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Parenting factors and meaning of life among Chinese adolescents: A six-wave longitudinal study

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Introduction: Using six-wave data, the present study examined the influence of parent-child subsystem relational qualities (indexed by parental behavioral control, psychological control, and parent-child relationship) on the initial status and growth trajectory of meaning of life (MOL) in Chinese adolescents.

Methods: A total of 2023 high school students in Hong Kong (M age = 12.53 ± 0.66 years, 48.0% male students) responded to a questionnaire measuring their perceived parent-child subsystem relational qualities and meaning of life for six consecutive years from 2009/2010. Individual growth curve (IGC) analyses and multiple regression analyses were used.

Results: Results of IGC analyses showed that parental behavioral control and parent-child relationship quality at Wave 1 positively predicted the initial level of adolescent MOL but negatively influenced the growth trajectory of MOL. Parental psychological control at the initial level negatively predicted the initial status of MOL but not the developmental trajectory of adolescent MOL. However, compared with adolescents experiencing poorer parent-child relational subsystem qualities, adolescents with better parent-child relational subsystem qualities showed significantly higher MOL at each time point. Multiple regression analyses also showed that while parent-child relationship quality and paternal behavioral control concurrently and longitudinally exhibited positive predictions on adolescent MOL, the impact of parental psychological control on adolescent MOL showed different patterns in early and late adolescence.

Conclusions: The pioneering findings underline the important role of different parent-child subsystem relational qualities in influencing adolescent MOL.

1. Introduction

Spirituality is concerned with answers to "ultimate questions about life, about meaning, and about the relationship to the sacred or transcendent" (Koenig et al., 2001, p. 18). With specific reference to adolescents, spiritual development, particularly meaning of life (MOL), is an important dimension of adolescent development (Fry, 1988; Kim & Esquivel, 2011; Lerner et al., 2006). Theoretically, MOL is strongly emphasized in positive youth development (PYD) models (Shek, Dou, et al., 2019). For example, a "sense of purpose" is conceived as an internal development asset (Benson et al., 2011), and "spirituality" is regarded as a key attribute in successful PYD programs (Catalano et al., 2004). Empirically, while adolescent MOL positively predicted positive well-being such as life satisfaction, self-esteem, and prosocial behavior (Kim & Esquivel, 2011; Lin & Shek, 2019; Marques et al., 2013; Yonker et al., 2012), it negatively predicted adolescent risk behavior such as substance abuse, depression, and suicidality (Cotton et al., 2006; Pan et al., 2008; Pokhrel,

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2012; Tan et al., 2018; Zhang et al., 2015).

Compared with the number of studies on the consequences of MOL, studies on the antecedents of adolescent MOL are rare. For example, Boyatzis et al. (2006) asserted that "the family is probably the most potent influence - for better or for worse - on children's spiritual and religious development, but we still have much to learn about this context" (p. 305). King and Boyatzis (2015) similarly remarked that "while parent-child communication has long been a topic of mainstream family research, developmental scientists have given scant attention to parent-child communication about religion and spirituality" (p. 975). Family antecedents of adolescent MOL as a PYD attribute were also under-researched in the literature (Qi et al., 2020).

Conceptually, Shek and Law (2014) proposed that parental behavioral control, psychological control, and parent-child relationship quality are three basic dimensions of parent-child subsystem relational quality. Parental behavioral control includes parental regulation, monitoring, expectation, or structure of the child's behaviors (Bean et al., 2006; Soenens & Beyers, 2012). Behavioral control was regarded as beneficial to adolescent development because parental regulation and structure help adolescents understand social rules, develop socially desirable behaviors, and reduce socially undesirable behaviors (Barber et al., 1994). There are findings showing that adolescent MOL is related to parental monitoring (Malinakova et al., 2019; Zomuanawmi, 2016) and authoritative parenting (Brassai et al., 2013; Roman et al., 2015). Spera (2005) also commented that academic goals of children could be shaped by parental aspirations and goals through emotional security and explanations, which facilitate the transmission of values and bidirectional communication.

Parental psychological control pertains to parents' intrusion, control, or even manipulation of the psychological world of the child, which includes behaviors of invalidating feelings, restricting expression, shaming, showing contingent love, and guild induction (Barber et al., 2005). As psychological control violates adolescents' independence and autonomy (Nanda et al., 2012), adolescents form their behaviors based on outside forces but not their own values and interests (Soenens & Vansteenkiste, 2010), which would consequently hinder their search for meaning in life. Scholars also argued that psychological control creates emotional instability, emotional insecurity, and attachment problems in adolescents, which constitutes hurdles for adolescents to form meaningful life goals (e.g., Cui et al., 2014; Romm et al., 2020). However, findings on the influence of parental psychological control on adolescent MOL are limited and inconclusive (e.g., Dean, 1989; Knotrimiene, 2018).

Parent-child relationship quality is the evaluation of parent or child of the quality of their relationship (Visser et al., 2012), including emotional bonds, connection, and attachment involved (Pinquart, 2014). Although research showed that better parent-child relationships promoted adolescents' positive development (Branje et al., 2010; Bulanda & Majumdar, 2009; Ryan et al., 2010), few studies have investigated the linkage between parent-child relationship and adolescent spirituality (Brassai et al., 2013; Desrosiers et al., 2011; Good & Willoughby, 2014). Theoretically, as warmth, support, and respect from parents are intrinsic to a good parent-child relationship (Visser et al., 2012), this would form a trusting and secure basis for adolescents to search for life meaning through the transmission of parental values (Fry, 1998).

There are some research gaps in this area. First, studies on the impact of family factors on adolescent MOL are sparse. Second, most of the available studies are cross-sectional in nature, calling for more longitudinal studies. Third, few Chinese studies have investigated family factors and adolescent MOL development (Shek, 2012). As some studies suggest that the negative influence of parental psychological control could be weak or even nonexistent in some collectivistic cultures such as the Chinese culture (Chao & Aque, 2009; Cheung & Pomerantz, 2011), research in the Chinese contexts is important. Fourth, few studies considered all the three aspects of parent-child relational qualities in one single study. Finally, existing studies examining the relative contribution of the father and mother to adolescent outcomes revealed inconclusive findings (Shek, Zhu, et al., 2019, 2020; Shek & Zhu, 2019). As father and mother assumed different parenting roles in the family, their parenting effects might be different (Stolz et al., 2005). Actually, Chinese fathers and mothers showed different parenting attributes (Dou et al., 2020; Shek, 2005a; Shek & Dou, 2020), which demonstrated different impacts on adolescent development. There are studies showing that compared with Chinese mothers, Chinese fathers exerted stronger effects on adolescent well-being (Shek, 1998a, 1998b, 2005a).

In this study, we used longitudinal data to understand the predictive roles of parental behavioral control, psychological control, and parent-child relationship quality in MOL development among Hong Kong adolescents. Based on the literature, we investigated five research questions and proposed six hypotheses.

Research Question 1: "Does parental behavioral control influence the initial level and change trajectory of adolescent MOL?"

As the literature suggests a positive impact of parental behavioral control on adolescent development (e.g., Barber et al., 1994), two hypotheses were formed:

H1a: Parental behavioral control would positively predict the initial level of adolescent MOL.

H1b: Parental behavioral control would positively predict the change trajectory of adolescent MOL.

Research Question 2: "Does parental psychological control influence the initial level and change trajectory of adolescent MOL?"

As parental psychological control is negatively associated with adolescent development (e.g., Soenens & Vansteenkiste, 2010), the following two hypotheses were formed:

H2a: Parental psychological control would negatively predict the initial level of adolescent MOL.

H2b: Parental psychological control would negatively predict the change trajectory of adolescent MOL.

Research Question 3: "Does parent-child relationship predict the initial level and change trajectory of adolescent MOL?"

As the literature suggests the beneficial role of parent-child relationship in adolescent development (e.g., Good & Willoughby, 2014), the following two hypotheses were formed:

H3a: Parent-child relationship would positively predict the initial level of adolescent MOL.

H3b: Parent-child relationship would positively predict the change trajectory of adolescent MOL.

Research Question 4: "What is the relative contribution of different parenting factors to adolescent MOL?"

Table 1
Demographic characteristics of the participants across six waves.

	W1	W2	W3	W4	W5	W6	Matched
No. of participants	3328	2905	2860	2684	2474	2385	2023
Gender							
Male	1719 (52.2%)	1445 (50.3%)	1424 (50.3%)	1323 (49.9%)	1187 (48.5%)	1144 (48.6%)	959 (48.0%)
Female	1572 (47.2%)	1429 (49.7%)	1406 (49.7%)	1330 (50.1%)	1258 (51.5%)	1211 (50.8%)	1040 (52.0%)
Family Economic Status							
Not receiving CSSA[a]	2606 (92.1%)	2309 (92.4%)	2290 (92.6%)	2144 (92.3%)	1985 (92.6%)	1913 (92.4%)	1636 (92.7%)
Receiving CSSA[a]	225 (7.9%)	191 (7.6%)	184 (7.4%)	178 (7.7%)	159 (7.4%)	157 (7.6%)	129 (7.3%)
Family Intactness							
Intact	2781 (84.4%)	2446 (85.0%)	2418 (85.3%)	2283 (85.8%)	2097 (85.5%)	2029 (85.8%)	1720 (85.8%)
Non-intact	515 (15.6%)	432 (15.0%)	418 (14.7%)	379 (14.2%)	355 (14.5%)	335 (14.2%)	285 (14.2%)
M_{Age} (SD)	12.59 (0.74)	12.57 (0.72)	12.56 (0.72)	12.56 (0.70)	12.54 (0.68)	12.54 (0.68)	12.53 (0.66)

Note.
[a] CSSA: Comprehensive Social Security Assistance Scheme.

As few studies investigated the three parenting factors together, no specific hypothesis was proposed.

Research Question 5: "What is the relative contribution of paternal and maternal parenting factors to adolescent MOL?"

Due to the inconclusive findings in the literature, no specific hypothesis was proposed.

2. Methods

2.1. Participants and procedure

The present study was based on a six-wave longitudinal study conducted with high school students in Hong Kong from 2009/2010 to 2015/16 school years (Shek & Ma, 2014). Students completed a questionnaire measuring their psychosocial development, problem behavior, and family factors each year. In all six waves, 2023 students completed the questionnaire. Table 1 shows their demographic characteristics.

2.2. Measures

2.2.1. Meaning of life (MOL)

The Spirituality subscale of the "Chinese Positive Youth Development Scale" (CPYDS; Shek et al., 2007) was used to assess adolescent MOL. Three items of the subscale were used to measure adolescents' perceptions of whether their life was colorful, meaningful, or purposeful on a 7-point scale. The scale demonstrated good psychometric properties (Shek & Zhu, 2018). In the present study, the scale showed excellent reliability with the values of Cronbach's alpha ranging from 0.88 to 0.93 across the six waves (see Table 2).

2.2.2. Parent-child subsystem quality scale (PCSQS)

The PCSQS is a 34-item scale assessing three aspects of parent-child subsystem quality: parental behavioral control (7 items for father/mother), parental psychological control (4 items for father/mother), and parent-child relationship quality (6 items for father/mother) (Shek & Law, 2015). All items are rated on a 4-point Likert scale ("1 = Strongly Disagree" and "4 = Strongly Agree"). Previous studies supported the psychometric properties of this measure (Shek et al., 2018; Shek & Law, 2015). All PCSQS subscales showed good reliability in the present study with Cronbach's alphas ranging from 0.79 to 0.93 (see Table 2).

2.3. Data analyses

The individual growth curve (IGC) approach (Curran et al., 2010; Shek & Ma, 2011) was adopted to examine how and to what extent the three aspects of parent-child subsystem quality (i.e., paternal and maternal behavioral control [PBC and MBC], paternal and maternal psychological control [PPC and MPC], and father- and mother-child relationship quality [FCRQ and MCRQ]) could predict the initial status and change trajectory of adolescent MOL. For the patterns of change, researchers routinely examine different change patterns, including linear trend (e.g., a general increase in the criterion measure over time), quadratic trend (e.g., a decrease followed by an increase in the criterion measure over time), and cubic trend (e.g., an initial increase, a subsequent decrease, and an eventual increase in the criterion measure).

In this study, we tested several models, including an unconditional mean model (Model 1), an unconditional linear growth model (Model 2), a quadratic growth curve model (Model 3), a cubic growth curve model (Model 4), a model to test effects of control variables (Model 5), and three models to test the effects of different paternal and maternal parenting factors (Model 6a, 6b, and 6c) on the initial status and the change trajectory of adolescent MOL. To examine the specific effects of fathers or mothers, we tested two IGC models involving either father-child or mother-child factors (Model 7a and Model 7b). Finally, we tested a model including all parent-child relational quality factors (Model 8). Besides, to understand whether parent-child relational qualities were associated with MOL at

Table 2
Reliability of scales and descriptive analyses of variables across six waves.

Scale	No. of Item	Wave	Cronbach's α	Mean inter-item correlation	Range	Mean	SD
MOL (3-item Spirituality Subscale of CPYDS)	3	W1	0.88	0.71	1–7	5.23	1.26
		W2	0.90	0.74	1–7	5.05	1.25
		W3	0.90	0.76	1–7	5.05	1.25
		W4	0.91	0.78	1–7	4.99	1.21
		W5	0.91	0.77	1–7	4.93	1.23
		W6	0.93	0.81	1–7	4.94	1.24
Parent-Child Subsystem Quality Scale	34						
PBC	7	W1	0.89	0.53	1–4	2.56	0.66
		W2	0.89	0.52	1–4	2.54	0.63
		W3	0.88	0.51	1–4	2.51	0.61
		W4	0.88	0.51	1–4	2.50	0.59
		W5	0.88	0.51	1–4	2.47	0.58
		W6	0.89	0.53	1–4	2.45	0.59
PPC	4	W1	0.79	0.48	1–4	2.24	0.70
		W2	0.83	0.54	1–4	2.25	0.71
		W3	0.85	0.59	1–4	2.19	0.72
		W4	0.86	0.61	1–4	2.18	0.71
		W5	0.85	0.60	1–4	2.16	0.67
		W6	0.88	0.65	1–4	2.17	0.71
FCRQ	6	W1	0.89	0.58	1–4	2.81	0.69
		W2	0.90	0.61	1–4	2.78	0.67
		W3	0.90	0.60	1–4	2.76	0.65
		W4	0.90	0.61	1–4	2.75	0.63
		W5	0.90	0.61	1–4	2.73	0.63
		W6	0.90	0.62	1–4	2.72	0.62
MBC	7	W1	0.89	0.54	1–4	3.04	0.61
		W2	0.88	0.52	1–4	2.97	0.58
		W3	0.89	0.52	1–4	2.92	0.57
		W4	0.87	0.50	1–4	2.91	0.55
		W5	0.89	0.51	1–4	2.87	0.55
		W6	0.89	0.49	1–4	2.85	0.53
MPC	4	W1	0.85	0.58	1–4	2.28	0.76
		W2	0.87	0.63	1–4	2.28	0.74
		W3	0.89	0.66	1–4	2.23	0.74
		W4	0.90	0.68	1–4	2.21	0.73
		W5	0.90	0.68	1–4	2.20	0.71
		W6	0.91	0.71	1–4	2.20	0.72
MCRQ	6	W1	0.90	0.61	1–4	3.07	0.65
		W2	0.90	0.62	1–4	2.98	0.64
		W3	0.90	0.60	1–4	2.97	0.60
		W4	0.89	0.59	1–4	2.96	0.57
		W5	0.90	0.60	1–4	2.94	0.57
		W6	0.89	0.59	1–4	2.94	0.55

Note. MOL: Meaning of life; CPYDS: Chinese Positive Youth Development Scale; PBC: Paternal Behavioral Control; PPC: Paternal Psychological Control; FCRQ: Father-Child Relationship Quality; MBC: Maternal Behavioral Control; MPC: Maternal Psychological Control; MCRQ: Mother-Child Relationship Quality.

other time points, we further performed *t*-tests to look at the differences in MOL between groups with "high" versus "low" levels of parent-child relational qualities for each measure at each time point. IBM SPSS Statistics 25 was used to establish different growth curve models through mixed model analyses. As all the variables involved in the analyses had small proportions of missing data (ranging from 0.20% to 2.37%), except for CSSA (12.75% missing data), the missing values were not imputed explicitly. The mixed model analyses were applied to handle the missing values implicitly using a specified covariance structure.

To examine the relative contribution of paternal and/or maternal parenting factors in predicting adolescent MOL, several hierarchical models were perform to look at the concurrent effects of parenting factors on MOL at each wave and the longitudinal effects of parenting factors at Wave 1 on MOL at the subsequent waves.

3. Results

3.1. Correlations among research variables

As predicted, paternal and maternal behavioral control and father- and mother-child relational quality were positively correlated with adolescent MOL, whereas paternal and maternal psychological control were negatively correlated with adolescent MOL across the six waves (see Table 3).

Table 3
Correlations among variables.

	Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.	Gender[a]	–													
2.	FES[b]	0.06*	–												
3.	FI[c]	0.01	0.35***	–											
4.	PBC (W1)	0.04	0.10***	0.16***	–										
5.	PPC (W1)	0.14***	0.02	0.01	0.14***	–									
6.	FCRQ (W1)	0.01	0.13***	0.19***	0.69***	−0.11***	–								
7.	MBC (W1)	−0.04	0.04	0.10***	0.42***	0.05*	0.35***	–							
8.	MPC (W1)	0.08***	−0.02	−0.05*	−0.003	0.51***	−0.09***	0.08***	–						
9.	MCRQ (W1)	−0.04	0.05*	0.12***	0.37***	−0.03	0.46***	0.67***	−0.16***	–					
10.	MOL (W1)	−0.04	0.04	0.08***	0.34***	−0.13***	0.39***	0.34***	−0.11***	0.40***	–				
11.	MOL (W2)	−0.02	0.09***	0.08***	0.28***	−0.10***	0.32***	0.24***	−0.09***	0.31***	0.58***	–			
12.	MOL (W3)	−0.07**	0.06*	0.07**	0.20***	−0.11***	0.26***	0.20***	−0.11***	0.27***	0.49***	0.63***	–		
13.	MOL (W4)	−0.04	0.05*	0.05*	0.22***	−0.10***	0.24***	0.21***	−0.07**	0.23***	0.43***	0.56***	0.64***	–	
14.	MOL (W5)	−0.03	0.07**	0.05*	0.21***	−0.07**	0.24***	0.16***	−0.06**	0.22***	0.42***	0.52***	0.57***	0.67***	–
15.	MOL (W6)	−0.03	0.08**	0.07**	0.20***	−0.06**	0.23***	0.17***	−0.07**	0.22***	0.40***	0.50***	0.55***	0.60***	0.70***

Note. FES: Family Economic Status; FI: Family Intactness; PBC: Paternal Behavioral Control; PPC: Paternal Psychological Control; FCRQ: Father-Child Relationship Quality; MBC: Maternal Behavioral Control; MPC: Maternal Psychological Control; MCRQ: Mother-Child Relationship Quality; MOL: Meaning of Life. *$p < 0.05$. **$p < 0.01$. ***$p < 0.001$.

[a] Female = −1, Male = 1.

[b] Having economic disadvantage = −1, Not having economic disadvantage = 1.

[c] Living in non-intact family = −1, Living in intact family = 1.

Table 4
Results of IGC models examining the developmental trajectory of Adolescent MOL.

		Model 1		Model 2		Model 3		Model 4	
		Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
FIXED EFFECTS									
Intercept	Intercept	5.028***	0.2177	5.163***	0.0257	5.199***	0.0275	5.209***	0.0280
Linear Slope	Time			−0.054***	0.0060	−0.111***	0.0182	−0.156***	0.0363
Quadratic Slope	$Time^2$					0.012**	0.0034	0.037*	0.0178
Cubic Slope	$Time^3$							−0.004	0.0024
RANDOM EFFECTS									
Level 1 (within)	Residual	0.708***	0.0100	0.577***	0.0091	0.520***	0.0095	0.491***	0.0110
Level 2 (between)									
Linear Slope	Intercept Variance	0.839***	0.0302	1.018***	0.0422	1.085***	0.0489	1.094***	0.0509
	Time Variance			0.037***	0.0023	0.247***	0.0225	0.694***	0.0945
Quadratic Slope	Intercept Variance					0.017***	0.0046	0.022	0.0237
	Time Variance					0.007***	0.0008	0.119***	0.0233
Cubic Slope	Intercept Variance							0.000	0.0031
	Time Variance							0.002***	0.0004
FIT STATISTICS									
	−2 Log Likelihood	34181.83		33567.27		33411.13		33351.70	
	AIC	34187.83		33579.27		33431.13		33381.70	
	BIC	34210.01		33623.64		33505.08		33492.62	
	df	3		6		10		15	

Note. ICC = 0.839/(0.839 + 0.708) = 0.542, suggesting that about 54.2% of the total variation in MOL was due to inter-individual differences.
*$p < 0.05$. **$p < 0.01$. ***$p < 0.001$.

3.2. IGC analyses

Model 1 showed an intra-class correlation coefficient (ICC) of 0.542, suggesting the need to perform hierarchical linear modeling. Model 2 (unconditional linear growth model) demonstrated better model fit than that of Model 1 [$\Delta\chi^2$ (3) = 614.56; $p < 0.001$; ΔAIC = 608.56; ΔBIC = 586.37]. The linear growth rate of MOL was significantly negative ($\beta = -0.054$, $p < 0.001$), suggesting that adolescent MOL decreased during the six waves (see Table 4).

To further examine whether and to what extent the change of MOL follows a linear or nonlinear trend, we tested two higher-order polynomial models including a quadratic growth curve model (Model 3) and a cubic growth curve model (Model 4). For Model 3, all fixed-effects parameters were significant (*ps* < .01), indicating significant between-subject differences in the initial level, linear change slope, and quadratic change slope of MOL. The linear effect was significantly negative ($\beta = -0.111$, $p < 0.001$), indicating that MOL decreased over time. The quadratic effect was significantly positive ($\beta = 0.012$, $p < 0.01$), indicating that the decrease rate of MOL slowed down over time (i.e., a U-shaped trajectory). Comparing with Model 2, Model 3 demonstrated improved model fit [$\Delta\chi^2$ (4) = 156.14; $p < 0.001$; ΔAIC = 148.14; ΔBIC = 118.56]. As the parameter for cubic change slope was not significant ($p > 0.05$) in Model 4, Model 3 (quadratic growth curve model) was adopted for further analyses (see Table 4).

Model 5 showed the predictive effects of demographic factors at Wave 1 on the initial level and the change trajectory of MOL (see Table 5). Family intactness positively predicted MOL at Wave 1, while gender and family economic status had no predictive effects on the initial MOL. None of these demographic factors showed a significant effect on the linear slope and quadratic slope of change of MOL. As such, we only controlled the effects of demographic factors for the initial level but not the change trajectory of MOL in the following analyses involving different parenting factors.

3.3. Predicting effects of PBC and MBC on the initial level and change trajectory of adolescent MOL

In Model 6a, both PBC and MBC at Wave 1 significantly and positively predicted the initial level of MOL (PBC: $\beta = 0.291$, $p < 0.001$; MBC: $\beta = 0.291$, $p < 0.001$). This indicates that adolescents with higher PBC and MBC showed higher MOL. However, PBC and MBC at Wave 1 significantly and negatively predicted the linear change slope of MOL (PBC: $\beta = -0.053$, $p < 0.05$; MBC: $\beta = -0.086$, $p < 0.001$), suggesting that adolescents with higher initial levels of PBC and MBC would have faster decrease in MOL over time than did those with lower initial PBC and MBC. Nevertheless, PBC and MBC at Wave 1 positively predicted the quadratic change slope of MOL (PBC: $\beta = 0.008$, $p = 0.05$; MBC: $\beta = 0.010$, $p < 0.05$), indicating that the MOL drop rate for participants with higher PBC and MBC tended to decelerate faster than that for participants with lower PBC and MBC (see Table 5, Figs. 1 and 2). Furthermore, *t*-test analyses showed that MOL scores of the high PBC and MBC groups were significantly higher than those of the low PBC and MBC groups at each wave ($t = 6.83$–13.62; *ps* < 0.001).

Table 5
Predictive Effects of Demographic factors and Parent-Child Subsystem Qualities (by Aspect) on Developmental Trajectory of Adolescent MOL.

		Model 5		Model 6a		Model 6b		Model 6c	
		Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
FIXED EFFECTS									
Intercept	Intercept	5.061***	0.0607	5.127***	0.0491	5.046***	0.0526	5.163***	0.0476
	Gender	−0.051	0.0300	−0.049*	0.0220	−0.038	0.0236	−0.042	0.0213
	FES	0.091	0.0623	0.063	0.0465	0.108	0.0496	0.043	0.0450
	FI	0.098*	0.0471	0.027	0.0359	0.090*	0.0380	0.003	0.0348
	PBC			0.291***	0.0309				
	MBC			0.291***	0.0308				
	PPC					−0.123***	0.0346		
	MPC					−0.091**	0.0344		
	FCRQ							0.335***	0.0303
	MCRQ							0.347***	0.0300
Linear Slope	Time	−0.102**	0.0393	−0.107***	0.0193	−0.106***	0.0195	−0.106***	0.0193
	Gender	−0.015	0.0194						
	FES	0.012	0.0404						
	FI	−0.025	0.0306						
	PBC			−0.053*	0.0214				
	MBC			−0.086***	0.0215				
	PPC					−0.009	0.0225		
	MPC					0.038	0.0225		
	FCRQ							−0.063**	0.0217
	MCRQ							−0.091***	0.0217
Quadratic Slope	$Time^2$	0.008	0.0074	0.010**	0.0037	0.010**	0.0037	0.010**	0.0037
	Gender	0.003	0.0037						
	FES	−0.001	0.0076						
	FI	0.005	0.0058						
	PBC			0.008	0.0041				
	MBC			0.010*	0.0041				
	PPC					0.005	0.0042		
	MPC					0.006	0.0042		
	FCRQ							0.008*	0.0041
	MCRQ							0.011**	0.0041
RANDOM EFFECTS									
Level 1 (within)	Residual	0.512***	0.0101	0.508***	0.0101	0.505***	0.0101	0.508***	0.0102
Level 2 (between)									
Linear Slope	Intercept Variance	1.096***	0.0530	0.867***	0.0455	1.072***	0.0526	0.7716***	0.0423
	Time Variance	0.231***	0.0236	0.223***	0.0233	0.234***	0.0237	0.2198***	0.0233
Quadratic Slope	Intercept Variance	0.015***	0.0049	0.009*	0.0045	0.016***	0.0049	0.007	0.0044
	Time Variance	0.007***	0.0008	0.007***	0.0008	0.007***	0.0008	0.007***	0.0008
FIT STATISTICS									
	−2 Log Likelihood	28492.13		27771.16		27746.73		27515.96	
	AIC	28530.13		27809.16		27784.73		27553.96	
	BIC	28667.68		27946.46		27921.86		27691.17	
	df	19		19		19		19	

Note. FES: Family Economic Status; FI: Family Intactness; PBC: Paternal Behavioral Control; MBC: Maternal Behavioral Control; PPC: Paternal Psychological Control; MPC: Maternal Psychological Control; FCRQ: Father-Child Relationship Quality; MCRQ: Mother-Child Relationship Quality. *$p < 0.05$. **$p < 0.01$. ***$p < 0.001$.

3.4. Predicting effects of PPC and MPC on the initial level and change trajectory of adolescent MOL

In Model 6b, both PPC and MPC at Wave 1 significantly and negatively predicted MOL at the initial level (PPC: $\beta = -0.123$, $p < 0.001$; MPC: $\beta = -0.091$, $p < 0.01$), indicating adolescents with higher PPC and MPC would have lower MOL. However, there were no significant predictive effects of PPC and MPC at Wave 1 on the linear change slope and quadratic change slope of MOL, indicating that adolescents with different levels of PPC/MPC would not differ in the rate of change in MOL over time (see Table 5, Figs. 3 and 4). Nevertheless, groups with low PPC and MPC still showed significantly higher MOL scores than did the high PPC and MPC groups at each wave ($t = -2.06$ to -5.49, $p < 0.05$ to $p < 0.001$), respectively.

3.5. Predicting effects of FCRQ and MCRQ on the initial level and change trajectory of adolescent MOL

In Model 6c, both FCRQ and MCRQ at Wave 1 significantly and positively predicted MOL at the initial level (FCRQ: $\beta = 0.335$; MCRQ: $\beta = 0.347$, $ps < 0.001$), indicating adolescents with higher FCRQ and MCRQ would have higher MOL. Besides, FCRQ and MCRQ at Wave 1 significantly and negatively predicted the linear change slope of MOL (FCRQ: $\beta = -0.063$, $p < 0.01$; MCRQ: $\beta = -0.091$, $p <$

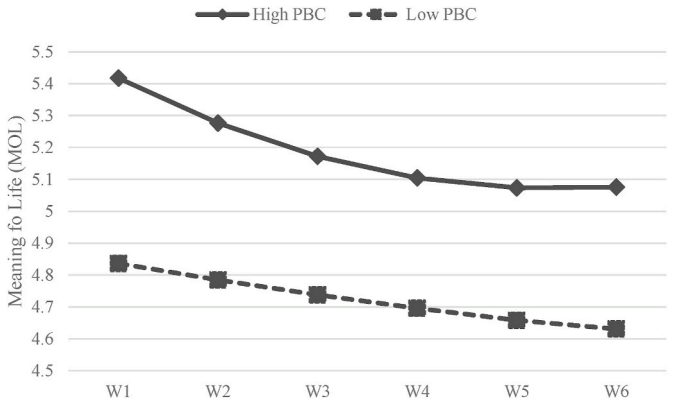

Fig. 1. Change trajectories of adolescent MOL as a function of paternal behavioral control (PBC). The figures were plotted based on Model 6a shown in Table 5. High level indicates 1SD higher than the mean value; low level indicates 1SD lower than the mean value. The scores in the High PBC group were significantly higher than the Low PBC group at each wave ($t = 6.83$ to11.85, $p < 0.001$).

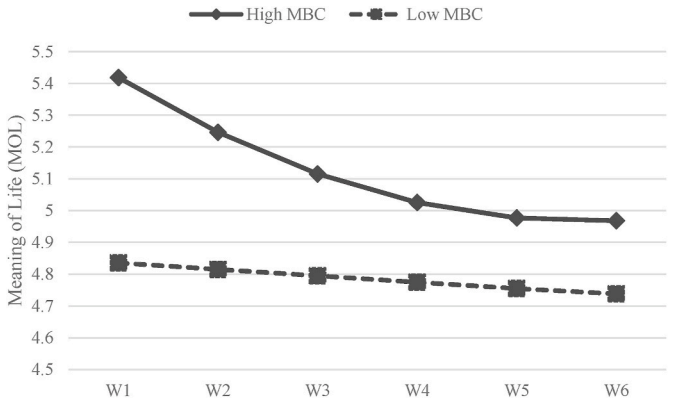

Fig. 2. Change trajectories of adolescent MOL as a function of maternal behavioral control (MBC). The figures were plotted based on Model 6a shown in Table 5. High level indicates 1SD higher than the mean value; low level indicates 1SD lower than the mean value. The scores in the High MBC group were significantly higher than the Low MBC group at each wave ($t = 7.49$ to 13.62, $p < 0.001$).

0.001), indicating that adolescents with higher FCRQ and MCRQ would have a faster decrease rate in their MOL over time than did those with lower FCRQ and MCRQ. However, FCRQ and MCRQ at Wave 1 also significantly and positively predicted the quadratic change slope of MOL (FCRQ: $\beta = 0.008$, $p < 0.05$; MCRQ: $\beta = 0.011$, $p < 0.01$), indicating that the dropping rate of MOL for adolescents with higher FCRQ and MCRQ decelerated faster than that for those with lower FCRQ and MCRQ (see Table 5, Figs. 5 and 6). Besides, *t*-tests showed that MOL scores of the high FCRQ and MCRQ groups were significantly higher than those of the low FCRQ and MCRQ groups at each wave ($t = 7.00$–14.92; $ps < 0.001$).

3.6. Effect of paternal and/or maternal parent-child relational quality factors on the developmental trajectory of adolescent MOL

Model 7a showed that all paternal parenting factors at Wave 1 significantly predicted the initial level of MOL (PBC: $\beta = 0.198$; FCRQ: $\beta = 0.343$; PPC: $\beta = -0.136$; $ps < 0.001$, see Table 6), demonstrating that adolescents perceiving higher levels of PBC and FCRQ and lower levels of PPC tended to have higher MOL. Besides, FCRQ negatively predicted the linear slope of MOL ($\beta = -0.079$, $p < 0.01$), meaning that students with better relationships with fathers tended to experience a faster drop in MOL over time.

Model 7b suggested similar patterns regarding the influence of maternal parenting factors at Wave 1 on the initial level of MOL (MBC: $\beta = 0.176$, $p < 0.001$; MCRQ: $\beta = 0.368$, $p < 0.001$; MPC: $\beta = -0.088$, $p < 0.01$, see Table 6). Besides, MBC and MCRQ negatively influenced the linear slope of MOL (MBC: $\beta = -0.055$, $p < 0.05$; MCRQ: $\beta = -0.075$, $p < 0.01$), revealing that adolescents with higher levels of MBC and MCRQ reported a faster drop in MOL over time.

3.7. Predicting effects of all parenting factors on the developmental trajectory of adolescent MOL

When all paternal and maternal factors were included (Model 8), results showed that PBC, FCRQ, MBC, and MCRQ at Wave 1

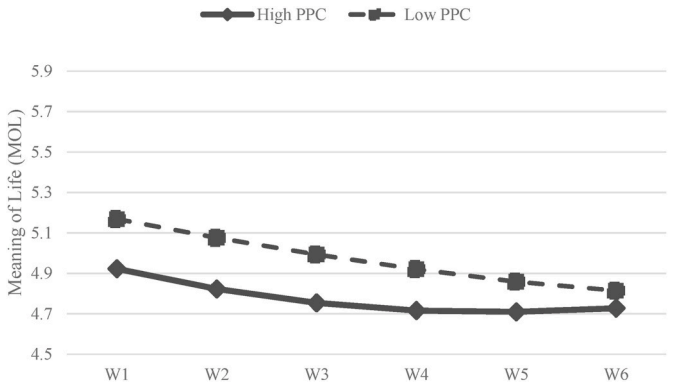

Fig. 3. Change trajectories of adolescent MOL as a function of paternal psychological control (PPC). The figures were plotted based on Model 6b shown in Table 5. High level indicates 1SD higher than the mean value; low level indicates 1SD lower than the mean value. The scores in the High PPC group were significantly lower than the Low PPC group at each wave ($t = -2.06$ to -4.08, $p < 0.05$ to $p < 0.001$).

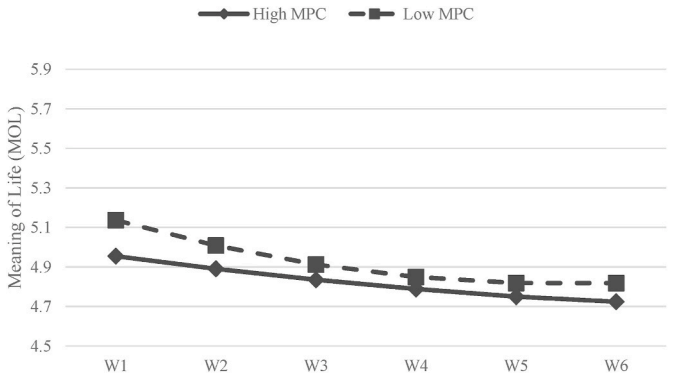

Fig. 4. Change trajectories of adolescent MOL as a function of maternal psychological control (MPC). The figures were plotted based on Model 6b shown in Table 5. High level indicates 1SD higher than the mean value; low level indicates 1SD lower than the mean value. The scores in the High MPC group were significantly lower than the Low MPC group at each wave ($t = -4.01$ to -5.49, $p < 0.001$).

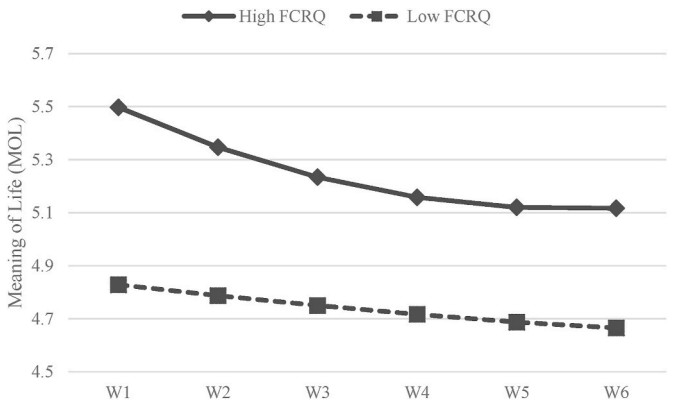

Fig. 5. Change trajectories of adolescent MOL as a function of father-child relational quality (FCRQ). The figures were plotted based on Model 6c shown in Table 5. High level indicates 1SD higher than the mean value; low level indicates 1SD lower than the mean value. The scores in the High FCRQ group were significantly higher than the Low FCRQ group at each wave ($t = 7.89$ to 14.50, $p < 0.001$).

positively predicted the initial level of MOL (PBC: $\beta = 0.127$, $p < 0.01$; FCRQ: $\beta = 0.229$, $p < 0.001$; MBC: $\beta = 0.113$, $p < 0.01$; MCRQ: $\beta = 0.264$, $p < 0.001$), suggesting that participants perceiving higher levels of parental behavioral control and better relationships with parents reported higher levels of MOL. Besides, only PPC but not MPC at Wave 1 significantly and negatively predicted the initial level of MOL ($\beta = -0.129$, $p < 0.001$), suggesting that adolescents receiving stronger levels of PPC had lower levels of MOL. Furthermore,

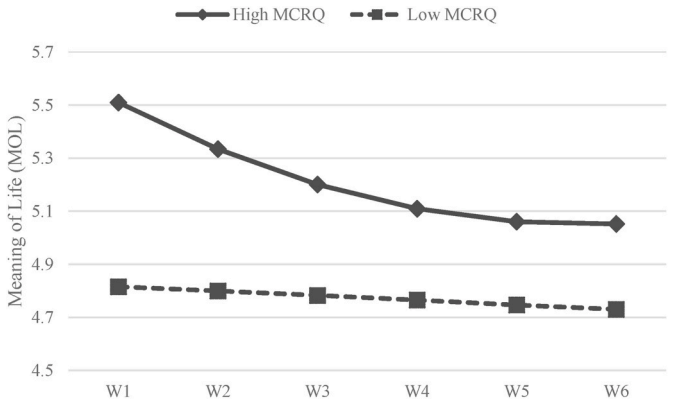

Fig. 6. Change trajectories of adolescent MOL as a function of mother-child relational quality (MCRQ). The figures were plotted based on Model 6c shown in Table 5. High level indicates 1SD higher than the mean value; low level indicates 1SD lower than the mean value. The scores in the High MCRQ group were significantly higher than the Low MCRQ group at each wave ($t = 7.00$ to 14.92, $p < 0.001$).

MBC at Wave 1 significantly and negatively predicted the linear change slope of MOL (MBC: $\beta = -0.057$, $p < 0.05$), indicating that stronger MBC predicted a faster drop in adolescent MOL over time.

3.8. Cross-sectional and longitudinal effects of paternal and maternal parenting factors

Four hierarchical regression models were established to determine the relative concurrent and longitudinal contribution of different paternal and/or maternal parenting factors in predicting adolescent MOL (see Tables 7 and 8). In Model 1, the three socio-demographic variables were entered. In Model 2, the three paternal parenting factors were added in Step 2. Concurrently, the three paternal parenting factors uniquely accounted for 10.0%–16.7% of the variance in adolescent MOL in the predicted directions with small to large effect sizes. Longitudinally, the paternal parenting factors uniquely accounted for 6.0%–10.9% of the variance in adolescent MOL in the predicted directions with small to medium effect sizes.

In Model 3, the three maternal parenting factors were added in Step 2. Concurrently, the three maternal parenting factors uniquely accounted for 9.9%–18.0% of the variance of adolescent MOL in the predicted directions with small to large effect sizes. Longitudinally, maternal parenting factors uniquely accounted for 4.6%–10.1% of the variance of adolescent MOL. MBC and MPC at Wave 1 only predicted adolescent MOL in the predicted directions at Waves 2 and 4, and Waves 2 and 3, respectively, with small effect sizes. Wave 1 MCRQ positively predicted adolescent MOL at all other waves with small to large effect sizes.

In Model 4, all paternal and maternal parenting factors were added in Step 2. Concurrently, all the parenting factors uniquely accounted for 15.4%–22.6% of the variance of adolescent MOL. FCRQ and MCRQ were the most significant positive predictors at all waves with small to large effect sizes. PBC was a significant positive predictor at all waves except for Wave 6 with small effect sizes, while MBC only positively predicted adolescent MOL at Waves 1 and 3 with small effect sizes. PPC was a significant negative predictor at Waves 1, 2, and 6 with small effect sizes, while MPC was a significant negative predictor at Waves 3 to 6 with small effect sizes. Longitudinally, all the parenting factors accounted for 7.9%–14.3% of the variance of adolescent MOL. FCRQ and MCRQ at Wave 1 significantly and positively predicted adolescent MOL at all other waves with small to medium effect sizes. PBC at Wave 1 positively predicted MOL at Waves 2, 4, and 5 with small effect sizes, while MBC at Wave 1 did not predict MOL at any other wave. PPC at Wave 1 negatively predicted MOL at Waves 2 to 5 with small effect sizes, while MPC at Wave 1 did not predict MOL at any other wave. Generally speaking, the amount of variance in MOL scores accounted for by the parent-child relational qualities factors gradually diminished over time.

4. Discussion

The IGC findings based on separate analyses (i.e., Model 6a to 6c) supported Hypothesis 1a, 2a, and 3a that behavioral control and parent-child relationship positively predicted adolescent MOL at Wave 1 whereas psychological control negatively predicted adolescent MOL at Wave 1. In addition, adolescents with better perceived parent-child subsystem relational qualities generally showed higher MOL than their counterparts at all waves. Similar findings were found in the models with the inclusion of father-child (Model 7a), mother-child (Model 7b), and all parent-child relational qualities measures (Model 8). The only exception was that MPC was not a significant predictor in Model 8. This may be due to the observation that Chinese adolescents tend to have closer relationships with their mothers (Leung & Shek, 2018), which may buffer the negative influence of MPC on adolescent MOL.

The above findings are generally consistent with the scientific literature on the positive influence of parental behavioral control and parent-child relationship (e.g., Bean et al., 2006; Li et al., 2015; Ryan et al., 2010) and the negative influence of psychological control on adolescent development (e.g., Luyckx et al., 2007; Özdemir, 2012). The findings support the theoretical assertion about the positive role of behavioral control that "regulation" is as critical as "autonomy" in adolescence (Barber et al., 2005). Parental structure and regulation could help adolescents develop socially desirable and competent behaviors (Barber et al., 1994), which eventually

Table 6
Predictive Effects of Demographic factors and Parent-Child Subsystem Qualities (by Parental Gender) on Developmental Trajectory of Adolescent MOL.

		Model 7a (paternal factors)		Model 7b (maternal factors)		Model 8 (all factors)	
		Estimate	SE	Estimate	SE	Estimate	SE
FIXED EFFECTS							
Intercept	Intercept	5.147***	0.0488	5.093***	0.0470	5.145***	0.0474
	Gender	−0.041	0.0219	−0.033	0.0218	−0.029	0.0213
	FES	0.055	0.0459	0.089*	0.0452	0.056	0.0447
	FI	0.009	0.0352	0.041	0.0344	0.005	0.0345
	PBC	0.198***	0.0396			0.127**	0.0402
	PPC	−0.136***	0.0291			−0.129***	0.0327
	FCRQ	0.343***	0.0398			0.229***	0.0408
	MBC			0.176***	0.0376	0.113**	0.0384
	MPC			−0.088**	0.0284	−0.017	0.0324
	MCRQ			0.368***	0.0379	0.264***	0.0396
Linear Slope	Time	−0.105***	0.0194	−0.107***	0.0191	−0.104***	0.0193
	PBC	−0.035	0.0280			−0.006	0.0293
	PPC	0.001	0.0205			−0.013	0.0238
	FCRQ	−0.079**	0.0281			−0.056	0.0297
	MBC			−0.055*	0.0265	−0.057*	0.0280
	MPC			0.018	0.0200	0.029	0.0237
	MCRQ			−0.075**	0.0268	−0.047	0.0289
Quadratic Slope	$Time^2$	0.010**	0.0037	0.011**	0.0036	0.01**	0.0037
	PBC	0.005	0.0053			0.001	0.0056
	PPC	0.003	0.0039			0.006	0.0045
	FCRQ	0.01	0.0053			0.008	0.0056
	MBC			0.007	0.005	0.008	0.0053
	MPC			−0.001	0.0038	−0.005	0.0045
	MCRQ			0.009	0.0051	0.004	0.0055
RANDOM EFFECTS							
Level 1 (within)	Residual	0.5048***	0.0101	0.513***	0.0102	0.5054***	0.0101
Level 2 (between)							
Linear Slope	Intercept Variance	0.8386***	0.0446	0.8261***	0.0440	0.7439***	0.0415
	Time Variance	0.2276***	0.0235	0.215***	0.0231	0.218***	0.0232
Quadratic Slope	Intercept Variance	0.0098*	0.0045	0.0078	0.0044	0.0065	0.0043
	Time Variance	0.0067***	0.0008	0.0064***	0.0008	0.0065***	0.0008
FIT STATISTICS							
	−2 Log Likelihood	27411.40		28120.52		27249.59	
	AIC	27455.40		28164.52		27311.59	
	BIC	27614.16		28323.76		27535.26	
	df	22		22		31	

Note. FES: Family Economic Status; FI: Family Intactness; PBC: Paternal Behavioral Control; MBC: Maternal Behavioral Control; PPC: Paternal Psychological Control; MPC: Maternal Psychological Control; FCRQ: Father-Child Relationship Quality; MCRQ: Mother-Child Relationship Quality. $^{*}p < 0.05$. $^{**}p < 0.01$. $^{***}p < 0.001$.

contribute to their positive interpretation of meaning of life. The findings also support the theoretical conceptualization that psychological control would have a negative impact on adolescent development because it undermines adolescents' volition and autonomy, intrudes, and manipulates adolescents' psychological world (Barber et al., 1994; Soenens & Vansteenkiste, 2010). Finally, the findings support the argument that high-quality parent-child relationships might provide a secure and supportive basis for adolescents' exploration and interpretation of the outside world, which contributes to their development of MOL (Desrosiers et al., 2011).

Unexpectedly, the present study does not support Hypothesis 1b, 2b, and 3b regarding trajectories of adolescent MOL. For example, adolescents with higher initial parental behavioral control or parent-child relationship showed a faster drop in MOL in the linear trend models. These "odd" findings are not novel because similar observations were reported previously and several explanations have been proposed (Shek & Liang, 2018; Shek, Zhu, et al., 2019, 2020). The first explanation is that parent-child relational qualities and MOL might start with high values (such as very favorable perceived parent-child relational qualities and MOL), thus leaving little room for further growth (i.e., a ceiling effect). This possibility is plausible because early adolescents may have an over-positive evaluation of family life and psychosocial adjustment (Shek & Liang, 2018). Second, the observation may be due to the gradual decrease in parental influence throughout adolescence (Shek et al., 2020; Wigfield et al., 2006). This possibility is plausible because the variance explained by the parental variables gradually dropped over time (see Tables 7 and 8). Third, high levels of parental behavioral control and parent-child relationship qualities may hinder MOL development if parental over-control or over-indulgence (such as enmeshed relationships) takes place. With specific reference to the traditional Chinese culture, parents typically over-controlled their children and treated them as their personal possessions (Shek, 2007).

Regarding the influence of psychological control, our findings are consistent with the existing literature indicating a negative

Table 7
Concurrent predictive effects of parent-child subsystem qualities on adolescent meaning of life.

Model	Predictors	W1 MOL			W2 MOL			W3 MOL			W4 MOL			W5 MOL			W6 MOL		
		β	*t*	Cohen's f^2	β	*t*	Cohen's f^2	β	*t*	Cohen's f^2	β	*t*	Cohen's f^2	β	*t*	Cohen's f^2	β	*t*	Cohen's f^2
1	Gender[a]	−0.05	−1.95	0.002	−0.03	−1.14	0.001	−0.08	−3.26**	0.006	−0.05	−2.10*	0.003	−0.04	−1.80	0.002	−0.03	−1.43	0.001
	FES[b]	0.03	0.95	0.001	0.07	2.57*	0.004	0.04	1.51	0.001	0.03	1.31	0.001	0.06	2.21*	0.003	0.05	2.07*	0.003
	FI[c]	0.05	1.73	0.002	0.05	1.87	0.002	0.05	2.00*	0.002	0.03	1.18	0.001	0.03	1.12	0.001	0.06	2.33*	0.003
	R^2 change		0.005			0.009			0.011			0.005			0.007			0.010	
	F change		3.106*			5.459**			6.550***			2.942*			3.904**			5.538**	
2	PBC	0.17	4.87***	0.016	0.13	4.30***	0.012	0.13	4.13***	0.011	0.18	5.67***	0.020	0.14	4.42***	0.012	0.11	3.33**	0.007
	PPC	−0.12	−4.48***	0.014	−0.13	−5.05***	0.016	−0.08	−3.22**	0.006	−0.07	−2.74**	0.005	−0.04	−1.48	0.001	−0.12	−4.72***	0.014
	FCRQ	0.26	7.47***	0.038	0.28	8.74***	0.049	0.25	7.69***	0.037	0.20	6.08***	0.023	0.24	7.54***	0.036	0.19	5.68***	0.021
	R^2 change		0.167			0.165			0.133			0.128			0.121			0.100	
	F change		97.975***			105.438***			82.876***			78.377***			74.199***			59.296***	
3	MBC	0.16	4.96***	0.015	0.08	2.86**	0.005	0.13	4.13***	0.010	0.15	5.01***	0.015	0.08	2.62**	0.004	0.08	2.73**	0.005
	MPC	−0.08	−3.27**	0.007	−0.07	−2.85**	0.005	−0.12	−4.76***	0.014	−0.09	−3.39**	0.007	−0.10	−3.84***	0.009	−0.12	−4.79***	0.014
	MCRQ	0.29	9.16***	0.052	0.32	10.35***	0.065	0.20	6.37***	0.024	0.18	5.64***	0.019	0.25	8.10***	0.039	0.25	7.82***	0.037
	R^2 change		0.180**			0.154			0.116			0.099			0.113			0.123	
	F change		118.122***			100.599***			73.548***			61.984***			72.046***			77.843***	
4	PBC	0.09	2.58*	0.005	0.11	3.49**	0.008	0.09	2.57*	0.004	0.15	4.32***	0.012	0.13	4.04***	0.010	0.06	1.77	0.002
	PPC	−0.10	−3.45**	0.009	−0.12	−4.41***	0.013	−0.03	−1.02	0.001	−0.02	−0.79	0.000	0.00	0.09	0.000	−0.08	−2.56*	0.004
	FCRQ	0.18	5.01***	0.018	0.17	5.17***	0.017	0.19	5.59***	0.020	0.15	4.35***	0.012	0.16	4.83***	0.015	0.15	4.35***	0.013
	MBC	0.11	3.26**	0.008	0.02	0.72	0.000	0.07	2.17*	0.003	0.05	1.67	0.002	−0.01	−0.19	0.000	0.04	1.18	0.001
	MPC	−0.02	−0.80	0.000	−0.02	−0.83	0.000	−0.10	−3.49***	0.008	−0.08	−2.58*	0.004	−0.10	−3.53***	0.008	−0.09	−2.95**	0.006
	MCRQ	0.20	5.68***	0.023	0.24	7.46***	0.037	0.13	3.76***	0.009	0.12	3.52***	0.008	0.19	5.87***	0.022	0.19	5.53***	0.020
	R^2 change		0.226			0.22			0.173			0.154			0.165			0.158	
	F change		68.422***			72.41***			54.706***			47.407***			51.928***			47.774***	

Note. FES: Family Economic Status; FI: Family Intactness; PBC: Paternal Behavioral Control; PPC: Paternal Psychological Control; FCRQ: Father-Child Relationship Quality; MBC: Maternal Behavioral Control; MPC: Maternal Psychological Control; MCRQ: Mother-Child Relationship Quality.
[a] Female = −1, Male = 1; [b] Having economic disadvantage = −1, Not having economic disadvantage = 1; [c] Living in non-intact family = −1, Living in intact family = 1.
*$p < 0.05$. **$p < 0.01$. ***$p < 0.001$.

Table 8
Longitudinal predictive effects of parent-child subsystem qualities on adolescent meaning of life.

Model	Predictors	W2 MOL			W3 MOL			W4 MOL			W5 MOL			W6 MOL		
		β	*t*	Cohen's f^2	β	*t*	Cohen's f^2	β	*t*	Cohen's f^2	β	*t*	Cohen's f^2	β	*t*	Cohen's f^2
1	Gender[a]	−0.03	−1.14	0.001	−0.08	−3.26**	0.006	−0.05	−2.10*	0.003	−0.04	−1.80	0.002	−0.03	−1.43	0.001
	FES[b]	0.07	2.57*	0.004	0.04	1.51	0.001	0.03	1.31	0.001	0.06	2.21*	0.003	0.05	2.07*	0.003
	FI[c]	0.05	1.87	0.002	0.05	2.00*	0.002	0.03	1.18	0.001	0.03	1.12	0.001	0.06	2.33*	0.003
	R^2 change		0.009			0.001			0.005			0.007			0.010	
	F change		5.459**			6.550***			2.942*			3.904**			5.538**	
2	PBC	0.13	3.58***	0.009	0.10	2.83**	0.005	0.13	3.74***	0.009	0.11	3.17**	0.007	0.10	2.78**	0.005
	PPC	−0.09	−3.44**	0.008	−0.10	−3.58***	0.009	−0.12	−4.56***	0.014	−0.07	−2.72**	0.005	−0.04	−1.54	0.002
	FCRQ	0.22	6.12***	0.025	0.18	5.04***	0.017	0.14	3.94***	0.010	0.18	4.86***	0.016	0.16	4.45***	0.013
	R^2 change		0.109			0.080			0.079			0.076			0.060	
	F change		60.835***			43.058***			42.696***			41.054***			31.510***	
3	MBC	0.08	2.32*	0.003	0.06	1.80	0.002	0.10	3.12**	0.006	0.02	0.73	0.000	0.06	1.88	0.002
	MPC	−0.05	−2.15*	0.003	−0.05	−2.16*	0.003	−0.04	−1.64	0.002	−0.01	−0.22	0.000	−0.05	−1.89	0.002
	MCRQ	0.25	7.63***	0.036	0.22	6.64***	0.027	0.15	4.52***	0.012	0.20	5.84***	0.021	0.17	5.07***	0.016
	R^2 change		0.101			0.077			0.058			0.046			0.052	
	F change		61.633***			45.450***			33.726***			26.581***			30.044***	
4	PBC	0.08	2.16*	0.003	0.07	1.74	0.002	0.10	2.53*	0.005	0.10	2.74**	0.005	0.06	1.46	0.001
	PPC	−0.08	−2.44*	0.004	−0.08	−2.39*	0.004	−0.13	−4.05***	0.012	−0.08	−2.38*	0.004	−0.02	−0.46	0.000
	FCRQ	0.16	4.10***	0.012	0.13	3.42**	0.008	0.11	2.71**	0.005	0.15	3.73***	0.010	0.14	3.44**	0.008
	MBC	0.03	0.77	0.000	0.03	0.80	0.000	0.05	1.48	0.002	−0.03	−0.82	0.000	0.03	0.91	0.001
	MPC	−0.01	−0.48	0.000	−0.03	−0.83	0.000	0.01	0.45	0.000	0.03	1.01	0.001	−0.06	−1.75	0.002
	MCRQ	0.19	5.31***	0.020	0.15	4.16***	0.012	0.11	3.00**	0.006	0.13	3.41**	0.008	0.11	2.95**	0.006
	R^2 change		0.143			0.106			0.098			0.088			0.079	
	F change		39.731***			28.174***			25.818			22.998***			20.240***	

Note. FES: Family Economic Status; FI: Family Intactness; PBC: Paternal Behavioral Control; PPC: Paternal Psychological Control; FCRQ: Father-Child Relationship Quality; MBC: Maternal Behavioral Control; MPC: Maternal Psychological Control; MCRQ: Mother-Child Relationship Quality.

*$p < .05$. **$p < 0.01$. ***$p < 0.001$.

[a] Female = −1, Male = 1.

[b] Having economic disadvantage = −1, Not having economic disadvantage = 1.

[c] Living in non-intact family = −1, Living in intact family = 1.

association between psychological control and adolescent development among Chinese populations (Li et al., 2015; Shek & Law, 2014). Although Chinese traditional culture stressed values of filial piety and self-reflection in the socialization of children (Fung, 1999; Shek & Sun, 2014), higher levels of psychological control would still do harm to Chinese adolescents' inner world, which impedes their search for meaning of life. In short, the findings suggest that the negative influence of parental psychological control on adolescent development might be universal across different cultures (Soenens & Beyers, 2012).

Echoing previous studies, our findings suggest the need to differentiate between levels and the rate of change in adolescent developmental outcomes (Shek & Liang, 2018; Shek et al., 2020). Regarding the relationship between parent-child subsystem relational qualities and MOL at the initial level, the findings supported Hypotheses 1a, 1b, and 1c. Similar support came from the differences in MOL levels between the groups with "high" and "low" levels of parent-child subsystem relational qualities at different time points. On the contrary, we did not get support for Hypotheses 2a, 2b, and 2c, and some findings were in fact at odds with our original expectations. Consistent with previous studies (Shek, Zhu, et al., 2019; Shek & Liang, 2018), the present study suggests that researchers should differentiate the "levels" and the "rate of change" in adolescent MOL in understanding the impact of parent-child relational qualities on MOL.

Multiple regression findings showed that when all parenting factors were included, both father- and mother-child relationship qualities were the strongest concurrent and longitudinal predictors of adolescent MOL. There are two possible explanations. First, parenting dimensions such as behavioral and psychological control might be the reflections of different "emotional tones of the parent-child relationship" and thus influence adolescents through specific relationship qualities (Chao, 2001; Darling & Steinberg, 1993). Second, as filial piety, interpersonal relationship, and harmony are highly valued in Chinese culture (Leung & Shek, 2018), the relationship with parents might have a greater influence on child development than other parenting factors.

Besides parent-child relationship quality, behavioral control of the father was also a significant concurrent and longitudinal predictor of adolescent MOL. This might indicate the important role of the father in providing structure, guidance, and monitoring to adolescent behavior. Based on the role play theory (Hosley & Montemayor, 1997; McKinney & Renk, 2008), the mother's role was traditionally defined as warm and caring, whereas the father's role was traditionally defined as disciplinary. Therefore, behavioral control of fathers such as monitoring, expectation, and discipline might exert a greater influence on their children than that of mothers. Second, this result might be related to the father's role in Chinese culture. In the traditional Chinese culture, the father was the official leader of one family who takes the major responsibility of educating, training, disciplining, and socializing the children, as reflected in the proverb: "Strict father, kind mother" (Chen et al., 2000). Regarding psychological control, the impact of parental psychological control on adolescent MOL showed different patterns in early and late adolescence. One possible explanation is that with the growing autonomy and competence of adolescents, they are less susceptible to the influence of parental psychological control.

Regarding the differences in paternal and maternal influence on adolescent MOL, both father- and mother-child relational qualities showed similar effects, echoing previous findings (Shek, Zhu, et al., 2019; Shek & Zhu, 2019). On the one hand, some theories (e.g., attachment theory) stress more on the importance of mothering and perceived the mother as the most influential figure in adolescent development (McKinney & Renk, 2008). On the other hand, some studies showed that fathers also play an important role in adolescent development in the Western (Leidy et al., 2011; Martin et al., 2010) and Chinese context (Shek, 1998a, 1998b, 2005a, 2005b). As the present findings are exploratory and the available evidence is mixed, researchers should further examine this issue. In particular, it would be helpful to use additional indicators of parent-child relational qualities (such as different indicators of parenting) and adolescent MOL (such as the purpose of life, flourishing, and religiosity) (Leung & Shek, 2018; Soenens and Beyers, 2012).

Some limitations of the present study should be noted. First, as the data collected were solely based on the student participants' self-report, future research could be conducted based on data collected from parents and teachers. Second, although the present study used quantitative methods based on a large sample size, studies based on other research methods such as qualitative methods (e.g., focus group and individual interview) could also be conducted to enrich our understanding of the issue. Third, studies based on other Chinese adolescent groups should also be conducted to replicate the findings of the present study. Fourth, as other factors also influence adolescent MOL (such as PYD programs, Shek & Ma, 2012), there is a need to examine how parenting factors work together with such factors to shape adolescent MOL. Despite these limitations, in view of the lack of literature on parenting factors and meaning of life among adolescents, the present study made a pioneering contribution to the research field on adolescent life meaning (Shek, Dou, et al., 2019).

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