Vol. 1, No. 3, (2020), 50-60

Published online December, 2020

Journal of Preventive Counselling (JPC)

Predicting of Occupational Consideration by Interest, Self-efficacy and Outcome Expectations among Students

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Abstract

Social Cognitive Career Theory (SCCT) was developed to understand the processes that individuals form their interests, make choices, achieve performances, and persist at academic and career endeavors. The aim of this study was to predict occupational consideration by interest, self-efficacy and outcome expectations among secondary school students and for this, examined choice model in SCCT. This study was correlational and a type of structural equation modeling. Samples were 328 secondary male students who selected by cluster sampling from male secondary schools in Qom city. Participants completed measures of self-efficacy, outcome expectations, interest and occupational consideration (Lent et al, 2003) across the Holland (1997) RIASEC themes: Realistic, Investigative, Artistic, Social, Enterprising and Conventional. To analysis of data and for examining of fit AMOS-26 model was used. Results showed model fit the data well across RIASEC themes. Results showed that self-efficacy and outcome expectations jointly predict interests, and interests mediate the relations of self-efficacy and outcome expectations to occupational consideration. The implications of these findings for further research on the non-Western culture validity of SCCT are considered.

Keywords: Occupational consideration, Interest, Self-efficacy, Outcome expectations

Introduction

Often in career counseling, students and adolescents are major and target group, and for counselor it's so important to use the practical and comprehensive framework or theory that in this theory, view must be multifactorial and multi-dimensional to help them. Social Cognitive Career Theory (SCCT; Lent, Brown, & Hackett, 1994, 2000) was introduced to explain the career development of adolescents from a socio-cognitive behavioral framework that focuses on the triadic interaction among person, environmental, and behavioral influences in academic and career development.

Based on Bandura's (1986) General Self-efficacy Theory and Hackett and Betz's (1981) Career Self-efficacy Theory, SCCT focuses on interaction among person, environmental, and behavioral influences in academic and career development. Among personal variables, this theory emphasizes the central role of self-efficacy, outcome expectations, and goals. SCCT is equally concerned with variables, such as environmental supports and barriers. According to SCCT people develop goals to pursue academic and career-relevant activities that are consistent with their interests as well as self-efficacy and outcome expectations (Lent, Brown, Nota & Soresi; 2003).

Efforts by career counseling and vocational psychology to answer the question of how individual differences contribute to important vocational outcomes resulted in the emergence of several integrative theories. Interest is central constructs in such theories. One of the most influential theories regarding career interests is Holland theory. In this theory, Holland (1985, 1997) divides both people and environments into some combination of six interest domains. These six domains are hexagonally organized, and include Realistic (e.g., outdoors, mechanical), Investigative (e.g., science, math), Artistic (e.g., art, language), Social (e.g., helping, teaching), Enterprising (e.g., selling, business) and Conventional (e.g., details, clerical), collectively known as RIASEC.

The cross-cultural validity of SCCT has become an increasingly used issue in recent years (Lent & Sheu, 2010). Much of the extant SCCT research has operationalized the content of people's career interests or choices using RIASEC theme (Tokar, Buchanan, Subich, Hall, & Williams, 2012). For example, SCCT has proven useful for understanding RIASEC-based interests and choice goals of diverse populations, including Italian high school students (Lent et al, 2003), Portuguese high school students (Lent, Paixão, Silva & Leitão, 2010), Mexican American college students (Flores, Robitschek, Celebi, Andersen, & Hoang, 2010), and US college students in the computing disciplines from historically Black and predominately White universities (Lent, Lopez, Lopez, & Sheu, 2008).

SCCT consists of four interrelated models of interest development, choice-making, performance, and satisfaction (Lent & Brown, 2006; Lent et al., 1994). Key variables in SCCT's choice model include self-efficacy, outcome expectations, interests, environmental supports and barriers, and choice goals and actions (Lent, Sheu, Gloster & Wilkins, 2010). Vocational psychology studies have long examined psychosocial factors that can help to account for choice of math and science-intensive fields and activities (refer to choice model in fig 1). One important point for this research has been Hackett and Betz's (1981; Hackett & Byars, 1996) identification of self-efficacy as a mechanism

that may help to explain women's and minority group members' tendency to approach toward or away from particular academic and career fields. Self-efficacy, a key variable in Bandura's (1997) social cognitive theory, refers to people's beliefs in their ability to perform specific behaviors or courses of action (Lent, Lopez, Sheu, & Lopez, 2011).

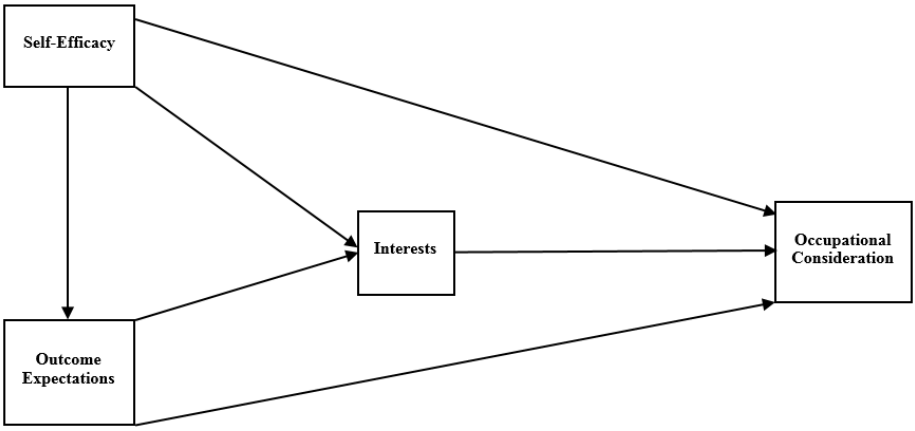

Fig1. Path model showed SCCT's predictors of occupational interests and choice consideration.

As assumed in Fig. 1, SCCT's interest and choice models postulate that self-efficacy act as a source of outcome expectations (e.g., persons are likely to expect favorable outcomes from performing activities at which they feel efficacious). Together, firm self-efficacy and outcome expectations tend to promote interests at corresponding activities domains. The theory also predicts that self-efficacy, outcome expectations, and interests jointly promote choice goals, defined as the intent to choose or persist at a particular course of action. For example, students are likely to choose elective coursework in math when they like these activities, when they feel competent to perform them, and when they expect that performing them will produce valued outcomes. Confirmatory factor analyses provided support for a correlated six-factor latent structure of the social cognitive measures, and path analyses indicated that the six factors related to one another in theory-consistent ways (Lent & other colleagues, 2003, 2010). In addition, meta-analytic path analyses study derived evidence that relationships of self-efficacy and outcome expectations with interests and goals as implied by SCCT are well supported for the RIASEC themes (Sheu, Lent, Brown, Miller, Hennessy, & Duffy, 2010).

Although these interest and choice hypotheses have been tested in a major of studies (Lent, 2005; Rottinghaus, Larson, & Borgen, 2003), such studies has focused on SCCT's central person variables (e.g., self-efficacy), with less attention to the role of the contextual variables (e.g., Byars-Winston & Fouad, 2008; Ferry, Fouad, & Smith, 2000; Lent & other colleagues, 2008; Lent, Brown, Brenner, Chopra, Davis, & Talleyrand, 2001) and most of researches have been on college students in the U.S. Greater study is, therefore, needed of fuller versions of the SCCT interest and choice models in order to establish how well they generalize to the academic and career development of younger

persons, across different domains of academic and career activity, and to persons from diverse cultures and cross-national contexts. Because the students were in high school, measures of occupational consideration were used as an age-appropriate proxy for choice goals (Lent & other colleagues, 2010).

The purpose of the present study was to examine the fit of the choice model (which incorporates the interest model) across the RIASEC themes, testing SCCT's specific hypotheses that (a) self-efficacy is predictive of outcome expectations; (b) self-efficacy and outcome expectations jointly predict interests; (c) self-efficacy and outcome expectations predict students' choice consideration (goals), both directly and indirectly, through interests.

Methods

The present research method was correlational and type of structural equation modeling.

The statistical population consisted of all secondary students in city of Qom during academic year of 2019-20. The sample size was estimated by 30 people in the community and the estimated number of variance was 320. Considering the probability of falling, 350 questionnaires were distributed and 328 of them completed it. They were selected by cluster sampling from different schools from region of 4 in Qom city. At first, 1 region was randomly selected from 4 region in Qom and then 2 schools selected from this region and the questionnaire was distributed. The sample was calculated by Cochran formula.

$$n = \frac{Nz^2pq}{Nd^2+Z^2pq}.$$

Procedure and Instruments: Students completed voluntarily a battery of measures in classroom, after coordination with the regional board of education and authority and administer of schools. The battery included demographic and along with measures of interests, self-efficacy, outcome expectations, and occupational consideration. The measures were Persian language versions (Abdi Zarrin, 2017) of the scales used by Lent & colleagues (2003, 2010) which was translated from the original English and then back-translated to English for validity of scales before using (Abdi Zarrin, 2017).

The interests, self-efficacy, outcome expectations, and occupational consideration measures each contained the same set of 42 occupational titles (seven titles for each of Holland RIASEC themes). Sample occupational titles were auto mechanic and electrician (Realistic); biologist and geologist (Investigative); musician and artist (Artistic); high school teacher and social worker (Social); business executive and sales manager (Enterprising); and accountant and bank teller (Conventional). The items and instructions for these measures were adapted from Gore (1996; Gore; Leuwerke, 2000; Lent & other colleagues, 2003, 2010).

In measuring self-efficacy, participants were asked to indicate their confidence in their ability to ‘‘become a successful worker" in each of the 42 occupations along a 10-point scale, ranging from 0=No Confidence to 9=Complete Confidence. On the outcome expectations measure, the instructions noted a variety of positive outcomes, such as independence, creativity, or prestige, which people may consider when thinking about possible occupational choices. Participants were then asked to rate each occupational title

in terms of the degree to which ‘‘you would get what you wanted” from each occupation (0=Not Very Much; 9=Very Much). In measuring interests participants were asked to rate how much ‘‘you think you would like or dislike the work activities that people in each of these occupations perform” (0=Strongly Dislike; 9=Strongly Like). On the occupational consideration measure, students indicated how seriously they would consider each occupation ‘‘as a possible career for yourself” (0=Not Very Seriously; 9=Very Seriously). These procedures produced six sets of interest, self-efficacy, outcome expectation, and occupational consideration scores (one set for each of the RIASEC themes). Scores on each scale were derived by summing item responses and dividing by 7. Higher scores on these scales reflected stronger interests, more positive self-efficacy and outcome expectations, and more serious consideration of the occupations within RIASEC themes.

Lent & other colleagues (2003, 2010) reported in their studies for interests, self-efficacy, outcome expectations, and occupational consideration scales internal consistency reliability values ranging of Italian high school students were from .80 to .94 and Portuguese high school students were from .86 to .96. Abdi Zarrin, Baghban, Abedi & Molavi (2012) reported internal consistency reliability values ranging for Iranian high school students were from .70 to .91.

Results

In this study for analyzing of data AMOS-26 was used for testing of model, and results of fit of mode showed in figure 2 and table 1.

According to SCCT’s interest model hypotheses (Lent & other colleagues, 1994), self-efficacy and outcome expectations are individually and jointly predictive of interests. Consistent with these hypotheses, the path coefficients from self-efficacy and outcome expectations to interests were significant across RIASEC themes. In addition to its direct path to interests, SCCT posits an indirect path from self-efficacy to interests through outcome expectations. Further, self-efficacy path to outcome expectations was significant across RIASEC themes. According to SCCT’s choice model hypotheses (Lent & other colleagues, 1994), self-efficacy, outcome expectations, and interests each relate directly to choice. In present study, path from outcome expectations and interests to occupational consideration (choice) were significant and was similar to choice model hypotheses, but path from self-efficacy to occupational consideration (choice) was low and non-significant. SCCT’s choice model also specifies that interests partially mediate the relations of self-efficacy and outcome expectations to choice. Results showed that interest did mediate the relations of self-efficacy and outcome expectations to occupational consideration (choice) across RIASEC themes.

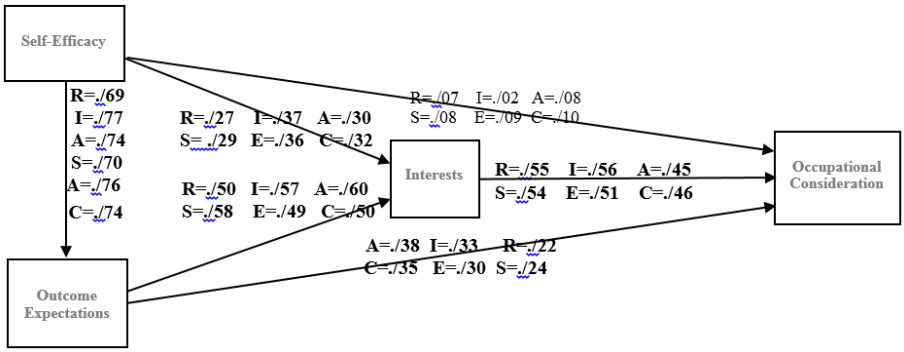

Fig 2. Path coefficients from the model tests for RIASEC type. Significant paths (p<.05) appear in bold.

Table 1. Fit indices from the path analyses, by RIASEC themes

Theme	X^2	P	CFI	NFI	GFI	AGFI	RMR	RMSEA
Realistic	9.52	0.05	0.96	0.97	0.98	0.97	2.27	0.03
Investigative	12.49	0.05	0.99	0.99	0.99	0.98	2.56	0.06
Artistic	16.23	0.01	0.98	0.98	0.98	0.96	3.39	0.09
Social	13.19	0.01	0.99	0.99	0.99	0.97	3.45	0.05
Enterprising	9.58	0.05	0.97	0.96	0.97	0.95	4.12	0.04
Conventional	13.72	0.05	0.99	0.99	0.99	0.98	2.82	0.07

CFI=Comparative Fit Index. NFI=Normative Fit Index. GFI=Goodness of Fit Index. AGFI=Adjusted Goodness of Fit Index. RMR=Root Mean Square Residual. RMSEA=Root Mean Square Error of Approximation.

As showed in figure (2) paths from self-efficacy to occupational consideration (choice) were non-significant. But self-efficacy by mediate of interests is related to occupational consideration (choice). Paths from self-efficacy and outcome expectations to interest, jointly from interest and outcome expectations to occupational consideration were significant. In whole, path from self-efficacy to outcome expectations was strong. In interest model, variance of interest was predicted directly more by self-efficacy and less by outcome expectations. In choice model, variance of goals (occupational consideration) was predicted directly more by interest and less by outcome expectations, and self-efficacy role in directly predict was non-significant. Indirectly relation self-efficacy relation (through outcome expectations) to interest in all RIASEC themes was significant.

Discussion

Findings of this study that path from self-efficacy to outcome expectations was significant. And in interest model, variance of interest was predicted directly by self-efficacy and outcome expectations, and in choice model, variance of goals (occupational consideration) was predicted directly by interest, outcome expectations, and self-efficacy role in directly predict was non-significant. It's having implied that self-efficacy, outcome expectations and interest are so important in academic and career performance and must

call attention in schools. These findings are similar to results in Italian and Portuguese high school students with small differences. For example, in this study path directly from self-efficacy to goals (occupational consideration) in all six types wasn't significant but in those studies in some types were significant.

SCCT were used more in Western society and it' needed to be investigated in Asia especially in Middle East. The base of research on SCCT is expanding across cultural and national lines (e.g., Kantas, 1997; Lent, Taveira, Sheu, & Singley, 2009; Sahin, 2008; Van Vianen, 1999), more research involving non-Western samples, collectivist cultures, and developing countries are needed. Cross-cultural and cross-national research on SCCT should consider the use of methods addressing conceptual and measurement equivalence issues (Lent & Sheu, 2010; Miller & Sheu, 2008). The present findings replicate and validate earlier findings on SCCT's interest and choice models. In particular, these findings are largely consistent with those of studies on students indicating that self-efficacy and outcome expectations (a) are predictors of interests and (b) augment interests in the prediction of choice goals (e.g., Fouad & Smith, 1996; Gainor & Lent, 1998; Lent & other colleagues, 2003, 2010).

In its original formulation, SCCT included models aimed at understanding academic and career interest, choice, and performance (Lent, Taveira, & Lobo, 2012, Abdi Zarrin, 2017). The three models have received a good deal of empirical attention, with recent meta-analyses summarizing much of the research testing SCCT's interest, choice (Lent & other colleagues al., 2003, 2010; Sheu & other colleagues, 2010) and performance hypotheses (Brown, Tramayne, Hoxha, Telander, Fan, & Lent, 2008; Brown, Lent, Telander, & Tramayne, 2011).

Career assessment is most commonly performed in school, college and university settings more than in private practice, community mental health centers, and other outpatient settings (Watkins, 1993). SCCT scales are coordinate to academic situations and they have been effective tools in helping students engaged in career planning and exploration, including such activities as selecting a major, planning for employment, and choosing activities related to their interests (Harmon, Hansen, Borgen & Hammer, 1994). According to SCCT people develop goals to pursue academic and career-relevant activities that are consistent with their interests as well as with their self-efficacy and outcome expectations (Lent & other colleagues, 2003). To help these young people in their career development, studies based on SCCT which is used to describe adolescent and young people career development can be so helpful. In this theory, barriers and supports in adolescents' environments that are mediated through self-efficacy are proposed to predict career interests and occupational consideration (choice). Further, exploration of the SCCT has practical implications for practice. Instructional practices that examine the impact of the SCCT variables in academic situations may lead to valuable information that helps explains of academic behaviors. Furthermore, the internal consistency coefficients (validity) of scales were high; reliability reported in this study is similar to the study of Portuguese high school students (Lent et al, 2010) and Italian high school students (Lent et al, 2003) that confirmed cross-cultural and cross-national reliability of SCCT scales (Interest, Self-efficacy, Outcome expectations, and Occupational consideration).

One of the limitations of this study was that some titles of occupations was not so clear or adjust with students' interest who wanted to calculate and gave score by students in the list.

Conclusion

The current findings extend research on SCCT by examining the theory's models across RIASEC themes in sample of Iranian students. Educational Information that incorporates data acquired about interest, self-efficacy, outcome expectations and occupational consideration into the curriculum may help students improve their academic performance related to their interests and self-efficacy.

Disclosure Statements

There was not any kind of conflict of interest to report.

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References

Abdi Zarrin, S. (2017). The Role of Individual and Social Factors in Selected Jobs, Social Welfare Quarterly, 16, 63, 247-279.

Abdi Zarrin, S., Baghban, I., Abedi, M. R., & Molavy, H. (2012). Reliability of SCCT questionnaires in Iran, IJCRB, 4(6), 1091-1096.

Bandura, A. (1986). Social foundations of thought and action. Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W.H. Freeman.

Bandura, A. (1999). Social cognitive theory of personality. In L. Pervin & O. John (Eds.), *Handbook of personality* (2nd ed., pp. 154–196). New York: Guilford.

Bandura, A. (2000). Exercise of human agency through collective efficacy. *Current Directions in Psychological Science*, 9, 75–78.

Betz, N. E., & Hackett, G. (1981). The relationship of career-related self-efficacy expectations to perceived career options in college women and men. *Journal of Counseling Psychology*, 28, 399-410.

Brown, S. D., Lent, R. W., Telander, K., & Tramayne, S. (2011). Social cognitive career theory, conscientiousness, and work performance: A meta-analytic path analysis. *Journal of Vocational Behavior*, 79, 81–90.

Brown, S. D., Tramayne, S., Hoxha, D., Telander, K., Fan, X., & Lent, R. W. (2008). Social cognitive predictors of college students' academic performance and persistence: A meta-analytic path analysis. *Journal of Vocational Behavior*, 72, 298–308.

Byars-Winston, A. M., & Fouad, N. A. (2008). Math and science social cognitive variables in college students: Contributions of contextual factors in predicting goals. *Journal of Career Assessment*, 16, 425–440.

Ferry, T. R., Fouad, N. A., & Smith, P. L. (2000). The role of family context in a social cognitive model for career-related choice behavior: A math and science perspective. *Journal of Vocational Behavior*, 57, 348–364.

Flores, L. Y., Robitschek, C., Celebi, E., Andersen, C., & Hoang, U. (2010). Social cognitive influences on Mexican Americans' career choices across Holland's themes. *Journal of Vocational Behavior*, 76, 198–210.

Fouad, N. A., & Smith, P. L. (1996). A test of a social cognitive model for middle school students: Math and science. *Journal of Counseling Psychology*, 43, 338–346.

Gainor, K. A., & Lent, R. W. (1998). Social cognitive expectations and racial identity attitudes in predicting the math choice intentions of Black college students. *Journal of Counseling Psychology*, 45, 403–413.

Gore, P. A. (1996). A structural analysis of a social cognitive career theory. *Paper presented at* the *meeting of the American Psychological Association*, Toronto, Ontario, Canada.

Gore, P. A., & Leuwerke, W. C. (2000). Predicting occupational considerations: A comparison of self-efficacy beliefs, outcome expectations, and person environment congruence. *Journal of Career Assessment*, 8, 237–250.

Hackett, G., & Byars, A. M. (1996). Social cognitive theory and the career development of African American women. *The Career Development Quarterly*, 44, 322−340.

Harmon, L. W., Hansen, J. C., Borgen, F. H., & Hammer, A. L. (1994). *Strong Interest Inventory applications and technical guide*. Palo Alto, CA: Consulting Psychologists Press.

Holland, J. L.(1985). *Making vocational c*hoices (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.

Holland, J. L. (1997). *Making vocational choices*: A theory of vocational personalities and work environments (3rd ed.). Odessa, FL: Psychological Assessment Resources.

Kantas, A. (1997). Self-efficacy perceptions and outcome expectations in the prediction of occupational preferences. *Perceptual and Motor Skills*, 84, 259–266.

Lent, R. W. (2005). A social cognitive view of career development and counseling. In S. D. Brown & R. W. Lent (Eds.), *Career development and counseling: Putting theory and research to work* (pp. 101–127). New York.: Wiley.

Lent, R. W., & Brown, S. D. (2006). Integrating person and situation perspectives on work satisfaction: A social-cognitive view. *Journal of Vocational Behavior*, 69, 236–247.

Lent, R. W., Brown, S. D., Brenner, B., Chopra, S. B., Davis, T., Talleyrand, R., & Suthakaran, V. (2001). The role of contextual supports and barriers in the choice of math/science educational options: A test of social cognitive hypotheses. *Journal of Counseling Psychology*, 48, 474–483.

Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance [Monograph]. *Journal of Vocational Behavior*, 45, 79–122.

Lent, R. W., Brown, S. D., & Hackett, G. (2000). Contextual supports and barriers to career choice: A social cognitive analysis. *Journal of Counseling Psychology*, 47, 36–49.

Lent, R. W., Brown, S. D., Talleyrand, R., McPartland, E. B., Davis, T., Chopra, S. B., Alexander, M. S., Suthakaran, V., & Chai, C-M. (2002). Career choice barriers, supports, and coping strategies: College students_ experiences. *Journal of Vocational Behavior*, 60, 61–72.

Lent, R. W., Brown, S. D., Nota, L., & Soresi, S. (2003). Testing social cognitive interest and choice hypotheses across Holland types in Italian high school students. *Journal of Vocational Behavior*, 62, 101–118.

Lent, R. W., Lopez, A. M., Lopez, F. G., & Sheu, H. (2008). Social cognitive career theory and the prediction of interests and choice goals in the computing disciplines. *Journal of Vocational Behavior*, 73, 52–62.

Lent, R. W., Lopez, A. M., Sheu, H., & Lopez, F. G. (2011). Social cognitive predictors of the interests and choices of computing majors: Applicability to underrepresented students. *Journal of Vocational Behavior*, 78, 184-192.

Lent, R. W., Paixão, M.P., Silva J.T., & Leitão, L.M. (2010). Predicting occupational interests and choice aspirations in Portuguese high school students: A test of social cognitive career theory. *Journal of Vocational Behavior*, 76, 244-251.

Lent, R. W., & Sheu, H. (2010). Applying social cognitive career theory across cultures: Empirical status. In J. G. Ponterotto, J. M. Casas, L. A. Suzuki, & C. M. Alexander (Eds.), *Handbook of multicultural counseling* (3rd ed., pp. 691–701). Thousand Oaks, CA: Sage.

Lent, R. W., Sheu, H. B., Gloster, C. S & Wilkins, G. (2010). Longitudinal test of the social cognitive model of choice in engineering students at historically Black universities. *Journal of Vocational Behavior*, 76, 387- 394.

Lent, R. W., Taveira, M., Lobo, C. (2012). Two tests of the social cognitive model of well-being in Portuguesecollege students. . *Journal of Vocational Behavior*, 80, 362-371.

Lent, R. W., Taveira, M., Sheu, H., & Singley, D. (2009). Social cognitive predictors of academic adjustment and life satisfaction in Portuguese college students: A longitudinal analysis. *Journal of Vocational Behavior*, 74, 190–198.

Miller, M. J., & Sheu, H. (2008). Conceptual and measurement issues in multicultural psychology research. In S. D. Brown & R. W. Lent (Eds.), *Handbook of counseling psychology* (4th ed., pp. 103–120). New York: Wiley.

Rottinghaus, P. J., Larson, L. M., & Borgen, F. H. (2003). The relation of self-efficacy and interests: A meta-analysis of 60 samples. *Journal of Vocational Behavior*, 62, 221–236.

Sahin, I. (2008). From the social-cognitive career theory perspective: A college of education faculty model for explaining their intention to use educational technology. *Journal of Educational Computing Research*, 38, 51–66.

Sheu, H., Lent, R. W., Brown, S. D., Miller, M. J., Hennessy, K. D., & Duffy, R. D. (2010). Testing the choice model of social cognitive career theory across Holland themes: A meta-analytic path analysis. *Journal of Vocational Behavior*, 76, 252–264.

Tokar, D. M., Buchanan, T. S., Subich, L. M., Hall. R. J., & Williams, Ch. M. (2012). A structural examination of the Learning Experiences Questionnaire. *Journal of Vocational Behavior*, 80, 50-66.

Van Vianen, A. E. M. (1999). Managerial self-efficacy, outcome expectations, and work-role salience as determinants of ambition for a managerial position. *Journal of Applied Social Psychology*, 29, 639–665.

Watkins, C. E. (1993). What have surveys taught us about the teaching and practice of vocational assessment? *Counseling Psychologist*, 21, 109-117..