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What Accounts for the Decline of Happiness
of Children as They Grow into Their Teens:
A Hong Kong Case Study

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Abstract (178 words)

This paper reports the results of two dual surveys of children from Primary 4 through Secondary 3 and their parents, conducted between Nov 2011-Jan 2012 and Sep-Oct 2013 in Hong Kong. One key finding, which confirms those reported from other parts of the world, is that happiness declines as children grow into their teens. The study discovers that this is related to declines in Love, Insight, Fortitude, and Engagement—four aspects of mental capital essential to happiness, which may be associated with mounting pressures as children grow up. Pressures from extracurricular activities surprisingly appear to have a much greater adverse effect on happiness than pressures from school work. These results may reflect the fact that a child's disposable time decreases monotonically as they grow older through age 13, with extracurricular activities aggravating the lack of leisure. Perceived financial well-being of the household is found to be associated with children's happiness and children's Love scores. A loving relationship between the parents and their respect for the child's opinions and privacy mitigates any intergenerational barrier to effective communication or negative effect from parents' age and enhance happiness.

Keywords:

Children's happiness; adolescence, pressures; mental capital; family life; extracurricular activities; leisure

1. Introduction

Studies on the happiness of children are few and far between, as Beaton and Frijters (2012a, p.3) pointed out. Still, a common finding among the few studies on the happiness of children aged 15 and below (Beaton and Frijters, 2012b; Children's Society, 2012, 2013; WTO, 2012) is that happiness declines with age. Given the concern, recently raised, that a sampling bias may affect researchers' conclusions about the happiness profile over the life cycle (Beaton and Frijters, 2012b, p.534) and the fact that happiness may be strongly affected by personality traits, this paper is among the first to control the "mental capital" of students. By enlisting entire classes to participate, we also minimize a self-selection bias. We confirm the finding that happiness does decline from around age 8 through adolescence. At the same time we discover that children's measured mental capital, along the dimensions of Love, Insight, Fortitude, and Engagement, generally falls during this phase of their life cycle. The study confirms the important role that mental capital plays in children's happiness. This is consistent with the finding by Beaton and Frijters(2012b) that such innate factors as confidence in one's social skills ("social self-efficacy") may be even more important to childhood happiness (Fogel, et.al. 2002) than circumstantial factors.

The UK Foresight Report(2008) confirmed the significant link between mental capital

and mental well being. This paper follows the approach proposed by Ho(2011) to measure mental capital¹ in terms of Love, Insight, Fortitude, and Engagement. For children, in particular, Love and especially the love from parents, appears to carry the most weight. This result is consistent with a number of recent findings. For example, Thoroddur Bjarnason *et. al.* (2012) found that children who live with both biological parents tend to be happier than children in other family arrangements, a result perfectly understandable if biological parents have a greater instinctive love for their children. Their data was drawn from the 2005/2006 Health Behaviour in School-aged Children (HBSC) study and involved 36 Western industrialised countries—mostly European countries, but also inclusive of Canada, the UK, and the United States. Holder and Coleman (2009) studied happiness of children in Western Canada and found that social relationships are significant predictors of happiness for children aged 9 to 12, which mirrors the case for adults and adolescents. Parental love is important for nurturing love among children and social skills. This is in line with the principle of emulation in the neuroscience literature.(Grush, 2004a, 2004b)

This paper report findings from Hong Kong, which interestingly reaffirms a number of findings from the HBSC study and from the UK Good Childhood Report 2012, 2013, suggesting that there is a high degree of commonality in factors affecting children's

¹ See Government Office for Science(2008) for a recent report on the concept.

happiness that transcends cultural and political boundaries. Perhaps counter-intuitively, parents' education and having siblings do not add to the happiness of children. This may have to do with the higher expectations from parents that children perceive and higher demands that children place upon themselves when their parents are well educated. Competition for parents' attention among siblings may also offset some of the advantages that are associated with having siblings.

2. Methods

2.1 The Surveys

Commissioned by the Hong Kong Early Childhood Development Research Foundation (HKECDRF), two surveys on “Development of Children from Formative Years to Teens: the Role of Family, Schools, and Peers in Nurturing Happy and Healthy Individuals” have been conducted from November 2011 to January 2012, and from September 2013 to October 2013 respectively. The objective of the Surveys is to study how the well-being of children is shaped from an early age. Given that very young children may have difficulty understanding the instructions in the questionnaire, the survey targets at children from Primary 4 or roughly age 8 and up to Secondary 3 or roughly age 16.

Some of the questions, especially those on their relations with their parents and relations between the parents, no doubt involve recollection of the earlier year experiences. The survey questionnaires are self-administered and consist of two parts: a questionnaire for students, and another for their parents, as laid out below:

■ **Survey on students:** The lists of *all* primary and secondary schools² in Hong Kong were compiled from the government website. The schools were asked whether they were willing to participate in the survey. In each of the participating schools, one class was randomly selected in each grade for P.4 to P.6 (primary schools) and for S.1 to S.3 (secondary schools). In the first study, two classes were selected from the single international school sampled. In the second study, we left out all international schools. We sent a package of questionnaires to each of the participating schools. Students were asked to complete a questionnaire (the “student questionnaire”) in class.

■ **Survey on parents:** The package of questionnaires sent to each of the participating schools also included questionnaires for parents (“parent questionnaire”). Students were asked to bring the parent questionnaires home for one of their parents to complete, and to bring the completed questionnaires back to

² The numbers of secondary schools and primary schools there were 323 and 502, respectively in 2013..

school. This dual questionnaire approach is similar to Holder and Coleman's study (2009), each student and parent questionnaire was kept anonymous but they could be matched with a unique number. Both questionnaires were collected by student's class teacher after completion.

In the end, 13 primary schools and 14 secondary schools participated in the first survey not counting the international schools³, while 6 primary schools and 12 secondary schools participated in the second survey. A total of 902 student questionnaires were collected in the first survey and 1119 student questionnaires were collected in the second survey. We had 854 and 1060 parents surveyed in the first and in the second survey respectively.

2.2. Mental Capital and Happiness

According to the Foresight Report (2008), mental capital "encompasses a person's cognitive and emotional resources" and "includes their cognitive ability, how flexible and efficient they are at learning, and their 'emotional intelligence', such as their social skills and resilience in the face of stress." "Mental capital and mental wellbeing are intimately linked: measures to address one will often affect the other. This argues for them to be

³ Actually there were two additional schools in the first survey, including one international primary school and one international secondary school. However, since no international schools were enlisted in the second survey we dropped them to facilitate comparison.

considered together when developing policies and designing interventions.”

(Government Office for Science, 2008, p.10)

Ho(2014) considered mental capital as the formation(“accumulation”) of entrenched habits, which could be positive if the habits are helpful to one’s happiness and negative if they are harmful. As such, mental capital, positive or negative, is unlikely to change quickly over time but can change over the long run. He offered an explanation as to why mental capital is so important to mental well-being: mental capital is much like physical capital in contributing to the production of goods, and in this case, “mental goods.” Mental goods include such qualities as a sense of dignity or self-esteem, being at ease with oneself, feeling accepted by others, self-efficacy, having a sense of purpose and achievement, etc. Following his construct(Ho, 2011), we compile scores on Love, Insight, Fortitude, and Engagement, which had been found to be positively linked to happiness (Ho, 2011). The LIFE scores were all measured on a Likert scale 0-10. In the current study the original answers to the key questions were either on a 5-point or a 4-point scale starting from 1. They are converted to the 11 point scale (0 to 10) according to the formula:

$$(VOS-1) * 10/(MVOS - 1)$$

where VOS is the value of the variable on the original scale while MVOS is the

maximum value of the original scale.⁴ This procedure can be shown to preserve the relative positions on the scale without distortion and is performed to facilitate interpretation.

Love is measured using responses to a set of questions about the respondent's love for their immediate family members. Love is specifically defined not to include the perception of being loved by others since being loved depends mainly on the behaviors of others. We want to assess strictly a child's own attitude, and to concentrate on how this attitude may affect happiness. For adults, Love should include Love for people beyond one's immediate family members. For children, however, loving one's parents is considered to be the beginning of loving others, which has yet to develop.

Love = average of responses to the following,

- You love your mom
- You love your dad

Insight is measured using responses to a set of questions about the respondent's sense of proportion and priority, interpretation of what constitutes success in life, ability to reflect over one's decisions and to learn, etc. Insight⁵ thus helps generate a sense of self-efficacy, autonomy, and a sense of achievement that is not dependent on others. The score is

⁴ , If the original scale begins with 0, conversion would need to follow the modified formula below:
 $VOS * 10/MOVS$

⁵ For adults, one important component of the Insight has been found to be moderation—tamed desire to live an extravagant life. For children, comparing with peers appears to be far more important as a source of pressures.

calculated as the average of responses to the following (originally in 5 point scale)

- Taking others' criticism or advice is not emotionally difficult
- You allocate your time well
- Success is to achieve the best within one's capability
- You often reflect on what you do and learn from mistakes
- You don't look for a luxurious living.

The last two questions were NOT included in the 2012 survey. However, results indicate that the two questions improve both the consistency and the statistical significance of the Insight Score.

Fortitude is synonymous with resilience and is measured as the average of response to the following:

- You won't give up easily once you have decided to do something
- You have the courage to face difficulties

Engagement refers to a person's active involvement in activities of their choice. An engaged person is a person who actively engages in tasks that serve his identified purposes. Engagement generates a sense of self-actualization. In 2012 we ask the extent to which the respondent is actively involved in various family activities. In the 2013 survey we changed the question to: "You always try your best to do what you have chosen to do." We believe this is a better measure of Engagement. Because the survey

used different measures of Engagement we used an interactive dummy with Engagement multiplied to a year dummy in order to preserve the consistency of the regression.(Table 2)

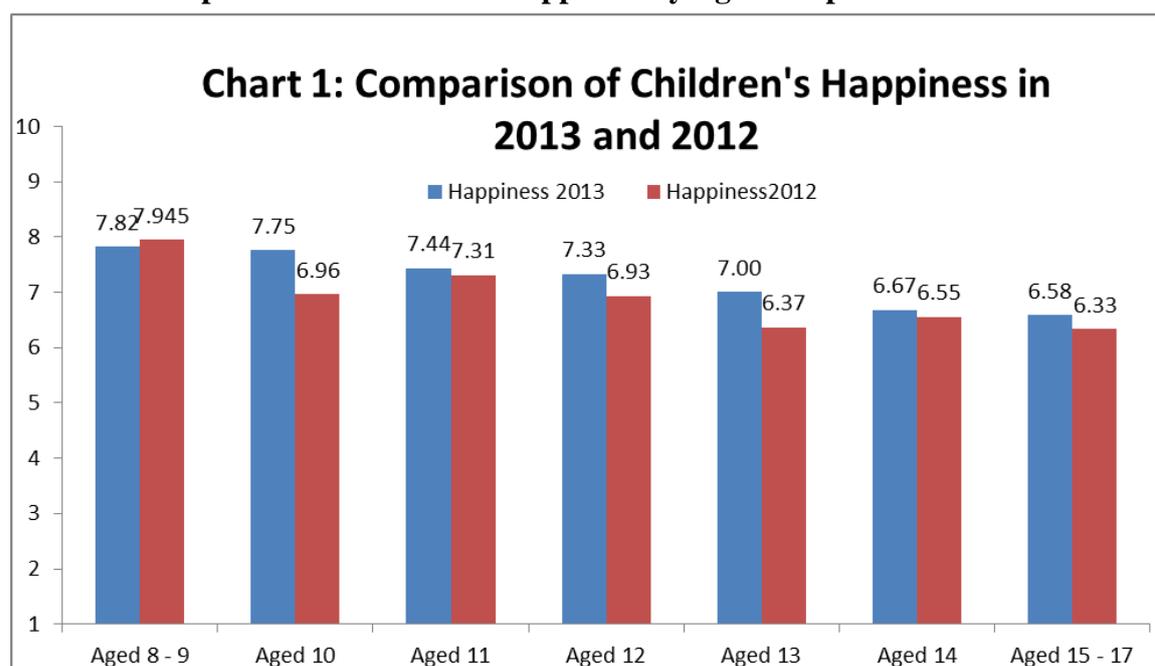
We use Cronbach's Alpha to check the internal consistency of the questions under the LIFE scores. When alpha is greater than 0.7, internal consistency is normally considered acceptable. The main direction of the statistical analysis is to regress self-reported happiness against the LIFE scores as well as demographic, family, and school-related variables. Cronbach's Alpha is reported along with the definitions of variables in the Appendix Table.

3. Results

3.1. Overview of Survey Results

One striking result from our survey is that happiness of children tends to fall with age. Ignoring the small uptick for age 17, for which the sample size is rather small (n=9 in 2012 and 3 in 2013), happiness almost declines monotonically, from 7.8-7.9(on a scale of 0 to 10) at the age of 8 to less than 6.3-6.6 by the age of 16(**Chart 1**). As noted earlier, this decline in happiness as children go into their teens is not unique to Hong Kong.

Chart 1: Comparison of Children's Happiness by Age Group in 2013 and 2012



Comparing happy against unhappy children, where happy is defined as children with happiness score ≥ 6 and unhappy children as children with happiness score ≤ 4 , we come up with **Table 1**.

Table 1: Clear Differences in Unhappy and Happy Children

	Unhappy Children ($H \leq 4$)	Happy Children ($H \geq 6$)	t-test
Parents' Relationships (Scale: 0 to 10)	M(2012)=3.63, N=71 M(2013)=3.23, N=91	M(2012)=4.14, N=560 M(2013)=4.11, N=817	t(634)=4.47; p<0.001 t(875)=-7.93; p=0.000
Disciplining (Scale:1 to 4)	M(2012)=2.60, N=76 M(2013)=2.75, N=96	M(2012)=2.37, N=556 M(2013)=2.46, N=803	t(630)=-2.19; p=0.03 t(897)= 3.43; p=0.000
Children's Pressures(Academic) (Scale: 1 to 5)	M(2012)=3.19, N=115 M(2013)=3.18, N=97	M(2012)=2.51, N=700 M(2013)=2.44, N=826	t(813)=8.53; p=0.000 t(921)=7.96; p=0.000
Children's Pressures(Activities) (Scale: 1 to 5)	M(2012)=2.54, N=115 M(2013)=2.52, N=96	M(2012)=1.89, N=700 M(2013)=1.86, N=817	t(813)=6.82; p=0.000 t(911)=6.29; p=0.000
Children's Perception Of Financial Wellbeing (Scale: 1 to 5)	M(2012)=3.69, N=77 M(2013)=3.25, N=93	M(2012)=4.06, N=575 M(2013)=4.01, N=802	t(650)=3.42;p<0.001 t(893)=-7.7; p=0.000

Children's Age	M(2012)=12.34,N=135	M(2012)=11.99,N=697	t(830)=1.98;p=0.048
	M(2013)=12.07,N=102	M(2013)=11.90,N=808	t(908)=0.92;p=0.355

It is clear that happy children mainly come from families with parents enjoying a warm and loving relationship. Compared to unhappy children, happy children face less pressure or are more able to cope with pressures. Happy children's parents are also less likely to scold them or beat them up when they have done something wrong. Happy children are also more likely to come from financially well-off families.⁶ Happy children tend to be somewhat younger. However while the difference in age for the two groups(happy vs. unhappy) is not statistically significant in 2013 it is statistically significant in 2012.

Table 2 shows that the LIFE variables appear to be important determinants of happiness. Together with the constant term, LIFE explains 25% of the variance of children's happiness index in the pooled sample combining both the 2012 and 2013 surveys. The adjusted R-squared rises slightly when demographic variables and a financial well-being variable are added to the equation(**Table 3**). Conceptually, Fortitude and Insight are related, and indeed factor analysis would put the questions on Fortitude and Insight together. The reason is that someone who has a good sense of balance or proportion, who is interested in realizing his potential more than out-competing others, who can take criticisms and has a habit of reflecting and learning from mistakes, is better ready to face

⁶ This approach of asking children's perception of financial well being of the family is similar to Beaton and Frijters (2012).

the challenges that life presents. For educational purposes, however, and also given the large literature on resilience, treating Insight and Fortitude separately appears to be well justified. In practice, in large samples all LIFE variables typically carry very significant t-statistics.

Table 2: Baseline Regression with Happiness Index Regressed against LIFE

(pooled 2012 and 2013 samples)

Dependent Variable: HAPI

Method: Least Squares

Included observations: 1715

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.659157	0.240473	6.899553	0.0000
Love	0.283375	0.023509	12.05395	0.0000
Insight	0.211127	0.033820	6.242647	0.0000
Fortitude	0.147710	0.028143	5.248517	0.0000
Engagement	0.127849	0.017668	7.236384	0.0000
E*YR12	-0.008687	0.012109	-0.717438	0.4732
R-squared	0.246787	Mean dependent var		7.236152
Adjusted R-squared	0.244584	S.D. dependent var		2.111722
S.E. of regression	1.835397	F-statistic		111.9894
Sum squared resid	5757.075	Prob(F-statistic)		0.000000

Note: The measurement of Engagement in 2012 was different from that in 2013. An interactive variable E*YR12, where YR12 is 1 in 2012 and 0 in 2013 is used to capture the difference in the coefficient due to the difference. This is dropped in the other regressions because the coefficient is tiny and insignificant.

Table 3: Happiness against LIFE and Demographic and Economic Variables, (pooled 2012 and 2013 sample)

Dependent Variable: HAPI

Method: Least Squares

Included observations: 1174

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.325173	0.680183	4.888646	0.0000
LOVE	0.244481	0.029915	8.172388	0.0000
INSIGHT	0.199471	0.040049	4.980734	0.0000
FORTITUDE	0.108447	0.033569	3.230542	0.0013
ENGAGEMENT	0.094770	0.021897	4.327980	0.0000
FEMALE	-0.153604	0.105440	-1.456781	0.1454
AGE	-0.049348	0.032095	-1.537572	0.1244
PAGE	-0.026101	0.008923	-2.925208	0.0035
PEDU	-0.000584	0.106372	-0.005490	0.9956
FINWELLOFF	0.266026	0.060951	4.364582	0.0000
YR12	-0.020098	0.112211	-0.179113	0.8579
R-squared	0.261368	Mean dependent var		7.272572
Adjusted R-squared	0.255017	S.D. dependent var		2.078752
S.E. of regression	1.794220	F-statistic		41.15322
Sum squared resid	3743.961	Prob(F-statistic)		0.000000

Given the importance of the LIFE scores in determining children's happiness, it is noteworthy that LIFE scores of children generally decline with age(**Table 4**). This pattern of declining LIFE scores can be discerned in both 2012 and 2013.

Table 4: LIFE Scores by Age, 2012 and 2013

2012					
Age	Love	Insight	Fortitude	Engagement	Num
8-9	8.91	6.80	8.10	6.38	69
10	8.75	7.11	7.50	6.72	122
11	8.25	6.54	7.09	6.44	202
12	8.03	6.54	6.57	6.82	153
13	7.84	6.13	6.52	6.52	141
14	7.47	6.11	6.57	6.21	210
15	7.01	6.36	6.28	6.16	46
16-17	6.38	5.95	6.79	5.00	28
2013					
Age	Love	Insight	Fortitude	Engagement	Num
8-9	8.30	6.38	7.27	7.83	91
10	8.14	6.66	7.18	7.85	144
11	8.24	6.29	6.78	7.57	95
12	7.98	6.23	6.65	7.71	237
13	7.63	6.01	6.30	7.24	242
14	7.36	5.98	6.30	7.06	116
15	7.05	5.91	5.95	6.82	33
16-17	6.61	5.67	5.83	6.83	15

Note: The measurement of Engagement had changed between 2012 and 2013, largely because of an oversight in the 2012 questionnaire that made it necessary to use a substitute question for the measure.

3.2 Declining Happiness and Declining LIFE Scores with Age

Similar to the study by Bjarnason *et.al.*(2012) and the UK Good Childhood Report, this survey from Hong Kong also shows that older children are less happy. As Chart 1 shows, happiness keeps falling from close to 8.00 at age 8-9 to around 6.5 by age 15-17.⁷

The speed of descent in Hong Kong is slightly faster than that in the UK. The UK Good

⁷ Age groups are merged where small samples may bias the readings.

Childhood Report (2013) found that life satisfaction fell from about 15 at age 8 to about 13 for age 15-17. (Scale of 0 to 20, Children's Society, 2013, p.13).⁸ This translates to a decline from 7.5 to 6.5 on the 0 to 10 scale.

Similar to our results, Bjarnason *et.al.*,(2012) found negative coefficients on the 13-year olds (dummy variable) and on the 15-year olds (dummy variable) relative to the 11 year olds(benchmark), with the negative coefficient for the 15-year olds almost twice as big as that for the 13 year olds.

To go behind what drives this decline, we can compare the coefficient of the AGE variable with and without the LIFE variables. **Table 5** shows that after dropping the LIFE variables, the coefficient of AGE becomes both much bigger and much more statistically significant.⁹ This not only confirms factually that happiness declines with age for children, but also suggests that this decline has much to do with the decline of the LIFE variables with age. This decline of LIFE scores with age, moreover, appears to be associated with the increase in pressures which children have to face as they grow up, as the rest of this paper shows.

⁸ In our studies, responses to a question on life satisfaction are typically lower than those to a question on happiness.

⁹ We thank a referee for this suggestion.

Table 5: Happiness Against Demographic and Economic Variables Only(pooled 2012 and 2013 sample)

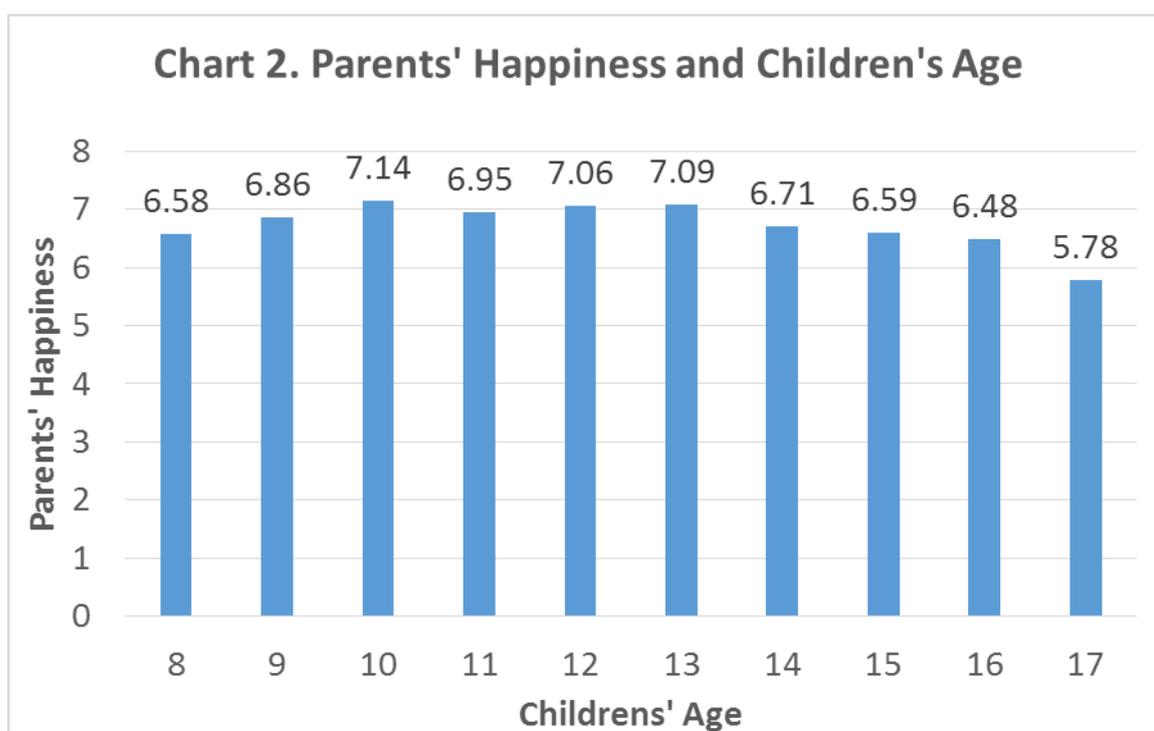
Dependent Variable: HAPI

Method: Least Squares

Included observations: 1174

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.014215	0.654907	12.23718	0.0000
FEMALE	-0.165738	0.114508	-1.447392	0.1481
AGE	-0.145730	0.034166	-4.265376	0.0000
PAGE	-0.026420	0.009708	-2.721492	0.0066
PEDU	-0.052909	0.115638	-0.457543	0.6474
FINWELLOFF	0.613810	0.061069	10.05111	0.0000
YR12	-0.086502	0.114438	-0.755888	0.4499
R-squared	0.121253	Mean dependent var		7.272572
Adjusted R-squared	0.116735	S.D. dependent var		2.078752
S.E. of regression	1.953656	F-statistic		26.83784
Sum squared resid	4454.173	Prob(F-statistic)		0.000000

Chart 2: Parents' Happiness and Children's Age (Pooled Sample, 2 years)



It is noteworthy that, as Chart 2 shows, parents' happiness also shows a steady decline after the child turns 13. Parents' average happiness falls to 5.78 when the sampled children reach 17.

3.2: *Explaining Love*

Given that Love carries the biggest coefficient in among all the factors in the equation explaining a child's happiness, and that it is also statistically the most significant, we regressed the Love score against Parental Care, Respect for the Child's Opinion, Respect for the Child's Privacy, the Relationship between Father and Mother, and Perception of Financial Well-Being. (**Table 6**) All these variables carry statistically significant coefficients. Respect for the child's opinions and the relationship between Father and Mother, carry the biggest coefficients and are the most significant. Respect for the child's privacy and parents' caring attitude count about the same in explaining Love. The child's perceived financial well-being of the family is also a positive factor contributing to Love. All explanatory variables together explain over 46% of the variance of Love.

Table 6: Explaining Love, Importance of Parental Relations (OLS) (pooled 2012 and 2013 sample)

Dependent Variable: LOVE

Method: Least Squares

Included observations: 1906

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.294619	0.188849	6.855324	0.0000
PARCARE	0.298279	0.055546	5.369960	0.0000
RESPOP	0.526181	0.055145	9.541839	0.0000
RESPPRI	0.293542	0.052103	5.633896	0.0000
MOMDADREL	0.472754	0.049954	9.463753	0.0000
FINWELLOFF	0.191794	0.041475	4.624335	0.0000
YR12	-0.087523	0.068240	-1.282574	0.1998
R-squared	0.465918	Mean dependent var		8.144019
Adjusted R-squared	0.464230	S.D. dependent var		2.031183
S.E. of regression	1.486751	F-statistic		276.1052
Sum squared resid	4197.603	Prob(F-statistic)		0.000000

The results suggest that the often-cited tense relationship between parents and teenage children is likely to arise over the perceived disrespect for the children's opinions and the children's privacy.¹⁰ These findings closely resemble those of the UK Good Childhood Report. As the next subsection shows, a perceived disrespect for children's opinions and children's privacy severs communication. This is why they may undermine Love and Happiness.

¹⁰ In 2009, about eight percent of children and teens in America from 12 to 17 reported incidents of Major Depression Episode during the course of the year. See <http://www.teendepression.org/stats/childhood-depression-statistics/>

3.3 *Effective Communication*

We first define the variable for effective communication as the average of responses to the following questions on a 5 point scale:

- You often share with your mom what happens at school.
- You often share with your dad what happens at school
- You have a good relationship with your mom
- You have a good relationship with your dad

Bjarnason *et al.*(2012) highlighted the importance of effective communication in explaining overall life satisfaction among children. Since “generation gap” is generally perceived to be at play as a stumbling block for effective communication between parents and children, include age gap along with the child’s gender, the child’s age, and two key variables: respect for the child’s opinions and respect for the child’s privacy that we believe are important for effective communication. The results are presented in **Table 7**.

Table 7: Explaining Effective Communication (pooled 2012 and 2013 sample)

Dependent Variable: EFFCOM

Method: Least Squares

Included observations: 1399

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.885506	0.171095	11.02022	0.0000
FEMALE	0.101186	0.032806	3.084380	0.0021

AGE	-0.058545	0.009606	-6.094455	0.0000
AGEGAP	0.000507	0.002755	0.184119	0.8539
RESPOP	0.411865	0.024774	16.62458	0.0000
RESPPRI	0.238536	0.024172	9.868440	0.0000
YR12	-0.047363	0.032716	-1.447721	0.1479
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R-squared	0.512974	Mean dependent var	3.668692	
Adjusted R-squared	0.510875	S.D. dependent var	0.873442	
S.E. of regression	0.610863	F-statistic	244.3610	
Sum squared resid	519.4303	Prob(F-statistic)	0.000000	
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As it turns out, daughters appear to be better able to communicate with their parents. Without including parents' respect for the child's opinion and respect for the child's privacy, the age of the child carries a negative coefficient that is twice as big as when these variables are included (Regression without including RESPOP and RESPRI not presented for brevity). This suggests that parents who respect their children's opinions and their privacy will have much less difficulty communicating with their children even after they have gone into their teens. Surprisingly, we find the age gap between the child and the parent does not appear to be a problem at all. Daughters can better communicate with parents than sons. Our results also confirm the UK study's finding that children value privacy and their parents' respect for their opinions very much. According to the UK report, "Issues of privacy at home also become increasingly important as children grow older." Moreover, highlighting the importance of respect, "children also identified the importance of their being listened to and taken seriously and allowed appropriate

freedoms as they matured: ‘They should listen to the child.’”(2012, p.17)

3.4 Quality of Family Life

Famlife is a behaviour-based measure of the quality of family life. It is the average of positive qualities (active family activities + encouragement and support) minus the average of negative qualities (physical or verbal fights or abuses). Conversely the minimum of Famlife is -3. Specifically, for each of the following questions respondents choose among Never, Occasionally, Sometimes and Often.(1 to 4, on a 4-point scale) Since the maximum of each of the positive scores is 4, and the minimum of each of the negative scores is 1, the maximum for Famlife is +3 and the minimum is -3.

Table 8: Family Life as Explained by School Work and Extra-Curricular Activities Pressure (pooled 2012 and 2013 sample)

Dependent Variable: Famlife

Method: Least Squares

Included observations: 1232

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.720044	0.335271	2.147650	0.0319
PINDEXSCHWK	-0.075896	0.032232	-2.354690	0.0187
PINDEXEXTACT	-0.105729	0.026408	-4.003656	0.0001
AGE	-0.033416	0.016477	-2.028033	0.0428
PAGE	-0.003374	0.004667	-0.722847	0.4699
PEDU	0.042862	0.055156	0.777105	0.4372
SIBDUM	-0.137762	0.062216	-2.214267	0.0270
FINWELLOFF	0.323529	0.029768	10.86835	0.0000
FEMALE	0.182284	0.054715	3.331512	0.0009
YR12	0.026231	0.063699	0.411792	0.6806

R-squared	0.171059	Mean dependent var	1.119251
Adjusted R-squared	0.164954	S.D. dependent var	1.043163
S.E. of regression	0.953251	F-statistic	28.01888
Sum squared resid	1110.416	Prob(F-statistic)	0.000000

To assess the effects of pressures on the quality of family life, we compiled two separate measures of pressures faced by children: a school work pressures index, and an extra-curricular activities pressures index.

School work pressures = average of the responses from following, each on a 5 point scale:

- Do you feel strained in handling your schoolwork?
- Do you feel strained in handling your tests and exams?

Pressures from extracurricular activity = response to the question: “Do you feel strained in handling extra-curricular activities at school?” This is defined on a 5 point scale.

As **Table 8** indicates, while pressures are expected to have adverse effects on the quality of family life it is rather surprising that pressures from extra-curricular activities appear to be even more potent in undermining the quality of family life than pressures from school work.

A regression with quality of family life regressed against demographic and pressure variables yields a much bigger negative coefficient for pressure from extracurricular activities than from school work. This is a big surprise, but may have to do with the perceived rising expectations on extracurricular activity performance. Another

surprise is that having siblings does not help the quality of family life. Perceived financial well-being and parents' education are both positive for the quality of family life.

Whereas Famlife is a measure of family life quality based on behavior, Hapfam is a measure of family life quality based on subjective assessment. It is compiled as the average of response to questions on the extent to which the respondent agrees or disagrees with the following statements:

- Your mom has a good relationship with your dad
- You have a warm, loving family

Table 9 presents results of a regression with Hapfam as the dependent variable.

Adjusted R-squared goes up to 0.25. The size of the negative coefficient on pressures from extracurricular activities grows bigger and continues to be statistically significant.

The size of the negative coefficient on pressures from school work declines and becomes insignificant. The coefficient on the sibling dummy lost significance. But the subjective financial well being of the family is extremely significant and carries a huge coefficient and is highly significant, with a t-statistic of 18.2.

Table 9: Happy Family(Hapfam) as Explained by School Work and Extra-Curricular Activities Pressure (pooled 2012 and 2013 sample)

Dependent Variable: HAPFAM

Method: Least Squares

Included observations: 1289

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.907970	0.292163	9.953259	0.0000
PINDEXSCHWK	0.005851	0.028209	0.207399	0.8357
PINDEXEXTACT	-0.086610	0.022861	-3.788574	0.0002
AGE	-0.040555	0.014473	-2.802018	0.0052
PAGE	0.001229	0.004056	0.302960	0.7620
PEDU	-0.050913	0.048264	-1.054886	0.2917
SIBDUM	-0.038887	0.054400	-0.714845	0.4748
FINWELLOFF	0.456901	0.025981	17.58623	0.0000
FEMALE	0.061861	0.047905	1.291333	0.1968
YR12	-0.011283	0.055686	-0.202617	0.8395
R-squared	0.254283	Mean dependent var		3.978666
Adjusted R-squared	0.249035	S.D. dependent var		0.985596
S.E. of regression	0.854100	F-statistic		48.45856
Sum squared resid	933.0142	Prob(F-statistic)		0.000000

It seems clear that pressures from extracurricular activities undermine Family Happiness far more than pressures from school work do. This result confirms that extracurricular activities today instead of serving to relieve children from pressures from school work are actually creating pressures on the family. Surprisingly, parents' education may have a deleterious effect on the child's sense of having a happy family.

Finally, we defined a variable for family disharmony comprising responses to the

questions:

- Your parents have arguments with each other
- Your parents have physical fights with each other
- Your mom scolds you without a good reason
- Your dad scolds you without a good reason
- Your mom beats you up without a good reason
- Your dad beats you up without a good reason

Table 10: Explaining Family Disharmony (pooled 2012 and 2013 sample)

Dependent Variable: FAMDISHAR

Method: Least Squares

Included observations: 1232

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.185007	0.211127	5.612782	0.0000
DISCIPSER	0.264446	0.017341	15.24978	0.0000
PINDEXSCHWK	-0.017847	0.019640	-0.908707	0.3637
PINDEXEXTACT	0.064073	0.016118	3.975354	0.0001
AGE	0.021274	0.010056	2.115603	0.0346
PAGE	-0.000427	0.002844	-0.150227	0.8806
PEDU	0.007316	0.033602	0.217730	0.8277
SIBDUM	0.033039	0.038036	0.868640	0.3852
FINWELLOFF	-0.088814	0.018286	-4.856873	0.0000
FEMALE	-0.085319	0.033451	-2.550528	0.0109
YR12	-0.217953	0.039725	-5.486556	0.0000
R-squared	0.224013	Mean dependent var		1.750068
Adjusted R-squared	0.217657	S.D. dependent var		0.657014
S.E. of regression	0.581130	F-statistic		35.24790
Sum squared resid	412.3461	Prob(F-statistic)		0.000000

The one thing that really stands out from **Table 10** is that disciplinary actions by parents are the single most important cause for family disharmony, with a disproportionately huge coefficient that is very significant ($t=15.2$). Another observation is that pressures from extracurricular activities also significantly undermine harmony in the family. In contrast, pressures from school work does not appear to have any adverse effect, suggesting that while there is consensus about school work there is likely to be disagreement about the importance or the kind of extracurricular activities that are important. Financially well off families seem better able to cope with the problems that might arise and help reduce family disharmony.

3.5 Interaction between Parents' Happiness and Children's Happiness

Parents' happiness is found to be rise along with their children's happiness. It is likely that the causality runs both ways. In order to gauge the mutual effects, two stage least squares estimation is used. We do not show the reduced form regressions at the first stage for space reasons and only present the second stage results as in **Table 11** and **Table 12**. It is clear that children's happiness impacts parents' happiness significantly, but the child's happiness does not seem to be affected by parents' happiness. These results suggest that parents care more about children's happiness than children care about parents' happiness.

Remarkably, parents' average happiness score declines noticeably when their children

enter adolescence, falling from 7.05 when the child is at age 13 to 6.41 when the child is 15 to 17. In the parent's happiness equation (**Table 11**), the child's age carries a positive coefficient while the square of the child's age carries a negative coefficient, suggesting that when children are young parents become happier seeing them grow up but become less happy when their children enter into the period of adolescence. Parents tend to be happier when the child is a girl than when the child is a boy.

Table 11: Parents' happiness against children's happiness and financial wellbeing rated by Parents

Dependent Variable: PHAPI

Method: Two Stage Least Squares

Included observations: 1364 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.057553	2.036006	-1.501740	0.1334
HAPIHAT	0.376127	0.077210	4.871473	0.0000
FEMALE	0.192793	0.093735	2.056783	0.0399
AGE	0.720437	0.305967	2.354625	0.0187
AGE^2	-0.028978	0.012561	-2.306986	0.0212
PAGE	0.012841	0.007953	1.614555	0.1066
PEDU	0.176220	0.095067	1.853642	0.0640
PFINWELLOFF	0.541821	0.058378	9.281218	0.0000
R-squared	0.113121	Mean dependent var		6.912023
Adjusted R-squared	0.108542	S.D. dependent var		1.828173
S.E. of regression	1.726107	F-statistic		24.70808
Sum squared resid	4040.128	Prob(F-statistic)		0.000000

Note: HAPIHAT is the predicted values of HAPI at the first stage for the reduced from equation.

Table 12: Children’s happiness against parents’ happiness and financial wellbeing rated by children

Dependent Variable: HAPI
Method: Two Stage Least Squares
Included observations: 1362 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.04634	2.173118	4.623007	0.0000
PHAPIHAT	-0.030073	0.129651	-0.231952	0.8166
FEMALE	0.025745	0.112845	0.228143	0.8196
AGE	-0.643851	0.362565	-1.775825	0.0760
AGE^2	0.020588	0.015020	1.370712	0.1707
AGEGAP	-0.017468	0.009280	-1.882404	0.0600
PEDU	-0.027681	0.116144	-0.238330	0.8117
FINWELLOFF	0.663124	0.076122	8.711366	0.0000

R-squared	0.115823	Mean dependent var	7.115272
Adjusted R-squared	0.111252	S.D. dependent var	2.153019
S.E. of regression	2.029725	F-statistic	25.33831
Sum squared resid	5578.184	Prob(F-statistic)	0.000000

Note: PHAPIHAT is the predicted values of PHAPI at the first stage for the reduced from equation.

In the regression with children's happiness treated as the dependent variable(**Table 12**), the signs of AGE and AGE^2 are opposite to what show up when parents' happiness is the dependent variable. Children's happiness tends to drop rather fast from Age 8 and then the drop tends to slow down.

3.6 Happy Family cf. Happy School in Overall Children's Happiness

In this section, we investigate the relative importance of happy family and happy school in children's happiness. We retain the mental capital variables, and add the Hapfam and Hapschool variables along with the grades of students. As indicated in **Table 13**, both Hapfam and Hapschool are important for a child's happiness, but apparently Hapschool counts more than Hapfam.

Table 13: Happiness at School vs Happiness at Home

Dependent Variable: HAPI

Method: Least Squares

Included observations: 1744

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.045175	0.316156	-0.142887	0.8864
LOVE	0.139477	0.031988	4.360241	0.0000
INSIGHT	0.108898	0.034110	3.192592	0.0014
FORTITUDE	0.109596	0.028186	3.888276	0.0001
ENGAGEMENT	0.087223	0.020314	4.293827	0.0000
HAPSCHOOL	0.680421	0.076989	8.837855	0.0000
HAPFAM	0.426135	0.058979	7.225196	0.0000
PRI5	-0.262837	0.152343	-1.725301	0.0847
PRI6	0.138921	0.163593	0.849182	0.3959
SEC1	-0.109165	0.143189	-0.762387	0.4459
SEC2	-0.249940	0.151144	-1.653648	0.0984
SEC3	-0.024712	0.152136	-0.162434	0.8710
YR12	-0.379208	0.095759	-3.960016	0.0001
R-squared	0.312242	Mean dependent var		7.118119
Adjusted R-squared	0.307474	S.D. dependent var		2.170800
S.E. of regression	1.806499	F-statistic		65.48954
Sum squared resid	5649.014	Prob(F-statistic)		0.000000

4. Discussion

The key determinants of children's happiness appear not that different from those of adults. The mental qualities of Love, Insight, Fortitude, and Engagement (LIFE) alone explain 24% of the variation of the self-reported happiness of children (**Table 2**). When demographic variables and a financial well-being variable are added the adjusted R-squared goes up slightly to 0.255.

Hong Kong's children experience a somewhat more rapid decline in happiness between the age of 8-9 to the age of 16-17 compared to the U.K. This may be related to a sense of more intense competition in Hong Kong, as to be expected in a densely populated and highly globalized city. With one of the world's lowest fertility rates and under influence of Chinese culture, Hong Kong's parents tend to be more protective, and tend to project their sense of competition onto children, whose pressures intensify quickly with age.

Mirroring the decline in happiness of children as they grow older is a general decline in children's LIFE scores with age. The possible reasons include the biological effects of puberty, tendency of parents to intrude into the privacy or to ignore the opinions of children as they grow older, increasing pressures due to increasing scarcity of time, and increasing competition. There is a clear inverse relationship between happiness and

disposable time defined as 24 hours minus school hours, hours spent on homework, and commuting time. The statistical results are not reported for shortage of space.

Going through school, children develop a perception that success means outperforming others rather than realizing one's potential. This creates pressures, which is not helped by having well-educated parents. This suggests a need to cultivate a sense that success should be understood as realizing one's potential rather than outperforming others.

An interesting result, also related to the decline in happiness with age among teenagers, is that parents' respect for children's opinion and privacy plays an important role in explaining children's love for and effective communication with their parents. Especially for teenagers, sensing that parents dictate their will on them will prove disastrous for communication and will undermine love.

While these attitudinal variables are crucial in explaining happiness (c.f. Cheng and Furnham, 2001, 2002), we show that parents play an important role in some of these variables. In particular, Love is driven, first and foremost, by the quality of the relationship between the two parents, and then by the degree to which the child feels he or she is respected. In a household with parents in a harmonious relationship, children

feel more secure and learn to emulate the love that parents show each other. Perception of parental care and perceived financial well being of the family are also positive for Love, but are far less important.

Interestingly and perhaps surprisingly, parents' education does not enhance children's happiness. Indeed the coefficient carries a negative sign. In view of the low statistical significance, we should not take this result too seriously. But we should note that the education variable says nothing about the quality of the education, and merely indicates the academic qualifications achieved. Parents with strong educational qualifications may have higher expectations on their children. Children with well educated parents may also find highly educated parents difficult to emulate. Well educated parents may also have longer working hours and cannot attend to the needs of the family as well as others (Pouwels *et.al.* 2008). More importantly, the results suggest that parenting education may be lacking even among well educated parents.

A disturbing result is that having siblings appears to undermine the quality of family life (**Table 8**). The effect is significant and certainly deserves attention, and echoes the main finding in a Time Magazine story and a feature article in Psychology Today (Newman, 2009). Perhaps the overcrowdedness in most Hong Kong homes play a part

in this result, but further study in this sibling effect will be needed.

A surprising result is that extra-curricular activities turn out to be a much stronger source of pressures on students than schoolwork does, and they could exert a significant negative effect on family life. This suggests that "extra-curricular activities" in the Hong Kong setting today are no longer the kind of extra-curricular activities that school children take up just for fun. Indeed, children are often required, by the school, by their parents, or by both, to pursue various activities outside the classroom. They tend to be more competitive than recreational. They could be costly, and add to the family's financial burden and possible dispute between the parents. Above all, students are told that they need to report extracurricular activities when they apply for further studies or for jobs.

Pressures increase markedly as the child gets older. The index of pressures from school work rises modestly from 2.62 at age 8 to 9 to 2.92 at age 15-17; that from extracurricular activity rises truly sharply, from 1.67 to 2.4.¹¹ Although the absolute number indicating the pressures are bigger for academic-based pressures, both the coefficient and the t statistics are bigger in the regression of family life against the two sources of pressures.

Pressures from extracurricular activities have a negative effect on family life and family

¹¹ These figures are from the main report of this study submitted to the Early Childhood Development Research Foundation.

happiness.(Table 8 and Table 9), and appear to play a major role in family disharmony.(Table 10) Instead of serving as fun and relieving pressures from school work, extracurricular activities appear to have become an independent source of pressures, especially for older children.¹² A caveat is that the Cronbach's alpha is rather low for pressures from extracurricular activity.

There has been a rise in the incidence of depression and suicides among adolescents in Hong Kong.¹³ In some cases depression is associated with family disharmony, but in other cases, children appear to live in apparently happy families, and parents do not come to know of their children's problems until it is too late. This reflects a failure of communication, which may have to do with an excessively busy life, both for the children and for the parents. When both have their days packed with activities, it will be difficult to find time to sit together, and failure of communication goes beyond failing to respect children's opinions or privacy. One important result in our surveys is that happiness rises monotonically with disposable time, where disposable time is defined as time after school time, commuting, and homework. One reason why happiness declines as a child gets older and into their teens is that daily life gets packed with more and more activities as they get older.

¹² Beaton and Frijters(2012) found that the decline in childhood happiness is steepest when the children transition from lower grade school to high school.

¹³ http://www.chinadailyasia.com/news/2013-05/31/content_15075225.html

5. Conclusions

This study produced a number of surprises that were not found before. While it confirms the validity of the hypothesis that Love, Insight, Fortitude, and Engagement go a long way in determining happiness, children are found to be less loving and less able to cope with challenges as they grow older. This is likely to be associated with the rising pressures that children face as they move on to higher grades, which may have to do with an increasingly busy life and perception of keen competition and rising expectations. Further research on this is warranted.

Adolescence is a big challenge both for children and for their parents. In line with earlier findings, we find that the relationship between father and mother is a key driver for the love score of children and thus a key factor in explaining their happiness. Surprisingly, extracurricular activities appear to create even more pressures on children and tensions within the family than school work. Parents' education does not necessarily make a happier family life, and could even lead to more pressures and tensions. To the extent that higher income is associated with better education of the parents, the possible negative effect of parent's education on children's happiness may be blurred in studies that do not control for the financial well-being of the family. Also surprising is the result that siblings could be another source of pressures and stress in the

family. Parents need to take extra care with handling the needs and demands from their different children.

A shortcoming of this study is that although the sampled schools are spread throughout Hong Kong and are all government-funded (2, both in Eastern District), Kowloon(1 in Kowloon City and 4 in Shum Shui Po), and the New Territories(13 from Tuen Mun, Yuen Long, Shatin, Kwai Ching, and Sai Kung), the survey requires the cooperation of schools and there is inevitably some element of self-selection. As to future directions of research, it will be interesting to see if there is any difference between families involving new immigrants versus entirely local families, and if different types of housing might affect happiness and child development differently.

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Appendix: Definitions for and Consistency Tests for Key Variables

Key Variable	Questions	Cronbach's alpha
Love	<ul style="list-style-type: none"> ● You love your mom ● You love your dad 	0.78
Insight*	<ul style="list-style-type: none"> ● I seldom resist in taking others' criticism or advice ● You allocate your time well ● We don't need to be better than others, but need to try our best ● You often engage in introspection, trying to learn from mistakes ● You don't look for a luxurious living. 	0.717
Fortitude	<ul style="list-style-type: none"> ● You won't give up easily once you have decided to do something ● You have the courage to face difficulties 	0.795
Engagement	<ul style="list-style-type: none"> ● You do many things together with your family, e.g. outing, dining and watching movies. (2012) ● You always try your best to do what you have chosen to do.(2013) 	One question only in each survey. Consistency Test not applicable.
EFFCOM Effective communication:	<ul style="list-style-type: none"> ● You often share with your mom what happens at school. 	0.821

	<ul style="list-style-type: none"> ● You often share with your dad what happens at school ● You have a good relationship with your mom ● You have a good relationship with your dad 	
DISCIPSER Discipline	<ul style="list-style-type: none"> ● Your parents would scold you when you do something wrong ● Your parents would beat you up when you do something wrong 	0.694
FAMDISHAR Family disharmony	<ul style="list-style-type: none"> ● Your parents have arguments with each other ● Your parents have physical fights with each other ● Your mom scolds you without a good reason ● Your dad scolds you without a good reason ● Your mom beats you up without a good reason ● Your dad beats you up without a good reason 	0.863
PINDEXSCHWK Pressure Index for School Work	<ul style="list-style-type: none"> ● Can you handle your schoolwork confidently (including homework, classes and revision)? ● Do you feel strained in handling your schoolwork? 	0.742

	<ul style="list-style-type: none"> ● Can you handle your tests and examinations? ● Do you feel strained in handling your tests and exams? 	
PINDEXEXTACT Pressure Index for Extra Curricular Activities	<ul style="list-style-type: none"> ● Can you handle your extra-curricular activities in school? ● Do you feel strained in handling extra-curricular activities at school? 	0.558
PARCARE Parental Care	<ul style="list-style-type: none"> ● Your parents care very much about your academic results ● Your parents encourage you to participate in the extra-curricular activities at school 	0.440
RESPOP Respect for Child's Opinions	<ul style="list-style-type: none"> ● Your dad takes your views/suggestions seriously ● Your mom takes your views/suggestions seriously 	0.820
RESPRI Respect for Child's Privacy	<ul style="list-style-type: none"> ● Your dad respects your privacy ● Your mom respects your privacy 	0.85
Famlife Family Life	<ul style="list-style-type: none"> ● You do many things together with your family, e.g. outing, dining and watching movies (Family Plus Score) ● Your parents praise or encourage you 	0.801

	<p>(Family Plus Score)</p> <ul style="list-style-type: none"> ● Your parents have arguments with each other (Family Minus Score) ● Your parents have physical fights with each other(Family Minus Score) ● Your mom scolds you without a good reason (Family minus Score) ● Your dad scolds you without a good reason (Family plus score) ● Your mom beats you up without a good reason (Family minus score) ● Your dad beats you up without a good reason (Family minus score) 	
Hapfam, Happy family score	<ul style="list-style-type: none"> ● Your mom has a good relationship with your dad ● You have a warm, loving family 	0.863
Hapschool, Happy Schooling	<ul style="list-style-type: none"> ● You enjoy your school life very much ● You have good teachers ● You have good schoolmates ● The class curriculum is interesting 	0.786

Note: Insight in 2012 had only 3 questions that were expanded to 5 in 2013.