Assessing Career Decision-Making Difficulties: A Cross-Cultural Study

Wei-Cheng Mau

This study examines the validity of the Career Decision-Making Difficulties Questionnaire (CDDQ) in relation to its cultural relevance. Relationships between career decision-making difficulties and career indecision are also examined in relation to the two cultural groups, American and Taiwanese university students. Structural equation modeling (SEM) shows that the taxonomy of career decision-making difficulties can be reliably measured for American college students. However, the data based on the Taiwanese students has a relatively poor fit of the factorial model. Compared to the America students, Taiwanese students report more difficulties in career decision making and tend to be more indecisive in their career decision making. Differences in career decision-making difficulties between American and Taiwanese college students are discussed in light of cultural differences.

Keywords: Decision making, career choice, career counseling, cross cultural, college student, test validity

Cultural and contextual support plays a significant role in the way individuals make career decisions (Lent, Brown, & Hackett, 2000). The contemporary North American emphasizes the importance and necessity of making personal choices, forming judgments, and having one's own opinions (Wierzbicka, 1994). In contrast, Eastern culture does not highlight the explicit separation of each individual, but tends to emphasize collective decisions. Although decidedness and related constructs of career decision-making have been well documented in the literature (e.g., Krieshok, 1998; Osipow, 1999; Osipow & Gati, 1998), its cultural relevancy is relatively unknown. Reviews of career assessment tools suggest that very little has been done to examine applicability of career assessment to the cultural minorities (Eby, Johnson, & Russell, 1998; Leong & Hartung, 2000; Leong & Leung, 1994). The failure to understand the impact of culture on the decision-making process and issues related to assessing culturally different individuals would result in inappropriate and invalid conclusions.

The Asian American group is the fastest growing minority in the United States, and the majority of the Asian Americans are recent immigrants. Acculturation is one of the most important variables in explaining immigrants' vocational behaviors (Mau, 1997; Tang, Fouad, & Smith, 1999). In order to understand the immigrants' vocational behaviors, their cultural origins need to be studied. Cross-national studies would yield a greater cultural contrast, and hence would increase our understanding of the cultural origin of the minority group in the United States. The goal of this study is to examine the cultural relevance of a major career assessment device measuring career decision-making difficulties.

Career decision-making is a complex process, by which the decision makers are required to process information about themselves and information about the world of work (Jepsen, 1984). Difficulties in making decisions could occur if decision makers do not possess relevant information, have conflicting information, or do not know how to process the information (Gati, 1986). Difficulties could also arise when the psychological characteristics of the individual interfere with decision-making tasks (Crites, 1969). Many college students struggle with the decisions they have to make about a college major and school to work transition. The first step to assist these young people is to identify, define, and categorize the nature of their difficulties. Hence, empirical research examining the structure and dimension of career decision-making difficulties applicable to youngsters becomes important.

Research on career decision-making problems has been largely focused on career indecision (see Slaney, 1988 for a review), and has been investigated without much effort toward integrating theories

and empirical evidence (Osipow, 1999). The Career Decision-Making Difficulty Questionnaire (CDDQ; Gati, Krausz, & Osipow, 1996) was created to address concerns related to a lack of theoretical focus and multidimensionality in the current instruments. Relying on decision theory, Gati et al. (1996) proposed a hierarchical classification system that assesses 10 difficulty areas in making career decisions which are organized into three major factors, namely (a) lack of readiness, (b) lack of information, and (c) inconsistent information. Lack of readiness is perceived as difficulties before the decision-making process and lack of information and inconsistent information are difficulties during the process. An understanding of the taxonomy of decision-making difficulties and how these different difficulties may have contributed to career indecision may help counselor: and academic advisors become more effective in assisting their students.

Using cluster analysis, Gati et al. (1996) confirmed the proposed structure of the classification system. However, their data suggested lower reliability in measuring some of the difficulty areas within the readiness category. Their data also indicated a variation of structure between Israeli and American samples on the external conflict scale. The external conflict scale was clustered under the inconsistent information category for the Israeli sample but was clustered under the readiness category for the American sample. Using an American college student sample, Osipow and Gati (1998) confirmed that the external conflict scale is clustered under the readiness category instead of the inconsistent information category. This seems to suggest that the external conflict scale may be culturally specific. Further investigation, using a cross-culture sample in order to pinpoint the exact location of the scale, would advance our understanding of the nature of career decision-making difficulties.

The goal of this study was to examine the taxonomy with samples of two different cultures. Relationships between students' career indecision and categories of decision-making difficulties were also investigated. Specifically, the purpose of this study was (a) to determine if the taxonomy of career decision-making difficulties can be applied to both American and Taiwanese college students, (b) to determine if there were differential predictions of career indecision, and (c) to determine if there are significant differences in the perception of career decision-making difficulty between these two cultural groups.

First, to determine if the taxonomy of career decision-making difficulties can be applied to both American and Taiwanese college students, the original model was examined using structural equation modeling (SEM) procedure with both cultural groups. A revised model, with an additional path added from the external conflict scale to the readiness cluster, was then examined to see if it increased the goodness-of-fit. Different from previous studies, the present study used SEM to examine the structure of the scale. Traditional approaches to the analysis of data ignore the impact that lack of reliability in measured variables can have on the statistical power of their test of effects (Russell, Kahn, & Altmaier, 1998). When used in testing model fit or significant tests, SEM takes into consideration the imperfection of the measurement, therefore it is superior in examining the structure of the measurement scale and the adequacy of the prediction model.

Second, to determine if there were differential predictions of career indecision, path analyses were conducted. Guided by the theoretical framework described by Gati et al. (1996), the path model hypothesized that career decision-making readiness proceeds before difficulties due to lack of information or inconsistent information, and in turn affects career indecision.

Last, in examining if there are significant differences in career decision-making difficulty between these two cultural groups, the overall ratings of the decision-making difficulty as well as the specific areas of difficulties were compared. Cross-cultural research has generally suggested that Taiwanese students tend to focus on career-related problems and are more likely than American students to report problems in this area (Mau & Jepsen, 1990). I expect Taiwanese students to report a greater degree of difficulty than American students.

Method

Participants

Participants (N = 1,566) were drawn from two sources: an American sample and a Taiwanese sample. The American participants consisted of 540 undergraduate students (212 men, 323 women, 5 did not indicate) enrolled in a general required course at a large midwestern university in the United States. Ages ranged from 15 to 54 years (M = 22 years; Mode= 18 years; SD= 6.80 years). The majority of the students were freshmen (58%); 23% sophomores, 10.3% juniors, and 8.3% seniors. Ethnic composition of the American participants was: 74% Caucasian, 7.4% African American, 4.5% Hispanic, 5.6% Asian American, 1.1% Native American, 2.6% International, 2.8% mixed race, and 2% did not indicate. The Taiwanese participants consisted of 1,026 undergraduate students (474 men, 549 women, 3 did not indicate), solicited from 13 universities in 53 different fields of study. Ages ranged from 17 to 28 years (M = 19.9 years, Mode = 18 years; SD = 1.82 years). The majority of Taiwanese students were freshmen (49%); 17.4% sophomores, 18.1 % juniors, and 15.3% seniors.

Instruments

To ensure accuracy in this cross-cultural study, a rigorous procedure was undertaken in establishing a valid Chinese version of measures. The measures were first translated into Chinese by a native Chinese speaker and back-translated into English by another native Chinese speaker. Both translators were bilingual and had obtained a doctoral degree in the U.S. The back-translated version was compared with the original version for meaning accuracy by a native English speaker with a Masters degree in counseling. Revisions were made to those items that were translated inaccurately. Three native Chinese speakers then reviewed the translated Chinese version, one has a doctoral degree, one doctoral candidate, and one has a Bachelors degree. The Chinese version was pilot-tested on 80 undergraduate students. Students made comments regarding the clarity of the questions. In addition, 12 students were interviewed to solicit additional feedback. Another revision was made as a result of the pilot study. Reliability information derived from the translated instruments is summarized in the Table 3. Both the internal consistency and stability of the translated instrument compared favorably to the reliability reported by the original authors (Gati, Krause, & Osipow, 1996).

Career Decision-Making Difficulty Questionnaire (CDDQ, Gati, Krausz, & Osipow, 1996)

The CDDQ is a 44-item scale assessing career decision-making difficulties. Each item, corresponding to a particular difficulty (e.g., "I find it difficult to make a career decision because I do not know what steps I have to take"), is rated on a 9-point Likert scale from 1 (does not describe me) to 9 (describes me well). This scale includes three major categories of difficulties, namely Lack of Readiness, Lack of Information, and Inconsistent Information, which are further divided into 10 specific difficulty areas. Gati et al. reported a median Cronbach alpha reliability of .77 ranging from .40 to .95 based on 304 university students. They also reported test-retest reliability (a 2-day interval) of .67, .74, .72, and .80 for the three major categories and the total score, respectively. Cronbach alpha based on 93 Taiwanese students ranged from .33 (Dysfunctional Beliefs) to .94 (Lack of Information about Self) with an average of . 77. Test-retest reliabilities, a 2-week interval based on 93 Taiwanese students, were .56 (Readiness), .85 (Lack of Information), . 78 (Inconsistent Information), and .85 (Total score).

Career Decision Scale (CDS; Osipow, Carney, Winer, Yanico, & Koschier, 1976)

The CDS is a 19-item, 4-point Likert type scale assessing choice certainty and indecision. This scale has reliability coefficients ranging from .70 to .90 (Osipow, 1987). Rogers and Westbrook (1983) found clear support for the construct and concurrent validity of the scale. Cronbach alpha based on 93 Taiwanese students was .90 (Total score) with a test-retest reliability of .65 (Total score).

Data Analysis

Of the 1,566 questionnaires received, 1,461 were completed. One hundred and five were excluded in the analyses because either the questionnaire had many omissions or it was not answered carefully. To verify if students had answered questions carefully, additional validity items phrased "please skip this item" were added to the questionnaires. Participants who skipped the questions suggested that they had read the question carefully, whereas participants who had responded to those validity items were considered less careful, and were excluded from the analyses.

To ensure a comparable sample for analyses, differences in age and grade between American students and Taiwanese students were first examined. Significant differences were found in age, $F(1, 1418) = 79.73$, $p < .001$. Consequently, age was used as covariance in the analyses.

Results

The main purpose of this study was to determine if the taxonomy model could be reliably applied to both the American and the Taiwanese samples. The model was examined using the confirmatory factor analytic approach via the structural equation modeling (SEM) technique. The 44-item scale was hypothesized to represent the 10 career decision-making difficulty areas, which were further classified into three major categories; Readiness, Lack of Information, and Inconsistent Information. Chi-square goodness-of-fit is a typical method for evaluating models. However, the chi-square statistic tends to be inflated when the sample size is large. That is, even if the discrepancy between the proposed model and data is small, almost any model will be rejected if the sample size is large. On the other hand, if the sample too small, it reduces the stability of the significant test. It has been suggested that the ideal sample size for SEM analysis is 200 to 400. To address this issue, a random subsample of 200 cases from each cultural group was used in this analysis. In addition, the chi-square to degree of freedom ratio (x^2/df ratio) and multiple fit indexes (i.e., goodness-of-fit, GFI; comparative fit index, CFI; and root mean square of approximation, RMSEA) were used as evaluation criteria. It is commonly accepted that GFI or CFI greater than .90 suggests an adequate fit of the model. Although the ideal x^2/df ratio should be closer to 1, a ratio smaller than 2 has been suggested as a reasonable fit (Hatcher, 1994). An RMSEA of zero is considered a perfect fit, within a value under .05 indicating a close fit, although Browne and Cudeck (1993) suggest that values around .08 indicate an acceptable approximation of the model.

Results, summarized in the Table 1, showed that the x^2/df ratio based on the American student sample was 1.89. Both GFI (.94) and CFI (.98) were greater than .90, and the RMSEA (.067) was slightly higher than .050. Taken together, these data suggested a reasonable fit of the model. The revised model (the external conflict scale was included in the readiness category as well as in the inconsistent information category) slightly improved the fit. As can be seen in Figure 1, all of the paths were significant except the dysfunctional belief-readiness path (.13). The same procedure was applied to the Taiwanese sample. Results suggested a relatively poor fit of the model ($x^2/df = 3.25$, GFI = .91, CFI = .91, RMSEA = .11). The revised model also failed to improve the fit ($x^2/df = 3.34$, GFI = .91, CFI = .91, RMSEA = .11). All of the paths were significant except the dysfunctional belief-readiness path (.05) and the lack of motivation-readiness path (.36). The intercorrelations of the 10 decision-making difficulty scales are presented in Table 2.

Another focus of this study was to determine if the taxonomy system has differential predictive power for the American sample as well as for the Taiwanese sample. The path model hypothesized that career decision-making readiness proceeds before difficulties due to lack of information or inconsistent information, and in turn affects career indecision. Table 1 provided a summary of the results of the path analyses. The path model suggested a better fit of model for American students ($x^2/df = 1.24$, GFI = .99, CFI = .99, RMSEA = .035) than for the Taiwanese students ($x^2/df = 1.96$, GFI = .99, CFI = .98, RMSEA = .069). More variance of career indecision was accounted for by the three major career decision-making difficulties in the American sample (77%) than in the Taiwanese sample (45%). As can be seen from the

Figure 2, the path coefficients differed in strength of association for these two populations. Whereas the measure of lack of readiness was more predictive of career indecision (p = .73) for the American sample, the measure of lack of information was more predictive of career indecision (P = .58) for the Taiwanese sample. The total effect of the lack of readiness, lack of information, and inconsistent information based on the American sample were .89, -.08, and .25, respectively, and were .59, .58, and .26 respectively for the Taiwanese sample.

The third focus of this study was to examine the difference in career decision-making difficulties between American and Taiwanese students. Table 3 provided a summary of the multivariate analysis of variance (MANOVA) on the measures of career decision-making difficulties. MANOVA with age as covariate indicated a significant difference in career decision-making difficulty between American and Taiwanese students, $F(10, 1407) = 78.85$, $p < .001$. Subsequent follow-up analyses indicated significant differences in all 10 difficulty categories. As can be seen in Table 3, Taiwanese students reported more difficulties in career decision making than American students. Among the 10 difficulty areas, Taiwanese students tended to perceive indecisiveness as the most difficult area, whereas American students tended to perceive dysfunctional belief as the most difficult area.

Table 1
Structure Equation Model Indexes of Goodness of Fit

Model	χ^2	df	p	χ^2/df	GFI	CFI	RMSEA
			American[a]				
Factorial model							
Original model	60.62	32	.00	1.89	.94	.98	.067
Revised model	57.14	31	.00	1.84	.95	.98	.065
Path model	8.69	7	.28	1.24	.99	.99	.035
			Taiwanese[b]				
Factorial model							
Full model	104.04	32	.00	3.25	.91	.91	.110
Revised model	103.62	31	.00	3.34	.91	.91	.108
Path model	13.73	7	.06	1.96	.99	.98	.069

Note. GFI = goodness-of-fit; CFI = comparative fit index; RMSEA = root mean square of approximation.
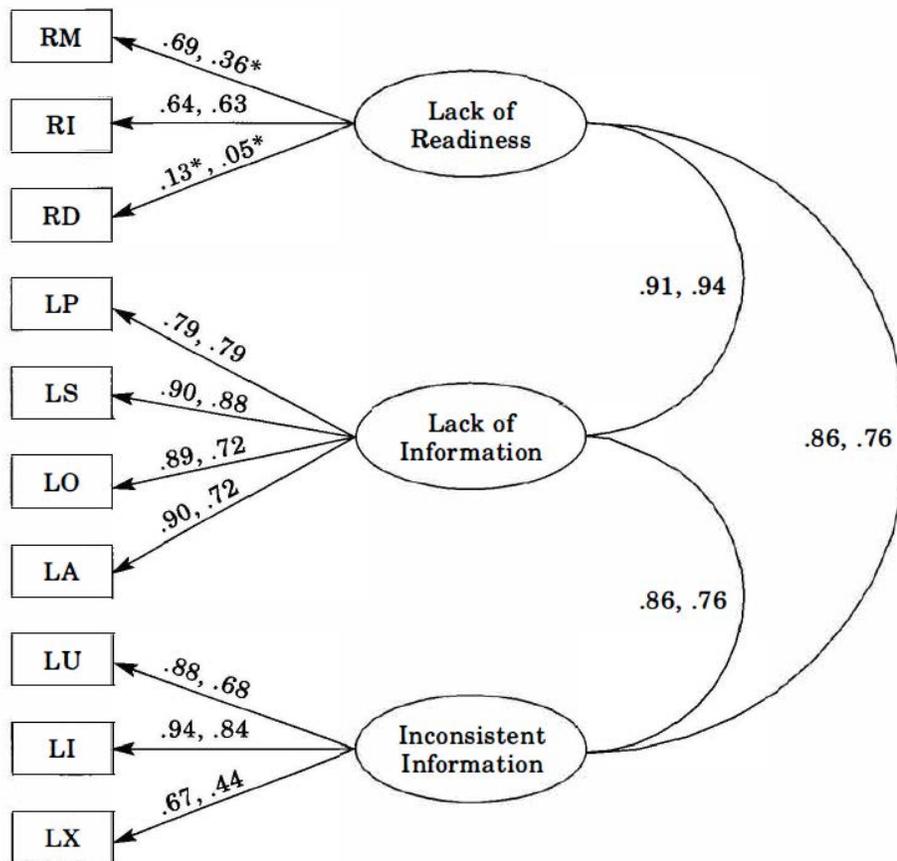[a]n = 200. [b]n = 200.

Figure 1. Structure Model of Career Decision-Making Difficulties-Original Model. The numbers before comma were derived from American sample and the numbers after comma were derived from Taiwanese sample. Structure coefficients with * indicate nonsignificant paths. RM = Lack of Motivation, RI = Indecisiveness, RD = Dysfunctional Beliefs, LP = Lack of Information About the Process, LS = Lack of Information About the Self, LO = Lack of Information About Occupation, LA = Lack of Information (About Ways of Obtaining Additional Information), LU = Unreliable Information, LI= Internal Conflict, LX = External Conflicts.

Table 2
Intercorrelations of 10 Decision-Making Difficulty Scales
Based on the American and Taiwanese Samples

	Lack of Readiness			Lack of Information				Inconsistent Information		
	RM	RI	RD	LP	LS	LO	LA	LU	LI	LX
RM		.262	−.063	.347	.328	.207	.218	.191	.297	.198
RI	.327		.123	.505	.485	.382	.344	.370	.365	.321
RD	.021	.270		.018	−.013	.051	−.025	.058	.006	.015
LP	.489	.463	.222		.666	.599	.474	.377	.411	.394
LS	.551	.447	.143	.725		.661	.576	.476	.530	.437
LO	.468	.421	.196	.728	.816		.656	.435	.390	.329
LA	.494	.473	.147	.718	.767	.796		.505	.466	.376
LU	.451	.418	.152	.618	.743	.737	.744		.533	.439
LI	.507	.461	.193	.613	.701	.678	.723	.784		.606
LX	.443	.369	.087	.532	.624	.572	.622	.697	.763	

Note. Lower triangle= American sample; upper triangle= Taiwanese sample. RM= Lack of Motivation, RI = Indecisiveness, RD = Dysfunctional Beliefs, LP = Lack of Information About the Process, LS = Lack of Information About the Self, LO = Lack of Information About Occupation, LA = Lack of Information (About Ways of Obtaining Additional Information), LU= Unreliable Information, LI= Internal Conflict, LX = External Conflicts.
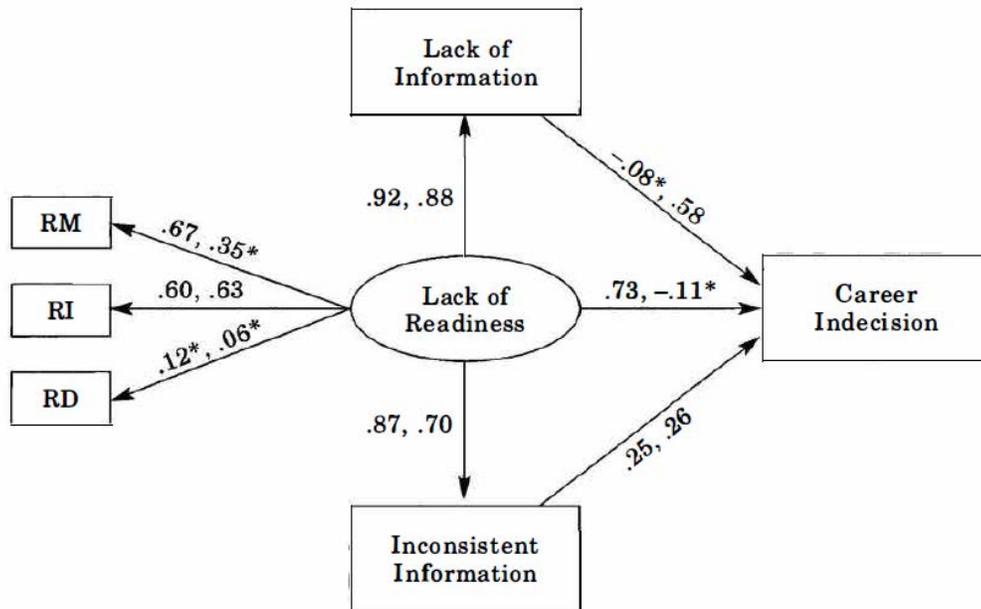

Figure 2. Path Models of Career Indecision. The numbers before comma were derived from American sample and the numbers after comma were derived from Taiwanese sample. Path coefficients with * represent nonsignificant paths. RM = Lack of Motivation, RI = Indecisiveness, RD = Dysfunctional Beliefs.

Discussion

One of the purposes of this study was to exam the construct of the Career Decision-Making Difficulty Questionnaire in relation to its cultural relevance. Findings suggest that there is an adequate fit of model for the American sample. However, the data based on the Taiwanese sample did not show a close fit. These findings along with findings of previous studies (Gati et al., 1996; Gati, Osipow, Krausz, & Saka, 2000; Osipow & Gati, 1998) have shown strong support for the structure of taxonomy systems assessing career decision-making difficulties of American college students. The lack of model fit for Taiwanese students suggests that structure of decision-making difficulties may vary as a function of cultural differences.

Similarly, the path model also showed a better fit of model for American students than Taiwanese students. The pattern of relationship confirms Gati et al.'s (1996) theoretical hypothesis in that lack of readiness (before the process) precedes lack of information or inconsistent information (during the process), which in turn affects career indecision. Whereas lack of readiness had a greater impact on career indecision for American students, lack of information had a greater impact on career indecision for Taiwanese students. These findings suggested that culture may be a significant factor in career decision making.

Table 3
Means, Standard Deviations, and Reliability Coefficients of the Career Decision-Making Difficulty Questionnaire (CDDQ) and the Career Decision Scale (CDS)

	American[a]		Taiwanese[b]		Taiwanese[c]	
	M	*SD*	*M*	*SD*	α	Retest
CDDQ						
Lack of Readiness	3.91	1.21	5.09	1.08	.62	.56
Lack of Motivation (RM)	2.68	1.65	4.10	1.87	.61	.54
Indecisiveness (RI)	4.19	1.77	5.70	1.59	.68	.63
Dysfunctional Beliefs (RD)	4.78	1.77	5.25	1.50	.33	.33
Lack of Information	3.18	1.94	4.92	1.71	.96	.85
About Process (LP)	3.47	2.34	5.02	2.33	.92	.75
About Self (LS)	3.05	2.00	4.74	1.85	.94	.80
About Occupation (LO)	3.18	2.13	5.43	2.07	.92	.66
Additional Information (LA)	3.27	2.28	4.43	1.82	.89	.77
Inconsistent Information	2.77	1.51	4.48	1.18	.90	.78
Unreliable Information (LU)	2.80	1.76	4.62	1.41	.85	.71
Internal Conflict (LI)	2.85	1.56	4.47	1.23	.70	.69
External Conflict (LX)	2.59	1.65	4.28	1.78	.88	.75
Total Score	3.18	1.46	4.79	1.15	.96	.85
CDS	28.02	10.24	33.89	8.77	.90	.65

[a]n= 497. [b]n = 922. [c]n= 93.

As expected, findings of this study showed that Taiwanese students reported more difficulties in all areas of career decision making than American students. Differences in cultural value orientation (collective vs. individualistic) between these two countries may have contributed to these differences.

Unlike American students who tend to make their own career decisions, Taiwanese students tend to make career decisions that conform to the familial and societal expectations. Students from a culture in which an individual's aspirations are less emphasized than family aspirations may report more difficulties in those questions focusing on individual needs and aspirations. In general, Taiwanese students are less likely than American students to work before they graduate from school. Because of less exposure to the world of work, Taiwanese students are more likely than American students to experience difficulties in career decision making. Mau and Jepsen (1990) have shown that Taiwanese students are more likely to perceive career-related problems instead of personal psychological problems than American students. In a recent study, Mau (2000) found that Taiwanese students are more likely to use a dependent decision-making style, and are significantly lower in career decision-making self-efficacy than their American counterparts. Together, these cultural factors seems to explain the differences in career decision making difficulties between American and Taiwanese students.

Limitations

Due to relatively low reliabilities of the subscales clustered under the readiness category, interpretation of differences between cultural groups in the three difficulty areas deserved some special attention. The lack of fit for the Taiwanese sample may be due to the inadequate reliability of the readiness subscales as suggested by previous studies (Gait et al., 1996; Osipow & Gati, 1998). This is because the structural equation modeling procedure took into consideration the deficiency of the reliability (Russell et al., 1998). In fact, additional analyses using hierarchical cluster analysis showed a good fit of model for the Taiwanese sample (I. Gati, personal communication, March, 2000). A further study using improved scales may improve the fit of model for Taiwanese students.

Implications

Several counseling implications can be drawn from the findings of the current study. First, given the fact that American students are more likely to report difficulties related to dysfunctional beliefs, counseling practitioners need to pay more attention to this area than they normally do. Individuals who possess these traits may not be able to make sound decisions until these psychological issues have been successfully dealt with. Due to the fact that the Readiness scale scores are less reliable than the other two major scales, further assessment may be needed. Further assessment, using specific measures such as Career Beliefs Inventory (Krumboltz, 1994), Betz's Career Decision-Making Self-Efficacy Scale (Taylor & Betz, 1983), and the Career Thoughts Inventory (Sampson, Peterson, Lenz, Reardon, & Saunders, 1996), may give insight to the nature of dysfunctional beliefs. Second, in addressing the difficulties due to lack of information, a computer-assisted career guidance system may prove to be effective in increasing exploratory behavior (Mau, Calvert, & Gregory, 1997), and in reducing career indecision. For students reporting difficulties due to inconsistent information, counseling professionals may consider value clarification or vocational card sort. These approaches would facilitate the counselors' understanding of the nature of conflicts and assist in working toward possible resolution of these conflicts. Third, it is important that helping professionals take into consideration the cultural differences in the helpees' approach to career decision making. Being aware of the areas of difficulty students are likely to encounter and the differential impact of these difficulties on career indecision for people from different cultural backgrounds seems essential.

In summary, the results of the present study add to the body of research on the construct of career decision-making difficulties and career indecision. Results of this study suggest that the taxonomy of career decision-making difficulties can be reliably measured for American college students. However, additional evidence is needed before application of the model to Taiwanese students. The results also emphasize the need for further examination of the scale in relation to cultural issues. Future research

should test the robustness of the career decision-making difficulty model with other subcultures, including members of ethnic minority groups.

References

Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 136-162). Newbury Park, CA: Sage.

Crites, J. O. (1969). *Vocational psychology*. New York: McGraw-Hill.

Eby, L. T., Johnson, C. D., & Russell, J. E. (1998). A psychometric review of career assessment tools for use with diverse individuals. *Journal of Career Assessment, 6*, 269-310.

Gati, I. (1986). Making career decisions: A conceptual frame of reference for counseling. *Journal of Counseling Psychology, 9*, 240-245.

Gati, I., Krausz, M., & Osipow, S. H. (1996). A taxonomy of difficulties in career decision-making. *Journal of Counseling Psychology, 43*, 510-526.

Gati, I., Osipow, S. H., Krausz, M., & Saka, N. (2000). Validity of the Career Decision-Making Difficulties Questionnaire: Counselee versus career counselor perceptions. *Journal of Vocational Behavior, 56*, 99-113.

Hatcher, L. (1994). *A step-by step approach to using SAS system for factor analysis and structural equation modeling*. Cary, NC: SAS Institute.

Jepsen, D. A. (1984). The developmental perspective on vocational behavior: A review of theory and research. In S. D. Brown & R. W. Lent (Eds.), *Handbook of counseling psychology* (pp. 178-215). New York: Wiley.

Krieshok, T. S. (1998). An anti-introspectivist view of career decision-making. *Career Development Quarterly, 46*, 210-229.

Krumboltz, J. D. (1994). The Career Beliefs Inventory. *Journal of Counseling and Development, 72*, 424-428.

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.

Leong, F. T., & Hartung, P. J. (2000). Cross-cultural career assessment: Review and prospects for the new millennium. *Journal of Career Assessment, 8,* 391-401.

Leong, F. T., & Leung, S. A. (1994). Career assessment with Asian-Americans. *Journal of Career Assessment, 2*, 240-257.

Mau, W. C. (1997). Parental influences on high school students' academic achievement: A comparison of Asian-immigrant, Asian-Americans, and White-American. *Psychology in the Schools, 34*, 267-277.

Mau, W. C. (2000). Cultural differences in career decision-making styles and self-efficacy. *Journal of Vocational Behavior, 53*, 365-378.

Mau, W. C., Calvert, C., & Gregory, R. (1997). Effects of career interventions on vocational cognitive complexity. *Journal of Career Development, 23*, 279-293.

Mau, W. C., & Jepsen, D. A. (1990). Help-seeking perceptions and behaviors: A comparison of Chinese and American graduate students. *Journal of Multicultural Counseling and Development, 18*, 94-104.

Osipow, S. H. (1987). *Manual for the Career Decision Scale*. Columbus, OH: Marathon Consulting & Press.

Osipow, S. H. (1999). Assessing career indecision. *Journal of Vocational Behavior, 55*, 147-154.

Osipow, S. H., & Gati, I. (1998). Construct and concurrent validity of the Career Decision-Making Difficulties Questionnaire. *Journal of Career Assessment, 6*, 347-364.

Osipow, S. H., Carney, C., Winer, J. L., Yanico, B., & Koschier, M. (1976). *The Career Decision Scale*. Odessa, FL: Psychological Assessment Resources.

Rogers, W. B., & Westbrook, B. W. (1983). Measuring career indecision among college students: Toward a valid approach for counseling practitioners and researchers. *Measurement & Evaluation in Guidance, 16*, 78-85.

Russell, D. W., Kahn, J. H., & Altmaier, E. M. (1998). Analyzing data from experimental studies: A latent variable structural equation modeling approach. *Journal of Counseling Psychology, 45*, 18-29.

Sampson, J. P., Jr., Peterson, G. W., Lenz, J. G., Reardon, R. C., & Saunders, D. E. (1996). *Career Thoughts Inventory: Professional manual*. Odessa, FL: Psychological Assessment Resources.

Slaney, R. B. (1988). The assessment of career decision making. In W. B. Walsh & S. H. Osipow (Eds.), *Career decision making* (pp. 33-76). Hillsdale, NJ: Erlbaum.

Tang, M., Fouad, N. A., & Smith, P. (1999). Asian Americans' career choice: A path model to examine factors influencing their career choices. *Journal of Vocational Behavior, 54*, 142-157.

Taylor, K. M., & Betz, N. E. (1983). Applications of self-efficacy theory to the understanding and treatment of career indecision. *Journal of Vocational Behavior, 22*, 63-81.

Wierzbicka, A. (1994). Emotion, language, and cultural scripts. In S. Kitayama & H. R. Markus (Eds.), *Emotion and culture: Empirical studies of mutual influence* (pp. 133-196). Washington, DC: American Psychological Association.