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Career Adaptability, Self-Esteem, and Social Support Among Hong Kong University Students

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University Students

Abstract

Career adaptability manifests itself through 4 self-regulated internal resources for coping with occupational challenges and transitions: concern, control, curiosity, and confidence. Few studies have examined career adaptability specifically in the Hong Kong context. The Career Adapt-Abilities Scale–China Form (CAAS-China; Hou, Leung, Li, Li, & Xu, 2012) was administered, along with measures of selfesteem and social support, to 522 Hong Kong Chinese undergraduate students. Results indicated that the CAAS-China is a reliable and valid instrument for use with these students. Data also showed that self-esteem was strongly associated with career adaptability, and this relationship was partially mediated by perceived social support. Implications for careers counseling in universities and colleges are discussed.

Keywords: career adaptability, self-esteem, social support, Career Adapt-Abilities Scale

In recent years, there has been increased interest in studying career adaptability as a psychosocial construct. Rooted in career construction theory, career adaptability

denotes readiness to cope with expected and unexpected career-related tasks, transitions, and traumas (Savickas, 2011; Savickas et al., 2009). In today's ever-changing and fluid employment conditions, adaptability is an important attribute for workers to possess. It enables individuals to maintain employability and to master transitions in their work life (Hirschi, Herrmann, & Keller, 2015; Savickas, 1997, 2011; Savickas et al., 2009).

Career adaptability has been delineated into four self-regulatory strengths covering concern, control, curiosity, and confidence. Concern refers to envisioning career plans and a career future. Control reflects the sense of ownership and accountability in making decisions and constructing one's vocational future. Curiosity describes the process of exploration to obtain information on work opportunities, relative to one's strengths and interests. Confidence is the self-efficacy involved in coping with career-related decisions, tasks, and transitions (Porfeli & Savickas, 2012; Savickas, 1997, 2005, 2013).

The school-to-work transition is a major challenge that all university students must face as they begin to contribute to society and adjust to suitable work roles (Savickas, 1999). Individuals may find that the skills and strategies they developed in the past are not sufficient to support transitions that they are now experiencing. In this sense, their career path becomes unpredictable (Gelatt, 1989). Even those with well-planned career paths may meet immediate obstacles and will need to adapt in order to cope. To succeed

in this school-to-work transition, university students must generate a career direction (career concern), be accountable for their career choices (career control), be open to explore career opportunities (career curiosity), and remain motivated in the process of pursuing their career even in the face of difficulties (career confidence).

In Hong Kong, over 80% of undergraduate students choose to work upon graduation rather than pursue higher studies or transfer overseas (University Grants Committee, 2015a, 2015b). It is likely that these graduates entering the world of work will face many challenges and need to be adaptable. For this reason, it is relevant to examine the readiness of Hong Kong undergraduates to cope with occupational challenges and potential changes at work. It is also pertinent to consider the factors contributing to their development of career adaptability.

Career construction theory conceptualizes that normal processes of adaptation to an environment, in addition to personal factors and attributes, underpin one's career development path (Savickas, 2005, 2013). Career construction theory postulates that career choices and planning tend to involve an interaction between self and society (Savickas, 2002). For example, research has confirmed that, among other things, an individual's self-esteem and social support affect psychosocial adjustment and development of a diverse group of individuals, including children, early adolescents, and prenatal mothers (Hall & Nelson, 1996; Hui Choi et al., 2012; A. Leung, Wong,

Wong, & McBride-Chang, 2010; Pingault et al., 2015; van Vianen, Klehe, Koen, & Dries, 2012). For this reason, we focused on self-esteem and perceived social support to determine if and how they may be associated with career adaptability. In particular, we investigated any indirect relationship between self-esteem and career adaptability as mediated by perceived social support, which has not been a focus in previous studies reported in the literature. For the presence of a mediating effect, there should be significant relationships among the predictor, mediator, and outcome variables (Baron & Kenny, 1986; MacKinnon, Fairchild, & Fritz, 2007; Preacher, 2015).

Self-Esteem and Career Adaptability

Self-esteem plays an important role in career decision making (Arce, 1996; Creed, Patton, & Bartrum, 2004) and is found to be positively associated with career planning, career exploration, and career decision self-efficacy (Creed et al., 2004; Creed, Patton, & Prideaux, 2007). A meta-analysis of 34 career-related studies confirmed that self-esteem is one of the strong predictors of self-efficacy in understanding occupations, goal setting, and career planning (Choi, Lee, Lee, Park, & Yang, 2012). Self-esteem can be conceptualized as a positive or negative attitude toward self and can be thought of as a set of personal beliefs about one's own worthiness and value (Coopersmith, 1967; Rosenberg, 1965). Individuals characterized as having high self-esteem feel accepted, respected, and worthwhile, whereas individuals with low self-esteem feel

inadequate in many important aspects, which in turn impairs their feelings of

confidence when faced with challenges (Arce, 1996; Coopersmith, 1967; Harter, 1999;

Rosenberg, 1986).

In the context of career adaptability, low self-esteem can be an obstacle to developing

the necessary attitudes and strategies for coping with career path challenges and

transitions. Generally, people who have high self-esteem are able to handle challenges

effectively. They devise appropriate strategies for coping under stress, and they live

more productively (Ganster & Schaubroeck, 1991; Heatherton & Wyland, 2003).

Therefore, individuals with high self-esteem may be more capable of self-regulation

when faced with challenges during their working life. In other words, individuals with

high self-esteem may well be those who develop career adaptability most easily.

So far, there has been limited research on the role of self-esteem in shaping career

adaptability. A literature search yielded one cross-sectional study involving 465

university students in the Netherlands (van Vianen et al., 2012) and one meta-analytic

study drawing on results from 90 studies (Rudolph, Lavigne, & Zacher, 2017). These

studies indicated that self-esteem significantly and positively correlated with career

adaptability. Therefore, a need remains to further explore this issue in other populations

and cultures.

Perceived Social Support and Career Adaptability

Perceived social support can be thought of as the sum total of factors a person is aware of that represent his or her social network and personal support (Canty-Mitchell & Zimet, 2000). Parents, friends, teachers, and other individuals affect a person's development of vocational interests, work values, and careers (Josselson, 1994). These individuals often offer support and encouragement to a person entering adulthood and are influential in helping the person make decisions at crucial times.

Studies in the United States (Kenny & Bledsoe, 2005) and South Korea (Han & Rojewski, 2015) have found that social support obtained from teachers, close friends, and family predicts career readiness, career planning, career exploration, and career competency beliefs among high school students. Similarly, a longitudinal study of Swiss eighth graders by Hirschi (2009) found that the more frequently the students received emotional, informational, and tangible support from parents, friends, relatives, and teachers, the more career adaptability they reported. A study by Wang and Fu (2015) confirmed that social support from schoolmates was strongly and positively related to career adaptability among a group of senior-year college students in China. A search of empirical research literature failed to locate any studies that have investigated social support and career adaptability with Hong Kong college students.

Self-Esteem and Perceived Social Support

There is significant literature examining the relationship between self-esteem and

perceived social support. Some studies found that self-esteem predicts perceived support (Dekovic & Meeus, 1997; Laible, Carlo, & Roesch, 2004), whereas others found the opposite, that social support was necessary to help build self-esteem (Neeman & Harter, 1986). Marshall, Parker, Ciarrochi, and Heaven (2014) sought to address the cause-and-effect temporal order of these two factors with adolescents. They tested both an antecedent model and a consequence model of self-esteem in a five-wave longitudinal design. They found that self-esteem was a predictor of social support in terms of both quality and network size, but social support did not produce significant change in level of self-esteem. The findings concur with the common notion that one's self-concept shapes one's social interactions, and one's self-esteem is influenced by perceptions of social support. In keeping with this view, the present study also framed self-esteem as the antecedent of perceived social support, and we tested whether perceived social support is a mediator in the relationship between self-esteem and career adaptability.

Purpose of the Study

The aforementioned studies suggest possible links among self-esteem, perceived social support, and career adaptability, but there is an absence of any data from persons in a Chinese context to confirm the nature of this association. There is also little known about the mediating role of perceived social support when it interacts with self-esteem

and career adaptability. Therefore, we aimed to examine the interplay among self-esteem, perceived social support, and career adaptability in a sample of Hong Kong undergraduates.

We adopted the Career Adapt-Abilities Scale (CAAS; Savickas & Porfeli, 2012), which has been translated into different languages and validated in many settings, including China, Taiwan, and Macau (e.g., Hou, Leung, Li, Li, & Xu, 2012; Tien, Lin, Hsieh, & Jin, 2014). A few exploratory studies in Hong Kong adopted the scale as one of their measures (Cheung & Jin, 2015; Yuen & Yau, 2015); however, it appears that there has been no publication of the validation and psychometric properties of this instrument in the unique hybrid society in Hong Kong, an international city with a colonial history and a fusion of Western and Eastern values. The present study used confirmatory factor analysis to determine the factor structure of the CAAS prior to a mediation analysis. This also allowed comparisons to be made with the international form of the CAAS. In doing so, our study contributes to the existing literature on career adaptability by assessing the psychometric properties of the CAAS when used with Hong Kong university students and by investigating the interaction among self-esteem, career adaptability, and perceived social support with particular reference to the possible mediating role of perceived social support.

Method

Participants

The voluntary participants were all business studies students at a university in Hong Kong. In total, 522 undergraduate students (69% women, 31% men) responded to the survey. Participants' ages ranged from 18 to 24 years ($M = 21.52$, $SD = 1.26$), and most participants were final-year students (89.7%). Respondents' major fields of study varied as follows: human resources management (41.2%), marketing (31.4%), accounting (18.2%), finance (3.6%), and other business-related subjects (6.2%). (Percentages do not total 100 because of rounding.) Business students from both government-subsidized (47.7%) and self-financing (52.3%) degree programs were included in the study.

Procedure

We conducted a feasibility study prior to the main data collection. A faculty member from the business school was invited to review the questionnaire, and then three undergraduate students from other local universities were invited to conduct a pilot test with the instrument. This feasibility study yielded valuable suggestions for revising the questionnaire. For the main study, participants were invited to complete the survey immediately after a class session or during a break in lectures. As a result, participants came from 14 classes of government-funded undergraduates, plus nine classes of self-funded students. The questionnaire was constructed and administered by combining

three separate measures, all presented in Chinese.

Measures

Career adaptability. We adopted the CAAS–China Form (CAAS-China; Hou et al., 2012), which had been translated from the CAAS–International 2.0 Form (CAAS-International; Porfeli & Savickas, 2012). The CAAS-China contains 24 items, evenly divided into four subscales: Concern, Control, Curiosity, and Confidence. Responses are rated on a 5-point Likert-type scale ranging from 1 (*not strong*) to 5 (*strongest*). The overall Cronbach's alpha coefficient reported for the original CAAS-International was .92, and the reliability scores of subscales ranged from .85 (Confidence) to .74 (Control; Savickas & Porfeli, 2012). For the CAAS-China, Hou et al. (2012) reported a reliability of .89 for the total scale; for the subscales, the reliability scores were as follows: Concern (.79), Control (.64), Curiosity (.71), and Confidence (.74). A study using CAAS-China with Hong Kong secondary school students (Yuen & Yau, 2015) yielded higher internal inconsistency: overall scale (.96), Concern (.91), Control (.90), Curiosity (.90), and Confidence (.92). In the current study, the internal consistency coefficients were found to be as follows: overall scale (.94), Concern (.87), Control (.82), Curiosity (.84), and Confidence (.88). These were considered satisfactory for the purposes of the study.

Self-esteem. The Rosenberg Self-Esteem Scale (Rosenberg, 1986) is a popular self-

report instrument used in both Western and Eastern countries to measure individuals' overall self-esteem. Responses reveal positive or negative feelings an individual has toward self. The scale has 10 items in total, with five items positively worded and five negatively worded. Respondents are asked to indicate their level of agreement with given statements, using 4-point Likert-type response options. We adopted the updated version of the Chinese Rosenberg Self-Esteem Scale (Leung & Wong, 2008); in the validation study, the reliability score was increased by 20% from .62 to .76 after modification of three items in a Macau sample. The Cronbach's alpha coefficient in this study was found to be slightly higher, at .80.

Perceived social support. The Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988) is used to measure social support. The 12-item MSPSS comprises three subscales—Family (FA), Friends (FR), and Significant Other (SO)—and each subscale contains four items. To increase response variability and minimize the ceiling effect, we followed the original scale and used a 7-point rating scale. The sequence of items was random in both the MSPSS English version and the original Chinese version, but the items were grouped in this study (Items 1–4 related to family, Items 5–8 related to friends, and Items 9–12 related to significant other).

Chou (2000) translated the MSPSS into Chinese (MSPSS-C), and a factor analysis

showed the subscales of FR and SO were integrated into one single factor. In the current study, we made some minor changes to the MSPSS-C to ensure that the version used in Hong Kong equated more closely to the original English version. For examples, the word *ni* ("you") was changed to *wo* ("I"), *hao peng you* ("good friend") was changed to *te bie de ren* ("special person"), and *chang shi* ("try") was added to the item "My family really tries to help me." In the present study, the internal consistency coefficients were as follows: .91 for the whole scale and .88 (FA), .90 (FR), and .96 (SO) for the subscales.

Data Analysis

SPSS 23.0 was used to process the descriptive statistics, internal consistencies, and Pearson correlations. Structural equation modeling Amos 23.0 (Arbuckle, 2014) was used to carry out confirmatory factor analysis and mediation analysis. Bootstrapping with 2,000 samples and 95% bias-corrected confidence intervals was applied.

Results

The CAAS-China subscale item means and standard deviations are shown in Table 1. The means indicated that typical responses were in the range of 3 to 4 (*strong* to *very strong*), suggesting that, in general, the students have resources for coping with transitions from school to work. Skewness and kurtosis values for the CAAS-China items ranged from −.19 to −.70 and −.70 to .91, respectively, suggesting that the items

met the assumptions of confirmatory factor analysis for this sample.

Confirmatory factor analysis showed that data for CAAS-China from the Hong Kong undergraduates fit the proposed factor model quite well. The fit indices were as follows: comparative fit index = .91, Tucker–Lewis index = .90, root-mean-square error of approximation (RMSEA) = .07, and standardized root-mean-square residual (SRMR) = .05. Although the data are higher than the fit indices for CAAS-International (RMSEA = .05, SRMR = .04; Savickas & Porfeli, 2012), the established cutoff criterion is fulfilled (Hu & Bentler, 1999). The standardized loadings suggest that all items are strong indicators of the second-order constructs, which are in turn strong indicators of the third-order adaptability construct (see Table 1).

Comparing the hierarchical factor model for CAAS-China with the model for CAAS-International indicated that the loadings of the first-order items on the second-order factors of adaptability were similar.

TABLE 1

Career Adapt-Abilities Scale–China: Item Means, Standard Deviations, and Standardized Loadings

Construct and Item	M	SD	Loading
First-Order Indicator			
Concern			
1. Thinking about what my future will be like	3.12	1.08	.74
2. Realizing that today's choices shape my future	3.41	0.99	.66
3. Preparing for the future	3.19	0.99	.83
4. Becoming aware of the educational and career choices that I must make	3.38	0.98	.62
5. Planning how to achieve my goals	3.15	0.94	.78
6. Concerned about my career	3.45	0.95	.71
Control			
1. Keeping upbeat	3.35	1.06	.56
2. Making decisions by myself	3.49	0.92	.71
3. Taking responsibility for my actions	3.82	0.83	.73
4. Sticking up for my beliefs	3.49	0.88	.73
5. Counting on myself	3.52	0.88	.61
6. Doing what's right for me	3.72	0.84	.69
Curiosity			
1. Exploring my surroundings	3.44	0.90	.73
2. Looking for opportunities to grow as a person	3.51	0.89	.75
3. Investigating options before making a choice	3.42	0.89	.68
4. Observing different ways of doing things	3.65	0.89	.63
5. Probing deeply into questions I have	3.37	0.89	.67
6. Becoming curious about new opportunities	3.62	0.81	.63
Confidence			
1. Performing tasks efficiently	3.55	0.84	.65
2. Taking care to do things well	3.81	0.86	.66
3. Learning new skills	3.52	0.87	.72
4. Working up to my ability	3.51	0.84	.79
5. Overcoming obstacles	3.46	0.84	.81
6. Solving problems	3.50	0.84	.82
Second-Order Indicator			
Career adaptability			
1. Concern	3.28	0.77	.78
2. Control	3.56	0.66	.85
3. Curiosity	3.50	0.66	.91
4. Confidence	3.56	0.67	.91

Note. Career adaptability was measured on a 5-point scale from 1 (*not strong*) to 5 (*strongest*). Concern, Control, Curiosity, and Confidence are subscales of the Career Adapt-Abilities Scale–China.

Stronger loadings were obtained in most items from the Hong Kong sample compared with loadings reported in the international samples (Savickas & Porfeli, 2012). The most notable differences were for the Control subscale (Item 3: "Taking responsibility for my actions" and Item 4: "Sticking up for my beliefs"). Of the second-order constructs, loadings in both instruments were very similar. The loading for the Concern

subscale of CAAS-China was the same as the loading for CAAS-International (.78). The loading for the Control subscale of CAAS-China was .85 compared with .86 for CAAS-International. The loading for the Curiosity subscale of CAAS-China was .91 compared with .88 for CAAS-International. Finally, the loading for the Confidence subscale of CAAS-China was .91 compared with .90 for CAAS-International.

The mean scores for the Hong Kong undergraduates were all slightly lower than the international mean scores (Savickas & Porfeli, 2012): for the Concern subscale, CAAS-China (3.28), CAAS-International (3.79); for the Control subscale, CAAS-China (3.56), CAAS-International (3.93); for the Curiosity subscale, CAAS-China (3.50), CAAS-International (3.69); and for the Confidence subscale, CAAS-China (3.56), CAAS-International (3.93). For career adaptability, the mean scores for the Hong Kong undergraduates were also lower (CAAS-China = 3.48) than the international mean scores (CAAS-International = 3.84; see Table 2).

The intercorrelations among the four subscales ranged from .23 to .81, and all corrected item–total correlations were substantial and positive, ranging from .48 to .76. The overall scale of CAAS-China exhibited excellent internal consistency estimates (α = .94). Table 2 presents the zero-order correlations of the three variables (self-esteem, perceived social support, and career adaptability), and they were found to be significantly interrelated.

TABLE 2

Means, Standard Deviations, and Correlations Among Variables

Variable	M	SD	α	1	2	3
1. Self-esteem	2.76	0.37	.80	—		
2. Perceived social support	5.33	0.85	.91	.30*	—	
3. Career adaptability	3.48	0.59	.94	.30*	.24*	—

Note. N = 522.

The findings from mediation analysis showed that the total effect of self-esteem on career adaptability was significant (total effect = .32, *p* < .001). The indirect effect of self-esteem on career adaptability was also significant (indirect effect = .05; 95% bootstrap confidence interval from .02 to .10, *p* < .01). With the presence of social support as a mediator, the direct effect of self-esteem on career adaptability also remained significant (direct effect = .27, *p* < .001) and the absolute size was reduced. This indicated that a partial mediation relationship existed. Figure 1 depicts the mediation model.
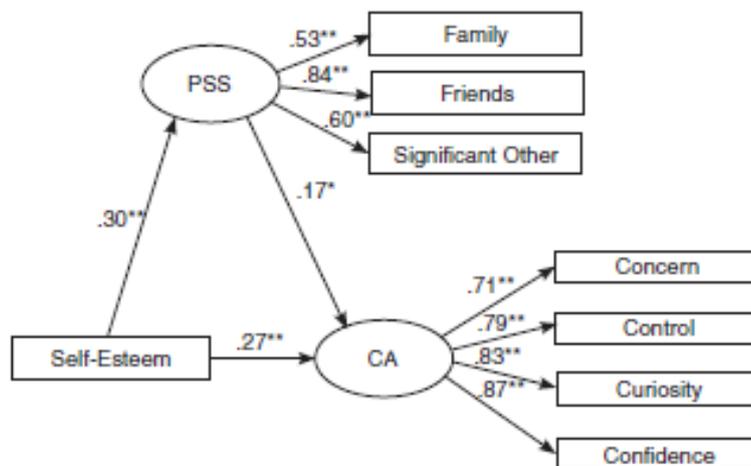

FIGURE 1

The Mediation Model

Note. N = 522. Arrows indicate direction of effect. PSS = perceived social support; Family, Friends, and Significant Other are subscales of the Multidimensional Scale of Perceived Social Support; CA = career adaptability; Concern, Control, Curiosity, and Confidence are subscales of the Career Adapt-Abilities Scale–China.
*p < .01. **p < .001.

Discussion

This study aimed to validate the psychometric properties of CAAS-China in the Hong Kong context and to examine the mediation effect of perceived social support between self-esteem and career adaptability among Hong Kong undergraduates. In terms of psychometric characteristics and factor structure, CAAS-China applied to Hong Kong undergraduates yields similar data to those obtained with CAAS-International (Savickas & Porfeli, 2012). The internal consistencies of the total scale and all four subscales were found to be good to excellent, showing that CAAS-China fits the theoretical model of career adaptability and is a valid and reliable instrument for future research use in Hong Kong.

In the present study, self-esteem was found to be an important factor associated with career adaptability, which is consistent with findings from the study in the Netherlands (van Vianen et al., 2012). The relationship between self-esteem and career adaptability is thus similar in the West and the East, despite cultural differences and differences in employment and career opportunities. Given this result, boosting students' self-esteem should be an important focus in career intervention, along with other counseling strategies. High self-esteem is often expressed in the form of self-acceptance, and this in turn may strengthen an individual's career path confidence and adaptability (Savickas, 2005, 2013). It is always sound practice for counselors and teachers to help

students gain self-acceptance and self-knowledge as part of their readiness to transition from school or university to employment. Much of this can be accomplished by constantly showing students that they are valued and respected, and by giving positive and constructive feedback on academic assignments. It is also recommended that counselors reinforce students' self-belief that they are capable and useful (Rosenberg, 1965).

The data from this study also uphold a view that social support from family members, friends, and significant others is a significant factor that correlates with career adaptability in university students in Hong Kong. This is in keeping with outcomes from previous longitudinal and cross-sectional studies (Han & Rojewski, 2015; Hirschi, 2009; Wang & Fu, 2015). Having confirmed the positive and significant relationships found among self-esteem, perceived social support, and career adaptability, our study took a step further to examine more closely the exact relationship among the variables. Results of the present study add to the literature that self-esteem is associated with career adaptability directly and indirectly with the presence of supports from family, friends, and significant people during a student's university life. This finding could be of use in career guidance and counseling, in that strengthening a student's career adaptability requires more than a focus simply on raising self-esteem, but must also involve facilitating social supports from people in the student's life.

There has been a long tradition that parents tend to exert direct pressure on their children to follow a particular career path (Kracke, 1997), and this is particularly true in Hong Kong. This tradition needs to evolve to where parents collaborate with their children in a supportive way to help their children prepare for a career. Peer support networks seem to be effective in strengthening career interventions (Ainsworth, 1989; Berndt, 1996; Choi et al., 2012), and they may also help later in working life when career adaptability is required. Peer support can be encouraged through career centers in schools, colleges, and universities, where buddy systems can be established. School counselors often find themselves in the role of "significant other" and act as mentors for individual students. At one level, this may involve providing more information on career path and job markets to assist students in career planning and self-management. At another level, the working alliance between students and counselors (or career advisers) could be of a more personal nature, by improving students' self-acceptance, self-esteem, and career confidence. These suggestions are in keeping with the career interventions proposed by Savickas (2005, 2013).

Limitations and Recommendations

Our sample included undergraduate students from the business studies sector only. The same patterns of career adaptability, self-esteem, and social support might not hold true for other disciplines. Therefore, future research could focus on university students from

different disciplines. To obtain a deeper understanding of the causal relationships among self-esteem, perceived social support, and career adaptability and the mediation effect found in the present study, future research could examine separately the impact of self-esteem and perceived social support on each aspect of career adaptability. It may also be useful to investigate the relative effect of different dimensions of social support to determine, for example, whether professional support has become more important than family input at the transition stage from university to work.

The data reported in this study were collected from only one point in time. Previous longitudinal studies have shown that career adaptability develops and changes over time under the influence of social support (Cheung & Jin, 2015; Hirschi, 2009). It may be possible that the mediation effect of social support would change across time as students become more deeply involved in adjusting to work and transitions. For this reason, future research using longitudinal studies could explore the longer lasting effects of self-esteem and perceived social support on career adaptability.

Conclusion

The present study successfully validated the psychometric properties of CAAS-China when used with a Hong Kong undergraduate sample. The results of this study indicated that Hong Kong students' career adaptability is associated with personal attributes and outside factors in the same manner as their counterparts in the West. The study shows

that self-esteem and perceived social support from family, friends, and significant others influence development of career adaptability, with social support playing a mediating role. Educators, career counselors, parents, and other important persons (e.g., mentors) have an important part to play in providing support and information that build self-esteem and facilitate career planning, transition to employment, and career adaptability.

References

Ainsworth, M. D. (1989). Attachments beyond infancy. *American Psychologist, 44,* 709–716.

Arbuckle, J. L. (2014). Amos (Version 23.0) [Computer program]. Chicago, IL: IBM SPSS.

Arce, E. M. (1996, April). *Effects of social support and self-esteem on career indecision: A cross-cultural comparison between two groups of undergraduate students.* Paper presented at the annual meeting of the American Educational Research Association, New York, NY.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51,* 1173–1182. doi:10.1037/0022-3514.51.6.1173

Berndt, T. J. (1996). Transitions in friendship and friends' influence. In J. A. Graber, J.

Brooks-Gunn, & A. C. Petersen (Eds.), *Transitions through adolescence:*

Interpersonal domains and context (pp. 57–84). Mahwah, NJ: Erlbaum.

Canty-Mitchell, J., & Zimet, G. (2000). Psychometric properties of the

Multidimensional Scale of Perceived Social Support in urban adolescents.

American Journal of Community Psychology, 28, 391–400.

Cheung, R., & Jin, Q. (2015). Impact of a career exploration course on career decision

making, adaptability, and relational support in Hong Kong. *Journal of Career*

Assessment, 23, 481–496. doi:10.1177/1069072715599390

Choi, B. Y., Lee, S. K., Lee, Y., Park, H., & Yang, E. (2012). Understanding career

decision self-efficacy: A meta-analytic approach. *Journal of Career Development,*

39, 443–460.

Chou, K. L. (2000). Assessing Chinese adolescents' social support: The

Multidimensional Scale of Perceived Social Support. *Personality and Individual*

Differences, 28, 299–307.

Coopersmith, S. (1967). *The antecedents of self-esteem*. San Francisco, CA: Freeman.

Creed, P. A., Patton, W., & Bartrum, D. (2004). Internal and external barriers, cognitive

style, and the career development variables of focus and indecision. *Journal of*

Career Development, 30, 277–294.

Creed, P. A., Patton, W., & Prideaux, L. A. (2007). Predicting change over time in

 career planning and career exploration for high school students. *Journal of*

 Adolescence, 30, 377–392.

Dekovic, M., & Meeus, W. (1997). Peer relations in adolescence: Effects of parenting

 and adolescents' self-concept. *Journal of Adolescence, 20,* 163–176.

Ganster, D. C., & Schaubroeck, J. (1991). Work stress and employee health. *Journal of*

 Management, 17, 235–271.

Gelatt, H. B. (1989). Positive uncertainty: A new decision-making framework for

 counseling. *Journal of Counseling Psychology, 36,* 252–256.

Hall, G. B., & Nelson, G. (1996). Social networks, social support, personal

 empowerment, and the adaptation of psychiatric consumers/survivors: Path

 analytic models. *Social Science and Medicine, 43,* 1743–1754.

 doi:10.1016/S0277-9536(96)00069-X

Han, H., & Rojewski, J. W. (2015). Gender-specific models of work-bound Korean

 adolescents' social supports and career adaptability on subsequent job satisfaction.

 Journal of Career Development, 42, 149–164. doi:10.1177/0894845314545786

Harter, S. (1999). *The construction of the self: A developmental perspective*. New York,

 NY: Guilford Press.

Heatherton, T. F., & Wyland, C. L. (2003). Assessing self-esteem. In S. J. Lopez & C.

R. Snyder (Eds.), *Positive psychological assessment: A handbook of models and measures* (pp. 219–233). Washington, DC: American Psychological Association.

Hirschi, A. (2009). Career adaptability development in adolescence: Multiple predictors and effect on sense of power and life satisfaction. *Journal of Vocational Behavior, 74,* 145–155. doi:10.1016/j.jvb.2009.01.002

Hirschi, A., Herrmann, A., & Keller, A. C. (2015). Career adaptivity, adaptability, and adapting: A conceptual and empirical investigation. *Journal of Vocational Behavior, 87,* 1–10. doi:10.1016/j.jvb.2014.11.008

Hou, Z. J., Leung, S. A., Li, X. X., Li, X., & Xu, H. (2012). Career Adapt-Abilities Scale–China Form: Construction and initial validation. *Journal of Vocational Behavior, 80,* 686–691. doi:10.1016/j.jvb.2012.01.006

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6,* 1–55.

Hui Choi, W. H., Lee, G. L., Chan, H. Y., Cheung, Y. H., Lee, L. Y., & Chan, L. W. (2012). The relationships of social support, uncertainty, self-efficacy, and commitment to prenatal psychosocial adaptation. *Journal of Advanced Nursing, 68,* 2633–2645.

Josselson, R. (1994). Identity and relatedness in the life cycle. In H. A. Bosma, T. L. G.

Graafsma, H. D. Grotevant, & D. J. C. Levita (Eds.), *Identity and development: An interdisciplinary approach* (pp. 81–102). Thousand Oaks, CA: Sage.

Kenny, M. E., & Bledsoe, M. (2005). Contributions of the relational context to career adaptability among urban adolescents. *Journal of Vocational Behavior, 66,* 257–272. doi:10.1016/j.jvb.2004.10.002

Kracke, B. (1997). Parental behaviors and adolescents' career exploration. *The Career Development Quarterly, 45,* 341–350. doi:10.1002/j.2161-0045.1997.tb00538.x

Laible, D. J., Carlo, G., & Roesch, S. C. (2004). Pathways to self-esteem in late adolesence: The role of parent and peer attachment, empathy, and social behaviours. *Journal of Adolescence, 27,* 703–716.

Leung, A., Wong, S., Wong, I., & McBride-Chang, C. (2010). Filial piety and psychosocial adjustment in Hong Kong Chinese early adolescents. *The Journal of Early Adolescence, 30,* 651–667.

Leung, S. O., & Wong, P. M. (2008). Validity and reliability of Chinese Rosenberg Self-Esteem Scale. *New Horizons in Education, 56,* 62–69.

MacKinnon, D. P., Fairchild, A. J., & Fritz, M. S. (2007). Mediation analysis. *Annual Review of Psychology, 58,* 593–614, doi:10.1146/annurev.psych.58.110405.085542.

Marshall, S. L., Parker, P. D., Ciarrochi, J., & Heaven, P. C. L. (2014). Is self-esteem a

cause or consequence of social support? A 4-year longitudinal study. *Child Development, 85,* 1275–1291. doi:10.1111/cdev.12176

Neeman, J., & Harter, S. (1986). *Manual for the self-perception profile for college students.* Denver, CO: University of Denver.

Pingault, J. B., Tremblay, R. E., Vitaro, F., Japel, C., Boivin, M., & Cote, S. M. (2015). Early nonparental care and social behavior in elementary school: Support for a social group adaptation hypothesis. *Child Development, 86,* 1469–1488. doi:10.1111/cdev.12399

Porfeli, E. J., & Savickas, M. L. (2012). Career Adapt-Abilities Scale–USA Form: Psychometric properties and relation to vocational identity. *Journal of Vocational Behavior, 80,* 748–753. doi:10.1016/j.jvb.2012.01.009

Preacher, K. J. (2015). Advances in mediation analysis: A survey and synthesis of new developments. *Annual Review of Psychology, 66,* 825–852. doi:10.1146/annurevpsych-010814-015258.

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.

Rosenberg, M. (1986). *Conserving the self*. Boston, MA: Basic Books.

Rudolph, C. W., Lavigne, K. N., & Zacher, H. (2017). Career adaptability: A meta-analysis of relationships with measures of adaptivity, adapting responses, and

adaptation results. *Journal of Vocational Behavior, 98,* 17–34, doi:10.1016/j.jvb.2016.09.002.

Savickas, M. L. (1997). Career adaptability: An integrative construct for life-span, life-space theory. *The Career Development Quarterly, 45,* 247–259. doi:10.1002/j.2161-0045.1997.tb00469.x

Savickas, M. L. (1999). The transition from school to work: A developmental perspective. *The Career Development Quarterly, 47,* 326–336. doi:10.1002/j.2161-0045.1999.tb00741.x

Savickas, M. L. (2002). Career construction: A developmental theory of vocational behavior. In D. Brown (Ed.), *Career choice and development* (4th ed., pp. 149–205): San Francisco, CA: Jossey-Bass.

Savickas, M. L. (2005). The theory and practice of career construction. In R. W. Lent & S. D. Brown (Eds.), *Career development and counseling: Putting theory and research to work* (pp. 42–70). Hoboken, NJ: Wiley.

Savickas, M. L. (2011). New questions for vocational psychology: Premises, paradigms, and practices. *Journal of Career Assessment, 3,* 251–258.

Savickas, M. L. (2013). Career construction theory and practice. In R. W. Lent & S. D. Brown (Eds.), *Career development and counseling: Putting theory and research to work* (2nd ed., pp. 144–180). Hoboken, NJ: Wiley.

Savickas, M. L., Nota, L., Rossier, J., Dauwalder, J. P., Duarte, M. E., Guichard, J., . . .

van Vianen, A. E. M. (2009). Life designing: A paradigm for career construction

in the 21st century. *Journal of Vocational Behavior, 75,* 239–250.

doi:10.1016/j.jvb.2009.04.004

Savickas, M. L., & Porfeli, E. J. (2012). Career Adapt-Abilities Scale: Construction,

reliability, and measurement equivalence across 13 countries. *Journal of*

Vocational Behavior, 80, 661–673. doi:10.1016/j.jvb.2012.01.011

Tien, H. L. S., Lin, S. H., Hsieh, P. J., & Jin, S. R. (2014). The Career Adapt-Abilities

Scale in Macau: Psychometric characteristics and construct validity. *Journal of*

Vocational Behavior, 84, 259–265. doi:10.1016/j.jvb.2014.01.005

University Grants Committee. (2015a, January). *Employment situation of graduates of*

full-time UGC-funded programmes by level of study, 2012/13. Retrieved from

https://cdcf.ugc.edu.hk/cdcf/searchStatSiteReport.action

University Grants Committee. (2015b, June). *Employment situation of graduates of*

fulltime UGC-funded undergraduate programmes by institution, 2013/14.

Retrieved from https://cdcf.ugc.edu.hk/cdcf/searchStatSiteReport.action

van Vianen, A. E. M., Klehe, U. C., Koen, J., & Dries, N. (2012). Career Adapt-

Abilities Scale–Netherlands Form: Psychometric properties and relationships to

ability, personality, and regulatory focus. *Journal of Vocational Behavior, 80,*

716–724.

Wang, Z., & Fu, Y. (2015). Social support, social comparison, and career adaptability:

A moderated mediation model. *Journal of Social Behavior and Personality, 43,*

649–660.

Yuen, M., & Yau, J. (2015). Relation of career adaptability to meaning in life and

connectedness among adolescents in Hong Kong. *Journal of Vocational Behavior,*

91, 147–156.

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The

Multidimensional Scale of Perceived Social Support. *Journal of Personality*

Assessment, 52, 30–41. doi:10.1207/s15327752jpa5201_2