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**- Evidence from urban China**

**by**

**Fredrik Carlsson, Elina Lampi, Wanxin Li and Peter Martinsson**

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# Subjective well-being among preadolescents

## – Evidence from urban China<sup>\*</sup>

Fredrik Carlsson<sup>a</sup>, Elina Lampi<sup>b</sup>, Wanxin Li<sup>c</sup>, Peter Martinsson<sup>d</sup>

### Abstract

We examine what factors are correlated with subjective well-being among Chinese preadolescents. In particular, we investigate whether preadolescents' subjective well-being is correlated with their parents' subjective well-being. Interestingly, we find that the factors that affect parents' subjective well-being do not influence their preadolescents' subjective well-being, nor is there a significant correlation between the preadolescents' subjective well-being and the well-being of their parents. Instead, we find that factors such as number of close friends, not being bullied, and spending time and conversing with parents are positively correlated with preadolescents' subjective well-being. Another interesting finding is that preadolescents' well-being does not seem to be correlated with their school performance.

**Keywords:** Subjective-wellbeing; children; China.

**JEL classification:** D60; I31.

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<sup>a</sup> Department of Economics, University of Gothenburg, Box 640, SE-40530 Gothenburg, Sweden. e-mail: fredrik.carlsson@economics.gu.se

<sup>b</sup> Department of Economics, University of Gothenburg, Box 640, SE-40530 Gothenburg, Sweden. e-mail: elina.lampi@economics.gu.se

<sup>c</sup> Department of Public and Social Administration, City University of Hong Kong, China Tsinghua Graduate School at Shenzhen, Tsinghua University, China; e-mail: wanxin.li@city.edu.hk

<sup>d</sup> Department of Economics, University of Gothenburg, Box 640, SE-40530 Gothenburg, Sweden; e-mail: peter.martinsson@economics.gu.se

## 1. Introduction

By using measures of subjective well-being, it is possible to evaluate how different attributes beyond income contribute to people's well-being. In such studies, subjective well-being is normally measured by asking respondents a question related to their degree of happiness or life satisfaction (for an example of questions asked in different surveys see, e.g., Dolan et al., 2008). This has resulted in insights such as that being healthy, being employed, and being married are all of statistical and economic importance when explaining higher levels of subjective well-being among adults (see overviews in, e.g. Dolan et al., 2008; Frey and Stutzer, 2002; van Praag and Ferrer-i-Carbonell, 2008). Genetics and living environment have been identified to be important explanatory factors for adults' subjective well-being. For example, in a study of twins, Tellegen et al. (1988) found a high correlation on a self-reported well-being scale among monozygotic adult twins who had been reared together or apart, but no correlation between dizygotic twins who had been reared together or apart (see also discussions in, e.g., Diener, 1996; Kahneman et al., 200; Lykken, 2000). Despite the fact that almost one-third of the world's population is below the age of 15, little is known about what affects children's well-being, and many of the factors found to influence adults are not relevant for children (e.g. Proctor et al., 2009). For children, however, both genetics and living environment are to a large extent correlated with the characteristics of the parents, especially prior to adolescence, which makes it more difficult to disentangle these effects.<sup>1</sup> There is also empirical evidence that family conditions during childhood have profound long-term effects on, e.g., educational attainment, and thus on the economic situation and well-being of children as adults (see, e.g., Ermisch and Francesconi, 2001; Jonsson and Gähler,

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<sup>1</sup> Winkelmann (2006a) found a correlation of 0.44 in subjective well-being between parents and children using the German Socio-Economic Panel study. In a Spanish sample, Casas et al. (2008) found a correlation between parents and their children for a subjective well-being index, while Schwarze and Winkelmann (2005) showed in a German sample that parents' happiness depends positively, although weakly, on the happiness of their adult children.

1997).<sup>2</sup> An excellent overview of life satisfaction among young people is found in Proctor et al. (2009).

The objective of the present paper is to use a tailor-made survey to investigate what explains subjective well-being among Chinese preadolescents when controlling for subjective well-being among their parents. Few studies have investigated the relationship between parents and their children during adolescence. Winkelmann (2006b) focused on the effect of parental separation among 16-18 years-olds in Germany using the German Socio-economic Panel and found a negative but insignificant effect of parental separation on the subjective well-being of children.<sup>3</sup> Cheng and Furnham (2002), Csikszentmihalyi and Hunter (2003), and van de Wetering et al. (2010) all found that having friends is positively correlated with adolescents' subjective well-being. Suldo and Huebner (2004) showed that both emotional and a more practical type of support from parents highly increase the well-being of 11-19 years-olds, while van de Wetering et al. (2010) found that having strict parents decreases the experienced well-being of adolescents at home. Terry and Huebner (1995) found the relationship with parents to be the strongest predictor of elementary school children's life satisfaction. Similarly, Park (2004) found a strong positive correlation between good family relations and adolescents' well-being.

Studying China is of particular interest for many reasons apart from the obvious one that one out of five people in the world lives in China. China is undergoing rapid changes – changes that are occurring much faster than in Western countries that have previously been investigated in subjective well-being studies – and this may affect people and the society in

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<sup>2</sup> It should be noted that the causal effects of for example family structure and child outcomes have been questioned; see, e.g., Björklund et al. (2007).

<sup>3</sup> Winkelmann (2006b) found only 3 out of 25 explanatory variables to be significant, leaving most effects unexplained.

many ways. An indication of the importance of understanding what factors affect well-being is the rapidly growing number of subjective well-being studies in China using adult respondents (e.g., Appleton and Song, 2008; Brown and Tierney, 2009; Cheung and Leung, 2004; Knight and Gunatilaka, 2009a,b; Knight and Gunatilaka, 2010a,b; Knight et al., 2009; Nielsen et al., 2010; Smyth and Qian, 2008; Smyth et al., 2008; Smyth et al., 2010). The findings in these studies have been similar to what has generally been found in Western countries: Higher absolute income and being healthy, married, and employed all have a positive and significant impact on subjective well-being. At the same time, there is evidence that the stated happiness level has declined despite the massive increase in material living standard (Brockmann et al., 2009). China's industrialization and urbanization processes have generated families with both parents working and neighborhoods and communities with residents who have migrated from somewhere else and who may not even greet each other. This has transformed the environments in which children grow up, including the nature of interactions between adults and children. From a policy-perspective, happiness has become an important issue in China. Premier Wen Jiabao announced at the opening of the National People's Congress in 2011 that happiness comprises an additional yardstick to measure growth besides GDP. Thus, China is following other countries such as France<sup>4</sup> and the UK in showing an emerging interest in happiness, although some countries have focused on happiness for decades. One example is Bhutan, which uses Gross National Happiness rather than GDP as a macroeconomic indicator. The rest of the paper is organized as follows: Section 2 describes the survey and the sample characteristics, Section 3 presents the results, and Section 4 concludes the paper.

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<sup>4</sup> In France, the report "Commission on the Measurement of Economic Performance and Social Progress" was the result of a commission set up by the French president Sarkozy (Stiglitz et al., 2008). The commission ("the Stiglitz Commission") was led by the Nobel Prize laureates Joseph Stiglitz and Amartya Sen.

## 2. Survey and sample characteristics

The survey was conducted in the Nanshan district in Shenzhen, which is located in the Guangdong province.<sup>5</sup> Guangdong is located in southeast China and borders the South China Sea. Shenzhen was the first special economic zone in China and has experienced a massive growth in wealth. However, this development has resulted in a more uneven income distribution, and privatization of social services. In 2009, the Nanshan district had altogether 57 primary schools, and the survey was supported by the Nanshan District Bureau of Education. Our study focuses on preadolescent students in 6<sup>th</sup> grade, aged 11 and 12. In total 16 of the 57 schools were included in the study. Two 6<sup>th</sup> grade classes were randomly selected in each participating school, and all students in the classes were invited to participate. The total number of participant students from the selected schools was 1,308. Of these, 99.6% responded to the survey, and 80.9% of the parents responded to the survey. Due to item non-response, we ended up with a sample size of 944 observations with responses from students and one of their parents.<sup>6</sup>

The survey given to the students consisted of four main sections, i.e., interactions at home, with friends, and in school; civic participation in society; trust attitudes; and subjective well-being. The same questions except the ones directly related to school were given to one parent of each child. The parental questionnaire also included an extra section on family and demographic backgrounds. The subjective well-being question read “Overall, would you say you are...?”, and the possible response categories were Very happy, Quite happy, Not very

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<sup>5</sup> Two focus group sessions with 6<sup>th</sup> grade primary school children and one session with parents were conducted in December 2009. In addition, two pilot studies were conducted in February 2010.

<sup>6</sup> We did not get approval to invite both parents, nor were we allowed to randomize which parent was invited. It is therefore possible that the parent who responded to the survey is correlated with household characteristics; we will return to this issue in the analysis.

happy, and Not at all happy. Table 1 reports descriptive statistics for key variables for the parent and the child.

**Table 1.** Descriptive statistics, mean values of key variables from the survey; standard deviations in parentheses.

| Variable                       | Description   | Parent           | Child              |
|--------------------------------|---|------------------|--------------------|
| Male                           | 1 = male  | 0.436            | 0.532              |
| Income                         | Household income in 10,000 Yuan   | 9.04<br>(14.19)  |                    |
| Unemployed                     | 1 = unemployed  | 0.131            |                    |
| Basic education                | 1 = basic education (reference category)  | 0.278            |                    |
| High school                    | 1 = high school   | 0.294            |                    |
| Higher education               | 1 = post high school degree up to university education  | 0.216            |                    |
| University education           | 1= bachelor or master´s degree  | 0.212            |                    |
| Ethnic minority                | 1 = ethnic minority   | 0.038            |                    |
| Divorced parents               | 1 = divorced parents  | 0.058            |                    |
| Number of children             | Number of children in household   | 1.730<br>(0.956) |                    |
| Number of siblings             | Number of siblings per child  |                  | 0.730<br>(0.956)   |
| Only child                     | 1 = only child  | 0.518            | 0.518              |
| Very poor health               | 1=perceived to be in very poor health (reference category)  | 0.025            | 0.015              |
| Acceptable health              | 1=perceived to be in acceptable health  | 0.260            | 0.199              |
| Good health                    | 1=perceived to be in good health  | 0.570            | 0.461              |
| Very good health               | 1=perceived to be in very good health   | 0.145            | 0.325              |
| Number of friends              | Number of close friends   |                  | 2.290<br>(0.940)   |
| Time discussing                | How often does child converse with parents (an average of 8 issues). 1=Never; 2=Seldom; 3=Several times a month; 4=Several times a week; 5=Everyday           |                  | 3.349<br>(0.832)   |
| Time together                  | How often does the child spend time with parents (an average of 7 activities). 1=Never; 2=Seldom; 3=Several times a month; 4=Several times a week; 5=Everyday |                  | 2.820<br>(0.668)   |
| Parents strict                 | 1=at least one parent is experienced to be too strict on them   |                  | 0.422              |
| Bullied at school              | 1= bullied at school  |                  | 0.151              |
| Sports activities              | 1=participates in sports at least once a week   |                  | 0.597              |
| Absolute grade in Chinese      | Grade in Chinese (between 0 and 100)  |                  | 80.582<br>(21.411) |
| Relative grade in Chinese      | Relative grade in class in Chinese (own performance compared to class mean performance)   |                  | 0.952<br>(0.244)   |
| Missing value grade in Chinese | 1=no observation of grade in Chinese  |                  | 0.049              |

The first set of variables offers general information on the families' socio-economic conditions, including household income and the education and occupation of the responding parent. Many of these variables have been shown to influence well-being among adults

significantly (see, e.g., Dolan et al., 2008; Frey and Stutzer, 2002; van Praag and Ferrer-I-Carbonell, 2008). The second set of variables is related to family structure, i.e., whether the parents are divorced, number of siblings, and whether there is only one child in the household. These can also be expected to affect parent and child well-being. For example, Van de Wetering et al. (2010) found a negative impact of having a single parent on well-being and a clear positive correlation between being an only-child and well-being among adolescents. In addition, we include the health status of the parent and the child. This is often significantly correlated with well-being, both among adults and children (see, e.g., Gerdtham and Johannesson, 2001; Proctor et al., 2009)

In addition to these “standard” sets of variables, we include a number of variables measuring the interaction between the child and the parent, and the child and her environment. Cheng and Furnham (2002), Csikszentmihalyi and Hunter (2003), and van de Wetering et al. (2010) found that friendship is positively correlated with adolescents’ subjective well-being, and Park (2004) showed the same for good relations within a family and well-being. Moreover, van de Wetering et al. (2010) found that having strict parents decreases the experienced well-being at home and Suldo and Huebner (2004) found that support from parents increases the well-being of adolescents. We also have data on children’s school grades, which enables us to investigate whether children’s well-being is dependent on absolute or relative school grades. Van de Wetering et al. (2010) found that good school performance increases the well-being of adolescents, whereas they found the opposite effect of being teased at school. Our data contains information on whether a child is bullied at school.



### 3. Results

#### 3.1 Descriptive results

As described previously, both preadolescents and one of their parents answered a question about their level of happiness. Table 2 shows the cross tabulation of the responses for the preadolescents and their parent.

**Table 2.** Descriptive statistics of the happiness question.

| Parent           | Children         |                |             |            | Total     |
|------------------|------------------|----------------|-------------|------------|-----------|
|                  | Not at all happy | Not very happy | Quite happy | Very happy |           |
| Not at all happy | 0                | 0              | 13          | 2          | 15 (2%)   |
| Not very happy   | 2                | 8              | 63          | 15         | 88 (10%)  |
| Quite happy      | 15               | 49             | 439         | 194        | 697 (75%) |
| Very happy       | 0                | 6              | 73          | 46         | 125 (13%) |
| Total            | 17 (2%)          | 63 (7%)        | 588 (63%)   | 257 (28%)  |           |

The aggregated data reveals a positive relationship between the happiness of parents and their children with 48% stating the same level of happiness. The correlation coefficient is 0.108, and it is statistically significant at the 1 percent level. However, Table 2 only reveals what is going on at the aggregate level, and it does not explain the variation in self-reported happiness. Therefore, we now turn to the econometric analysis.

#### 3.2 Econometric analysis

In this sub-section, we analyze the factors affecting happiness among the preadolescents and their parents. More importantly, we also investigate whether there is a significant correlation between parental and preadolescent happiness. This is an interesting question since genetic factors have been found to explain correlation in happiness between people (Tellegen et al., 1988; Diener, 1996; Winkelmann 2006a), but also because parents and their children are exposed to the same environment (Casas et al., 2008). In order to investigate this issue, we estimate a two-equation model, where the dependent variables are the stated happiness of the

preadolescent and the parent, respectively.<sup>7</sup> Our main interest is the preadolescent equation. The choice of independent variables is mainly based on what has been found to explain variation in happiness in previous studies (e.g., Dolan et al., 2008). We also include a set of variables intended to capture the interaction between the children and their parents and friends. Moreover, we include both absolute and relative grades in Chinese to see whether absolute and relative school performance matter for the happiness of a child. In order to investigate the correlation between parent and preadolescent subjective well-being, we compare the significance and magnitude of a set of explanatory variables such as household characteristics, and we include the happiness of the parent as an explanatory variable in the child equation. As mentioned earlier, only one of the parents responded to the survey, and we could not randomize which one. This means that the gender of the parent could be correlated with household and child characteristics.<sup>8</sup> Thus, to be able to control for this, we estimate a 3SLS model where the gender of the parent is endogenous.<sup>9</sup> The results are presented in Table 3.

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<sup>7</sup> We also estimated a seemingly unrelated bivariate ordered probit model. The signs and significance of the coefficient of the two-equation linear model and a seemingly unrelated bivariate ordered probit model do not differ substantially between these models.

<sup>8</sup> If we estimate a simple binary probit where the dependent variable is equal to one if the responding parent was a male, we find that it is less likely that the responding parent was a male in a high-income household or in a household with a small number of children.

<sup>9</sup> The model where the gender of the parent is treated as exogenous results in a significant male dummy variable. However, as can be seen in Table 3, this coefficient is no longer significant in the 3SLS model. This is consistent with our finding that it was less likely that the responding parent was a male in a high-income household, since stated happiness is positively correlated with income.

**Table 3.** Happiness regressions for child and her/his parent; standard errors in parentheses.

| <b>Variable</b>                | <b>Adolescent</b>    | <b>Parent</b>       |
|--------------------------------|----------------------|---------------------|
| Parent happiness               | 0.048<br>(0.082)     |                     |
| Income                         | -0.001<br>(0.001)    | 0.003**<br>(0.001)  |
| Male                           | -0.011<br>(0.038)    | 0.270<br>(0.321)    |
| Unemployed                     | 0.032<br>(0.056)     | -0.026<br>(0.158)   |
| High school                    |                      | 0.064<br>(0.045)    |
| Higher education               |                      | 0.097<br>(0.063)    |
| University education           |                      | 0.193***<br>(0.054) |
| Single parent/divorced         | -0.114<br>(0.079)    | -0.187**<br>(0.067) |
| Number of children             |                      | -0.019<br>(0.038)   |
| Number of siblings             | 0.044<br>(0.032)     |                     |
| Only child                     | 0.077<br>(0.061)     | -0.086<br>(0.057)   |
| Ethnic minority                | -0.082<br>(0.097)    | 0.002<br>(0.091)    |
| OK health                      | 0.144<br>(0.158)     | 0.567***<br>(0.108) |
| Good health                    | 0.260*<br>(0.156)    | 0.772***<br>(0.103) |
| Very good health               | 0.452***<br>(0.157)  | 1.221***<br>(0.110) |
| Number of close friends        | 0.098***<br>(0.021)  |                     |
| Time conversing                | 0.112***<br>(0.028)  | 0.013<br>(0.025)    |
| Time together                  | 0.065*<br>(0.036)    | 0.007<br>(0.033)    |
| Parents strict                 | -0.111***<br>(0.038) |                     |
| Bullied at school              | -0.170***<br>(0.054) |                     |
| Sports activities              | 0.044<br>(0.039)     |                     |
| Absolute grade in Chinese      | 0.0001<br>(0.003)    |                     |
| Relative grade in Chinese      | 0.285<br>(0.289)     |                     |
| Missing value grade in Chinese | 0.216<br>(0.188)     |                     |
| Constant                       | 1.665***<br>(0.345)  | 2.293***<br>(0.223) |
| R-square                       | 0.185                | 0.186               |
| Number of observations         | 944                  | 944                 |

\*, \*\*, and \*\*\* denote that the coefficient is statistically significant at the 10%, 5%, and 1% levels, respectively.

Let us begin by looking briefly at the parent equation. As can be seen, higher income, higher education, good health, and not being divorced result in a higher self-reported happiness among the parents. In particular, being in good health has a large impact on stated happiness. These findings are consistent with the general findings in previous studies. Regarding family size, neither the number of children nor having only one child matters for a parent's happiness level.

Among preadolescents, we find that only a few socio-economic characteristics explain the variation in stated happiness. However, they only do so for parents, with one exception: Self-reported health status is positively correlated with happiness in both groups, although the correlation is clearly lower for children than for parents. A bit surprisingly, not even having divorced parents results in lower stated happiness among children. However, this finding is actually in line with the findings by Winkelmann (2006b), who found a negative but insignificant effect of parental separation on teenagers' subjective well-being. Consequently, standard factors such as income does not explain children happiness, at least not directly.<sup>10</sup> Moreover, there is no indirect effect through parent happiness, since the coefficient for parent happiness is insignificant in the preadolescent regression. Thus, what we can say so far is that factors that explain parent happiness are neither directly nor indirectly related to their children's happiness. However, in the next set of variables on interpersonal relations, a large number of them are both of statistical and economic significance. First of all, the extent of interaction with parents and friends is important for well-being. A larger number of close friends and more time spent conversing and interacting with parents are associated with higher stated happiness. Moreover, preadolescents who are bullied at school or who experience that at least one parent is too strict have clearly lower stated happiness. Being

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<sup>10</sup> There could be an indirect effect since health status in turn might depend on family income level. However, although the income coefficient becomes less insignificant when removing the health status variables, it is still clearly insignificant. These results are available upon request from the authors.

bullied actually has the largest negative impact on happiness. Interestingly, neither school performance nor absolute or relative grades are correlated with a child's happiness. Moreover, contrary to the findings by Park and Peterson (2006) and Van de Wetering et al. (2010), we find that being an only-child does not have any significant positive correlation with happiness among children.<sup>11</sup>

#### **4. Conclusions**

We conducted a survey in the Guangdong province in China to measure happiness among preadolescents and their parents. The objective of this study was to investigate what explains preadolescents' happiness level and whether their happiness is related to the happiness level of their parents. We do not find any significant relationship with respect to the latter, and the factors that explain the variation in happiness among parents do not explain the variation among children. In general, children's happiness is not explained by socio-economic factors, in fact not even by having divorced parents, which is a situation that clearly decreases the happiness level of parents. Instead, relations with parents and friends are important for the well-being of preadolescents. The higher the number of close friends a child has and the more her parents spend time and converse with her, the happier she feels. One interesting finding is that neither absolute nor relative grades are correlated with well-being. Yet, being bullied has one of the strongest negative impacts on the happiness of preadolescents. For a policymaker, these findings have implications for future policies. If one would like to improve the well-being of preadolescents, more attention should be given beyond the concern for the socio-economic status of the children's families, e.g., to children's networks of friends, relationships with parents, and school environment. With the recent focus on happiness in

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<sup>11</sup> We have also investigated a possible correlation between a child's birth order and happiness. However, the coefficients capturing birth order (being a first-born or a middle-born) were highly insignificant and the birth order variables are therefore excluded from the regression shown in Table 3.

China, as stressed by Premier Wen Jiabao at the opening of the National People's Congress in 2011, it will of course be of interest to see how empirical findings as those reported in our paper will shape future policies in China.

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