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Relation of career adaptability to meaning in life and connectedness among adolescents in Hong Kong

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Abstract

This study examined relationships among career adaptability, meaning in life, and connectedness in Hong Kong with Chinese male and female Grade 9 students (n = 543). The results indicated that presence of meaning in life positively predicted connectedness; and in the males career concern was predicted by presence of meaning in life. Also in males, career control was predicted both by presence and search for meaning in life, while career curiosity was predicted by connectedness to school, and by presence and search for meaning in life. Career confidence was predicted by connectedness to school, and presence and search of meaning in life. In the females, career concern was predicted by presence of meaning in life and connectedness to school, but negatively by connectedness to peers. Career control and career curiosity were predicted by presence and search for meaning in life. Career confidence was predicted by presence of meaning in life. Limitations of the study are identified; and implications for future research and guidance with Chinese adolescents in schools are discussed.

Keywords: Adolescents, Career adaptability, Chinese, Connectedness, Meaning in life

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1. Introduction

A curriculum reform was implemented in Hong Kong senior secondary education in 2009, with the intention of meeting the contemporary interests, needs, abilities and aspirations of Chinese adolescents. One of the aims of the reform is to help all students develop positive attitudes towards work and life-long learning, and to understand their own career aspirations (Hong Kong Education Bureau, 2009). To achieve this aim, and to determine the most appropriate content, scope and sequence for career development programs, educators and researchers in Hong Kong have recognized the need to investigate the needs and characteristics of senior secondary students.

To provide more information on issues related to career development, the study reported here focused specifically on exploring relations among the variables of career adaptability, gender, meaning in life,and connectedness. The rationale for selecting these variables is presented below.

1.1. Career Adaptability

It is now widely accepted in the field of career development studies that 'adaptability' is becoming increasingly important for adolescents and young adults in this rapidly changing world. Savickas (1997) described career adaptability as a major component within career construction theory; and defined it as 'readiness to cope with the predictable tasks of preparing for and participating in the work role, and with the unpredictable adjustments prompted by changes in work and working conditions' (p.254).

1.2 Influences on careeradaptability

Research has so far explored *predictors* of career adaptability—with a number of variables identified, including life satisfaction, self-esteem, emotional stability (Skorikov, 2007), parental and peer support (Han & Rojewski, 2015; Kracke, 2002; Rogers et al., 2008;), goal orientation and career optimism (Tolentino, Garcia, Lu, Restubog, Bordia & Plewa, 2014), and hope (Santilli, Nota, Ginevra &Soresi, 2014; Valero, Hirschi & Strauss, 2015). Currently, research is focused on the relation of career adaptability to an individual's positive development and psychological well-being (Hirschi, 2009). In the study reported here, an individual's 'meaning in life' was chosen specifically as one of the psychological well-being variables to be examined. In particular, the aim was to determine whether students with a better established meaning in life would also display greater career adaptability, as suggested by the existential approach (Sterner, 2012).

1.3 Meaning inlife

The concept of meaning in life was introduced by Viktor Frankl, who also established the well-known logotherapy, designed to help people explore the meaning of life experiences (Auhagen, 2000). Steger, Frazia, Oishi & Kaler (2006) defined 'This satisfaction has been found to be associated with career development (Skorikov, 2007) and career adaptability (Lips-Wiersura, 2002; Santilli, Nota, Gineva&Soresi, 2014; Schultze& Miller, 2004).The presence of meaning of life also appears to act as a mediator between career indecision and anxiety (Miller &Rottinghaus, 2014). Similarly, Super,Savickas and Super (1996) believed that meaning in life helps facilitate the role of values in career decision-making and in promoting career adaptation. Meaning in life and optimism promote a sense of well-being (Ho,Cheung

2013; Shrira, Palgi, Ben-Ezra &Shmotkin, 2011). In an Asian context, meaning in life for Chinese students is also found to be significantly related to life satisfaction in personal, family, community, and work domains (Ho et al., 2010; To et al., 2014). In the study reported here, the intention was to determine whether students' meaning in life directly impacts on their connectedness and career adaptability.

1.4 Connectedness and career adaptability

Attachment theory suggests that 'connectedness' is beneficial to healthy human development (Lopez, 1995; Schultheiss, 2003). For the purposes of this study, 'connectedness' refers to the positive feelings an individual has of 'belonging' within a particular social group or situation (family, school, and friends). This feeling of connectedness can have very many benefits for a person's development, including social support, self-esteem, confidence, motivation, self-efficacy, resilience and the development of productive attitudes and values (Townsend & McWhirter, 2005). Connectedness may also be important for adolescents when they are making plans for future career path and seeking advice from others. In middle schools, Hong Kong, guidance programs often focus on enhancing students' connectedness to school, peers and teachers, as well as helping students search for their personal meaning inlife.

Blustein, Schultheiss and Flum (2004) suggested that career development—particularly the decision- making process—can be understood by reference to *social relationaships*. For example, when people are making choices and decisions concerning their career path, they seek support and guidance from social networks to which they feel connected, such as family, friends and teachers. Studies have established a link between a person's connectedness with family, friends and school and the development of career adaptability (Creed, Fallon & Hood, 2009; Hirschi, 2009). A study by Han and Rojewski (2014) further revealed that career adaptability and job satisfaction are improved by perceived social supports from family and school. The importance of involving significant people like parents and teachers directly in career guidance programs to give support and advice is stressed by Knight (2015). In the study reported herein the intention was therefore to determine whether students with stronger connectedness with friends, family and school would display better career adaptability.

1.5 Gender differences

Gender differences in career adaptability, connectedness and meaning in life have been explored previously, but the results were inconclusive. The most recent research suggests that gender differences in career adaptability are not significant (Han, 2014; Hirshi, 2009; Tien, 2014; Zacher, 2014).The same result was found with Hong Kong university students (Cheung &Jin, 2015). In terms of connectedness, there may be gender differences, because boys have been found to connect strongly with personal friends (Li, 2002), but girls are more connected to classroom peers, schools, teachers and siblings (Karcher& Sass, 2010; McGraw, Moore, Fullen & Bates,2008).Gender differences in meaning in life are less clearly delineated. Reker(2005)

found young women scored higher than males in 'personal meaning', but Steger, Frazier, Oishi&Kaler (2006) found no significant gender difference in any aspect. In view of the inconsistent evidence found sofar on possible gender differences in career adaptability, connectedness and meaning in life, it was decided that this study would attempt to establish any associations among these variables in a sample of Hong Kong adolescents. In addition, the researchers investigated the predictors of career adaptability in male and female students.

1.6 Research hypotheses

Based on the above literature review, the following hypotheses were tested in this study:

H1. Meaning in life, connectedness, and career adaptability are significantly correlated.

H2. Clearer (stronger) meaning in life relates to stronger connectedness and greater career adaptability.

H3. Gender moderates correlations among meaning in life, connectedness and career adaptability; and the interrelations among meaning in life, connectedness and career adaptability differ between female and male students.

2. Method

2.1. Participants

Participants were 543 junior secondary students from 8 secondary schools in different districts of Hong Kong (298 males, 245 females; age range 12 to 17 years; mean age 14.92, *SD*=0.82).

2.2. Measures

2.2.1 Career Adapt-Ability Scale –China Form (CAAS-China: Hou, Leung, Li, Li, & Xu, 2012). The

CAAS-China is a 24-item scale that measures concern, control, curiosity, and confidence aspsychosocial resources for managing transitions and developmental tasks. Items are rated on a 5-point Likert-type scale ranging from 5 (*strongest*) to 1 (*weakest*). Higher scores reflect greater psychosocial resources. TheCronbach alphas for *CAAS-China* subscale scores range from .64 to .79, based on a sample of university students in Shanghai (Hou, Leung, Li, Li, & Xu,2012).

2.2.2 Meaning in Life Questionnaire –Chinese Version (MLQ; Steger, Frazier, Oishi, &Kaler, 2006).The MLQ consists of two 5-item subscales measuring the 'presence of meaning in life' and 'search for meaning in life'. Items are rated on a 7-point scale ranging from 1 (*absolutely untrue*) to 7 (*absolutely true*). Higher scores indicate greater perceived 'meaning in life'. The Cronbach alphas for MLQ 'presence of meaning in life' and 'search for meaning' scores had been established as .82 and .87 in a sample of Hong Kong junior secondary school students (Yuen, Chan, Chan, Lau, Gysbers, &Shea,2014).

2.2.3 School, Teachers, Peers and Parents Connectedness Subscales from the Hemingway Measure of Adolescent Connectedness –Chinese version (HMAC; Karcher& Sass, 2010). Researchers have suggested the subscales from HMAC could be useful in assessing adolescents' connectedness (Karcher& Sass, 2010). Each subscale in the HMAC consists of 6 items measuring connectedness with school, teachers, peers or parents. A6-point Likert-type scale is used, ranging from 1 (strongly disagree) to 6 (strongly agree). Higher scores reflect a stronger connectedness. Karcher and Lee (2002) tested the reliability and validity of a Chinese version of HMAC in a sample of middle school students in Taiwan. Cronbach alphas for subscales covering connectedness to school, teachers, peers and parents were found to be satisfactory (.75, .72, .63 and .76). In a sample of Hong Kong primary school students, Cronbach alphas for these subscales had beenestablished as .75, .66, .69, and .68 respectively **(**Yuen, Chan, Chan, Lau, Gysbers, &Shea,2010a).

2.2.4 Personal Data Form. Student characteristics were collected by means of a personal data form, included with the main survey questionnaire. Students' gender was coded as male = 0, female = 1. Students also indicated the levels of their parents' education (reported separately for mothers and for fathers) selecting a description from 7 categories ranging from 'no formal education' through to 'university post-graduateeducation'.

2.3. Procedures

Participants were recruited from 8 different schools, randomly selected from the Education and Manpower Bureau's list of secondary schools in Hong Kong. Within these schools a total of 40 randomly selected classes were used for data collection. Prior to collecting data, school principals' approval and parental consents were obtained. The survey instruments were presented in Chinese and administered by classroom teachers during class periods. The students were instructed to complete the questionnaire individually, and were informed that the purpose of the study was to investigate adolescent development. They were told that there was no right or wrong answer to any item; and that they would not be identified by name in any report. The questionnaires were completed within 35 minutes. The participants were then thanked for their participation.

2.4. Data analysis

Descriptive statistics (means, standard deviations and internal consistency) for all study variables appear in Table 1. The Cronbach alphas of all subscales were adequate to high (.70 - .92), which suggests the subscales were appropriate for use with the present sample. We examined bivariate correlations and gender differences between the study variables. Confirmatory factor analysis was performed to evaluate the factor structure ofthe CAAS-C. We examined the model fit of a one-factor model, a four-factor model, and a four-factor withone

Higher-order factor model. Model fit was evaluated based on the following model fit indices (Hu &Bentler, 1999): comparative fit index (CFI) ≧.95, Tucker-Lewis index (TLI) ≧.95, root mean square error of approximation (RMSEA) ≦.05, and standardized root mean square residuals ≦.05. Model comparison was also based on chi-square difference tests.

[INSERT TABLE1HERE]

To identify predictors of career adaptability in male and female students, multiple-group path model analyses were conducted to examine the associations among meaning in life, connectedness, and career adaptability in both gender subsamples simultaneously. ‘Presence of’ and ‘search for’ meaning in life were specified as independent variables; connectedness with school, teachers, peers and parents were specified as mediating variables; and career adaptability scores (concern, control, curiosity, and confidence) were specified as dependent variables in the path model. The multiple-group path model, included father’s education, mother’s education, and student’s age as the control variables. Indirect effects from meaning in life to career adaptability

via the connectedness were evaluated via bootstrap analysis using 5,000 draws (MacKinnon, 2008). We determined the statistical significance for the indirect effects by bias-corrected bootstrap 95% confidence interval (MacKinnon et al., 2004). Indirect effects with the asymmetric 95% confidence interval excluding zero were statistically significant at $p < 0.05$ level. Any significance gender group differences in career adaptability, meaning in life, and connectedness were explored.

3.**Results**

3.1. Correlations and gender differences among the study variables

Regarding hypothesis (H1), Table 2 presents the correlations between career adaptability, meaning in lifeand connectedness in the total sample. All of the correlations were statistically significant, positive, and weak to moderate. Analysis of variance (Table 3) revealed small butsignificant

gender differences in terms of connectedness with parents ($F(1,542) = 12.87$, $p < .01$, $\eta^2 = .023$), school ($F(1,542) = 12.82$, $p < .01$, $\eta^2 = .023$), peers ($F(1,542) = 6.64$, $p < .05$, $\eta^2 = .012$), and teachers $F(1,542) = 15.27$, $p < .01$, $\eta^2 = .027$).

[INSERT TABLE 2 HERE]

[INSERT TABLE3HERE]

3.2. Factor structure of the CAAS-C

Results of confirmatory factor analyses with the *CASS-C* are shown in Table 4. Theone-factor model (Model 1) showed mediocre fit to the data with CFI = .83, TLI = .81, RMSEA = .088 and SRMR = .059. Both the four-factor model (Model 2) and the four-factor with one higher order factor model (Model 3) provided marginally acceptable fits to the data with .90 < CFI and TLI< .95, SRMR < .05 but RMSEA > .05. After including two correlated residuals to the revised four-factor with one higher order model, the revised four-factor with one higher order factor model (Model 4) showed an adequate fit to the data with CFI and TLI > .95 and RMSEA and SRMR <.05. Model 4 also showed a significantly better fit than Model 3 in terms of chi-square difference test($\Delta \chi^2(2) = 184.80$, $p < .01$). All of the factor loadings were significant and ranged from .67 to.86 (Figure1).

[INSERT TABLE 4 HERE]

[INSERT FIGURE 1HERE]

3.3. Path model estimates in malestudents

Regarding hypothesis (H3), multi-group path modeling was performed to identify the predictors of Grade 9 students' career adaptability in both male and female subsamples. The multi-group pathmodel provided an excellent model fit to the data with $\chi^2(48) = 63.46$, $p = 0.07$, CFI = 1.00, TLI = .98, RMSEA = .034 and SRMR= .036. As shown in Table 5, among the male students, presence ofmeaning in life positively predicted all four connectedness variables ($B = .16 – .19$, $SE = .04 - .05$, $p <.01$).

.05, p<.01).

Career ‘concern’ was predicted by presence of meaning in life (B = .32, SE = .06, p < .01), accounting for 21.8% of the variance. Career ‘control’ was predicted by presence (B = .17, SE = .07, p < .05) and search for meaning in life (B = .21, SE = .07, p < .01), accounting for 21.8% of the variance. Career ‘curiosity’ was predicted by connectedness in school (B = .26, SE = .12, p < .05) and presence (B = .17, SE = .06, p < .01) and search of meaning in life (B = .21, SE = .07, p < .01). The three variables together explained 22.8% of the variance. Career ‘confidence’ was predicted by connectedness in school (B = .26, SE = .13, p < .05), and presence (B = .19, SE = .07, p < .01) and search of meaning in life (B = .15, SE = .07, p < .05), accounting for 23.6% of the variance.

[INSERT TABLE5HERE]

3.4. Path model estimates in female students

In relation to hypothesis (H3), Table 6 reveals that among the female students, presence of meaning in life significantly and positively predicted all four connectedness variables (B = .09 – .21, SE = .04 - .06, p < .05). Search for meaning in life significantly and positively predicted connectedness with peers (B = .12, SE =.04,p< .01) and teachers (B = .18, SE = .04, p < .01). Career ‘concern’ was predicted by presence of meaning in life(B = .38, SE = .07, p < .01), connectedness in school (B = .31, SE = .15, p < .05) and negatively by connectedness to peers (B= -.51, SE= .13, p < .01); accounting for 30.7% of the variance. Career ‘control’ was predicted by presence (B = .26, SE= .07, p < .01) and search for meaning in life (B = .15, SE = .07, p < .05), explaining 18% of the variance. Career ‘curiosity’ was predicted by presence (B = .16, SE = .06, p < .05) and search for meaning in life (B =.19, SE = .07, p < .01), explaining 17% of the variance. Career ‘confidence’ waspredicted by presence of meaning in life (B = .22, SE = .06, p < .01), explaining 21.5% of thevariance.

[INSERT TABLE6HERE]

3.5. Indirect effects from meaning in life to career adaptability viaconnectedness

Regarding hypothesis (H2) and hypothesis (H3), for the male subsample, there were significant and positive indirect effects from presence of meaning in life via school connectedness to career curiosity (indirect effect= .046, 95% C. I. = .005 - .109) and career confidence (indirect effect = .046, 95% C. I. = .002 - .111). Similarly, search for meaning in life had significant and positive indirect effects via school connectedness on career curiosity (indirect effect = .050, 95% C. I. =.007- .105) and career confidence (indirect effect = .050, 95% C.I. = .004-.110).

For the female subsample, there were significant indirect effects from presence of meaning in life to career concern via connectedness with school (indirect effect = .060, 95% C. I. = .008 - .129) and peers (indirecteffect = -.044, 95% C. I. = -.096 - -.012). Search of meaning in life had a significant and negative indirect effect on career concern via connectedness with peers (indirect effect = -.061, 95% C. I. = -.122 - -.020). The indirect effects from meaning in life to career adaptability via the connectedness variables did not differ significantly acrossgender.

4. Discussion

In regard to hypothesis 1 (H1), findings reported in Table 2 indicated that for Grade 9 students, positive associations exist among scores for career adaptability, meaning in life, and connectedness. For the total sample there was a strong association between CAAS Total and presence of meaning in life. There was strong association between career concern and presence of meaning in life, weak association between career concern and search for meaning in life, as well as weak association between career concern and connectedness to peer.

There was moderate association between career control and meaning in life scores, as well as connectedness to school. There were moderate associations between career curiosity and meaning in life scores, as well as moderate associations between career curiosity, connectedness to school and connectedness to teachers. There were also moderate association between career confidence and presence of meaning in life, as well as moderate associations between connectedness to parents, connectedness to schools and connectedness toteachers.

This is consistent with principles of the existential psychology and attachment theory (Schultze&Miller, 2004; Wright &Perrone, 2008).The result in this study was in line with Ginevra, Nota and Ferrari (2015) and Guan, Wang, Liu, Ji, Jia, and Fang et al. (2015) that parental support related positivelyto positive career development. Furthermore, the finding of this study was also consistent with Hirschi (2009) and Hirschi, Niles and Akos (2011) that social support related positivelyto careeradaptability.

Regarding hypothesis (H3), the findings confirmed gender differences in associations between meaning in life, connectedness and career adaptability. For males there was a somewhat stronger association between scores on CAAS-China and their presence of meaning in life and their connectedness to school and toteachers. Females on the other hand displayed somewhat stronger consistency in their connectedness to parents, school and teachers; but this was only weakly associated with their scores from CAAS-China. Howeveralthough statistically significant gender differences were found, the effect sizes were in fact small (Table 3) and thusnot

apparent, but it is an issue worth investigating in more detail in futurestudies.

Hartung and Taber (2008) showed that subjective well-being and personal meaning can be enhanced by effective career adaptability, whereas in this study, the findings suggest career adaptability was predicted by the presence of meaning in life. This result supports the views of Savickas et al. (2009) that career adaptability and subjective well-being could be mutually interdependent. Specifically, such relationship can be explained by the personality trait as Schnell and Becker (2006) suggested that extroverted people are prone to find their life meanings and this extroverted and proactive personality could positively predict career adaptability (Cai, Guan, Li, Shi, Guo& Liu et al.,2015).

The *Career Adapt-Abilities Scale* has been used already in many other countries, so it is possible to compare those results with these obtained from this sample of students in Hong Kong. For example, the students in Hong Kong showed weaker career concern, control, curiosity and confidence than Grade 10 and 11 students in the USA (Porfeli&Savickas, 2012), university students in Turkey (Öncel, 2014), university students in Netherlands (van Vianen, Klehe, Koen & Dries, 2012), Brazilian adults (Teixeira, Bardagi&Lassance, 2012) and secondary school students in Macau (Tien & Lin, 2014). This weaker overall score on CAAS-China by Hong Kong students may reflect the fact that although the education reform placed an emphasis on providing career guidance and counseling, many obstacles still hinder progress in this direction, including the heavy classroom teaching load of full-time career guidance teachers in secondary schools (Leung, 2002). Schools are still placing higher emphasis on the academic attainment of students in examinations, rather than enriching their career readiness opportunities. This may also reflect the fact that many parents in Hong Kong prefer that their children concentrate on gaining a place for further education upon graduation, instead of engaging too earlyin

career exploration. Interestingly, the career concern (i.e., concern about future career) expressed by HongKong Grade 9 students is lower than their counterparts in neighboring Macau (Tien et al., 2014) and in China (Hou et al., 2012), suggesting perhaps that HK secondary students are less prepared for thinking about their future career. This has implications for improving career guidance in the secondary schools. Previous research in Hong Kong has found that high school students expressed a view that more school activities to enhance school connectedness, promote life skills development, and address future career planning would be very helpful to them (Yuen et al., 2008; Yuen et al., 2010b; Yuen et al., 2012; Yuen at al.,2014).

5. Conclusion

The positive relationship of meaning in life and career adaptability was supported in thisstudy. Multiple-group path model analyses revealed that the *presence* of meaning in life was a predictor of both male and female students' career concern, control, curiosity and confidence. The *search* for meaning in life was not a predictor of male students' career concern. However, for females the *search* for meaning in life was not associated with career concern or confidence. Connectedness to school was a predictor of male students' career curiosity and confidence; and for female students it was a predictor of career concern. In the females, career concern was predicted by presence of meaning in life and connectedness in school, but negatively by connectedness to peers. This interesting result seems to imply that controlling for other connectedness and meaning in life, female students with higher connectedness to peers have lower concern towards their future career. Perhaps the better peer relationships help female students enjoy the present school life more and concern less about their career in the future. The findings also provide empirical evidence of the need to strengthen elements of career guidance in the secondary schools in Hong Kong. It is important to help adolescent students acquire the underlying skills and attitudes that will assist with their career planning, and for adapting later to changes and transitions in their workingworld.

6. Limitations

A number of factors that may affect students' meaning in life, connectedness and career developmentcould not be addressed in this study. In particular, the economic status of the family, their religious background, and their parenting style were not included in the analyses. Such variables have been found to influence meaning in life and connectedness (Chen &Wong, 2014; Ho et al., 2010; Koumoundouron, Tsaousis&Kounenon, 2011; Santilli et al., 2014; Shek, 2013). Nor were participants' personalities, levels of optimism and resilience considered. Future longitudinal studies could explore the mediating effects of these variables on career adaptability. In particular, there is a need to conduct qualitative case studies to explore the possible effects of connectedness on career adaptability among students in collective cultural context. Despite these limitations, this study does illustrate the associations that career adaptability has with connectedness and meaning in lifefor 9th grade students in HongKong.

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Table 1 Descriptive statistics *between Meaning in Life, Connectedness, and Career Adaptability*

	Variables	M	SD	α
1	Concern	18.02	5.20	0.91
2.	Control	20.04	5.27	0.90
3.	Curiosity	19.74	4.99	0.90
4	Confidence	20.06	5.22	0.92
5.	CAAS Total	77.88	18.52	0.96
6.	Meaning in Life Presence	23.23	5.60	0.82
7.	Meaning in Life Search	26.08	5.10	0.86
8.	Connectedness Parents	20.88	3.96	0.81
9.	Connectedness School	20.71	3.55	0.75
10	Connectedness Peers	20.99	3.42	0.70
11.	Connectedness Teachers	20.56	3.90	0.78

Note. N = 543; Career Adaptability is 6-item subscales on 5-point scale. The maximum score for each subscale is 30 and minimum score is 6. Meaning in Life is 5-item scales on 7-point scale. The maximum score for each subscale is 35 and minimum score is 5. The Connectedness Scale is 6-item subscales on 5-point scale. The maximum score for each subscale is 30 and minimum score is 6.

Table 2 ***Correlations between Meaning in Life, Connectedness, and Career Adaptability(Total***

11.

Note. All correlations are statistically significant at $p < .01$level.

Table 3 ***Means and Standard Deviations by Gender***

	Males		Females			
	n=298		*n* =245			
Subscale	**M**	**SD**	**M**	**SD**	**F**	**η^2**
Career Adaptability						
Concern	17.85	5.21	18.23	5.19	0.73	.001
Control	19.90	5.44	20.21	5.07	0.45	.001
Curiosity	19.57	5.18	19.96	4.76	0.81	.001
Confidence	19.87	5.60	20.29	4.74	0.89	.002
CAAS Total	77.20	19.64	78.68	17.08	0.88	.002
Meaning in Life						
Presence	22.94	5.54	23.58	5.67	1.76	.003
Search	25.84	5.16	26.37	5.02	1.45	.003
Connectedness						
Parents	20.33	3.85	21.54	4.01	12.87*	.023
School	20.22	3.83	21.30	3.08	12.82*	.023
Peers	20.65	3.65	21.40	3.07	6.64	.012
Teachers	19.98	4.21	21.27	3.35	15.27*	.027

Note. *$p < .01$, *F* tests were based on *df* = 542. η^2= effect size eta squared.
Green, Salkind, and Akey (2000) indicated that the range of effect sizes for eta squared is .01 (small) .06(medium), and .14 (large)

Table 4 ***Results of confirmatory factor analysis on Career Adaptability Scale***

Model	χ^2	*df*	CFI	TLI	SRMR	RMSEA	90%CI		$\triangle\chi^2$	$\triangle df$
1.	1319.03**	252	.825	.809	.059	.088	.084-.093			
2.	694.28**	246	.927	.918	.034	.058	.053-.063	1 vs2	403.85**	6
3.	698.22**	248	.926	.918	.035	.058	.053-.063	2 vs3	4.25	2
4.	484.35**	244	.961	.956	.031	.043	.037-.048	2 vs3	184.80**	2

Note. Model 1 = one-factor model; Model 2 = four-factor model; Model 3 = four-factor and one higher order factor model. Model 4 = revised four-factor and one higher order factor model.

χ^2 = chi-square; CFI = comparative fit index; TLI = Tucker-Lewis index; SRMR = standardized root mean square residual; RMSEA = root mean square error of approximation; 90% CI = 90% confidence interval; n =543.

**p<.01.

Table 5 ***Path model estimates for prediction of career adaptability and connectedness in grade 9 male students (N=298)***

	Dependent variables – Career adaptability			
	Concern	Control	Curiosity	Confidence
Predictor variables	B(SE)	B(SE)	B(SE)	B(SE)
Meaning in Life				
Presence	.32 (.06)**	.17(.07)*	.17 (.06)**	.19 (.07)**
Search	.07(.06)	.21 (.07)**	.21 (.07)**	.15(.07)*
Connectedness				
Parents	.04(.10)	.13(.11)	-.01(.10)	.07(.10)
School	.24(.13)	.21(.13)	.26(.12)*	.26(.13)*
Peers	-.06(.10)	.10(.11)	.05(.10)	.15(.11)
Teachers	.05(.11)	.00(.12)	.07(.11)	.05(.12)
Total R^2	.218	.218	.228	.236
	Dependent variables–Connectedness			
	Parents	School	Peers	Teachers
Predictor variables	B(SE)	B(SE)	B(SE)	B(SE)
Meaning in Life				
Presence	.19 (.05)**	.18 (.05)**	.16 (.04)**	.18 (.05)**
Search	.19 (.05)**	.19 (.05)**	.23 (.05)**	.28 (.05)**
Total R^2	.175	.165	.205	.211

Note. B = unstandardized regression coefficient; SE = standard error; *p < .05, **p <.01,two-tailed.

Table 6 ***Path model estimates for prediction of career adaptability and connectedness in grade 9 female students (N=245)***

	Dependent variables – Career adaptability			
	Concern	Control	Curiosity	Confidence
Predictor variables	B(SE)	B(SE)	B(SE)	B(SE)
Meaning in Life				
Presence	.38 (.07)**	.26 (.07)**	.16(.06)*	.22 (.06)**
Search	.07(.08)	.15(.07)*	.19 (.07)**	.12(.07)
Connectedness				
Parents	.15(.10)	.15(.11)	.09(.09)	.11(.08)
School	.31(.15)*	.04(.18)	.23(.15)	.28(.16)
Peers	-.51(.13)**	-.05(.13)	-.13(.13)	-.12(.13)
Teachers	.07(.12)	.06(.14)	.08(.13)	.05(.12)
Total R^2	.307	.180	.172	.215
	Dependent variables–Connectedness			
	Parents	School	Peers	Teachers
Predictor variables	B(SE)	B(SE)	B(SE)	B(SE)
Meaning in Life				
Presence	.21 (.06)**	.19 (.04)**	.09(.04)*	.09(.04)*
Search	.08(.05)	.05(.04)	.12 (.04)**	.18 (.04)**
Total R^2	.115	.143	.077	.118

Note. B = unstandardized regression coefficient; SE = standard error; *p < .05, **p <.01,two-tailed.

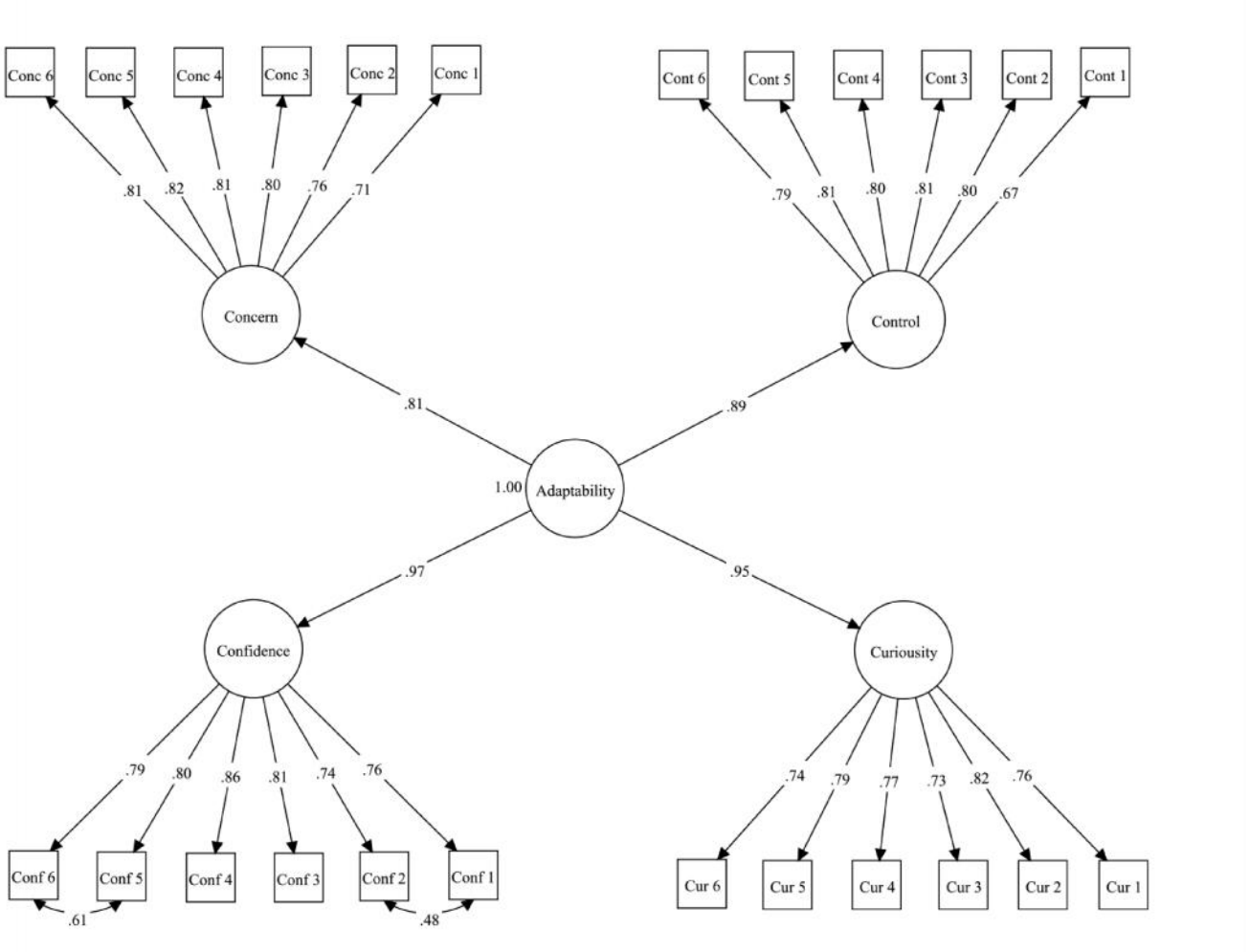

Figure 1 ***Hierarchical confirmatory factor model for Grade 9 students in HongKong***