Running Head: CAREER BARRIERS AND CHOICE BEHAVIOR

The Role of Career Barriers on High School Students' Career Choice Behavior in Taiwan

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ABSTRACT

The purpose of the study was to examine the role of career barriers in social cognitive based career model. The participants were five hundred and eighty-four high school students in Taiwan. The gender differences in perceived career barriers and career self-efficacy were statistically significant. Results of regression analyses indicated that some of the perceived career barriers were significant in predicting individuals' career choice behavior in certain career types.

The Role of Career Barriers on High School Students' Career Choice Behavior

Career counseling for high school students in Taiwan is important because all the students need to declare their college majors when they apply for colleges and/or take the College Entrance Examination to get into colleges. To understand factors related to their career choice behavior, empirical studies are needed to aid guidance counselors to effectively intervene to enhance students' educational status. Of the varieties of career models applied in Western culture, we believe the Social Cognitive Career Theory (SCCT) developed by Lent, Brown, and Hackett (1994) is the one most appropriate for career counseling practitioners to understand factors related to student career choice behavior.

The SCCT was developed to explain the interplay among person and contextual variables within three important phases of career development process: the formation of academic and vocational interest, selection and pursuit of career related choices, and performance and persistence in educational and occupational endeavors. The purpose of the current study was to test the second segment of the models, i.e. the choice model. Variables related to choice behavior include person variables such as self-efficacy, outcome expectation, and interest. Contextual variables, on the other hand, were mainly perceived barriers and supports. Recent studies have shown that social-contextual factors might facilitate or impede career development in addition to the internal variables such as self-efficacy and outcome expectations (Lent et al., 2001; Richie, Fassinger, Prosser, & Robinson, 1997). In our study, we examined the role of contextual barriers in the choice model because recent studies have shown that social-contextual factors might facilitate or impede career development in addition to the person variables such as self-efficacy and outcome expectations (Lent et al., 2001; Rochie, Fassinger, Prosser, & Robinson, 1997).

In the past decade, the structure of the SCCT model has been tested in a variety of samples.

More and more research has examined hypotheses involving social contextual variables in addition to the social cognitive variables. Lent et al (2001) tested the model by using a sample composed of 111 college students. Findings indicated that self-efficacy and outcome expectations were jointly predictive of interests and choice intentions. Support and barrier percepts produced only weak direct relations to choice, though barrier percepts were found to moderate interest-choice relations. They found that a model portraying barriers and supports as linked to choice indirectly (via their impact on self-efficacy) produced better fit to the data than did a model specifying barriers and supports as directly linked to choice. In another study, Lent et al. (2003) tested the predictions of the SCCT model. Findings based on a 328 students in an introductory engineering course indicated good support for a model portraying contextual supports and barriers as linked to choice goals and actions indirectly, through self-efficacy, rather than directly, as posited by SCCT.

Lent et al. (2005) further examined the utility of social cognitive career theory in predicting engineering interests and major choice goals among women and men and among students at historically Black and predominantly White universities. Findings based on a sample of 487 students in introductory engineering courses at 3 universities indicated that the SCCT-based model of interest and choice goals produced good fit to the data across gender and university type. The role of environmental supports and barriers in the choice of science and engineering fields were important. The current study examined the role of career barriers on choice behavior across the Holland six themes.

To test the model in other cultural setting, Lent, Brown, Nota, & Soresi (2003) used a sample composed of 796 Italian high school students. The results indicated that self-efficacy and outcome expectations jointly predict interests. Also, interests mediate the relations of

self-efficacy and outcome expectations to choice consideration. However, the specific nature of the mediation effect (i.e., full versus partial) varied somewhat across the RIASEC types. In addition, contrary to SCCT's predictions, social supports and barriers related to choice consideration mostly indirectly (through self-efficacy) rather than directly. Mani (2005) examined the supports and barriers that Sikh Indo-Canadian young women perceive in their career decision-making process to enter the applied social sciences at the university level. The results indicated that self-efficacy appraisals played an important role in moderating the participants' views of supports and barriers in their career decision-making processes.

To further understand the role of contextual and cognitive variables in career choice behavior, Flores and O'Brien (2002) tested the SCCT model with 364 Mexican American adolescent women. The results indicated that feminist attitudes and parental support predicted career aspiration. However, none of the background contextual variables in their study predicted nontraditional career self-efficacy. Caldera (2003) assessed intrapersonal, familial, and cultural factors in the process of committing to a career choice of Mexican American and non-Hispanic White college women. The results indicated that MA women's commitment to a career choice was influenced more by their instrumentality and less by their expressiveness or their parents.

These findings underscore the need to investigate intrapersonal, contextual factors and culture in women's processes of committing to a career choice. The SCCT model, emphasizing more and more importance of social contextual variability, needs further examination in different cultures. Fouad and Byars-Winston (2005) conducted a meta-analysis to investigate the relationship between culture and vocational choice variables. They concluded that there are differences among racial/ethnic groups in perceptions of career-related opportunities and barriers. Our study tested the role of career barriers in SCCT model in a Chinese culture.

For high school students, there are several studies based on the SCCT to examine the relationships between contextual support/barriers, and vocational/educational self-efficacy and outcome expectations. Ali, McWhirter and Chronister (2005) conducted a research using a sample of 114 ninth graders from lower socioeconomic backgrounds and found that sibling and peer support accounted for a significant amount of variance in vocational/educational self-efficacy beliefs. They also found that vocational/educational self-efficacy beliefs significantly predicted vocational outcome expectations. However, contextual supports and barriers did not account for any unique variance associated with vocational outcome expectations. Wettersten et al. (2005) investigated the ability of assessed levels of social support, perceived parental involvement, academic self-efficacy, and perceived educational barriers to predict school engagement and work role attitudes among rural high school students. Results supported the hypothesized importance of contextual factors (social support and parent involvement) and self-efficacy in predicting the work and school attitudes of rural students. Creed, Prideaux, and Patton (2005) conducted a longitudinal study to test students in Grade 8 and again in Grade 10 and the results indicated that females were more likely to be continuously undecided. In our study, we also examine the gender difference of the variables related to career behaviors.

In terms of cultural differences, the Chinese culture was thought as more collectivism comparing to Western culture. For high school students, the role of family member opinions must play an important role at the decision point of time to declare their college majors. Therefore, in the current study, we also examined the content of career barriers perceived by high school boys and girls in the process of career decision making. We hope that the present study will aid high school guidance counselors in their work with students.

Purpose of the present study

We agreed the assumptions proposed by the Social Cognitive Career Theory (SCCT) that contextual supports and barriers play key roles in career choice process. However, little research has examined hypotheses involving these variables, especially in non-western cultures. We also noticed the thought proposed by Brown and Lent (1999) that the role of career barriers is less clearly articulated in SCCT. We therefore in the current study examined the roles of career barriers on high school students' career choice behavior in a Chinese culture. More specifically, the purpose of the study was to examine the role of 12 categories of career barriers in an individual's career choice behavior. We sought to extend earlier findings on the test of social cognitive career theory model in Taiwan and try to examine the role of career barriers on high school student career choice behavior.

Method

Participants

Participants were 584 high school students (243 females, 341 males) from 7 counties in Taiwan. They were primarily 10th grade (65.8%) and 11th (34.2%) grade students, with a mean age of 15.92 years (SD = .74). The sample was good in terms of its representative for high school students in Taiwan area. They were recruited by the school guidance counselors who received invitation from our study to help with inventory administration. The percentage of the college majors they preferred most and would like to apply for in the near future in the six Holland types, R, I, A, S, E, C, were 20.9%, 34.4%, 20.2%, 4.0%, 9.8%, and 8.9% respectively. 1.8% of the participants did not express which major they prefer to declare in their future college education. The percentage of the ideal job categories they liked most and would like to apply for in the

future in the same six types were 16.4, 28.1, 12.2, 22.4, 13.3, and 5.5 respectively. About 2.1%

of them did not express which job they liked most and would like to do in the future.

Instruments

Chinese Career Self-efficacy Inventory (CCSEI). The CCSEI (Tien, 2003) was used to

measure high school students' self-efficacy in the six occupational types proposed by Holland

(1997). It is an inventory developed based on item content created originally in Chinese and

contains 36 occupation items within six Holland types, six items in each of the six types. Those

items were selected from 185 occupation items proposed by 73 high school students in an open

ended questionnaire. It means that those items are indigenous to Taiwan occupational and

cultural environment. Students were familiar with those items and would know how to make

judgment about their preference and confidence for each of them. These items are also well

converted to the six categories proposed by Holland (1997). For example, "nurse" and

"elementary school teacher" are "Social" type and "Scientist" and Physician" are "Investigative"

type. The Holland Hexagon interest structure has been tested and supported by the Chinese

culture in Taiwan (Jin, 1991; Tien, 1994). Guidance counselors also apply this model in their

guidance practice. Most high school students are familiar with the content of the six career

interest types before they choose college majors. For each of the occupations, the participants

were asked to rate from 1 (low efficacy) to 9 (high efficacy) to indicate their confidence of

successfully completing the job tasks. In addition to self-efficacy, the participants were also

asked to rate the degree to which they will consider choosing that occupation in the future (1

indicates least likely to consider that occupation as future occupation and 9 indicates most likely

to consider that occupation as future occupation). The reliability coefficients for the Self Efficacy

Scale ranged from .62 to .84. The α coefficients for Choice Scale ranged from .61 to .80 based

on a previous sample (Tien, 2003, 274 high school students). For the current study (584 high school students), reliability coefficients for Self Efficacy Scale ranged from .61 to .80. The α coefficients for Choice Scale ranged from .61 to .79. The instrument was also designed to measure individual's career interest, outcome expectation, and perceived task difficulty. However, we did not apply those scales in the current study.

Chinese Career Barriers Inventory (CCBI). Career barriers perceived by participants were assessed by the Chinese Career Barriers Inventory (Tien, 1998). It consists of 80 items, comprising 12 scales: lack of self knowledge, sex discrimination, family responsibility, inappropriate training, lack of support, attitude toward females, multiple-role conflict, discouraged nontraditional fields, dissatisfaction with career, inadequate experience, age and physical disability, and marriage and children interfere. It's a 9-point Liketrt scale with 1 indicates low and 9 indicates high perceived barrier. Reliability coefficients for the 12 scales based on an 850-college-student sample were between .68 and .92. The intercorrelations among the 12 scales were low to moderate, ranging from .14 to .61. The results of factor analysis based on an 850-college student sample supported the construct validity of the CCBI, accounting for 55.7% of the total variance.

Procedure and data analysis

All the participants completed the battery of measures in group sessions conducted by guidance counselors in the seven school districts. Instructions for the battery administration were clear enough for the counselors to adhere to the standardized testing procedure. Most students can finish it in 45 minutes. Data collected were then analyzed by MANOVA to test gender differences. Hierarchical regression analysis was then applied to examine the predictability of career self-efficacy and career barrier to career choice behavior.

Results

Gender differences

Multivariate analysis of variance (MANOVA) was conducted to explore potential gender differences for participants on variables of choice behavior, self-efficacy, and career barriers. Table 1 lists the means, standard deviations, and F values for each of the scales. The overall gender differences in the three scales were statistically significant. The *Wilks Λ* values for choice behavior, career self-efficacy, and career barriers were .814, .855, and .834 respectively. For career choice behavior, boys and girls were different in considering Realistic (*F[1,469]=34.05, P<.001*), Artistic (*F[1,469]=12.12, P<.001*), and Enterprising (*F[1,469]=4.60, P<.001*) types of career as their career future. For career self-efficacy, males and females were different in Realistic type (*F[1,460]=32.09, p<.001*). As far as the career barriers, boys and girls perceived differently in Sex Discrimination, Discouraged Nontraditional, and Inadequate Experience scales. Comparing to high school boys, girls perceived more barriers in gender discrimination (*F[1,469]=33.91, P<.001*) and inadequate experiences (*F[1,469]=3.96, P<.05*). However, the boys feel more frustrated about being discouraged to pursuing nontraditional careers (*F[1,469]=15.50, P<.001*).

Regression analysis: Predictability of barriers and self efficacy on career choice behavior

Hierarchical regression analyses were conducted to examine predictability of career barriers and self-efficacy on high school boys and girls career choice behavior. We decided to do regression analyses for boys and girls separately because the gender differences on career choice behavior, self-efficacy, and perceived barriers were significantly different. In the process of regression analyses, career choice types (i.e., Realistic, Investigative, Artistic, Social, Enterprising, and Conventional) were criterion variables. Career self-efficacy and the 12 career

barrier subscales were predictors. In each of the regression analyses, we entered the variable self-efficacy first because it is a major concept in SCCT model. The 12 barrier subscale scores (i.e., Self knowledge, Sex discrimination, Family responsibility, Inappropriate training, Lack of support, Attitude toward females, Multiple-role conflict, Discouraged nontraditional, Dissatisfaction with career, Inadequate experience, Age and physical disability, Marriage and child interfere) were then entered in the second step. We totally conducted six regression analyses for each gender. One major concern related to the six regression analysis using the same sample would be the inflated type I error. To deal with the inflated error probability, we adopted Tabachnick and Fidell's (2001) formula, $\alpha = 1- (1- \alpha_n)^6$, to calculate a new alpha value. Since we applied six regression analyses and the original α value we set was .05. The new α value would become .0085. Therefore, we set the p value of .0085 as the significant level for regression analyses. Table 2 presents the results of hierarchical regression analyses.

As table 2 shows, in predicting boys' career choice in Realistic dimension, career self-efficacy accounted for approximately 12.4% of variance in career choice, which was statistically significant. In second step, attitude toward female added 6.1 % of additional variance to the regression equation. The full regression model accounted for 18.5% of variance in career choice, which was statistically significant (*F [13, 271] =4.71*, *p* = .000). In predicting girls' career choice in Realistic dimension, career self-efficacy accounted for approximately 9.8% of variance in career choice, which was statistically significant. In second step, sex discrimination and dissatisfaction added 8.4 % of additional variance to the regression equation. The full regression model accounted for 18.2% of variance in career choice, which was statistically significant (*F [13, 207] =3.53*, *p* = .000). However, the β values for sex discrimination and dissatisfaction were not significant at the *p*=.0085 level.

Career self-efficacy also accounted for a significant proportion of variance in boys' (R^2 = .533) and girls' (R^2 = .478) choice behavior in Investigative dimension. When career barriers added in the second step, no subscale scores accounted for significant variance for boys, neither for girls. The barrier as a whole added about 2% of variance in the second step and was not significant.

For Artistic dimension, self-efficacy also accounted for significant proportion of variance in boys (R^2 = .487) and girls (R^2 = .508) choice behavior. When career barrier added in, 3% of the total variance were accounted for by boys' perceptions on inappropriate training and attitude toward females. However, the explanation was not significant at the *p*=.0085 level. For girls, career barriers added about 5% of accounted variance for their artistic type choice behavior. More specifically, inappropriate training (negative *β* value) is a significant predictor at the *p*=.0085 level.

For boys' Social type of choice behavior, career self-efficacy accounted for approximately 44.1% of variance in their choice behavior, which was statistically significant. In second step, lack of support added 3.3 % of additional variance to the regression equation. However, it was not significant at the *p*=.0085 level. For girls, career self-efficacy also accounted for significant proportion (16.5%) of variance in their choice behavior, which was statistically significant. In second step, sex discrimination and inadequate experience added 8.1 % of additional variance to the regression equation. But the sex discrimination was not significant at the *p*=.0085 level.

For Enterprising dimension, career self-efficacy consistently emerged as the significant variable accounted for both boys and girls choice behavior. For boys, it accounted for approximately 38.1% of variance. For girls, the accounted proportion of variance is about 28%. For boys, there was no significant variable emerged as significant predictors in the second step.

For girls, on the other hand, the subscale inadequate experience added about 4.8% of variance but was not significant at the p=.0085 level.

Similarly, for boys' career choice in Conventional dimension, self-efficacy accounted for 48.8% of the total variance at a significant level (p=.000). But no career barrier subscales emerged as significant predictors in the second step. For girls, career self-efficacy in the first step accounted for approximately 26.4% of variance. In the second step, sex discrimination and inadequate experience added about 8.5% of variance at a significant level (p=.014). However, only inadequate experience was significant at the p=.0085 level.

In summary, career self-efficacy emerged consistently as a powerful predictor of career choice behavior in all six types of career. Career barriers, on the other hand, were not so powerful to explain high school students' career choice behavior. Attitude toward female was significant in predicting boys' Realistic type of choice behavior. Inappropriate training was significant in predicting girls' Artistic type of career choice in a negative way. Inadequate experiences could effectively predict girls' choice behavior in both Social and Conventional dimensions.

<div align="center">Discussion</div>

Gender differences in career self-efficacy

For social career self-efficacy, male and female students perceived differently in task difficulties in Realistic and Investigative areas, which are usually thought as male-dominated fields. Fouad and Smith (1996) tested several propositions of SCCT with a sample of empirically diverse middle school students and found that math and science self-efficacy beliefs had a large direct influence on outcome expectations. However, the math and science self-efficacy beliefs had direct and indirect influences on math and science interest and intentions to pursue math-

and science- related activities. In our study, the high school boys perceived higher in self-efficacy and considered more seriously to choose careers in Realistic fields. It seems that Realistic is a very typical male-oriented type of career for high school boys as they perceive at their age. Many studies based on Chinese samples also indicated that boys were more interested in Realistic and tended to consider more seriously in Realistic area (Jin, 1991; Tien, 1994). Females, on the other hand, were more interested in Artistic type. Their outcome expectation was higher than boys in Artistic, were more tending to choose Artistic field as their career. This gender difference sounds quite reasonable in the job market in Taiwan, more females in Artistic and more males in the field of Realistic type. The gender differences in the world of work seem to be existed in a very traditional and stereotypical way in Taiwan. The issue of pursuing nontraditional career needs further exploration in the future.

Gender differences in career barrier perceptions

Our study indicated that male and female perceived significantly different in three career barrier subscales: gender discrimination, inadequate experiences, and discouragement to pursue nontraditional fields. It seems that females always perceive more barriers than males in gender discrimination. Gender discrimination was thought as an important source of career barriers (Perrewé and Nelson, 2004). To reduce the stress arising from gender discrimination, they believed that political skill is important for women to learn how to enhance performance, success and health. Women usually suffer from political skill deficiency, and therefore have less influence on policy making and advancement opportunities. Cook, Heppner, and O'Brien (2002), on the other hand, asserted that an ecological perspective can help to conceptualize the dynamic interaction between person and environment. We believe that the ecological viewpoint can help females to be aware of the gender discrimination and learn to minimize the perceived barriers.

However, further research need to be conducted to verify this viewpoint.

Inadequate experience was another barrier showed significant gender differences. High school girls, comparing to boys, were more inclined to perceive inadequate experience as one of career barriers. To be more specific, we found from hierarchical regression analysis that girls tended to feel being lack of experience and difficult to pursue jobs in Artistic, Social, Enterprising, and Conventional types of work. Boys, on the other hand, were not so worried about being lack of experience. We believe this is to do with gender difference in self-efficacy. Self-efficacy serves as a mediator between perceived career barriers and coping strategy/efficacy (Mani, 2005) in the process of career decision-making.

As far as the discouragement from pursuing nontraditional career, our results indicated that boys perceived more barriers than girls. In Taiwan, some women and men have pursues careers dominated by the opposite gender despite the segregated labor force. For example, we do have more and more nontraditional career paths for males, such as nursing and preschool/kindergarten teachers. However, high school boys still feel discouraged to pursue these nontraditional careers. Girls, on the other hand, feel less discouraged in pursuing nontraditional career paths. We guess encourage/discourage from parents or significant others may play an important role in boys' career choice behavior (Chusmir, 1990; Hays, 1989). In addition, negative societal perceptions and stereotypes also may limit boys' selection of nontraditional careers.

One result drawing our attention was that high school boys and girls were similar to each other on the three scales particular to female barriers: family responsibility, attitude toward females, and marriage and child interfere. Females, in traditional Chinese culture, spent much more time and energy in taking care of family chores and young kids. But in our study, boys perceived these careers the same way as girls did. They all thought family responsibility and

marriage/kids as part of sources of career barriers. In another culture, Patton, Creed, and Watson (2003) used a sample of 1063 secondary school students from Australia and South Africa, the results also showed no support for the influence of gender on levels of perceived career barriers. However, a relationship between perception of career barriers and the career development variables was evident, the greater the perception of barriers, the higher the career indecision. Our study further explained the relationship between varieties of career barriers and career choice behavior. Boys and girls perceived differently in certain categories of career barriers.

The Role of Career Barriers in SCCT Model

Jome and Tokar (1998) found that men who pursue gender traditional occupations are more likely to endorse anti-feminine attitude than men who pursue gender traditional careers. Furthermore, Lease (2003) found that men who pursue gender traditional occupations hold greater perceptions of their academic ability than their peers.

The results of regression analysis indicated that social cognitive variables accounted for more variance than career barriers. Of the twelve categories of career barriers, attitude toward female, dissatisfaction with job conditions, lack of support, and inappropriate training were four barriers perceived by high school boys. However, these barriers did not account for much variance of their career choice behavior. For high school boys, interest is more important than perceived barriers to predict their career choice behavior. For girls, the career barriers did not account for much of their choice behavior, either. Gender discrimination and inadequate experiences were two categories of barriers perceived in their choice behavior in Realistic,

Enterprising, and Conventional areas. Generally speaking, career barriers were not as important as interest and outcome expectations in predicting girls' career choice behavior. The role of career barriers in the SCCT model was not as important as we expected. Career interest was more important than barriers were in predicting high school student' career choice behavior. Similar to Lent et al (2001) study based on a college sample, our study showed that career barriers perceived by high school students produced only weak relations to choice behavior.

For high school boys and girls, interest is always the variable with highest accountability to explain their career choice behavior. Career barriers can only explain very minimum amount of high school students' career choice behavior. Brown and Lent (1999) noted that the empirical literature on perceived barriers has not demonstrated clear links between perceived barriers and career outcome. However, qualitative studies indicated that individuals can realize particular environmental barriers and supports to their career progress (Tien, 1999; Swanson, Daniels, & Tokar, 1996). Comparing to self-efficacy, outcome expectation, and interest, career barriers were not so salient in the process of high school student career choice consideration.

However, one important message from the results was that inappropriate training and lack of support were perceived by males in Artistic type of choice. We also noticed that discouragement from pursuing nontraditional fields is one of the sources of career barriers for males comparing to females. It seems that high school boys considering choose Artistic field face more challenges related to support and encouragement from important others.

the specific nature of the mediation effect (i.e., full versus partial) varied somewhat across the RIASEC types

Although the role of career barrier was not so important as other social cognitive variables and interest were in predicting high school students career choice behavior, we could still find

some significant barrier subscales that were perceived as important for high school boys and girls in variant type of careers. For boys, the important variables included "Age and physical disability" and "Dissatisfaction with career" for predicting Realistic and Investigative types of choice, "Inappropriate training" in predicting Artistic type of choice, "Gender discrimination" in predicting Social type of choice, "Dissatisfaction with career" for Enterprising career, and "Discouragement from nontraditional career" in predicting Conventional type of choice. Most of these factors are external or related to the social context. For high school girls on the other hand, significant barriers perceived by them included family-oriented factors such as "Family responsibility" and "Marriage and child interfere".

Implications for practice and suggestions for future research

In Taiwan, high school students need to declare their majors before they enter the college. Factors influencing their decision making regarding to college major might be both internal (self-efficacy and outcome expectation) and external (social contextual barriers and supports). The current study

For Chinese, we believe that SCCT is an appropriate framework to understand the career-relevant choice behaviors of high school students who are asked to declare major/department before they enter the college/university in Taiwan.

Social contextual supports and barriers always play important roles in one's career decision-making. However, our study indicated that social-cognitive variables such as self-efficacy, outcome expectation and interest are more important than perceived barriers in predicting high school student career choice consideration. More specifically, interest was the most important variable and accounted for most variability of the individual's career choice

behavior. For high school students in Taiwan, our study indicated that interest is still the most important factor predicting career-relevant choices such as selection of elective courses and college major decisions. Contextual supports and barriers might play certain roles when the students translate their interests into goal selections and actions. But more evidences are needed.

We believe that high school students are still in the process of exploration stage. Most of the focus is on interest and value exploration. They do not have enough career experiences regarding to perceived barriers. Counseling staff usually put more emphasis on positive side of career exploration. Our study provided a good remind for high school counselors that social contextual barriers might also play an important role to a certain degree in their career choice consideration, no matter whether those barriers are gender-related discrimination, support, or other factors such as inadequate training and inadequate experience. For high school students, the teacher encouragement is also an important source of career support, which might influence their career decision making process. We also believe that domain-specific career barriers might influence the individual in a positive way if the individual can cope with and perceive the barriers in a positive way. Then the barriers might become a kind of facilitators for female's career development.

In conclusion, the results of our study highlighted the salience of social cognitive variables in conceptualizing high school student choice behavior in Taiwan. Career self-efficacy, outcome expectation, and career barriers might influence individual choice behavior indirectly through career interest. The hypotheses emanating from social cognitive career theory (SCCT) need further tested, especially in cultural diversified settings.

Clearly, a greater understanding of the influences on their career choice behavior is needed for high school counselors and/or vocational psychologists to effectively intervene to enhance

their educational status. The current study indicated that …

The Chinese culture was though as more collectivism comparing to the western culture. For high school students, the role of family member opinions must play an important role at the decision point of time to declare their college majors.

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Table 1.

Means, Standard Deviations, and F values for High School Boys and Girls on Career Choice, Career Self-Efficacy, and Career Barriers

Scales	Boys (N=341)		Girls (N=243)		F
	M	SD	M	SD	
Choice Behavior					Λ=.814***
Realistic	21.04	7.54	17.02	7.20	34.05***
Investigative	29.11	9.49	29.70	9.94	.42
Artistic	22.57	9.36	25.71	10.11	12.12*
Social	26.97	9.12	28.27	7.91	2.59
Enterprising	23.16	9.21	21.38	8.47	4.60*
Conventional	25.43	10.13	24.00	9.89	2.35
Career Self-efficacy					Λ=.855***
Realistic	30.55	8.67	26.09	7.88	32.09***
Investigative	30.07	9.57	28.46	9.99	3.08
Artistic	26.43	9.84	27.82	9.02	2.40
Social	31.35	9.83	31.47	7.41	.02
Enterprising	29.41	9.44	27.81	8.81	3.41
Conventional	30.13	9.97	29.49	9.08	.50
Career Barriers					Λ=.834***
Self knowledge	93.11	16.66	94.01	18.05	.36
Sex discrimination	58.88	19.87	68.43	16.98	33.91***
Family responsibility	28.17	6.67	28.01	6.50	.07
Inappropriate training	36.75	10.49	37.47	9.75	.65
Lack of support	38.79	11.36	39.56	11.71	.58
Attitude toward females	31.25	10.73	31.01	10.95	.07
Multiple-role conflict	51.48	11.32	50.13	11.83	1.78
Discouraged nontraditional	22.10	7.51	19.55	7.22	15.50***
Dissatisfaction with career	46.93	9.62	47.06	8.48	.03
Inadequate experience	27.38	6.21	28.41	5.47	3.96*
Age and physical disability	23.96	6.73	23.37	6.08	1.09
Marriage and child interfere	32.46	10.24	31.96	10.41	.30

Note. *p<.05, ***p<.001

Table 2.

Summary of Multiple Regression Analysis for Variables Predicting Career Choice Behavior

Variables	Boys				Girls			
	B	*SE B*	*β*	*p*	*B*	*SE B*	*β*	*p*
Realistic								
Step 1: Self-efficacy	.28	.05	.32*	.000	.33	.06	.34*	.000
Step 2: Attitude toward females	.15	.05	.21*	.003				
Sex discrimination					-.09	.04	-.22	.009
Dissatisfaction with career					-.15	.07	-.17	.033
Investigative								
Step 1: Self-efficacy	.70	.04	.73*	.000	.72	.05	.71*	.000
Step 2: No barrier variables are significant predictors								
Artistic								
Step 1: Self-efficacy	.67	.04	.69*	.000	.81	.05	.72*	.000
Step 2: Inappropriate training	-.12	.05	-.13	.012	-.19	.07	-.19*	.004
Attitude toward females	.11	.05	.12	.028				
Sex discrimination					-.08	.04	-.13	.030
Inadequate experience					.25	.12	.14	.033
Social								
Step 1: Self-efficacy	.60	.04	.66*	.000	.49	.07	.43*	.000
Step 2: Lack of support	.10	.05	.12	.039				
Sex discrimination					-.10	.04	-.20	.017
Inadequate experiences					.35	.13	.23*	.007
Enterprising								
Step 1: Self-efficacy	.60	.05	.61*	.000	.52	.06	.53*	.000
Step 2: Inadequate experience					.28	.13	.18	.024
Conventional								
Step 1: Self-efficacy	.71	.04	.70*	.000	.58	.07	.52*	.000
Step 2: Sex discrimination					-.11	.04	-.18	.013
Inadequate experience					.43	.14	.23*	.003

Note. * $p < .0085$. Values of *B*, *SE B*, and β are derived from the second step of each regression

analysis. For Realistic boys, $R^2 = .124$ in step 1, $\triangle R^2 = .061$ in step 2, $F (13, 271) = 4.71$, *p*

= .000; For Realistic girls, $R^2 = .098$ in step 1, $\triangle R^2 = .084$ in step 2, $F (13, 207) = 3.53$, $p = .000$;

For Investigative boys, $R^2 = .533$ in step 1, $\triangle R^2 = .021$ in step 2, $F (13, 265) = 25.26$, $p = .000$;

For Investigative girls, $R^2 = .478$ in step 1, $\triangle R^2 = .021$ in step 2, $F (13, 201) = 15.41$, $p = .000$;

For Artistic boys, $R^2 = .487$ for step 1, $\triangle R^2 = .031$ for step 2, $F (13, 271) = 22.427$, $p = .000$;

For Artistic girls, $R^2 = .508$ for step 1, $\triangle R^2 = .051$ for step 2, $F (13, 204) = 19.905$, $p = .000$;

For Social boys, $R^2 = .441$ for step 1, $\triangle R^2 = .033$ for step 2, $F (13, 270) = 18.68$, $p = .000$;

For Social Girls, $R^2 = .165$ for step 1, $\triangle R^2 = .081$ for step 2, $F (13, 202) = 5.06$, $p = .000$;

For Enterprising boys, $R^2 = .381$ in step 1, $\triangle R^2 = .026$ in step 2, $F (13, 272) = 14.37$, $p = .000$;

For Enterprising Girls, $R^2 = .280$ in step 1, $\triangle R^2 = .048$ in step 2, $F (13, 198) = 7.42$, $p = .000$;

For Conventional boys, $R^2 = .488$ in step 1; $\triangle R^2 = .027$ in step 2, $F (13, 267) = 21.83$, $p = .000$;

For Conventional girls, $R^2 = .264$ in step 1, $\triangle R^2 = .085$ in step 2, $F (13, 200) = 8.22$, $p = .000$.