

Psychosocial Factors Influencing Individual Well-being in Chinese Adolescents in Hong Kong

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Literature Review

- ❑ **Life satisfaction:** global evaluation of life; stable and essential indicator of personal well-being and psychological development in adolescence[1-4]
- ❑ **Hopelessness:** one's expectation that highly desirable outcomes will not occur. Hopelessness theory - high correlation between hopelessness and symptoms of depression[5]
- ❑ Adolescents' perception and realization of hope in life is **critical** in shaping physical and emotional well-being, goal orientation, and avoidance of risk behaviors[6]

- ❑ **Few longitudinal studies** done on adolescent's life satisfaction or hopelessness in Chinese contexts

Search Results based on PsycINFO Database (2005-2015)

Search Term	Total No. of Article	No. of "Peer Reviewed" Article	No. of "Peer Reviewed" + "Longitudinal" Study	No. of "Peer Reviewed" + "Longitudinal" + "Chinese" Study
"Life satisfaction" + "Adolescent"	1516	1205	165	18
"Hopelessness" + "Adolescent"	1004	755	86	10

- ❑ **Mixed results** regarding **life satisfaction** in adolescents:
 1. McCullough et al. [7]: majority of adolescents had **moderately high levels** of life satisfaction
 2. Some researchers indicated that adolescents' life satisfaction **decreased** over time in the global context[8-10]

- ❑ Findings of adolescents' change in **hopelessness**:
 1. Some studies found that adolescents experienced **higher level** of hopelessness during transitional period[10-13]
 2. Lester[14] suggested that hopelessness level of adolescents **did not increase** in recent years

- ❑ **Generalizability issue**: small sample size or homogenous sub-sample in existing studies[15]

- ❑ **Insufficient research** on assessing the **predictors** of adolescent life satisfaction and hopelessness

Summary of Review on Predictors of Adolescents' Life Satisfaction and Hopelessness

Factors		Life Satisfaction		Hopelessness	
Socio-demographic Factors	Age	✓	No difference[16]	✗	Elder adolescent>Younger adolescent[6]
					No difference[3,11]
	Gender	✗	Male>Female[2]	✗	Male>Female[14,45]
			Female>Male[16-20]		Female>Male[6]
Family Attributes	Family Intactness	✓	Intact family>Non-intact family[16,21-24]	✓	Non-intact family>Intact family[15,6]
	Economic Disadvantage		No difference[25]	✗	-
		✗	Non-poor family>Poor family[26]		
		Mixed findings[27-29]			
Positive Youth Development Attributes	Resilience	✓	High level of resilience>Low level of resilience[30-32]	✓	Low level of resilience>High level of resilience[46-49]
	Psychosocial Competence	✓	High social competence>Low competence[32-33]	✗	Low social competence>High competence[50] (Existing research only focuses on adults, not adolescents)
	Positive Identity	✓	High level of positive identity>Low level of positive identity[31-32]	✓	Low level of positive identity>High level of positive identity[46]
	Spirituality	✓	High level of spirituality>Low level of spirituality[18,32,34-36]	✓	Low level of spirituality>High level of spirituality[51-52]
Family Processes	Family Functioning	✓	Good functioning>Poor functioning[26,32,37-38]	✓	Poor functioning>Good functioning[53]
	Parent-child Relational Qualities	✓	Good relation>Poor relation[27,32,38-44]	✓	Poor relation>Good relation[15,54]

Note: "✓"=consistent findings; "✗"=inconsistent findings; "X"=little research evidence

Research Questions

1. What is the development **trend** of adolescent **life satisfaction** in the high school years?
2. What is the development **trend** of adolescent **hopelessness** in the high school years?
3. How **socio-demographic factors** (age & gender), **family attributes** (family intactness & economic disadvantage), **positive youth development attributes** (resilience, psychosocial competence, positive identity & spirituality) and **family processes** (family functioning & parent-child relational qualities) impact on the initial level and change of **life satisfaction** in adolescents?

4. How **socio-demographic factors** (age & gender), **family attributes** (family intactness & economic disadvantage), **positive youth development attributes** (resilience, psychosocial competence, positive identity & spirituality) and **family processes** (family functioning & parent-child relational qualities) impact on the initial level and change of **hopelessness** in adolescents?

Methodology

- ❑ **Six-year longitudinal** data set (part of a positive youth development program in Hong Kong)
- ❑ Number of school: 28
- ❑ Data collection period: 2009-2015
- ❑ Data analysis: utilization of **linear mixed method** in SPSS 23

Table 3 Number of Participants at Each Measurement Occasion

	Wave 1	%	Wave 2 ^a	%	Wave 3 ^a	%	Wave 4 ^a	%	Wave 5 ^a	%	Wave 6 ^a	%
N (Participants)	3,328		2,905		2,860		2,684		2,474		2,385	
<i>Gender</i>												
Male	1,719	51.7	1,445	49.7	1,433	50.1	1,336	49.8	1,200	48.5	1,161	48.7
Female	1,572	47.2	1,419	48.8	1,407	49.2	1,338	49.9	1,265	51.1	1,218	51.1
<i>Economic disadvantage</i>												
NOT receiving CSSA	2,606	78.3	2377	81.8	2,341	81.9	2,269	84.5	2,131	86.1	2,063	86.5
Receiving CSSA	225	6.8	160	5.5	147	5.1	132	4.9	114	4.6	110	4.6
<i>Family intactness</i>												
Intact families	2,781	83.6	2,415	83.1	2,397	83.8	2,213	82.5	2,027	81.9	1,948	81.7
Non-intact families	515	15.5	469	16.1	455	15.9	466	17.4	441	17.8	432	18.1

Note: ^a The numbers were based on the participants who ever participated in Wave 1 assessment, as only those joining Wave 1 assessment were included in LMM. The numbers of the students who did not report the corresponding information are not presented.

Instruments

Table 4

Variable		Name of Instrument	
IV	Resilience (RE)	Resilience Subscale (6 Items)	
	Psychosocial Competence (SC)	Social Competence Subscale (7 Items)	Chinese Positive Youth Development Scale (CPYDS)[55]
	Positive Identity (PI)	Clear and Positive Identity Subscale (7 Items)	
	Spirituality (SP)	Spirituality Subscale (7 Items)	
	Family Functioning	Family Functioning Scale (9 Items)[56]	
	Parent-child Relational Qualities	Father-child Relation Scale (14 Items)	Mother-child Relation Scale (14 Items)[57]
	Age	Demographic Information Scale (4 Items)	
	Gender		
	Economic Disadvantage		
	Family Intactness		
DV	Life Satisfaction	Life Satisfaction Scale (5 Items)[58-59]	
	Hopelessness	Hopelessness Scale (5 Items)[60-61]	

Results (Life Satisfaction:1)

- **Correlations:** Socio-demographic factors, family attributes, positive youth development attributes, and family process were associated with life satisfaction (Table 5)

Table 5 Correlations among Variables (Life Satisfaction)

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
DV 1. LS	1																
2. SLS	.552**	1															
3. TLS	.483**	.581**	1														
4. FLS	.425**	.491**	.591**	1													
5. GLS	.416**	.476**	.561**	.636**	1												
6. QLS	.375**	.436**	.517**	.571**	.663**	1											
IV 7. Age	-.061**	-.042**	-.046**	-.009	.019*	.016	1										
8. Gender	-.007	.030**	.025**	.062**	.042**	.045**	-.030**	1									
9. Family Intactness	.096**	.090**	.049**	.054**	.051**	.052**	-.064**	-.008	1								
10. Economic Disadvantage	-.047**	-.082**	-.072**	-.067**	-.084**	-.068**	-.020*	.067**	-.125**	1							
11. RE	.450**	.315**	.273**	.260**	.244**	.216**	.013	-.020*	.048**	-.002	1						
12. SC	.384**	.274**	.243**	.235**	.200**	.178**	.000	.067**	.062**	.017*	.479**	1					
13. PI	.460**	.308**	.267**	.243**	.222**	.213**	-.011	.079**	.063**	.013	.495**	.510**	1				
14. SP	.608**	.436**	.373**	.323**	.316**	.277**	-.038**	.041**	.086**	-.004	.533**	.454**	.514**	1			
15. Family Functioning	.538**	.420**	.348**	.289**	.300**	.265**	-.078**	-.049**	.184**	-.003	.384**	.347**	.387**	.499**	1		
16. Father-child Relationship Qualities	.450**	.349**	.299**	.261**	.264**	.238**	-.053**	.015	.196**	-.033**	.322**	.286**	.354**	.413**	.611**	1	
17. Mother-child Relationship Qualities	.417**	.306**	.247**	.191**	.195**	.169**	-.083**	.070**	.110**	.032**	.337**	.281**	.334**	.410**	.600**	.484**	1

Results (Life Satisfaction:2)

□ Model fit:

□ **Unconditional model:** Quadratic model (Model 3) fitted the data better than the linear model.

□ **Conditional model:** Model 4 had the best model fit (Table 7 & 8)

□ **Development trend:** Life satisfaction **decreased** across six waves and the decline rate gradually slowed down (Fig. 1)

Table 7 Results of Unconditional Growth Models (Life Satisfaction)

			Model 1		Model 2		Model 3	
			Estimate	SE	Estimate	SE	Estimate	SE
<i>Fixed effects</i>								
Intercept		β_{0j}						
	Intercept	γ_{00}	3.713***	.012	3.896***	.016	3.929***	.018
Linear Slope		β_{1j}						
	Time	γ_{10}			-.075***	.004	-.120***	.012
Quadratic Slope		β_{2j}						
	Time ²	γ_{20}					.009***	.002
<i>Random effects</i>								
Level 1 (within)								
	Residual	r_{ij}	.565***	.006	.470***	.006	.443***	.006
Level 2 (between)								
	Intercept	u_{0j}	.622***	.016	.785***	.025	.810***	.030
	Time	u_{1j}			-.065***	.005	-.124***	.017
	Time ²	u_{2j}					.146***	.015
<i>Fit statistics</i>								
	Deviance		58099.191		57059.376		56935.875	
	AIC		58105.191		57071.376		56955.875	
	BIC		58129.167		57119.328		57035.795	
	df		3		6		10	

Note: Model 1 = unconditional mean model; model 2 = unconditional linear growth model; model 3 = unconditional quadratic growth model.
 *** $p < .001$

Table 8 Results of LMM Models with Level-2 Predictors (Life Satisfaction)

			Model 4	
			Estimate	SE
<i>Fixed effects</i>				
Intercept				
		β_{0j}		
	Intercept	γ_{00}	4.228***	.253
	Gender ^a	γ_{01}	.053***	.015
	RE	γ_{02}	.061***	.018
	SC	γ_{03}	.046**	.018
	PI	γ_{04}	.116***	.019
	SP	γ_{05}	.361***	.019
	Family Functioning	γ_{06}	.212***	.022
	Father-child Relationship Qualities	γ_{07}	.102***	.019
	Mother-child Relationship Qualities	γ_{08}	.050**	.019
Linear slope				
		β_{1j}		
	Intercept	γ_{10}	-.084	.239
	Gender ^a	γ_{11}	-.036**	.014
	RE	γ_{12}	-.009	.017
	SC	γ_{13}	.009	.017
	PI	γ_{14}	-.055**	.018
	SP	γ_{15}	-.101***	.018
	Family Functioning	γ_{16}	-.036	.020
	Father-child Relationship Qualities	γ_{17}	-.002	.018
	Mother-child Relationship Qualities	γ_{18}	-.042*	.017
Quadratic slope				
		β_{2j}		
	Intercept	γ_{20}	-.052	.048
	Gender ^a	γ_{21}	-.004	.003
	RE	γ_{22}	.001	.003
	SC	γ_{23}	-.002	.003
	PI	γ_{24}	.009*	.003
	SP	γ_{25}	.011**	.004
	Family Functioning	γ_{26}	.005	.004
	Father-child Relationship Qualities	γ_{27}	.0002	.003
	Mother-child Relationship Qualities	γ_{28}	.005	.003
<i>Random effects</i>				
Level 1 (within)				
	Residual	r_{ij}	.433	.007
Level 2 (between)				
	Intercept	u_{0j}	.234	.017
	Time	u_{1j}	.108	.015
	Time ²	u_{2j}	.003	.001
<i>Fit statistics</i>				
	Deviance		35648.016	
	AIC		35734.016	
	BIC		36060.589	
	df		43	

Note: 1) Predictors that had insignificant effects in initial status, linear slope, and quadratic slope are not presented;

2) ^a Male = 1, Female = -1. *** $p < .001$; ** $p < .01$, * $p < .05$

Results (Life Satisfaction:3)

□ Significance of predictors:

1. Resilience, psychosocial competence, family functioning, and father-child relational qualities were significant predictors of initial status, but not significant in linear and quadratic slopes (Table 8)
2. **Gender** was **significant** only in **initial status** and **linear change**. Males had more life satisfaction in initial assessment, but showed a faster decreasing rate than females (Table 8 & Fig. 2)
3. **Mother-child relational qualities** was **significant** only in **initial status** and **linear change (-)**. Good mother-child relationship showed more life satisfaction than poor mother-child relationship in initial assessment, but had a faster decreasing rate (Table 8 & Fig. 5)
4. **Positive identity** and **spirituality** were **significant** predictors of **initial status**, **linear (-)**, and **quadratic slopes (+)**. In initial assessment, higher positive identity and spirituality showed more life satisfaction. Life satisfaction for adolescents with higher positive identity/spirituality will drop faster than those with lower positive identity/spirituality (Table 8; Fig. 3 & 4)

Growth Curve (Life Satisfaction)

Fig.1 Growth Trajectory of the Overall Sample

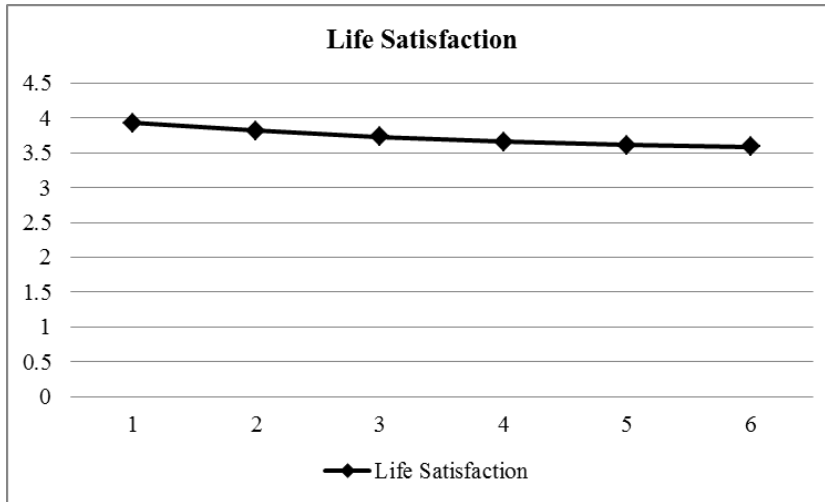


Fig.2

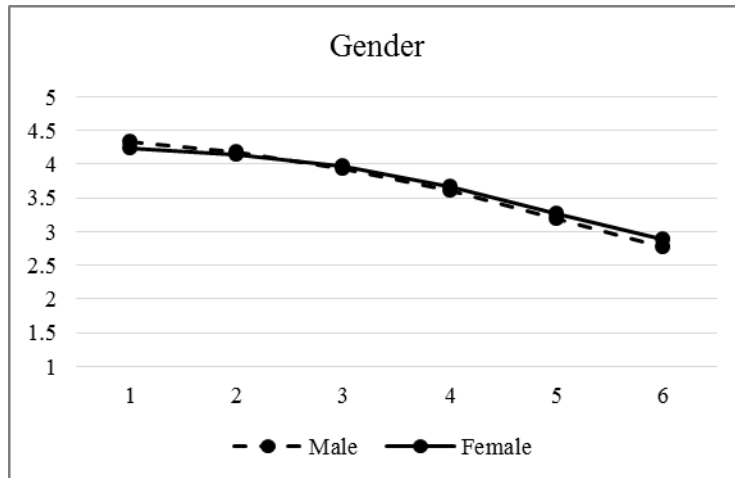


Fig.3

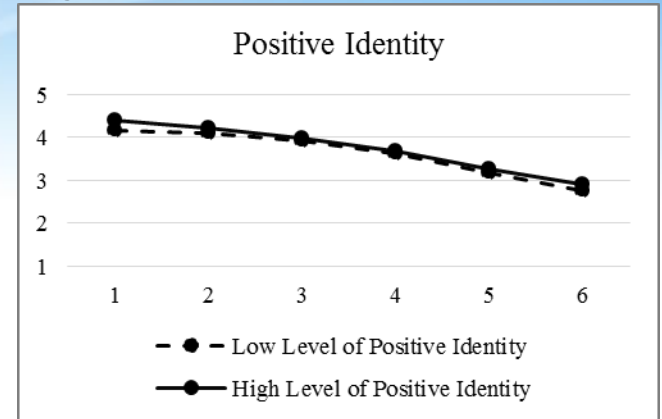


Fig.4

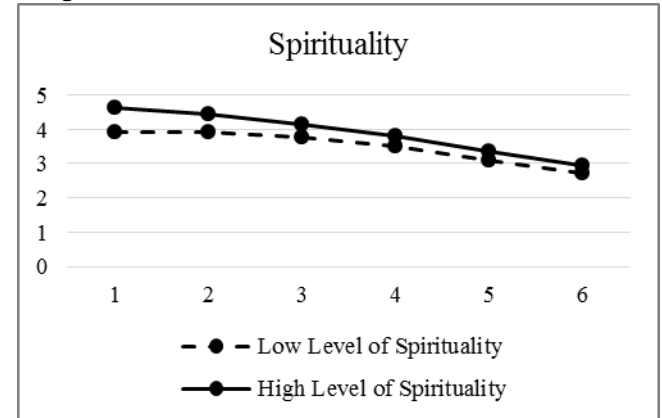
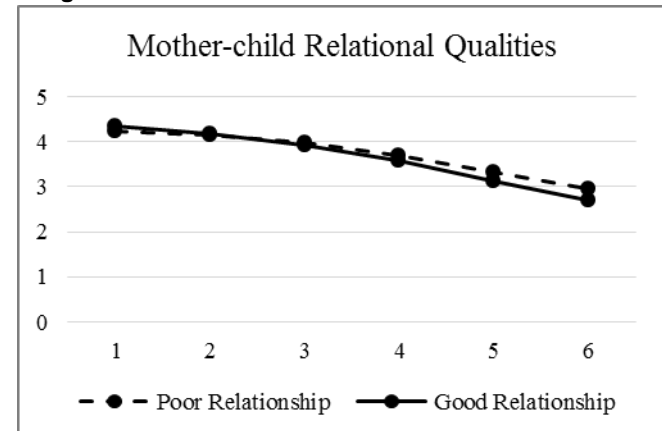


Fig.5



Results (Hopelessness: 1)

- ❑ **Correlations:** Socio-demographic factors, family attributes, positive youth development attributes, and family process **were associated** with hopelessness (Table 6)

Table 6 Correlations among Variables (Hopelessness)

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
1. HL	1																
2. SHL	.451**	1															
3. THL	.404**	.536**	1														
4. FHL	.345**	.406**	.538**	1													
5. GHL	.337**	.410**	.512**	.584**	1												
6. QHL	.325**	.383**	.464**	.515**	.621**	1											
7. Age	.027**	-.006	.022**	.012	.003	.029**	1										
8. Gender	-.064**	.044**	.069**	.092**	.106**	.103**	.030**	1									
9. Family Intactness	-.029**	.054**	.039**	.031**	.032**	.047**	.064**	-.008	1								
10. Economic Disadvantage	-.058**	-.008	-.016*	-.014	.022**	-.004	-.020*	.067**	.125**	1							
11. RE	-.375**	.313**	.286**	.267**	.267**	.259**	.013	-.020*	.048**	-.002	1						
12. SC	-.292**	.277**	.231**	.222**	.234**	.212**	.000	.067**	.062**	.017*	.479**	1					
13. PI	-.305**	.263**	.245**	.247**	.255**	.271**	-.011	.079**	.063**	.013	.495**	.510**	1				
14. SP	-.469**	.350**	.331**	.277**	.284**	.289**	.038**	.041**	.086**	-.004	.533**	.454**	.514**	1			
15. Family Functioning	-.403**	.318**	.278**	.231**	.242**	.248**	.078**	.049**	.184**	-.003	.384**	.347**	.387**	.499**	1		
16. Father-child Relationship Qualities	-.330**	.293**	.262**	.237**	.220**	.228**	.053**	.015	.196**	.033**	.322**	.286**	.354**	.413**	.611**	1	
17. Mother-child Relationship Qualities	-.345**	.283**	.243**	.219**	.211**	.203**	.083**	.070**	.110**	.032**	.337**	.281**	.334**	.410**	.600**	.484**	1

Results (Hopelessness: 2)

□ Model fit:

- **Unconditional model:** Quadratic model (Model 3) fitted the data better than the linear model.
- **Conditional model:** **Model 4 had the best model fit** (Table 9 & 10)

- **Development trend:** Hopelessness **increased** across six waves and the increasing rate significantly slowed down (Fig. 6)

Table 9 Results of Unconditional Growth Models (Hopelessness)

			Model 1		Model 2		Model 3	
			Estimate	SE	Estimate	SE	Estimate	SE
<i>Fixed effects</i>								
Intercept								
	β_{0j}							
Intercept	γ_{00}		2.775***	.013	2.762***	.017	2.730***	.019
Linear Slope								
	β_{1j}							
Time	γ_{10}				.005	.004	.048***	.014
Quadratic Slope								
	β_{2j}							
Time ²	γ_{20}						-.009***	.003
<i>Random effects</i>								
Level 1 (within)								
Residual	r_{ij}		.685***	.008	.600***	.008	.564***	.008
Level 2 (between)								
Intercept	u_{0j}		.626***	.017	.801***	.028	.847***	.034
Time	u_{1j}				.030***	.002	.197***	.020
Time ²	u_{2j}						.005***	.001
<i>Fit statistics</i>								
Deviance			61346.789		60964.940		60817.793	
AIC			61352.789		60976.940		60837.793	
BIC			61376.754		61024.872		60917.679	
df			3		6		10	

Note: Model 1 = unconditional mean model; model 2 = unconditional linear growth model; model 3 = unconditional quadratic growth model.
 *** $p < .001$

Table 10 Results of LMM Models with Level-2 Predictors (Hopelessness)

			Model 4	
			Estimate	SE
<i>Fixed effects</i>				
Intercept				
	Intercept	β_{0j}		
	Intercept	γ_{00}	2.727***	.309
	Gender ^a	γ_{01}	-.002**	.016
	Family Intactness	γ_{02}	.055*	.027
	RE	γ_{03}	-.124 ***	.022
	SC	γ_{04}	-.044*	.022
	SP	γ_{05}	-.282***	.024
	Family Functioning	γ_{06}	-.196***	.026
	Father-child Relationship Qualities	γ_{07}	-.065**	.023
	Mother-child Relationship Qualities	γ_{08}	-.079***	.023
Linear slope				
	Intercept	β_{1j}		
	Intercept	γ_{10}	-.231	.275
	Gender ^a	γ_{11}	-.057	.018
	Family Intactness	γ_{12}	-.016	.024
	RE	γ_{13}	.001	.020
	SC	γ_{14}	-.018	.019
	SP	γ_{15}	.095***	.021
	Family Functioning	γ_{16}	.093***	.023
	Father-child Relationship Qualities	γ_{17}	-.033	.020
	Mother-child Relationship Qualities	γ_{18}	.006	.020
Quadratic slope				
	Intercept	β_{2j}		
	Intercept	γ_{20}	.068	.053
	Gender ^a	γ_{21}	-.002	.003
	Family Intactness	γ_{22}	.003	.005
	RE	γ_{23}	.001	.004
	SC	γ_{24}	.005	.004
	SP	γ_{25}	-.013***	.004
	Family Functioning	γ_{26}	-.015***	.004
	Father-child Relationship Qualities	γ_{27}	.007	.004
	Mother-child Relationship Qualities	γ_{28}	.002	.004
<i>Random effects</i>				
Level 1 (within)				
	Residual	r_{ij}	.537	.009
Level 2 (between)				
	Intercept	u_{0j}	.443	.025
	Time	u_{1j}	.178	.020
	Time ²	u_{2j}	.004	.001
<i>Fit statistics</i>				
	Deviance		38789.197	
	AIC		38875.197	
	BIC		39201.723	
	df		43	

Note: 1) Predictors that had insignificant effects in initial status, linear slope, and quadratic slope are not presented;

2) ^a Male = 1, Female = -1. *** $p < .001$; ** $p < .01$, * $p < .05$

Results (Hopelessness: 3)

□ Significance of predictors:

1. Gender, family intactness, resilience, psychosocial competence, father-child relational qualities, and mother-child relational qualities were significant in initial status, but not significant in linear and quadratic slopes (Table 10)
2. Spirituality was a significant predictor of initial status, linear (+), and quadratic slopes (-). Adolescents with lower spirituality attained higher hopelessness in the beginning. Yet adolescents with higher spirituality would increase hopelessness more. The change was first-drop-then-increase (Table 10 & Fig. 7)
3. Family functioning was significant in initial status, linear (+), and quadratic slopes (-). Adolescents with poorer family functioning attained higher hopelessness in the beginning. Yet adolescents with better family functioning would increase hopelessness faster. The change was first-drop-then-increase (Table 10 & Fig. 8)

Growth Curve (Hopelessness)

Fig.6 Growth Trajectory of the Overall Sample

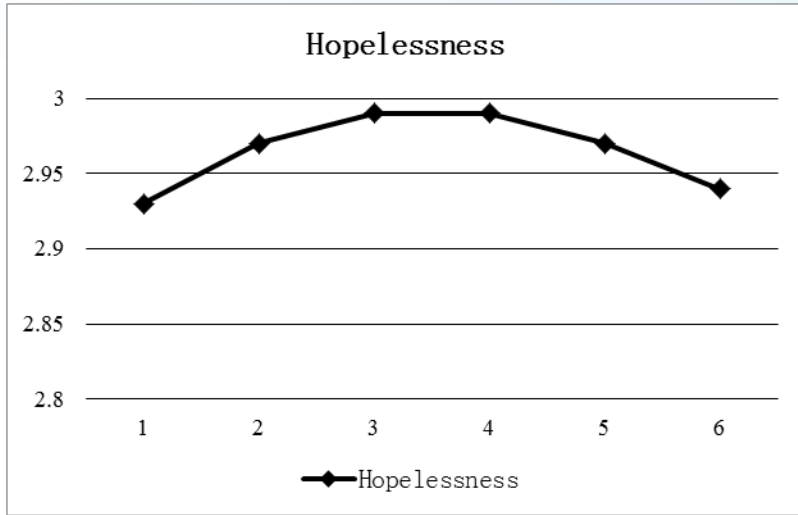


Fig.7

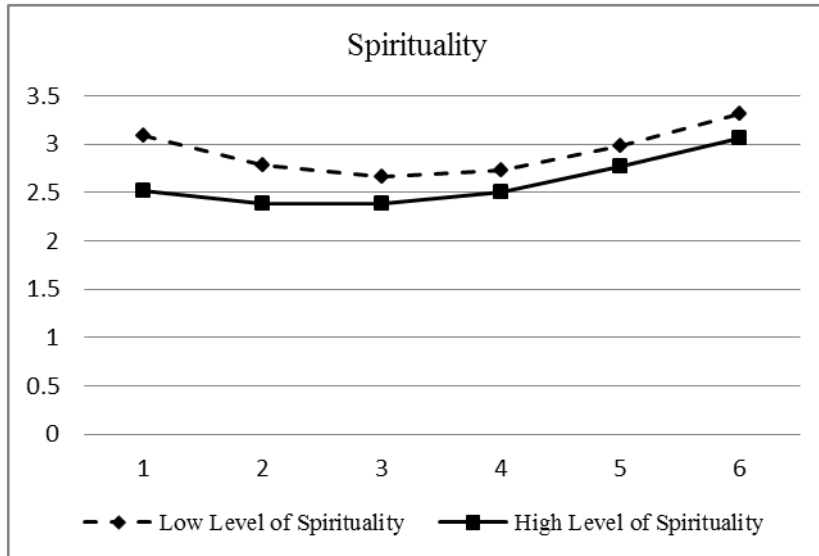
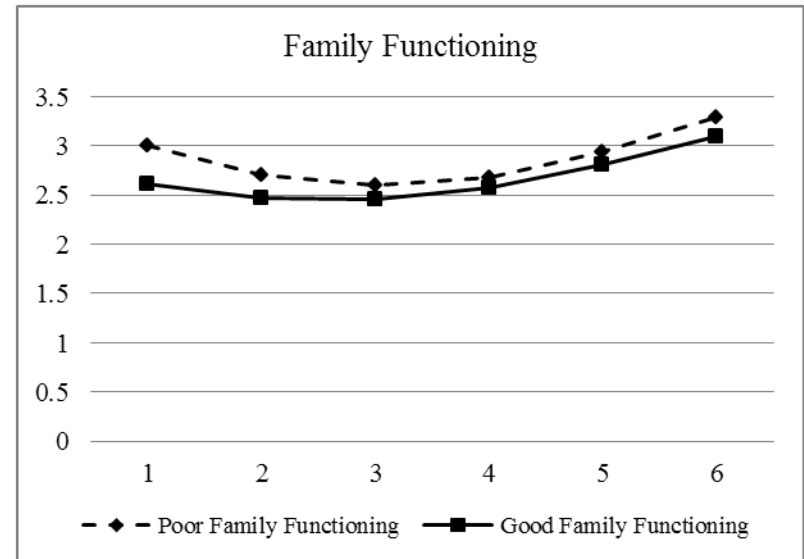


Fig.8



General Discussion

- ❑ Consistent with some previous literature, adolescents' life satisfaction exhibits a decreasing trend[8-10], while their hopelessness level is increasing[10,13]
- ❑ Adolescents' **decreased life satisfaction** and **increased hopelessness** could be explained by the **confusions and developmental challenges** they face **during transitional process**, notably the increase of studying pressure/future career decisions and problems engendered by peers or dating. [6,8,10,62]
- ❑ This study has developed an **integrated perspective** for measuring different levels of factors that associated with adolescent life satisfaction and hopelessness

- Some factors affect initial status (Grade 7), some affect the initial status and the change, even some affect the initial status, the change and the rate of change (Table 11)

Table 11 Significance of Factors

Factors	Life Satisfaction			Hopelessness		
	Initial Status	Linear Change	Quadratic Change	Initial Status	Linear Change	Quadratic Change
Family Functioning	√	x	x	√	√	√
Resilience	√	x	x	√	x	x
Psychosocial Competence	√	x	x	√	x	x
Father-child Relational Qualities	√	x	x	√	x	x
Gender	√	√	x	√	x	x
Family Intactness	x	x	x	√	x	x
Mother-child Relational Qualities	√	√	x	√	x	x
Positive Identity	√	√	√	x	x	x
Spirituality	√	√	√	√	√	√

Note: “√”=significant; “X”=insignificant.

- ❑ **Males** had **faster decreasing life satisfaction** than females, self-understanding (decline of over-optimistic image) and school life (females adapt better at project-based learning) would contribute to the change of life satisfaction
- ❑ **Positive identity** and **spirituality** could be **protective factors** for the development of **life satisfaction**, while **spirituality** and **family functioning** could be treated as **protective factors** for the development of **hopelessness**.

- ❑ Contrary to previous literature, this study found that **good-mother child relationship** showed a **faster decrease of life satisfaction** in linear change. This might be because **maternal over-control** or **over-protection** constrains adolescents' decision-making autonomy and limit their exposure to responsibilities and opportunities, which lead to their **increased risk of maladjustment** for late adolescence[63-65]. The impact may be more pronounced in Chinese families (helicopter parents)

Reference

- [1] Gilman, R., Huebner, E. S., & Laughlin, J. E. (2000). A first study of the multidimensional students' life satisfaction scale with adolescents. *Social Indicators Research*, 52(2), 135-160.
- [2] Goldbeck, L., Schmitz, T. G., Besier, T., Herschbach, P., & Henrich, G. (2007). Life satisfaction decreases during adolescence. *Quality of Life Research*, 16(6), 969-979.
- [3] Suldo, S. M., & Huebner, E. S. (2004). Does life satisfaction moderate the effects of stressful life events on psychopathological behavior during adolescence? *School Psychology Quarterly*, 19(2), 93-105.
- [4] Pavot, W. G., Diener, E., Colvin, C. R., & Sandvik, E. (1991). Further validation of the satisfaction with life scale: Evidence for the cross-method convergence of well-being measures. *Journal of Personality Assessment*, 57, 149-161.
- [5] Hankin, B. L., Abramson, L. Y., & Siler, M. (2001). A prospective test of the hopelessness theory of depression in adolescence. *Cognitive Therapy and Research*, 25(5), 607-632.
- [6] Duke, N. N., Borowsky, I. W., Pettingell, S. L., & McMorris, B. J. (2011). Examining youth hopelessness as an independent risk correlate for adolescent delinquency and violence. *Maternal and Child Health Journal*, 15(1), 87-97.
- [7] McCullough, G., Huebner, E. S., & Laughlin, J. E. (2000). Life events, self-concept, and adolescents' positive subjective well-being. *Psychology in the Schools*, 37(3), 281-290.
- [8] Goldbeck, L., Schmitz, T. G., Besier, T., Herschbach, P., & Henrich, G. (2007). Life satisfaction decreases during adolescence. *Quality of Life Research*, 16(6), 969-979.
- [9] Michel, G., Bisegger, C., Fuhr, D. C., & Abel, T. (2009). Age and gender differences in health-related quality of life of children and adolescents in Europe: A multilevel analysis. *Quality of Life Research*, 18(9), 1147-1157.
- [10] Shek, D. T., & Li, X. (2015). Perceived school performance, life satisfaction, and hopelessness: A 4-year longitudinal study of adolescents in Hong Kong. *Social Indicators Research*, 1-14.
- [11] Ash, C., & Huebner, E. S. (2001). Environmental events and life satisfaction reports of adolescents: A test of cognitive mediation. *School Psychology International*, 22(3), 320-336.
- [12] Casas, F., Figuer, C., Gonzá'lez, M., Malo, S., Alsinet, C., & Subarroca, S. (2007). The well-being of 12-to 16-year-old adolescents and their parents: Results from 1999 to 2003 Spanish samples. *Social Indicators Research*, 83, 87-115.
- [13] McKnight, C. G., Huebner, E. S., & Suldo, S. (2002). Relationships among stressful life events, temperament, problem behavior, and global life satisfaction in adolescents. *Psychology in the Schools*, 39 (6), 677-687
- [14] Lester, D. (2015). Hopelessness in adolescents. *Journal of Affective Disorders*, 173, 221-225.
- [15] Kwok, L., Sylvia, Y. C., & Shek, D. T. (2010). Hopelessness, Parent-adolescent communication, and suicidal ideation among Chinese adolescents in Hong Kong. *Suicide and Life-threatening Behavior*, 40(3), 224-233.
- [16] Al-Attiyah, A., & Nasser, R. (2013). Gender and age differences in life satisfaction within a sex-segregated society: Sampling youth in Qatar. *International Journal of Adolescence and Youth*, (ahead-of-print), 1-12.
- [17] Okun, M. A., Braver, M. W., & Weir, R. M. (1990). Grade level differences in school satisfaction. *Social Indicators Research*, 22, 419-427.

- [18] Khan, M., Shirazi, M., & Ahmed, M. (2011). Spirituality and life satisfaction among Adolescents in India. *Journal of Subcontinent Researches*, 3(7), 71-84.
- [19] Huebner, E. S., Drane, W., & Valois, R. F. (2000). Levels and demographic correlates of adolescent life satisfaction reports. *School Psychology International*, 21(3), 281-292.
- [20] Huebner, E. S. (1994). Preliminary development and validation of a multidimensional life satisfaction scale for children. *Psychological Assessment*, 6(2), 149.
- [21] Antaramian, S. P., Huebner, E. S., & Valois, R. F. (2008). Adolescent life satisfaction. *Applied Psychology*, 57(s1), 112-126.
- [22] Grossman, M., & Rowat, K. M. (1995). Parental relationships, coping strategies, received support, and well-being in adolescents of separated or divorced and married parents. *Research in Nursing & Health*, 18(3), 249-261.
- [23] Shek, D. T., & Leung, H. (2013). Positive youth development, life satisfaction, and problem behaviors of adolescents in intact and non-intact families in Hong Kong. *Frontiers in Pediatrics*, 1.
- [24] Bradley, R. H., & Corwyn, R. F. (2004). Life satisfaction among European American, African American, Chinese American, Mexican American, and Dominican American adolescents. *International Journal of Behavioral Development*, 28(5), 385-400.
- [25] Hagerty, M. R. (2000). Social comparisons of income in one's community: Evidence from four national surveys of income and happiness. *Journal of Personality and Social Psychology*, 78, 764-771.
- [26] Raboteg-Šarić, Z., Brajša-Žganec, A., & Šakić, M. (2009). Life satisfaction in adolescents: The effects of perceived family economic status, self-esteem and quality of family and peer relationships. *Društvena Istraživanja*, 18(3), 547-564.
- [27] Dew, T., & Huebner, E. S. (1994). Adolescents' perceived quality of life: An exploratory investigation. *Journal of School Psychology*, 32, 185-199.
- [28] Grob, A., Little, T. D., Wanner, B., & Wearing, A. J. (1996). Adolescents' well-being and perceived control across 14 sociocultural contexts. *Journal of Personality and Social Psychology*, 71, 785-795.
- [29] Bradley, R. H., & Corwyn, R. F. (2004). Life satisfaction among European American, African American, Chinese American, Mexican American, and Dominican American adolescents. *International Journal of Behavioral Development*, 28(5), 385-400.
- [30] Lau, P. S. (2006). Spirituality as a positive youth development construct: conceptual bases and implications for curriculum development. *International Journal of Adolescent Medicine and Health*, 18(3), 363-370.
- [31] Sun, R. C., & Shek, D. T. (2010). Life satisfaction, positive youth development, and problem behavior among Chinese adolescents in Hong Kong. *Social Indicators Research*, 95(3), 455-474.
- [32] Sun, R. C., & Shek, D. T. (2013). Longitudinal influences of positive youth development and life satisfaction on problem behavior among adolescents in Hong Kong. *Social Indicators Research*, 114(3), 1171-1197.
- [33] Ciarrochi, J., Scott, G., Deane, F. P., & Heaven, P. C. L. (2003). Relations between social and emotional competence and mental health: A construct validation study. *Personality and Individual Differences*, 35, 1947-1963.
- [34] Laudet, A. B., & White, W. L. (2008). Recovery capital as prospective predictor of sustained recovery, life satisfaction, and stress among former poly-substance users. *Substance Use and Misuse*, 43, 27-54.

- [35] Zullig, K. J., Ward, R. M., & Horn, T. (2006). The association between perceived spirituality, religiosity, and life satisfaction: The mediating role of self-rated health. *Social Indicators Research, 79*, 255-274.
- [36] Kim, S., Miles-Mason, E., Kim, C. Y., & Esquivel, G. B. (2013). Religiosity/spirituality and life satisfaction in Korean American adolescents. *Psychology of Religion and Spirituality, 5*(1), 33.
- [37] Suldo, S. M., & Huebner, E. S. (2004). The role of life satisfaction in the relationship between authoritative parenting dimensions and adolescent problem behavior. In *Quality-of-life research on children and adolescents* (pp. 165-195). Springer Netherlands.
- [38] Shek, D.T. L. (1997). The relation of family functioning to adolescent psychological well-being, school adjustment, and problem behavior. *Journal of Genetic Psychology, 158*, 467-479.
- [39] Leung, J. P., & Leung, K. (1992). Life satisfaction, self-concept, and relationship with parents in adolescence. *Journal of Youth and Adolescence, 21*(6), 653-665.
- [40] Shek, D. T. L. (1997). The relation of parent-adolescent conflict to adolescent psychological well-being, school adjustment, and problem behavior. *Social Behavior and Personality 25*(3), 277-290.
- [41] David, H., Demo, D. H., & Acock, A. C. (1996). Family structure, family process, and adolescent well-being. *Journal of Research on Adolescence, 6*, 457-488.
- [42] Jiang, X., Huebner, E. S., & Hills, K. J. (2013). Parent attachment and early adolescent's life satisfaction: The mediating effect of hope. *Psychology in the Schools, 50*(4), 340-352.
- [43] Leung, J., & Zhang, L. (2000). Modelling life satisfaction of Chinese adolescents in Hong Kong. *International Journal of Behavioral Development, 24*, 99-104.
- [44] Young, M. H., Miller, B. C., Norton, M. C., & Hill, E. J. (1995). The effect of parental supportive behaviors on life satisfaction of adolescent offspring. *Journal of Marriage and Family, 57*, 813-822.
- [45] Siyahhan, S., Aricak, O. T., & Cayirdag-Acar, N. (2012). The relation between bullying, victimization, and adolescents' level of hopelessness. *Journal of Adolescence, 35*(4), 1053-1059.
- [46] Johnson, J., Gooding, P. A., Wood, A. M., Taylor, P. J., Pratt, D., & Tarrier, N. (2010). Resilience to suicidal ideation in psychosis: Positive self-appraisals buffer the impact of hopelessness. *Behavior Research and Therapy, 48*(9), 883-889.
- [47] Gooding, P. A., Hurst, A., Johnson, J., & Tarrier, N. (2012). Psychological resilience in young and older adults. *International Journal of Geriatric Psychiatry, 27*(3), 262-270.
- [48] Mo, P. K. H., Lau, J. T. F., Yu, X., & Gu, J. (2014). The role of social support on resilience, posttraumatic growth, hopelessness, and depression among children of HIV-infected parents in mainland China. *AIDS Care, 26*(12), 1526-1533.
- [49] Hjemdal, O., Friborg, O., & Stiles, T. C. (2012). Resilience is a good predictor of hopelessness even after accounting for stressful life events, mood and personality (NEO-PI-R). *Scandinavian Journal of Psychology, 53*(2), 174-180.
- [50] Ciarrochi, J., Scott, G., Deane, F. P., & Heaven, P. C. (2003). Relations between social and emotional competence and mental health: A construct validation study. *Personality and Individual Differences, 35*(8), 1947-1963.

- [51] Abdollahi, A., & Abu Talib, M. (2015). Spirituality moderates hopelessness, and suicidal ideation among Iranian depressed adolescents. *Death Studies*, (just-accepted).
- [52] Bruce, M. A., & Cockreham, D. (2004). Enhancing the spiritual development of adolescent girls. *Professional School Counseling*, 334-342.
- [53] Kwok, S. Y. C. L., & Shek, D. T. (2008). Hopelessness, family functioning and suicidal ideation among Chinese adolescents in Hong Kong. *The Open Family Studies Journal*, 1, 49-55.
- [54] Stoddard, S. A., Henly, S. J., Sieving, R. E., & Bolland, J. (2011). Social connections, trajectories of hopelessness, and serious violence in impoverished urban youth. *Journal of Youth and Adolescence*, 40(3), 278-295.
- [55] Shek, D. T. L., Siu, A. M. H., & Lee, T. Y. (2007). The Chinese positive youth development scale: A validation study. *Research on Social Work Practice*, 12(3), 380-391.
- [56] Shek, D. T. L. (2002). Assessment of family functioning Chinese adolescents: The Chinese family assessment instrument. In N. N. Singh, T. Ollen-dick, & A. N. Singh (Eds.), *International Perspectives on Child and Adolescent Mental Health* (pp. 297–316). Amsterdam: Elsevier.
- [57] Shek, D. T. (2005). Perceived parental control processes, parent-child relational qualities, and psychological well-being in Chinese adolescents with and without economic disadvantage. *The Journal of Genetic Psychology*, 166(2), 171-188.
- [58] Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71-75.
- [59] Shek, D. T. (2004). Chinese cultural beliefs about adversity its relationship to psychological well-being, school adjustment and problem behavior in Hong Kong adolescents with and without economic disadvantage. *Childhood*, 11(1), 63-80.
- [60] Beck, A. T., Weissman, A., Lester, D., & Trexler, L. (1974). The measurement of pessimism: The hopelessness scale. *Journal of Consulting and Clinical Psychology*, 42(6), 861.
- [61] Shek, D. T. (1993). Measurement of pessimism in Chinese adolescents: The Chinese hopelessness scale. *Social Behavior and Personality: An International Journal*, 21(2), 107-119.
- [62] Erol, S., & Ergun, A. (2013). Hopelessness and social comparison in Turkish adolescent with visual impairment. *Journal of Psychiatric and Mental Health Nursing*, 20(3), 222-227.
- [63] Smetana, J. G., Metzger, A., & Campione-Barr, N. (2004). African American late adolescents' relationships with parents: Developmental transitions and longitudinal patterns. *Child Development*, 932-947.
- [64] Smetana, J. G., Campione-Barr, N., & Metzger, A. (2006). Adolescent development in interpersonal and societal contexts. *The Annual Review of Psychology*, 57, 255-284.
- [65] Ungar, M. (2009). Overprotective parenting: Helping parents provide children the right amount of risk and responsibility. *The American Journal of Family Therapy*, 37(3), 258-271.