Can Stronger Family Connections Alleviate the Adverse Effects of Unemployment on Happiness? Evidence from Asian Countries

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Abstract: This study aims to investigate whether and how the family connection is critical to alleviate the negative effect of unemployment on people's happiness by employing the World Values Survey data set regarding people in Chinese culture-related regions for empirical work. Empirically, we found family connections constitute a crucial factor in determining people's happiness level. Except for living with parents, other family variables are positively significant in the happiness determination equation. Taking related measurements for family connections in the happiness determination equation is important in reducing estimation bias. Moreover, family connection reduces the fear of being unemployed and psychological losses from recession due to the worsening of job opportunities in economy. Stronger family connections can facilitate overcoming the stress and fear of being unemployed during recessions. Among the family-related variables, considering family important is of the largest marginal effect in alleviating the adverse effects of unemployment on happiness. This finding is robust among various age cohorts and between genders and among different model specifications. However, the ability of family connection to alleviate the adverse effect of unemployment on the happiness level of an unemployed worker is supported less by the data. We found that certain types of family connections might diminish the happiness of unemployed people, although the regression results are of no statistical significance. Those types of family connections include living with parents and considering family a crucial part of life.

Keywords: Family connection, unemployment, happiness, Asian countries.

1. INTRODUCTION

Considerable research has sought to identify the sources of happiness. Among several variables, unemployment is one of the most crucial factors in reducing people's happiness regardless of the economic development of the region in which a person resides.[1] According to the relevant literature, the effects of unemployment on happiness levels essentially consist of two factors: the micro factor, which is measured according to people's unemployment status, and the macro factor, which is measured according to a nation's aggregate unemployment rate (e.g., Oswald, 1997; Di Tella *et al*., 2003)[2].

The micro factor constitutes the direct effects of unemployment, consisting of the personal cost of joblessness. The macro factor affecting people's happiness through unemployment is the psychological loss related to recession, consisting of the fear caused by unemployment because of business cycles. The mechanism of the negative impact of aggregate unemployment on happiness is as follows: for employed workers, a higher rate of unemployment implies higher welfare dependence and hence that a higher tax rate is likely. For unemployed workers, a higher unemployment rate entails longer unemployment duration. A rise in the aggregate unemployment rate may thus cause a reduction of happiness. On the basis of empirical evidence, unemployment reduces people's happiness levels substantially more than other business-cycle factors do. Oswald (1997), for example, demonstrated that the negative impact of increases in the aggregate unemployment rate on a person's happiness is more critical than that of the income level.

Consequently, support that may alleviate the pains, fears, and pressures caused by unemployment could likely raise people's level of happiness, such as support from family members. Family connections, for example, may yield benefits that alleviate the fear of losing employment during economic downturns, which can include money support to family members who are unemployed. It is thus suspected that the closer people's relationship with their family, the happier they are, and the less pain they experience when unemployed. In other words, the family connections may appear to be crucial to alleviating the negative effects of unemployment on people's happiness.

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[1]See Frey and Stutzer (2000) for a thorough survey. The relevant studies on Asian people also found that employment is an essential variable in happiness determination equations (e.g., Yao *et al*. 2009).

[2]Blanchflower and Oswald (2004), Ferrer-i-Carbonell and Gowdy (2007), and Shields and Price (2005) have conducted studies related to Western economies. Alesina *et al*. (2004) studied the effect of unemployment on happiness in the United States, and Di Tella *et al*. (2001 and 2003) and Wolfers (2003) have examined this subject in Europe.

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Nevertheless, to the best of our knowledge, little is known empirically about how family support influences the effects of unemployment. This study employs data from Chinese culture countries for empirical research. It is because family support and communication among family members were well-known as major strengths of Chinese families (Xie *et al*., 1996). One of the key characteristics of Chinese culture is that the basic unit of society is not the individual but the family. People raised in Chinese culture countries typically emphasize the importance of cooperation in family communities. Chinese culture has thus been described as a family-based collectivism that advocates prioritizing family welfare such that family-oriented necessities are more prominent than those of individuals (e.g., Lu and Gilmour, 2004; Yan and Sorenson, 2006). In other words, a person is not primarily an individual in Chinese society; rather, he or she is a member of a family (Hofstede and Bond, 1988).[3]

The main goal of this study thus aims to investigate the extent to which family relationships influence the effects of unemployment on happiness in Chinese culture related regions/counties. We examine the factors that influence happiness of people resident in China, Hong Kong, Malaysia, Singapore, and Taiwan, and focused particularly on whether and how the family connections can serve as a moderator, diminishing the negative effect of economic pressure.[4]

This study employed data from the World Values Survey (WVS), which has been considered a sufficient data set for happiness research in economic literature (e.g., Frey and Stutzer, 2000; Di Tella *et al*., 2003; Di Tella and MacCulloch, 2006). The WVS includes the happiness scores of approximately 1,000 random samples for every country surveyed since 1981. The data also provides several questions on the respondents' subjective feelings regarding relationships with their families, thereby measuring family connections and facilitating empirical analysis. Because happiness may also influence explanatory variables including the employment status and educational level, and thereby generate biased estimation results, we considered endogeneity.

Empirically, after we controlled for people's characteristics and country of residence, as well as for macroeconomic factors, we found that family connection variables had marked and statistically robust effects on happiness, which correspond with findings on the strengths of Chinese culture. We claim that, to obtain unbiased estimators, it is important to take related measurements for family connections in the happiness determination equation, in particular when studying happiness in collectivist societies.[5] Moreover, our study found that family connections reduce the negative effects of unemployment via the above mentioned macro channel, in particular, reducing the fear caused by negative business cycles. However, we found less evidence that family support for unemployed family members reduces the adverse effects of unemployment. Certain types of family connections might diminish the happiness of unemployed people, although the regression results are of no statistical significance. Those types of family connections include living with parents and considering family a crucial part of life. Hence, we conclude that the influence of family support on the effects of unemployment might be mainly psychological. In addition, we found strong microeconomic patterns in the data that were similar for the countries studied and also resembled those for Western countries. Specifically, our data showed that people in our sample are fairly happy and very happy. People with a higher income status are happier than their counterparts with lower income. National income level appears to affect people's happiness in our sample.

The remainder of this paper is structured as follows. Section 2 describes the happiness level for the studied countries, focusing on the role of family connections. Section 3 discusses the model setup for the happiness determination equation and the empirical strategy of this research. The empirical results are discussed in Section 4, in which the robustness tests are presented. Finally, Section 5 concludes the paper.

2. HAPPINESS DATA AND FAMILY CONNECTIONS

2.1. World Values Survey

The WVS data set is a global data set for exploring values and beliefs as well as their impact on social and political development in many countries. The WVS data have been compiled on the basis of survey responses since 1981 and administered in six waves. Waves 1–6

[3]It is noted that culture is one of the crucial aspects determining people's level of happiness (e.g., Dorn *et al*., 2007; Inglehart and Baker, 2000). As mentioned in Kahn (1979), Chinese culture countries emphasize cultural characteristics such as responsibility, frugality, and diligence.

[4]China, Hong Kong, Macau, Singapore, and Taiwan are commonly accepted as "Greater China", although the term is loosely defined in the literature. See Peng *et al*. (2001) for a good survey. The WVS data set does not contain samples from Macau.

[5]The family-centric structure advocated by the Chinese culture is also prevalent in other collectivist societies (e.g., Yan and Sorenson, 2006).

were compiled in 1981–1984, 1990–1994, 1995–1998, 1999–2004, 2005–2009, and 2011–2012, respectively. Each country was surveyed approximately 1,000 random samples in a particular year in each period. However, not every country was surveyed in each wave. According to survey availability, this study used data from the most recent four waves. In our data set, China was surveyed in four waves (waves 3 to 6), Hong Kong was surveyed in only one wave (wave 5), Malaysia was surveyed in two waves (waves 5 and 6), Singapore was surveyed in two waves (waves 4 and 6), and Taiwan was surveyed in three waves (waves 3, 5, and 6). Because the WVS comprises repeated-sampling data, it is essentially cross sectional. There are 14,930 observations in our sample, in which 5127, 936, 2,490, 3,340, and 3,037 were from China, Hong Kong, Malaysia, Singapore, and Taiwan, respectively.

The WVS includes the happiness scores based on responses to the following questions: "Taking all things together, would you say you are very happy, rather happy, not very happy, or not at all happy?" Answers 1 to 4 in the WVS data represent *very happy, rather happy, not very happy,* and *not at all happy*, respectively. Lower values represent happier respondents. Because this scale is rather counterintuitive, we recoded the numbers so that higher numbers represented higher happiness levels.

The WVS provides several questions on respondents' subjective feelings regarding relationships with their families. These measures include the following assessments: whether the respondents live with their parents, the importance of family in the respondents' lives, the extent to which the respondents agree that one of their main goals in life has been to make their parents proud, and the degree of the respondents' satisfaction with the financial situation of their household. These variables were employed to measure family connections, which facilitated our empirical analysis and enabled estimating the effects of family connections on happiness. The relevant questions are as follows:

Question a: Do you live with your parents?

Question b: How important is family in your life? This question was scaled from 1 to 4, with the higher values representing respondents to whom family was more important.

Question c: Is one of your main goals in life to make your parents proud? This question was scaled from 1 to 4, with higher values representing respondents who answered "yes" more strongly.

Question d: How satisfied are you with the financial situation of your household? This question was scaled from 1 to 10, with 10 representing respondents who were completely satisfied.

2.2. Happiness Levels and Family Connections

We began our research by analyzing international data on the reported happiness levels of people in our sample. The raw happiness data are presented in Tables **1** and **2**, which provide cross-tabulation of the happiness responses. Based on the numbers in Table **1**, on average, people in the sample are fairly happy or very happy, 28.37% and 60.52%, respectively. This is the case for nearly 90% of the respondents. Both unemployed and divorced people in our data are considerably less content. Females are generally happier than males. Based on the percentage of people with a happiness level of no less than 3, people with higher income statuses are more content.

Focusing on the effects of family connection, we then examined people's happiness levels according to the degree of family connections. Table **2** presents a cross-tabulation of people's happiness responses and their family connections. The results in Table **2** indicated that the respondents who considered their families most important tended to be more happy. Those who aimed to make their parents proud also had higher happiness scores. Moreover, a total of 37.3% of the respondents in our sample lived with their parents. This percentage is significantly higher than that of the United States in the WVS data set. The samples of the United States in waves 3 to 6 show that only 10.4% of respondents (of 6,011 observations) lived with their parents during the survey period. Table **2** shows that of the respondents living with their parents, 27.5% reported being very happy, whereas 28.9% of those not living with parents did. As such, living with parents was a little less related to high happiness scores according to our results. If family support is intrinsically crucial in determining people's happiness, then whether family connections can mitigate the negative effects of unemployment on people merits consideration.

3. MODEL SPECIFICATION AND EMPIRICAL STRATEGY

We began the analysis by following related literature that included personal characteristics and

Table 1: Happiness Level by Personal Characteristics: 1995-2012

Happiness Level	All	Unemployed	Married	Divorced	Sex	
					Male	Female
Very Happy	28.37%	21.4%	28.28%	25.19%	26.16%	30.51%
Rather Happy	60.52%	57.38%	60.44%	57.89%	60.92%	60.13%
Not Very Happy	9.85%	17.9%	9.94%	14.66%	11.44%	8.31%
Not at All Happy	1.27%	3.32%	1.34%	2.26%	1.49%	1.05%
Total	100%	100%	100%	100%	100%	100%

Happiness Level	Income Scales (1-10)				
	Scales1-2	Scales3-4	Scales5-6	Scales7-8	Scales9-10
Very Happy	21.66%	21.24%	29.22%	38.55%	38.36%
Rather Happy	56.88%	63.21%	62.9%	55.9%	55.65%
Not Very Happy	17.03%	13.96%	7.36%	5.28%	5.48%
Not at All Happy	4.43%	1.6%	0.52%	0.27%	0.51%
Total	100%	100%	100%	100%	100%

Note: 1. Based on 14,930 observations.
2. Income scales: 1 indicates the lowest income group and 10 the highest income group perceived by the respondents in their countries.

Table 2: Family Connection and Happiness Level

Happiness Level	Family Important				Living with Parents	
	Very important	Rather important	Not very important	Not at all important	Yes	No
Very Happy	30.99%	11.85%	14.29%	11.11%	27.46%	28.92%
Rather Happy	58.99%	71.65%	46.67%	38.89%	62.97%	59.05%
Not Very Happy	8.89%	14.8%	32.38%	27.78%	8.58%	10.6%
Not at All Happy	1.13%	1.71%	6.67%	22.22%	0.99%	1.43%
Total	100%	100%	100%	100%	100%	100%

Happiness Level	Making Parents Proud			
	Strongly agree	Agree	Disagree	Strongly disagree
Very Happy	42.31%	24.72%	19.33%	24.86%
Rather Happy	50.01%	64.44%	64.13%	59.12%
Not Very Happy	6.63%	9.63%	14.86%	13.81%
Not at All Happy	1.04%	1.21%	1.68%	2.21%
Total	100%	100%	100%	100%

Note: 1. Same as note 1 of Table **1**.

macroeconomic variables for estimating the happiness equations. We then added the four family-connection variables and their interactive terms in the model to estimate the effect of family connections on happiness. The hypotheses tested include the following:

$H_{1\text{-}1}$: Being Unemployed reduces people's happiness (the direct effect of unemployment on happiness).

$H_{1\text{-}2}$: A higher rate of aggregate unemployment is accompanied with lower level of happiness (the indirect effect of unemployment on happiness).

H_2: Certain kinds of family connection enhance people's content level.

$H_{3\text{-}1}$: Certain kinds of family connection serve as moderators in decreasing the direct effect of unemployment on happiness (interaction effect-1).

$H_{3\text{-}2}$: Certain kinds of family connection serve as moderators in decreasing the indirect effect of unemployment on happiness (interaction effect-2).

3.1. Model Specifications and Procedure

The empirical model is as follows: The dependent variable $HAPPY_{jit}$ is the perceived level of happiness of an individual *j* resident in region *i*, surveyed in year *t*.

Model I: Basic model

$$HAPPY_{jit} = \alpha Dunem_{jit} + \sum X_{jit} \cdot \omega + \varepsilon_i + \tau_t + \mu^1_{jit}, \quad (1)$$

where *X* = [*Male, Age, Age2, Education to age* 15-18, *Education to age* ≥ 19, *Married, Divorced, Separated, Widowed, Self-employed, Retired, Housewife, School, IncomScales* 3-4, *IncomScales* 5-6, *IncomScales* 7-8, *IncomScales* 9-10, *Number of children* 1, *Number of children* 2, *Number of children* 3, *China*, *Hongkong*, *Singapore*, *Taiwan*].

$Dunem_{jit}$ is a dummy variable for whether an individual *j*, a resident in region *i*, surveyed at year *t* is unemployed. If individual *j* reported that he/she is unemployed, $Dunem_{jit}$=1; otherwise $Dunem_{jit}$=0. The variable for determining whether the loss of a job reduced people's happiness concerned the direct effects of unemployment on happiness. The coefficient of *Dunem* was expected to be negative, $\alpha<0$, i.e., supporting the statement of Hypothesis $H_{1\text{-}1}$.

X_{jit} is a vector of the personal characteristics of the respondents, containing gender, age, age squared, education[6], the marital status, being self-employed, being a housewife, the student status, income scales, and number of children. The data set does not contain personal income, only the scales of income from 1 to 10, perceived by individual *j*, with the higher values representing higher income. We thus specified five dummies for the income scales, with the lowest 2 scales as the reference group. We included a country fixed effect, ε_i in the specification to control for nation-specific cultural and institutional influences. A year-fixed effect, τ_t measured as time dummies for the survey year, was added to consider any global shocks common to all economies in each year. We also controlled for heterogeneity by using White's method. Because of the categorical nature of happiness levels, the happiness regressions in our study were first estimated using an ordered Probit model (e.g., Clark and Oswald, 1994; Di Tella *et al*., 2001, 2003; Castriota, 2006). In addition, the interpretations of interactions in non-linear models like ours is far from obvious (e.g., Ai and Norton, 2003), we also estimate the estimations using linear techniques, the ordinary least squares (OLS) method.[7] The variable definitions and basic statistics are summarized in the appendix in Table **A1**.

To estimate the effects of family connections on happiness, we then added the four variables stated in the previous section into the model specification (Model II). They are living with parents (*Dlivep*), family importance (*Fimport*), making parents proud (*Pproud*), and satisfaction with household financial situation (*Hfinance*). Thus, the econometric models to test for the second hypothesis (H_2) are described as follows.

Model II: Family Connection Effect Model

$$HAPPY_{jit} = \alpha Dunem_{jit} + Familyvars_{jit} \cdot \beta + \sum X_{jit} \cdot \omega + \varepsilon_i + \tau_t + \mu^2_{jit}, \quad (2)$$

where *Familyvars* = [*Dlivep, Fimport, Pproud, Hfinance*].

Although the 4 family-related variables measure the strength of the respondents' connection with their family, their impacts on people's content may vary, especially for unemployed individuals. For instance, people living with their parents might be the major health care provider for their parents. Living with parents could thus cause higher financial pressures, which may be even critical for an unemployed worker. Living with parents may also involve time-allocation pressures. In the same vein, considering family more important might cause pressure on unemployed family members through the feeling of losing face, thereby adversely affecting the unemployed member's happiness. So does that of making parents proud. As such, the expected signs of the coefficient estimates of the 4 family-related variables on happiness level are uncertain (Hypothesis H_2). As a consequence, it is expected that $\beta \geq 0 \; or \leq 0$.

Model III presents the specification for the interactive effects, testing for hypothesis $H_{3\text{-}1}$. The interactive terms of $Dunem$ and $Familyvars$ were included in the model to identify the effects of family connections on an unemployed family member's happiness. As mentioned above, we suspect that

[6]The age range of the respondents when interviewed is 15-18 and over 19.

[7]The related studies on developed countries found that the ordered probit and OLS estimation results are quite similar (see e.g., Luttmer (2005) and Stutzer (2004)).

certain types of people's relationship with their family could reduce the pain they experience when unemployed. So $\beta \geq 0 \; or \leq 0$, depending on how family members are connected. It is an empirical issue.

Model III: Interactive Effect Model

$$HAPPY_{jit} = \alpha Dunem_{jit} + Familyvars_{jit} \cdot \beta + (Dunem_{jit} \times Familyvars_{jit}) \cdot \gamma + \sum X_{jit} \cdot \omega + \varepsilon_i + \tau_t + \mu^3_{jit}, \quad (3)$$

The next specification, Model IV, includes the macro variables. In line with the existing literature (e.g., Alesina *et al*., 2004; Di Tella *et al*., 2001, 2003; Wolfers, 2003), the aggregate unemployment rate and real GDP are added.

Model IV: Aggregate Unemployment Effect Model

$$HAPPY_{jit} = \alpha Dunem_{jit} + Familyvars_{jit} \cdot \beta + (Dunem_{jit} \times Familyvars_{jit}) \cdot \gamma + \delta UR_{it} + \theta GDP_{it} + \sum X_{jit} \cdot \omega + \varepsilon_i + \tau_t + \mu^4_{jit}, \quad (4)$$

where UR is the unemployment rate in country *i* in year *t*. *GDP* is measured according to real GDP per capita. The variable UR enabled testing whether a rise in the unemployment rate reduced people's happiness, even among those who were working or occupied with housework. This unemployment effect is considered the indirect effect of unemployment on happiness in the related literature and a measure of people's fear caused by unemployment because of economic downturns (Hypothesis $H_{1\text{-}2}$). It is expected that $\delta < 0$ and $\theta > 0$.

In the following completed model (Model V), the interactive terms of UR and $Familyvars$ were included in the model specification.

Model V: The Completed Model

$$HAPPY_{jit} = \alpha Dunem_{jit} + Familyvars_{jit} \cdot \beta + (Dunem_{jit} \times Familyvars_{jit}) \cdot \gamma + \delta UR_{it} + (UR_{it} \times Familyvars_{jit}) \cdot \eta + \theta GDP_{it} + \sum X_{jit} \cdot \omega + \varepsilon_i + \tau_t + \mu^5_{jit}, \quad (5)$$

The interactive terms of the unemployment-related and family-connection variables were included in the model for identifying the effects of family connections. In this study, we emphasized the coefficient of the interactive terms. For the types of family connections that reduce the negative effects of unemployment, the coefficients of the interactive terms should be positive; otherwise negative. Hence, it is expected that $\eta \geq 0 \; or \leq 0,$ still an empirical issue (Hypothesis $H_{3\text{-}2}$). This is the main focus of this study.

3.2. Correction for Endogeneity and Test for Robustness

As mentioned above, related studies have raised concerns about endogeneity and estimation bias (e.g., Winkelmann and Winkelmann, 1998; Di Tella *et al*., 2003). Endogeneity may be influenced by macro and personal characteristic variables such as GDP per capita, the employment status, education, and income level. The influence of these variables on endogeneity is attributable to the possibility that people's happiness levels instead affect the performance of the economy. Additionally, happier people tend to be employed. However, identifying reliable instrumental variables is difficult (Di Tella *et al*., 2003). Consequently, in our study, lagged GDP and unemployment rate variables were employed to replace the corresponding current variables throughout all the model specifications. In addition, we followed the suggestions of Di Tella *et al*. (2003) and excluded possible endogenous personal variables such as the family income level and marital and employment statuses from the regression equation for the robustness tests.[8]

Because a substantial disparity in happiness between genders has been commonly reported in related studies, the samples in our data were estimated according to gender. Finally, the samples were classified into two groups by age, depending on whether they were younger or older than 45 years.

4. EMPIRICAL EFFECTS OF FAMILY CONNECTIONS ON HAPPINESS

4.1. Individual Unemployment and Family Connections

Table **3** presents the estimation results of our happiness regression equation for Models I and II. Column (1) in Table **3** presents a simple specification, as shown in equation (1), and contains merely the model's microeconomic controls.[9] Column 2 shows the estimation result of equation (2), in which the four measures of family connections were incorporated in the model specification. Columns (3) and (4) present the results of equation (3) (Model III) of the ordered

[8]Consequently, only $GDP_{t\text{-}1}$, $UR_{t\text{-}1}$, Male, Age, Age squared, country dummies, and the interactive terms for $UR_{t\text{-}1}$ and the four family variables remained in the model specification.

[9]Table **A2** presents the ordered probit regression results by region. Due to that Malaysia has over 50% Malays, unlike the rest countries/region in the sample that have a majority of ethnic Chinese people, we dropped Malaysia observations and rerun the regression. The regression results generally remain the same as those from the overall sample. The regression results are available from the authors upon request.

Table 3: Family Connection and Individual Unemployment on People's Happiness: Ordered Probit and OLS Estimation Results

	(1)	(2)	(3)	(4) OLS
Dunem	-.2410***	-.1830***	-.1560	-.1510
	(.0545)	(.0546)	(.4400)	(.2420)
Interactive Effects				
Dunem×Dlivep			-.0125	-.0168
			(.1090)	(.0572)
Dunem×Fimport			-.1360	-.0610
			(.1140)	(.0632)
Dunem×Pproud			.1410	.0754
			(.0823)	(.0429)
Dunem×Hfinance			.0126	.0114
			(.0230)	(.0123)
Family Connections				
Dlivep		-.0147	-.0139	-.0047
		(.0246)	(.0248)	(.0121)
Fimport		.2510***	.2570***	.1290***
		(.0265)	(.0272)	(.0144)
Pproud		.1170***	.1130***	.0524***
		(.0156)	(.0158)	(.0078)
Hfinance		.1600***	.1600***	.0801***
		(.0054)	(.0055)	(.0027)
Other Personal Characteristics				
Selfemployed	.0747*	.0540	.0544	.0265
	(.0376)	(.0386)	(.0386)	(.0182)
Retired	.0382	.0315	.0318	.0131
	(.0482)	(.0483)	(.0483)	(.0239)
Housewife	.0618	.0282	.0283	.0132
	(.0344)	(.0345)	(.0346)	(.0166)
School	-.0351	-.0978*	-.0953*	-.0475*
	(.0433)	(.0443)	(.0445)	(.0212)
Male	-.1460***	-.1290***	-.1290***	-.0631***
	(.0203)	(.0208)	(.0208)	(.0101)
Age	-.0254***	-.0235***	-.0234***	-.0116***
	(.0047)	(.0048)	(.0048)	(.0023)
Age2	.0003***	.0002***	.0002***	.0001***
	(.0001)	(.0001)	(.0001)	(.0000)
Income dummies				
Scales 3-4	.1730***	.0639	.0626	.0418*
	(.0348)	(.0350)	(.0350)	(.0182)
Scales 5-6	.4340***	.2090***	.2070***	.1150***
	(.0343)	(.0350)	(.0350)	(.0179)
Scales 7-8	.6110***	.2930***	.2910***	.1500***
	(.0386)	(.0400)	(.0400)	(.0199)
Scales9-10	.6040***	.2510***	.2500***	.1270***
	(.0590)	(.0607)	(.0608)	(.0290)

(Table 3). Continued.

	(1)	(2)	(3)	(4) OLS
Education to age				
15-18 years old	.1210***	.0959***	.0965***	.0491***
	(.0277)	(.0281)	(.0281)	(.0139)
≧19 years old	.1040***	.0659*	.0661*	.0348*
	(.0305)	(.0310)	(.0310)	(.0152)
Marital status				
Married	.1490**	.1510**	.1520**	.0750**
	(.0465)	(.0478)	(.0479)	(.0230)
Divorced	-.0139	.0974	.0999	.0479
	(.0863)	(.0875)	(.0875)	(.0435)
Separated	-.0987	.0292	.0177	.00191
	(.1820)	(.1820)	(.1830)	(.0938)
Widowed	-.0358	.0054	.0052	-.0031
	(.0813)	(.0816)	(.0816)	(.0414)
Number of children				
1	.0466	.0072	.0065	.0039
	(.0466)	(.0473)	(.0474)	(.0228)
2	.0141	-.0444	-.0458	-.0228
	(.0463)	(.0469)	(.0469)	(.0226)
3	.0591	.0119	.0095	.0019
	(.0483)	(.0488)	(.0488)	(.0235)
Country:				
Taiwan	-.4720***	-.4470***	-.4470***	-.2100***
	(.0361)	(.0381)	(.0381)	(.0180)
Singapore	-.3740***	-.3210***	-.3220***	-.1480***
	(.0427)	(.0442)	(.0442)	(.0203)
Hong Kong	-.8900***	-.7920***	-.7910***	-.2810***
	(.0482)	(.0518)	(.0518)	(.0349)
China	-.7910***	-.7740***	-.7750***	-.3680***
	(.0413)	(.0437)	(.0438)	(.0206)
_cons				2.273***
				(.0818)
cut1_cons	-3.019***	-1.052***	-1.045***	
	(.1070)	(.1600)	(.1620)	
cut2_cons	-1.910***	.1530	.1600	
	(.1040)	(.1590)	(.1610)	
cut3_cons	.0425	2.227***	2.235***	
	(.1030)	(.1600)	(.1620)	
No. of obs.	14,930	14,930	14,930	14,930

Note: 1. Standard errors in parentheses.
2.* p<0.05, ** p<0.01, *** p<0.001.
3. The regression includes year dummies of 1995, 2001, 2002, 2005, 2006, 2007, and 2012 which represent the year surveyed.
4. The difference between Columns (3) and (4) is that Column (4) includes one additional variable in the specification; namely, the respondent's confidence in their labor union (*ConfidenceLU*).

Probit and OLS regressions, respectively. Three findings emerge:

First, the effect of an individual unemployment status (*Dunem*) is strong in the first two specifications

of Table **3**. The regression results indicate that the micro factors of the effects of unemployment are significant. The findings demonstrate that unemployment is indeed one of the major economic sources of distress in our sample, predictions widely supported in empirical research on Western countries, such as that by Alesina *et al*. (2004) on the United States and Di Tella *et al*. (2001, 2003) and Wolfers (2003) on Europe. It's noted that the significance of the unemployment effect disappeared as the family connection variables are included (see Columns (3) and (4)).

Second, regarding the family connections effect in mitigating the negative effects of unemployment on people, based on the current specifications in Columns (3) and (4) of Table **3**, two of the four coefficient estimates are positive, and the other two are negative (i.e., those of $Dunem \times Dlivep$ and $Dunem \times Fimport$). The mix outcome implies that the favorable effect of family connections on unemployed people's content might depend on how family relationship is connected by the respondent in the data. More explanations of this finding are provided subsequently in the next subsection and the robustness test.

Regarding the family connection effects, except for living with parents, three of the four family variables are positively significant for all specifications in Table **3**. The finding concerning the effects of family connections on people's happiness in our data to certain extent confirm that family support is one of the strengths of Chinese culture (Xie *et al*., 1996, 2004); this agrees with Lam *et al*. (2012), who studied Hong Kong Chinese people and reported that family harmony is a core element of family happiness. Among the three family-related variables with significance, "*Fimport*" is of the largest marginal effect in the magnitude of the coefficient estimation (0.1291; see column (4) of Table **3**). Nevertheless, living with parents appears to have different effects on people's happiness. Its coefficient estimate is negative, yet nonsignificantly different from zero. Despite of the different effect of this measurement (living with parents), neglecting the measures of family connections in the happiness determination equation, as has been done in the related research, could bias the estimation results.

Personal characteristics, similar to those found in Europe and the United States, appear to be correlated with happiness in our data. Specifically, females were found to be happier in our study, although related studies indicate that gender has an indefinite influence on happiness.[10] Age has a negative effect on happiness, whereas the square term is positive. A U-shaped age effect indicates that middle-aged people are the least happy, corresponding with findings such as those of Dolan *et al*. (2008) concerning developed countries and Tsou and Liu (2001) and Chang (2009) on Taiwan. Other things being constant, we found that people aged 58 are happiest in our sample (Column (4)). Having a family income that is classified in a higher percentile increases the likelihood of happiness in our sample. The effects of income are not monotonic. This finding is consonant with those of studies on developed countries (e.g., Tella and Maclulloh, 2006; Stutzer, 2004, and Luttmer, 2005). The perceived income scaled at levels 7 to 8 are of the highest happiness, according to the OLS regression results (Column (4)). Education is a crucial determinant of happiness; however, its effect is not monotonic. We found that a midlevel education is related to the highest happiness level (Column (4)), a finding corresponding with that of Stutzer (2004).[11] Furthermore, in our study, marriage was found to be crucial in determining happiness. According to our results, being married is significantly happier than the unmarried counterparts. Nevertheless, being divorced, separated, or widowed does not significantly influence the likelihood of happiness. This is consistent with the claim of Liao *et al*. (2005), who employed data from Taiwan and Hong Kong for empirical study. However, this finding contradicts those of studies based on data from Western countries, such as that of Clark and Oswald (1994), and that from Taiwan (Chang 2009).

4.2. Regional Unemployment and Family Connections

Table **4** presents the results for models when macro variables are specified. Column (1) is the result as macro variables are included. The interactive terms of $Duem$ and family-related variable are then added into the model (Model IV) (see Column (2)). Column (3) reports the results for when the interactive terms of UR and family-related variables are added. Columns (4) and (5) report the outcomes of the complete model, i.e., Model V, where the ordered Probit and OLS methodologies are applied, respectively.

[10] Some studies have reported no distinction in happiness based on gender (e.g., Louis and Zhao, 2002), whereas others (Alesina *et al*., 2004; Di Tella *et al*., 2001, 2003) have found that women are happier than men.

[11] The effects of education on happiness are indefinite in the literature (Dolan *et al*., 2008). Some researchers, such as Blanchflower and Oswald (2004), have found that education increases happiness. Others, such as Flouri (2004), have claimed that education and happiness are unrelated.

Table 4: Family Connection, and Personal and Regional Unemployment Effect

	(1)	(2)	(3)	(4)	(5) OLS	(6) OLS
GDP_{t-1}	.2060***	.2070***	.2090***	.2100***	.0933**	.1060***
	(.0621)	(.0621)	(.0624)	(.0624)	(.0300)	(.0300)
UR_{t-1}	-.2570***	-.2580***	-.1570	-.1560	-.0554	-.3860***
	(.0750)	(.0750)	(.1060)	(.1060)	(.0531)	(.0383)
Dunem	-.1790**	-.1840	-.1790**	-.1880	-.1610	-.2970
	(.0547)	(.4410)	(.0547)	(.4450)	(.2450)	(.2460)
Interactive Effects						
UR_{t-1}×*Dlivep*			.0357*	.0360*	.0174*	.0024
			(.0151)	(.0151)	(.0074)	(.0032)
UR_{t-1}×*Fimport*			-.0256	-.0256	-.0131	.0267***
			(.0158)	(.0158)	(.0085)	(.0036)
UR_{t-1}×*Pproud*			.0000	-.0004	.0004	.0135***
			(.0117)	(.0117)	(.0059)	(.0022)
UR_{t-1}×*Hfinance*			-.0024	-.0024	-.0002	.0203***
			(.0036)	(.0036)	(.0019)	(.0007)
Dunem×*Dlivep*		-.0118		-.0194	-.0192	-.0199
		(.1100)		(.1100)	(.0573)	(.0574)
Dunem×*Fimport*		-.1310		-.1310	-.0596	-.0339
		(.1150)		(.1150)	(.0639)	(.0635)
Dunem×*Pproud*		.1430		.1440	.0763	.0764
		(.0825)		(.0825)	(.0429)	(.0431)
Dunem×*Hfinance*		.0133		.0144	.0122	.0188
		(.0231)		(.0231)	(.0123)	(.0124)
Family Connections						
Dlivep	-.0113	-.0105	-.1330*	-.1330*	-.0625*	
	(.0246)	(.0249)	(.0587)	(.0588)	(.0287)	
Fimport	.2510***	.2570***	.3420***	.3480***	.1760***	
	(.0265)	(.0272)	(.0660)	(.0663)	(.0351)	
Pproud	.1160***	.1110***	.1170**	.1140**	.0512*	
	(.0158)	(.0160)	(.0433)	(.0433)	(.0216)	
Hfinance	.1600***	.1600***	.1690***	.1680***	.0809***	
	(.0055)	(.0056)	(.0137)	(.0137)	(.0070)	
Other Personal Characteristics						
Selfemployed	.0488	.0493	.0505	.0510	.0254	.0284
	(.0387)	(.0387)	(.0387)	(.0387)	(.0182)	(.0184)
Retired	.0334	.0337	.0326	.0330	.0135	.0176
	(.0483)	(.0483)	(.0483)	(.0483)	(.0239)	(.0240)
Housewife	.0327	.0328	.0364	.0367	.0164	.0159
	(.0346)	(.0346)	(.0346)	(.0347)	(.0167)	(.0168)
School	-.0871	-.0845	-.0875*	-.0851	-.0436*	-.0405
	(.0445)	(.0447)	(.0445)	(.0447)	(.0212)	(.0214)

(Table 4). Continued.

	(1)	(2)	(3)	(4)	(5) OLS	(6) OLS
Male	-.1290***	-.1290***	-.1280***	-.1280***	-.0629***	-.0670***
	(.0208)	(.0208)	(.0208)	(.0208)	(.0101)	(.0102)
Age	-.0237***	-.0236***	-.0241***	-.0239***	-.0119***	-.0119***
	(.0048)	(.0048)	(.0048)	(.0048)	(.0023)	(.0023)
Age2	.0002***	.0002***	.0003***	.0002***	.0001***	.0001***
	(.0001)	(.0001)	(.0001)	(.0001)	(.0000)	(.0000)
Income dummies						
Scales 3-4	.0659	.0645	.0650	.0637	.0426*	.0495**
	(.0351)	(.0351)	(.0351)	(.0351)	(.0182)	(.0183)
Scales 5-6	.2130***	.2120***	.2120***	.2100***	.1170***	.1310***
	(.0352)	(.0352)	(.0353)	(.0353)	(.0180)	(.0181)
Scales 7-8	.2940***	.2930***	.2900***	.2890***	.1490***	.1770***
	(.0401)	(.0401)	(.0401)	(.0402)	(.0199)	(.0200)
Scales9-10	.2500***	.2490***	.2470***	.2460***	.1240***	.1570***
	(.0615)	(.0616)	(.0616)	(.0616)	(.0293)	(.0295)
Education to age						
15-18 years old	.0986***	.0992***	.0987***	.0993***	.0506***	.0555***
	(.0281)	(.0281)	(.0282)	(.0282)	(.0139)	(.0139)
≧19 years old	.0662*	.0664*	.0705*	.0708*	.0374*	.0378*
	(.0311)	(.0311)	(.0312)	(.0312)	(.0153)	(.0153)
Marital status						
Married	.1500**	.1510**	.1480**	.1500**	.0735**	.0790***
	(.0479)	(.0479)	(.0478)	(.0479)	(.0230)	(.0232)
Divorced	.0974	.1000	.0959	.0985	.0474	.0502
	(.0872)	(.0872)	(.0872)	(.0872)	(.0433)	(.0438)
Separated	.0300	.0189	.0281	.0164	.0010	-.0100
	(.1810)	(.1820)	(.1820)	(.1820)	(.0938)	(.0960)
Widowed	.0050	.0047	.0037	.0032	-.0039	.0017
	(.0817)	(.0817)	(.0817)	(.0817)	(.0415)	(.0417)
Number of children						
1	.0067	.0060	.0084	.0077	.0043	.0043
	(.0473)	(.0474)	(.0473)	(.0474)	(.0228)	(.0230)
2	-.0428	-.0442	-.0410	-.0424	-.0213	-.0214
	(.0469)	(.0470)	(.0469)	(.0470)	(.0226)	(.0228)
3	.0087	.0064	.0090	.0066	.0008	.0026
	(.0488)	(.0489)	(.0489)	(.0489)	(.0235)	(.0237)
Country:						
Taiwan	-.3930***	-.3930***	-.3960***	-.3950***	-.2020***	-.2050***
	(.0689)	(.0689)	(.0691)	(.0691)	(.0340)	(.0341)
Singapore	-.9800***	-.9830***	-.9830***	-.9860***	-.4220***	-.4590***
	(.1870)	(.1870)	(.1880)	(.1880)	(.0872)	(.0870)

(Table 4). Continued.

	(1)	(2)	(3)	(4)	(5) OLS	(6) OLS
Hong Kong	-.1130	-.1100	-.1310	-.1280	.0000	.0000
	(.2220)	(.2220)	(.2230)	(.2230)	(.)	(.)
China	-.4380***	-.4380***	-.4320***	-.4320***	-.2220***	-.2100***
	(.1020)	(.1020)	(.1020)	(.1020)	(.0498)	(.0498)
_cons					1.639***	2.844***
					(.2570)	(.2150)
cut1_cons	-.0151	-.0068	.3690	.3820		
	(.4640)	(.4640)	(.5230)	(.5240)		
cut2_cons	1.189*	1.198**	1.574**	1.587**		
	(.4640)	(.4640)	(.5230)	(.5230)		
cut3_cons	3.263***	3.273***	3.648***	3.662***		
	(.4650)	(.4650)	(.5240)	(.5240)		
No. of Obs.	14,930	14,930	14,930	14,930	14,930	14,930

Note: 1. Standard errors in parentheses.
2.* p<0.05, ** p<0.01, *** p<0.001.
3. Other independent variables are the same as those shown in Table **3**.

According to the results shown in Table **4**, the effects of regional unemployment UR on people's happiness level are rather significant than those of *Dunem*, both in terms of the magnitude and the significance of the estimated coefficient. This result indicates that a higher rate of aggregate unemployment raised distress in the respondents; moreover, its effect is relatively important than that of the micro factor of unemployed. Di Tella *et al*. (2003) stated that increases in the unemployment rate can not only increase the pressure on unemployed workers but also reduce employed workers happiness through expectations of higher welfare dependence. The adverse effects of aggregate unemployment are indeed psychological, manifesting the fear caused by cyclical unemployment. This finding has been repeated in research on Western economics, such as in Oswald (1997), Alesina *et al*. (2004), Ferrer-i-Carbonell and Gowdy (2007). Our empirical results concerning Chinese culture countries are consistent with their findings. However, to the best of our knowledge, the effects of regional unemployment on happiness have yet to be accounted for in related studies on Asia. Hence, our data tends to support the statement of Hypothesis 1-2 more than that of Hypothesis 1-1, indicating rather significant indirect adverse impact of unemployment on people's happiness level.

As to the other macro variable measuring the effect of business cycle on people's content, the effect of national income GDP is significantly positively associated with the respondents' reported happiness level (See Columns (1) to (6) of Table **4**). Our findings indicate that higher GDP permanent increases in a nation's happiness levels, implying that people living in the regions are sensitive to their national economic performance despite model specification. So national income seems related to happiness for people resident in the Asia countries under study. This finding echoes studies such as that of Di Tella *et al*. (2001, 2003) concerning European countries and the United States.

Regarding the family connection effects, the signs of the four variables remain the same as those shown in Table **3**; however, the significance has been increased (Columns (3) to (5)). The significance of the coefficient estimates of "$Dlivep$" indicates that living with parents could adversely influence an individual's level of happiness. This result reinforces our previous finding that the family connection effects on happiness might rely on how family members are connected. So we conclude that the statement of Hypothesis 2 is supported by our data.

4.3. Indirect Unemployment Effects on Happiness

We now focus on overall unemployment effect. First of all, the coefficient estimate of personal unemployment $Dunem$ is consistently significant throughout the specifications in Tables **3** and **4** until the interactive terms are included. Second, the complete model (Columns (4) and (5) in Table **4**) illustrate that only one of the interactive terms is of statistical

significance, $UR \times Dlivep$. The low statistical significance of the interactive terms might be due to the multicollinearity incurred among the covariates related to unemployment, the family variables, and the interactive terms. Because of the multicollinear consideration, the four family variables were then dropped in the last specification in Table **4** and all the interactive terms were retained, thereby enabling analysis on the extent to which family connections influences the effects of unemployment on happiness. According to the estimation results (column (6) of Table **4**), the significance of the corresponding coefficient estimates was substantially increased. Accordingly, the following discussions on the effect of unemployment on happiness are based on the specification shown in Columns (5) and (6) of Table **4**, with and without the 4 family variables, respectively.

The outcome on the interactive effects in Columns (5) and (6) of Table **4** illustrate that four interactive terms are positively significant. Of the four interactive terms, all are related to aggregate unemployment, meaning that family connections might partially offset the adverse effects of unemployment on happiness. The positive estimates of the interaction between family connections and regional unemployment imply the importance of family connections in reducing the fear of unemployment. In other words, people of stronger perceived feelings for their families have less fear about joblessness during economic downturns. Hence, the macro factor of unemployment effect on happiness could be reduced as long as the respondent perceived a close relationship with their family.

Furthermore, no interactive term with statistical significance relates to the personal unemployment status. This result reveals that regarding the signs and statistical significance of the estimated coefficients, our study provides no evidence of family connections serving as a moderator in diminishing the negative impact of losing job. Moreover, two interactive terms have negative effects on happiness in Column (6): the coefficient estimates of the interactive terms between personal unemployment and living with parents and family important. These negative effects might indicate that the two types of family connections create pressure for people who lose their jobs and cause the happiness of these people to decline. However, the coefficient estimates are not significant.

The lower support for the favorable effects of family connections on the happiness of unemployed people is likely due to the lack of intrinsic measurements for family connections in the WVS data set. For example, being more satisfied with a family's financial situation might not fully reflect a stronger family relationship. Living with parents might also reflect the fact of the low economic independence. Although the WVS is not perfect, it is considered adequate in that the data set provides information on respondents' employment status and their subjective feelings regarding relationships with their families in several aspects.

On the basis of all the findings, our data show that family support do reduce the adverse impact of unemployment although the reduction is observed only via the macro channel. The adverse effects of unemployment on people's happiness are substantially reduced in our sample, indicating that fears of unemployment arising from business downturns are alleviated. We can thus conclude that family support is mainly psychological. As a result, our data supports the statement of Hypothesis $H_{3\text{-}2}$, but not Hypothesis $H_{3\text{-}1}$, restated below:

$H_{3\text{-}1}$: Certain kinds of family connection serve as moderators in decreasing the direct effect of unemployment on happiness.

$H_{3\text{-}2}$: Certain kinds of family connection serve as moderators in decreasing the indirect effect of unemployment on happiness.

4.4. Robustness Test Results

Our analysis entailed decomposing our samples according to age and gender. The first 4 columns in Table **5** summarize the corresponding regression results. The estimation outcomes for the younger and older groups in our study, shown in the first two columns of Table **5**, did not vary substantially in terms of the signs and significance of the coefficient estimates. The estimation results are also quite similar for both genders (see Columns (3) and (4) of Table **5**).[12]

[12]We endeavored to obtain other measurements of financial support to workers outside the family. Another variable for measuring financial support for unemployed people is the unemployment benefit coverage rate (with sample mean 16.81% and standard deviation 8.215%). This was included in our study for the robustness test to further control for financial security received by unemployed people from the public system. Although the availability of this variable is rather limited (data source: the International Labor Organization (ILO) website), causing a substantial reduction in the number of observations from 14,930 to 7,025, the empirical results provide a reference for the robustness of the effects of unemployment obtained in the previous section. Even with the reduced sample size, the regression results generally remain the same as those from the overall sample found in Table **4**. The regression results are available from the authors upon request.

Table 5: Sample Decomposition by Age, Sex and Simultaneity Test--- OLS Results

	(1) Younger	(2) Older	(3) Male	(4) Female	(5) Truely exg1	(6) Truely exg2
GDP_{t-1}	.0789*	.1400**	.1040*	.1090**	.1000***	.1010***
	(.0362)	(.0541)	(.0432)	(.0418)	(.0297)	(.0297)
UR_{t-1}	-.3620***	-.4500***	-.3590***	-.4190***	-.4110***	-.4170***
	(.0465)	(.0700)	(.0554)	(.0529)	(.0382)	(.0382)
Dunem	-.2210	-.4150	-.3750	-.1820	-.3440	
	(.3570)	(.3620)	(.3240)	(.3750)	(.2410)	
Interactive Effects						
UR_{t-1}×*Dlivep*	.0025	-.0016	.0012	.0033	-.0012	-.0018
	(.0037)	(.0067)	(.0045)	(.0046)	(.0031)	(.0031)
UR_{t-1}×*Fimport*	.0308***	.0201***	.0212***	.0315***	.0286***	.0286***
	(.0044)	(.0061)	(.0054)	(.0047)	(.0036)	(.0035)
UR_{t-1}×*Pproud*	.0126***	.0157***	.0137***	.0137***	.0126***	.0134***
	(.0027)	(.0037)	(.0031)	(.0030)	(.0022)	(.0022)
UR_{t-1}×*Hfinance*	.0182***	.0238***	.0214***	.0193***	.0226***	.0230***
	(.0009)	(.0012)	(.0011)	(.0010)	(.0007)	(.0007)
Dunem×*Dlivep*	-.0241	.0673	.0188	-.0709	-.0119	
	(.0730)	(.1210)	(.0827)	(.0807)	(.0571)	
Dunem×*Fimport*	-.0351	-.0413	-.0127	-.0518	-.0323	
	(.0979)	(.0825)	(.0801)	(.1030)	(.0629)	
Dunem×*Pproud*	.0593	.1150	.0760	.0620	.0803	
	(.0548)	(.0701)	(.0560)	(.0641)	(.0433)	
Dunem×*Hfinance*	.0156	.0238	.0170	.0198	.0193	
	(.0166)	(.0183)	(.0174)	(.0180)	(.0124)	
Other Personal Characteristics						
Selfemployed	.0334	.0185	.0232	.0327		
	(.0229)	(.0311)	(.0241)	(.0284)		
Retired	.1440	.0018	-.0427	.0879**		
	(.1040)	(.0260)	(.0347)	(.0331)		
Housewife	.0338	-.0083	-.1110	.0332		
	(.0214)	(.0274)	(.0974)	(.0183)		
School	-.0211	.2230	-.0375	-.0442		
	(.0240)	(.1430)	(.0301)	(.0307)		
Male	-.0700***	-.0532**	-	-	-.0668***	-.0670***
	(.0121)	(.0188)			(.0096)	(.0096)
Age	-.0039	-.0241*	-.0119***	-.0126***	-.0049**	-.0050**
	(.0070)	(.0115)	(.0033)	(.0033)	(.0018)	(.0018)
Age2	.0000	.0002*	.0001***	.0001***	.0000*	.0000*
	(.0001)	(.0001)	(.0000)	(.0000)	(.0000)	(.0000)
Income dummies						
Scales 3-4	.0437	.0366	.0435	.0529*		
	(.0241)	(.0286)	(.0262)	(.0256)		

(Table 5). Continued.

	(1)	(2)	(3)	(4)	(5)	(6)
	Younger	**Older**	**Male**	**Female**	**Truely exg1**	**Truely exg2**
Scales 5-6	.1070***	.1530***	.1410***	.1200***		
	(.0238)	(.0283)	(.0262)	(.0251)		
Scales 7-8	.1590***	.1900***	.1670***	.1840***		
	(.0260)	(.0325)	(.0291)	(.0275)		
Scales9-10	.1190***	.2030***	.1590***	.1530***		
	(.0355)	(.0552)	(.0424)	(.0411)		
Education to age						
15-18 years old	.0821***	.0235	.0622**	.0480**		
	(.0194)	(.0209)	(.0212)	(.0186)		
≧19 years old	.0675**	.0204	.0429	.0362		
	(.0207)	(.0251)	(.0225)	(.0212)		
Marital status						
Married	.0875***	.0419	.0926**	.0661*		
	(.0257)	(.0616)	(.0330)	(.0329)		
Divorced	.0314	.0672	.0112	.0729		
	(.0571)	(.0809)	(.0699)	(.0560)		
Separated	-.0087	-.0362	.0385	-.0412		
	(.1390)	(.1350)	(.1560)	(.1150)		
Widowed	-.2360*	.0137	-.0150	-.0006		
	(.1160)	(.0708)	(.0751)	(.0522)		
Number of children						
1	-.0113	.0376	.0104	-.0020		
	(.0260)	(.0523)	(.0330)	(.0322)		
2	-.0342	.0095	-.0397	-.0100		
	(.0265)	(.0498)	(.0328)	(.0319)		
3	-.0003	.0378	-.0111	.0111		
	(.0289)	(.0501)	(.0342)	(.0331)		
Country:						
Taiwan	-.1920***	-.1740**	-.2370***	-.1670***	-.2340***	-.2330***
	(.0404)	(.0667)	(.0489)	(.0480)	(.0326)	(.0326)
Singapore	-.4330***	-.5110**	-.4990***	-.4390***	-.4730***	-.4770***
	(.1060)	(.1560)	(.1260)	(.1200)	(.0862)	(.0863)
Hong Kong	-	-	-	-	.0000	.0000
					(.)	(.)
China	-.2750***	-.0747	-.2390***	-.1750*	-.2540***	-.2520***
	(.0604)	(.0909)	(.0713)	(.0696)	(.0489)	(.0490)
_cons	2.935***	2.928***	2.701***	3.011***	2.992***	2.991***
	(.2800)	(.4980)	(.3230)	(.3200)	(.2070)	(.2070)
No. of obs.	9,771	5,159	7,333	7,597	14,930	14,930

Note: 1. Standard errors in parentheses.
2.* p<0.05, ** p<0.01, *** p<0.001.
3. Other independent variables are the same as those shown in Table **3**.
4. Younger people are those who are less than 45 years old.

Moreover, researchers have proposed that happiness, personal characteristics, and macroeconomic variables could be simultaneously determined. However, convincing instrumental variables are difficult to conceptualize in the happiness-related data set (Di Tella *et al*., 2003). Therefore, we adopted the method proposed by Di Tella *et al*. (2003) to solve this endogenous problem. We excluded all endogenous personal characteristics from model specification and included only exogenous variables such as age and gender, as well as macro variables, to support our solution to this problem. Column (5) of Table **5** presents the corresponding empirical results. Still, three of the eight interactive terms are of statistical significance in this robustness check model. As Column (6) shows, the interactive terms between personal unemployment and the four family variables are further excluded. The coefficient estimates and their statistical significance in Columns (5) and (6) are nearly the same as those exhibited in Column (6) of Table **4** (i.e., the complete model).

These robust findings reinforce the conclusion that family connections are crucial to alleviating the macro factor of unemployment effect on happiness. Our results might also echo findings in the relevant literature regarding the importance of the family connection in Chinese culture. For instance, Xie *et al*. (2004) found that family support remains strong even when Chinese people migrate to other countries[13]. In addition, studies on Chinese people's health have shown that patients with higher levels of family support perform more self-care (Jiang *et al*., 2002). We thus conclude that family connections remain crucial in Chinese culture despite the social changes and economic improvements that have occurred in recent decades.

5. CONCLUSION

This paper shows that family connections affect the happiness levels of nations and how such connections influence the effects of unemployment on people's happiness. We used happiness data from the WVS data set regarding people in some Asian countries. The data were based on answers to questions such as "How happy are you?" The data also provided information with which to determine the respondents' feelings about their connections to their families. Ordered Probit and OLS equations were estimated in our study.

Empirically, family connections constitute a crucial factor in determining the happiness of people resident in Chinese culture related regions, which corresponds with the findings on the strengths of Chinese culture. Nevertheless, living with parents could plausibly adversely influence an individual' level of happiness. Moreover, our data shows that family connections also significantly reduce the fear of being unemployed, as measured according to regional unemployment rates. Among the family-related variables, family important is of the largest marginal effect in mitigating the negative effect of unemployment on people. This finding is robust among various age cohorts and between genders, as well as among model specifications. Hence, our findings indicate that the indirect effects of unemployment are reduced as long as people have a close relationship with their family members.

The direct effects of unemployment are measured according to people's unemployment status, reflecting the personal cost of joblessness. The ability of family connections to alleviate the direct effects of unemployment is supported much less by the data in our study than by the indirect effects. We found that certain types of family connections might diminish the happiness of unemployed people but the regression results are of no statistical significance. Those types of family connections include living with parents and considering family a crucial part of life.

As a consequence, on the basis of the crucial role of family connections found in this study, we claim that taking related measurements for family connections in the happiness determination equation is important to reduce estimation bias. This might also be valid for studying happiness in other collectivist societies where family-centered feature is prevalent; that could worth further studying. From a social welfare perspective, the findings of this research indicate that reemphasizing family values in the Chines society is crucial. Strengthened family connections could enhance people's psychological well-being when facing challenging periods, which in turn increases social welfare. Stronger family connections can facilitate overcoming the stress and fear of being unemployed during recessions. Relevant governmental policies should be designed accordingly. Strengthening the concept of family relationships through the educational system might be one of the possible means for

[13]Xie *et al*. (2004) conducted in-depth interviews of Chinese immigrants in the United States and found that family support and communication among family members were major family strengths.

governments to design policies. Moreover, aid to an unemployed member from his or her family is not guaranteed, implying that specific governmental policies might also be necessary. To raise overall welfare, policies to increase worker's financial security when they are unemployed or reduce unemployment duration could be considered, such as unemployment insurance enhancement or job training.

In addition to the effects of family connections, the findings of this study correspond with those of studies on Western economies. In particular, the personal characteristics that are correlated with happiness in the sample are similar to those found to be correlated with happiness in Europe and the United States. Also, business cycles, measured according to a nation's income level and aggregate unemployment rate, appear to affect people's happiness in our sample.

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APPENDIX

Table A1: Variable Definitions and Basic Statistics (Total Observations=14,930)

Variable	Variable Definitions	Mean	Std. dev.
$HAPPY_{jit}$	=1-4, representing individual *j*, a resident in region *i*, survied at year *t* reported that he/she is very happy, rather happy, not very happy, and not at all happy, respectively.	3.160	.6382
GDP_{it}	Real GDP per capita in country *i* in year *t*.	9.146	1.221
UR_{it}	The unemployment rate in country *i* in year *t*	3.451	.9413
$Dunem_{jit}$	=1 if individual *j* reported that he/she is unemployed; =0, otherwise.	.0363	.1870
Family Connections			
$Dlivep_{jit}$	=1 if live with parents; =0, otherwise.	.3730	.4836
$Fimport_{jit}$	=1-4, with the higher values representing respondents to whom family was more important.	3.853	.3832
$Pproud_{jit}$	=1-4, with higher values representing respondents who answered "yes" more strongly.	3.056	.7014
$Hfinance_{jit}$	=1-10, with 10 representing respondents who were completely satisfied.	6.288	2.145
Interactive Effect			
$UR_{t-1}\times Dlivep_{jit}$	$=UR_{t-1}\times Dlivep_{jit}$	1.264	1.737
$UR_{t-1}\times Fimport_{jit}$	$=UR_{t-1}\times Fimport_{jit}$	13.25	3.692
$UR_{t-1}\times Pproud_{jit}$	$=UR_{t-1}\times Pproud_{jit}$	10.46	3.465
$UR_{t-1}\times Hfinance_{jit}$	$=UR_{t-1}\times Hfinance_{jit}$	21.66	9.669
$Dunem_{jit}\times Dlivep_{jit}$	$=Dunem_{jit}\times Dlivep_{jit}$	.0165	.1273
$Dunem_{jit}\times Fimport_{jit}$	$=Dunem_{jit}\times Fimport_{jit}$	.1383	.7180
$Dunem_{jit}\times Pproud_{jit}$	$=Dunem_{jit}\times Pproud_{jit}$	.1108	.5859
$Dunem_{jit}\times Hfinance_{jit}$	$=Dunem_{jit}\times Hfinance_{jit}$	.2011	1.141
Other Personal Characteristics			
$Selfemployed_{jit}$	=1 if *j* is self-employed; =0, otherwise.	.0810	.2729
$Retired_{jit}$	=1 if *j* is *retired*; =0, otherwise.	.0721	.2586
$Housewife_{jit}$	=1 if *j* is a housewife; =0, otherwise.	.1135	.3172
$Male_{ji}$	=1 if *j* is a male; =0, female.	.4912	.4999
$School_{jit}$	=1 if *j* is a student; =0, otherwise.	.0808	.2725

(Table A1). Continued.

Variable	Variable Definitions	Mean	Std. dev.
Age	Age of respondent *j*.	40.24	14.96
Age2	Age squared.	1843	1325
Education to age 15-18	=1 if *j* is completed his (her) education in ages 15 to 18;	.3734	.4838
	=0, otherwise.	.3318	.4709
Education to age >=19	=1 if *j* is completed his (her) education in ages >=19;		
	=0, otherwise.		
Income scales 1-2	Individual *j* perceived scales of income, 1-10, with the higher values representing higher income. =1, if *j* perceived income scales=1-2; =0, otherwise.	.1330	.3395
Income scales 3-4	=1, if *j* perceived income scales=3-4; =0, otherwise.	.2549	.4358
Income scales 5-6	=1, if *j* perceived income scales=5-6; =0, otherwise.	.3766	.4845
Income scales 7-8	=1, if *j* perceived income scales=7-8; =0, otherwise.	.1965	.3974
Income scales 9-10	=1, if *j* perceived income scales=9-10; =0, otherwise.	.0391	.1939
Married	=1, if *j* is married; =0, otherwise.	.6906	.4623
Divorced	=1, if *j* is divorced; =0, otherwise.	.0178	.1323
Separated	=1, if *j* is separated; =0, otherwise.	.0038	.0617
Widowed	=1, if *j* is widowed; =0, otherwise.	.0277	.1642
Children no=1	=1, if *j*'s number of children=1; =0, otherwise.	.1966	.3974
Children no=2	=1, if *j*'s number of children=2; =0, otherwise.	.2449	.4300
Children no=3	=1, if *j*'s number of children≥3; =0, otherwise.	.2548	.4358
China	=1, if *j* is Chinese; =0, otherwise. (n_1=5,127)	.3434	.4749
Hong Kong	=1, if *j* is Hong Kong; =0, otherwise. (n_2=936)	.0627	.2424
Malaysia	=1, if *j* is Malaysian; =0, otherwise. (n_3=2,490)	.1668	.3728
Singapore	=1, if *j* is Singaporean; =0, otherwise. (n_4=3,340)	.2237	.4167
Taiwan	=1, if *j* is Taiwanese; =0, otherwise. (n_5=3,037)	.2034	.4026

Table A2: Ordered Probit Estimation, By Region

	(1) China	(2) Hong Kong	(3) Malaysia	(4) Taiwan	(5) Singapore
Dunem	-.1420	-.6480***	-.1260	-.1870	-.5630***
	(.1020)	(.1770)	(.1440)	(.0974)	(.1390)
Other Personal Characteristics					
Selfemployed	.1720*	-.3080	.0191	-.0030	.0484
	(.0687)	(.2690)	(.0701)	(.1200)	(.0702)
Retired	-.0909	.0109	.0136	.1850	.0119
	(.0765)	(.2050)	(.1380)	(.1120)	(.1100)
Housewife	.0203	.1450	.0612	.0693	-.0064
	(.0699)	(.1320)	(.0818)	(.0723)	(.0752)
School	.0578	.2890	.0111	-.0735	-.0501
	(.1040)	(.1990)	(.1010)	(.0743)	(.1030)

(Table A2). Continued.

Male	-.1180***	-.3180**	-.0443	-.2150***	-.1470**
	(.0334)	(.1010)	(.0525)	(.0434)	(.0458)
Age	-.0503***	-.0053	-.0123	-.0279**	-.0194
	(.0091)	(.0204)	(.0126)	(.0095)	(.0103)
Age2	.0006***	.0000	.0001	.0003**	.0002
	(.0001)	(.0002)	(.0001)	(.0001)	(.0001)
Income dummies					
Scales 3-4	.2670***	-.0460	-.0229	.0261	.2550***
	(.0564)	(.1530)	(.1350)	(.0662)	(.0766)
Scales 5-6	.6080***	.1600	.1190	.2450***	.5120***
	(.0550)	(.1650)	(.1230)	(.0732)	(.0736)
Scales 7-8	.7680***	.1400	.4300***	.4180***	.5690***
	(.0633)	(.1930)	(.1240)	(.0838)	(.0879)
Scales9-10	.8550***	.8070**	.6610***	.2430*	.5680***
	(.1290)	(.2490)	(.1800)	(.1150)	(.1110)
Education to age					
15-18 years old	.1570***	--	.1450*	-.0370	.0617
	(.0402)		(.0644)	(.0655)	(.0698)
≧19 years old	.2010***	---	.0840	-.0443	.0745
	(.0480)		(.0807)	(.0710)	(.0699)
Marital status					
Married	.3780***	-.0856	.1260	.1620	-.0549
	(.0907)	(.1580)	(.1210)	(.0913)	(.1100)
Divorced	-.0121	.4090	.1500	-.1820	-.1210
	(.1920)	(.3370)	(.2370)	(.1650)	(.1680)
Separated	-.0471	.3950	.2110	-.4350	.1210
	(.4170)	(.2900)	(.3310)	(.3040)	(.4160)
Widowed	.1360	.1130	.0668	-.1130	-.2760
	(.1420)	(.2690)	(.2250)	(.1910)	(.1690)
Number of children					
1	-.0039	.2420	-.2300	.0667	.1080
	(.0826)	(.1570)	(.1360)	(.0989)	(.1220)
2	-.0697	.2500	-.1290	.0863	.1860
	(.0877)	(.1450)	(.1280)	(.0936)	(.1120)
3	-.1680	.1670	-.0468	.1970*	.3140**
	(.0948)	(.1830)	(.1210)	(.0952)	(.1150)
cut1_cons	-2.368***	-3.084***	-3.433***	-2.981***	-2.316***
	(.1810)	(.5090)	(.3340)	(.2280)	(.2380)
cut2_cons	-1.219***	-1.305**	-1.910***	-1.855***	-1.407***
	(.1780)	(.4640)	(.2660)	(.2140)	(.2340)
cut3_cons	.7280***	1.371**	-.0645	.0674	.5430*
	(.1780)	(.4640)	(.2630)	(.2100)	(.2340)
No. of obs.	5,127	936	2,490	3,340	3,037

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