority of participants were classified as social science/humanities majors (39.5%), with majors such as psychology, English, political science, history, and communications. Other major categories included physical and natural sciences (24.5%), business (14.5%), education (11%), art (5%), and engineering (4.5%), proportions that are broadly consistent with the population distribution at the college.

### Measures

Given that several of our measures were either modified or developed for this study, we conducted a pilot study prior to administering the focal survey to the sample described above. This pilot involved a sample of 89 students drawn from the same college population as the focal sample described above that we used for hypothesis testing. The purpose of the pilot was to allow us to report additional reliability data

for these new measures. Where we mention pilot data below, we are referring to findings among this group of 89 students.

*Affective major commitment.* Affective major commitment was assessed with Wessel et al.'s (2008) 6-item measure. Participants indicated the extent to which they agreed with each of the statements on a 5-point Likert-type scale (1 = *strongly disagree* to 5 = *strongly agree*). A sample item reads, "My major is important to my self-image." This measure was developed based on Meyer and Allen's (1997) measure of affective commitment to organizations, which has been widely used and validated in organizational research with respect to other job attitudes and performance criteria (e.g., Allen & Meyer, 2000). Wessel et al. (2008) reported that  $\alpha = .83$  for the measure in their study and demonstrated its validity with respect to constructs such as learning adaptability and uncertainty adaptability. We found that  $\alpha = .81$  in our pilot sample and .87 in our focal sample.

*Perceived academic major fit.* Perceived abilities–demands fit with an academic major was measured with a 6-item scale that we developed based on items pertaining to abilities–demands fit with jobs from a scale developed by Brkich, Jeffs, and Carless (2002). The original Brkich et al. measure was developed and validated over several different samples and has been shown to be predictive of constructs such as job satisfaction and perceived engagement with work. Sample items from the modified measure that we used read, "I believe that my personality is congruent with my major," "My knowledge, skills, and abilities match the requirements of the major," and "I possess qualities that are valued in my major." Responses were made on a 5-point scale (1 = *strongly disagree* to 5 = *strongly agree*) and scale scores were created by averaging all responses; higher scores indicate greater fit perceptions. Brkich et al. reported internal consistency of  $\alpha = .92$  in two different samples for the original measure of perceived fit with a job. For our modified scale pertaining to perceived major fit, we found that  $\alpha = .91$  in the pilot sample and .94 in the focal sample.

*CDSE.* Perceptions of CDSE were assessed with the short form of the Career Decision Self-Efficacy Scale (CDSE-SF) developed by Betz, Klein, and Taylor (1996). The CDSE-SF measures five dimensions (Self-Appraisal, Occupational Information, Goal Selection, Planning, and Problem Solving) with 5 items each, for a total of 25 items. Participants indicated the extent to which they agreed with each of the 25 statements on a 5-point Likert-type scale (1 = *strongly disagree* to 5 = *strongly agree*) consistent with the recommendations of Betz, Hammond, and Multon (2005). We calculated a global scale score for the CDSE-SF by averaging the responses across all 25 items such that higher scores indicate greater levels of CDSE. Extensive validity and reliability information for the CDSE-SF was summarized by Betz et al. A sample item asked participants to indicate the extent to which they believed they could "successfully manage the job interview process." Betz et al. reported  $\alpha$



coefficients ranging from .78 to .87 for the CDSE-SF administered with a 5-point response scale to three samples. Similarly, we found that  $\alpha = .84$  for the focal sample in this study.

**Outcome expectations: Career performance.** Students' outcome expectations about career performance were measured with the career subscale of the Role-Based Job Performance Scale, which was developed by Welbourne, Johnson, and Erez (1998). The measure was used with the permission of these authors consistent with its instructions. In this study, the instructions for the 4-item measure were modified so that participants answered with respect to expected progress rather than current progress toward career outcomes. A sample item reads, "Obtaining personal career goals." Responses were measured on a 5-point Likert-type scale (1 = *strongly disagree* to 5 = *strongly agree*); the scale score was computed by averaging the 4 items such that higher scores indicate more favorable outcome expectations. Extensive reliability and validity data from 10 samples collected from six organizations were reported by Welbourne et al., including subscale reliabilities ranging from .83 to .92. We found that coefficient  $\alpha$  was .84 in our pilot sample and .87 in our focal sample.

**Outcome expectations: Career satisfaction.** Students' outcome expectations with respect to career satisfaction were measured with a self-developed, 3-item scale. Survey items were measured on a 5-item Likert-type scale (1 = *strongly disagree* to 5 = *strongly agree*). Sample items read, "Overall, I expect to be satisfied with my career" and "I will enjoy working in my future career." Coefficient  $\alpha$  for this measure was .73 in the pilot sample and .78 in the focal sample.

## Results

Table 1 reports the means, standard deviations, and correlations among variables. Because we observed strong relationships between affective major commitment and perceived major fit, and between anticipated career performance and satisfaction, we began by conducting a confirmatory factor analysis (CFA) on the items and comparing the fit of our hypothesized measurement model to several alternatives using MPlus version 4.21 (Muthén & Muthén, 1998–2007). Such tests of alternative models allow us to demonstrate that constructs are discriminant despite the observed strong relationships (Bagozzi, Yi, & Phillips, 1991). We first tested our hypothesized measurement model by modeling all five constructs (affective major commitment, perceived major fit, CDSE, anticipated career performance, and anticipated career satisfaction) with their individual items as indicators. This model showed acceptable fit to the data,  $\chi^2_{(1021)} = 1721.34, p < .01$ ; comparative fit index (CFI) = .89; Tucker–Lewis index (TLI) = .86; root mean square error of approximation (RMSEA) = .06; standardized root mean square residual (SRMR) = .06. Based on the strong correlation between their scale scores, we next tested an alternative in which the perceived fit and affective major commitment items were allowed to

**Table 1.** Means, Standard Deviations, and Correlations

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Gender	—	—	—							
2. Age	19.77	1.65	-.09	—						
3. Academic rank	2.66	1.14	-.17*	.74**	—					
4. Affective commitment to major	3.16	0.79	.15*	-.03	-.08	.87				
5. Perceived major fit	4.00	0.82	.10	-.03	-.07	.82**	.94			
6. CDSE	3.82	0.49	-.02	.04	.09	.39**	.43**	.84		
7. Expected career satisfaction	4.14	0.54	-.06	.01	.02	.47**	.52**	.65**	.78	
8. Expected career performance	4.35	0.55	-.05	.01	.01	.38**	.43**	.45**	.67**	.87

Note. CDSE = career decision self-efficacy. Coefficient alphas are reported on the diagonal  
\* $p < .05$ . \*\* $p < .01$ .

load on a single, unitary construct. The fit of this model was significantly worse than that of the hypothesized measurement model,  $\Delta\chi^2_{(4)} = 121.76$ ,  $p < .01$ . We then tested another alternative model that allowed the anticipated career satisfaction and performance items to load on a single construct; again, this alternative demonstrated significantly worse fit to the data than the hypothesized model in which all constructs were discriminant,  $\Delta\chi^2_{(4)} = 134.12$ ,  $p < .01$ . The results of these chi-square difference tests demonstrated that each measure is assessing a distinct construct although several of the measures are strongly related.

We also tested to see if demographic variables influenced any of the constructs in our model. A series of independent samples *t* tests indicated that there were no mean differences observed when comparing men versus women or when comparing Caucasian versus non-Caucasian participants for any constructs. Consequently, we did not include any demographic variables in the analysis.

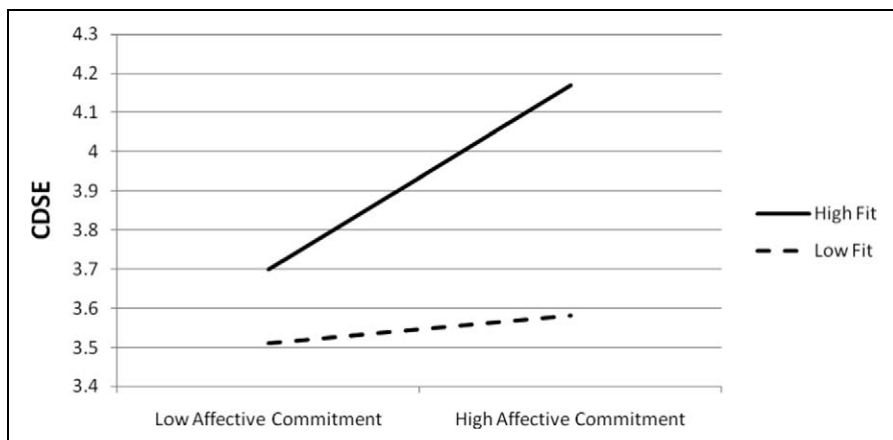
We tested our hypotheses in Statistical Package for the Social Sciences (SPSS) with the aid of macros developed by Preacher and colleagues (Preacher & Hayes, 2008; Preacher, Rucker, & Hayes, 2007). The macro by Preacher and Hayes (2008) allows for the evaluation of indirect effects in SPSS with a bootstrapping methodology. Bootstrapping is an empirical process of drawing cases with replacement from the sample to create an approximation of the sampling distribution of the indirect effect, which is repeated many times (in this study,  $N = 5,000$ ) to generate a confidence interval around the magnitude of the indirect effect. Bootstrapping is preferable when testing mediation because it does not assume that the sampling distribution of the indirect effect is normal in shape (Shrout & Bolger, 2002), a key assumption of the more traditional Sobel test that is regularly violated. The second macro by Preacher, Rucker, and Hayes (2007) allows for the simultaneous testing of moderated mediation, which occurs when an indirect effect is contingent on a moderating variable.

Consistent with Hypothesis 1a, we found that CDSE partially mediated the relationship between affective commitment to the academic major and expected career performance. The indirect effect from affective commitment to expected career performance via CDSE was significant when tested with both a traditional Sobel test ( $ab = .10$ ,  $SE = .02$ ,  $z = 3.98$ ,  $p < .01$ ) and with bootstrapping ( $M = .10$ ,  $SE = .03$ ,  $N = 5,000$ , 95% confidence interval [CI] = [.05, .16]). Further, the direct effect from affective commitment to expected career performance also remained significant after including the mediator in the model ( $b = .17$ ,  $SE = .05$ ,  $t = 3.61$ ,  $p < .01$ ), yielding partial mediation consistent with SCCT.

A similar pattern of support was observed for Hypothesis 1b, which stated that CDSE would mediate the relationship between affective commitment to the academic major and expected career satisfaction. The indirect effect was significant as expected when tested with both the Sobel test ( $ab = .15$ ,  $SE = .03$ ,  $z = 5.12$ ,  $p < .01$ ) and the bootstrapping ( $M = .15$ ,  $SE = .03$ ,  $N = 5,000$ , 95% CI = [.09, .21]). We again found partial mediation given that the direct effect from affective commitment to expected satisfaction remained significant after the inclusion of the CDSE mediator variable ( $b = .17$ ,  $SE = .04$ ,  $t = 4.45$ ,  $p < .01$ ).

Hypothesis 2 stated that perceived fit with the academic major would moderate the relationship between affective commitment and CDSE. We followed procedures outlined by Aiken and West (1991) to test this hypothesis with moderated multiple regression. Specifically, we first mean-centered participants' scores on affective commitment to the major and perceived major fit. We then created an interaction term by multiplying these mean-centered scores together. Next, we regressed CDSE on both centered predictors in Step 1, followed by the interaction term in Step 2, which resulted in a significant effect for the interaction term ( $\beta = .34$ ,  $p < .01$ ). To test if the shape of this significant interaction was consistent with our hypothesis, we plotted both regression lines as shown in Figure 2 at low and high levels of fit perceptions (low and high values are  $-1 SD$  and  $+1 SD$  around the mean, respectively). As shown in the figure, the slope of the relationship between affective commitment and CDSE is not significant when perceived fit is low ( $t = .67$ ,  $p = .50$ ) but is significant when perceived fit is high ( $t = 3.46$ ,  $p < .01$ ). Consequently, Hypothesis 2 was supported.

Finally, Hypotheses 3a and 3b posited that we would find support for moderated mediation. Consistent with Hypothesis 3a, we found that the indirect effect from affective commitment to the major to anticipated career performance via CDSE was significant only when perceived fit was at its mean ( $z = 2.08$ ,  $p < .05$ ) or 1 standard deviation above the mean ( $z = 2.69$ ,  $p < .01$ ). The indirect effect was not significant when fit perceptions were at 1 standard deviation below the mean ( $z = 0.65$ ,  $p = .52$ ). Similarly, we found that the indirect effect from affective commitment to anticipated career satisfaction via CDSE was significant only when perceived fit was at its mean ( $z = 2.31$ ,  $p < .05$ ) or 1 standard deviation above the mean ( $z = 3.18$ ,  $p < .01$ ). The indirect effect was not significant when fit perceptions were at 1 standard deviation below the mean ( $z = 0.66$ ,  $p = .51$ ). Hypothesis 3b was therefore also



**Figure 2.** Interaction of affective commitment to major and perceived abilities–demands fit with major on career decision self-efficacy (Hypothesis 2).

supported. Taken together, our support for Hypotheses 2–3b shows that the direct and indirect beneficial effects of affective commitment to a major are conditional on also having high levels of perceived abilities–demands fit with the major. Affective commitment is not associated with CDSE or outcome expectations when perceived abilities–demands fit with the major is low.

## Discussion

Overall, the results of this study are consistent with and elaborate on the satisfaction model of SCCT, demonstrating that CDSE is an important mediator between perceptions of an academic major and the career outcome expectations that students report. This study also demonstrated that affective major commitment can predict CDSE and is indirectly related to positive outcome expectations. Further, we found that perceived abilities–demands fit with the academic major is an important moderator of the relationship between affective major commitment and CDSE. Although affective commitment and fit perceptions were strongly related, the interaction shown in Figure 2 demonstrates that possessing both is critical to developing high CDSE; participants with both high major fit perceptions and high affective commitment had the highest CDSE scores, but the beneficial direct and indirect effects of affective commitment became nonsignificant when perceived fit was low.

The major contribution of this study is to further incorporate cross-disciplinary constructs, such as abilities–demands fit and affective commitment, into the SCCT model. This study highlights the importance of emotionally identifying with one’s academic major by demonstrating that affective commitment is positively related to anticipated career satisfaction and performance. These findings imply that career

counselors and vocational psychologists should emphasize the importance of having an emotional basis for identifying with a major in order to increase CDSE and develop positive career expectations. However, we stress that the perception of abilities–demands fit is an important boundary condition to these relationships. Students may feel a deep identification with an area of study, but if they perceive that they lack the necessary abilities to succeed in that domain, our results show that they will not develop CDSE or favorable outcome expectations for the future.

### *Directions for Practice and Future Research*

Our results provide further support for Lent et al.'s (1994) proposition that self-efficacy is a critical mediator construct in the SCCT model and a strong direct predictor of career outcome expectations. Thus, this study demonstrates that a further examination of the antecedents of CDSE is an important direction for future counseling practice. For example, Lent, Lopez, Lopez, and Sheu (2008) suggested that career interest formation and goals can be inhibited by environments that do not promote career efficacy-building experiences. Our findings suggest that academic advisors and vocational psychologists can create environments supportive of CDSE development by stressing the importance of finding majors with which students emotionally identify. Counselors and advisors should work with students to help them to identify courses and major-specific experiences in which (a) they felt enthusiastic and happy and (b) there are career options that they appraise favorably and could take pride in pursuing.

However, our results also emphasize the importance of clearly explaining to students the various demands associated with academic majors so that they can form realistic perceptions of fit. Figure 2 shows that affectively committing to a major does not improve CDSE unless students also believe that their abilities fit the demands of the major. Counselors and advisors can help students realistically make these evaluations about the demands of different areas of study and point out where fit exists. This type of guidance should contribute to greater CDSE if the student also emotionally identifies with the field of study. Input from advisors and counselors may be particularly important where “mismatches” occur when students find themselves emotionally invested in fields in which they feel that they lack the necessary abilities–demand fit to be successful.

An important direction for future research concerns the role of learning experiences in this process. The choice model of SCCT (Lent et al., 1994) posits that learning experiences mediate the relationship between person inputs and self-efficacy, and between person inputs and outcome expectations. However, the satisfaction model of SCCT (Lent & Brown, 2006a) suggests that person inputs, like situational affect, can directly shape self-efficacy. Additional research is needed to identify if students gain more learning experiences when they have high affective commitment and fit perceptions in a field and if those learning experiences mediate the links between commitment, self-efficacy, and outcome expectations.

A final direction for future research concerns the directionality of some of the effects that we hypothesized. For example, the relationship between affective commitment and CDSE may be reciprocal, wherein emotional identification with a field improves CDSE, and CDSE in return deepens one's emotional identification. Ultimately, we feel that the process must begin with the causal ordering shown in Figure 1; the satisfaction model of SCCT clearly places affective person inputs, like affective commitment, as antecedents of self-efficacy rather than outcomes (Lent & Brown, 2006a). However, as we note below, the cross-sectional nature of our data prevents us from explicitly testing this idea. Future longitudinal research could clarify the ordering of our constructs and identify if any reciprocal relationships exist.

### *Limitations*

These findings should be interpreted in light of several limitations. Our responses were collected using a cross-sectional, self-report methodology, which limits our ability to draw causal inferences about the order of variables despite the theoretical grounding of the study. Further, our data were collected from student participants attending a single educational institution, which may affect the generalizability of our results. A third limitation to this study concerns the participant demographics. Given that 72% of the sample was female and 69.5% were Caucasian, future research should utilize a more diverse sample of participants to examine whether our results are influenced by the gender or race/ethnicity of participants (e.g., Byars-Winston, 2006).

A final important limitation concerns the measures used in this study. Aside from Betz et al.'s (1996) CDSE-SF, our remaining measures were modified from validated scales in the industrial/organizational literature or written for the purposes of this study. The observed reliability and factor analytic data suggest that all of these measures have good psychometric properties in both the pilot and the focal samples, but additional research is needed to replicate our findings using alternative scales that have more validity data available. In particular, more validity evidence is needed for the short measure of expected career satisfaction that we developed for this study.

### **Conclusion**

Previous vocational research has largely neglected the importance of emotionally identifying and fitting with a field of study. Our results expand on SCCT to demonstrate how these perceptions can predict students' CDSE and their outcome expectations with respect to career performance and satisfaction. Most importantly, we demonstrated that affective commitment or fit perceptions alone are insufficient to improve CDSE; students must feel that they "belong" in a major in terms of both an emotional identification and a cognitive evaluation of how well their abilities fit

with the major's demands. These results suggest a variety of future research directions and offer some important suggestions for academic advisors and career counselors working with college students who need to develop the CDSE to continue their education in a chosen field.

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