

What Happen To Happiness When People Living In Developing Countries? Empirical Evidence from Pakistan.

Abstract The data used in this study were drawn from the 2016 The Pattern of Human Concerns in Developing Society survey, a national representative survey that collect self-reported measure of happiness. To overawed some of the methodological issues faced by previous studies for example income endogeneity and heteroscedasticity conditional mixed process (CMP) and ordered generalized model (OGLM) is used to examine the existence of a relationship. The result reinforces that the determinants of happiness in Pakistan are log of income, education level, self-perceived health conditions, social capital variables like trust on people, help from other, religiosity and religion and demographics variable. The Easterlin paradox does not exist in Pakistan which is show form income happiness relationship. Moreover there is no impact of trust, help from other, pollution and volunteer work on happiness. Demographic characteristics show that married, people living in urban areas, Islam and more religious people are happier than others. There is no difference in happiness over gender and identity.

Key words: Happiness, Endogeneity, Heteroscedasticity.

JEL classifications: D60, I31.

1.1 Introduction

According to World Happiness Report of 2017, a person happiness is characterised by the scale of social advancement which infers the level of satisfaction and is utilized by policy makers to assess policies routed to enhance their prosperity. The first query that crop out in mind is how to define and measure it.

An objective point of view defines happiness as real-time measures of experiences which can be stored and aggregated to yield a measure of objective prosperity anchored to present experiences. Conversely subjective happiness is comprehended as a subjectively experienced feeling or a happiness state estimated through the individual self-reported level of fulfilment. Individual can measure their happiness level by considering events or experiences through this approach. In late decades self-reported measures of life satisfaction have become available driving towards a subjective approach regarding study of happiness. Also there are social and economic factors which do not just influence happiness yet that may be affected by policy makers. But what are these factors? For a long time policy makers have focused their consideration on rising income as an approach to enhance social welfare. However past

examinations have neglected this hypothesis. Frey and Stutzer (2002) demonstrate that even though nations like United States, Belgium and Japan have encountered a generous development in their income per capita, the people's level of life fulfilment have not taken after a similar pattern. Frey and Stutzer (2002) inspected the role of past experiences, illness, marriage and separation. A person security begins to be considered as a life satisfaction determinant using different proxies, such as an individual's victimization. As a perceived public good, security is always on priority for policy makers.

The modern national income accounting system was first introduced by Simon Kuznets (1943) for the United States. It is very important to notice that, Kuznets himself considered the GDP as the rough measure of the monetary flow of goods and services produced by a country in a specific period of time and it cannot be used as an indicator of welfare and even less of wellbeing. While calculating the national income account, Kuznets' main focus was to measure the industrial and agriculture output of the country and want to find how much of national account is affected due to the consumption and investment. He argues that the welfare of a nation can scarcely be inferred from a measurement of national income. However, this sensitive point of Kuznets was forgotten by the economist, policy makers and government around the world and have used the GDP incorrectly. The existing literature finds that in spite of rapid economic growth, in several developed countries average rate of life satisfaction in society have remained stable (Easterlin, 1974, 2001). Using the survey data for US economy (Easterlin, 1974) show that aggregate level of subjective wellbeing has not risen over the years and known as Easterlin Paradox. (Clark et al 2008, Stutzer and Frey, 2010) found other factors such as social contact, environment and demographics effect wellbeing. To create welfare or happiness, income play an important role in developing countries but not in developed one. (Diener and Seligman, 2004; Sirgy, 1986) found that after the fulfilled basic need, individual need more than material good such as social needs and social relations.

In this study we develop how income, education level, self-perceived health, demographics and social capital variables determined happiness in Pakistan using data for Pakistani citizens. By using Conditional Mixed Process (CMP) to overcome the methodological issues faced by previous studies like income endogeneity when examining the association between happiness and income while to address heteroscedasticity we use Ordinal Generalized linear Model (OGLM). The data used comes from the "The pattern of human concerns in developing country" survey of 2016. To assess an individual self-reported happiness, considering all other things whether an individual is very unhappy, unhappy, happy or very happy. The result

suggest that low income and education level, living in rural area and bad subjective health condition diminishes the probability of reporting highest level of happiness. Rest of the paper is organised as follows. Review of the main studies on individual self-perceived happiness is present in section 2 and its definition and relationship with income. Section 3, describe the data used for this analysis. In section 4, empirical approach and result are reported. Finally we conclude the paper in section 6.

2 Literature Review

In analysing the happiness and its determinants scholars often use different terms, therefore happiness doesn't have single definition yet. In sociology less scientific term is used to define happiness that is life satisfaction (Chan and lee,2006; Anger et.al,2009; Li et.al,2012) while some of them prefer subjective wellbeing as a whole , which make human being positive and pleasure (Veenhove,2008). Bentham concept of happiness (sum of pleasure and pains) is also in line with these definitions. However in the subject of Psychology the definition of happiness is different from the life satisfaction and happiness is a part of subjective wellbeing. Wellbeing consisted of pleasure said by (Kahneman,1999). But as according to (Easterlin,1995) in economics happiness is not different from the subjective wellbeing, utility, or welfare. In our paper, we use the term happiness to characterize overall subjective wellbeing. In empirical research it is more common to use '*life satisfaction*' (LS) (Borg et al., 2006; Gwozdz & Sousa-Poza, 2009; Pinto & Liberalesso, 2013; Zaidi et al., 2013). It is defined by Veenhoven (2008) as the "degree to which a person positively evaluates the overall quality of his/her life as-a-whole". Most of experts acknowledge, however a certain correlation between all the notions mentioned. Thus, Myers and Diener regard life satisfaction as one of the subjective well-being components and defined by three correlated but distinct factors 1.the relative presence of positive affect 2. absence of negative affect 3. satisfaction with life" (Myers & Diener, 1995, p. 11).

Growing income doesn't followed by increasing in happiness. Income will increase happiness up to a maximum level of happiness reached. Happiness reached its maximum level, at certain level of income and afterwards happiness will not further increases even increase in income. It is called as Easterlin Paradox. Therefore non income factor are also needed to enhance happiness level of an individual. Income aspiration is one possible source of Easterlin Paradox (Stutze,2004). As according to him there are two explanations for income aspiration. Wellbeing of an individual increases temporarily, by the increase in income given named as hedonic treadmill (Clark et.al, 2008). Second is income expectation, and there is income

comparison or social comparison. Higher income aspiration leads to higher income expectation (Mc.Bride,2010). Easterlin (2001), figured out in the below figure that increasing in income will increase aspiration income.

2.1 Empirical Review

These new ideas depart from the traditional measure of wellbeing from money metric called gross domestic product (GDP) and they also never put all the things in one box. The objectives and statistical methodology as seen as theoretical back on the basis of which indicators are founded is often different for different countries or region which substantially affect the policies. For example, if the quality of life is measured through happiness /wellbeing or Amartya Sen's notion of capability makes a substantial difference on what type of objectives are to be pursued and which tools are to be used.

Russel, Ingrid and Qigguo (2009), developed personal happiness index for six urban Chinese cities using a primary sample of 3390 and found moderate level of personal happiness index score for urban cities of China that is 67%. Rik, Luuk and Gerbert (2011) investigate the effect of relative income and conspicuous consumption on happiness in rural India and their finding shows that household spent more on conspicuous consumption report lower level of subjective wellbeing. David and Andrew (2000), explore the economics of happiness for Americans and Britain's using 100,000 random samples for the time period of early 1970s to the late 1990s. They reported that level of happiness declined overtime in the United States while in case of Great Britain the life satisfaction has been approximately flat over time.

Both education and subjective health happiness have positive relationship. However, some economists like Michalos (2008) and Chen (2012), found that education level doesn't affect happiness directly, however an indirect channel like self confidence and self-estimation will affect happiness. Green and Elliot (2010), found a relationship between subjective health and happiness through intermediate variables. Their result shows that more religiosity makes more healthy and happy. Decreasing in subjective health, with increasing age doesn't make someone unhappy because of mental maturity (Singer et.al,1999). Lower suicide has been found in those people having higher social capital and higher subjective wellbeing (Helliwell,2007). Happiness reduces due to interpersonal mistrust (Tokuda and Inoguchi,2008).

3 Research Method

3.1 Data

The data set used in this paper were obtained from the 2016 survey project entitled with “The Pattern of Human Concerns in Developing Society” PHCDS. The PHCDS is a cross sectional and representative sample survey based on household. The survey is administered as a telephonic interview to age above 18 years residents in 59 district of the Pakistan. The total sample size of PHCDS 2016, survey is 1601 household which includes the 475 household from the rural areas and 1126 household from the urban areas. The principal objective of the survey is to provide nationwide estimates of population parameters that describe (1) respondent perception about happiness and subjective health (2) respondent’s views about their culture and heritage (3) respondent’s views about the ecological system (4) respondent perception about the performance of government.

3.2 Empirical Strategy

The dependent variable used in this study is “Happiness” which is measured on an ordinal scale. Happiness was measured with the question “taking all the things together, would you say you were “very unhappy, unhappy, happy or very happy?”. Answers were then reordered into 4.very happy 3.happy 2.unhappy 1.very unhappy. Monthly income of the household used as Rs.11050. Education level is highest level had ever attended. Classify the education data into two groups, as a result we get one dummy variable 0 for low level education (illiterate, primary and matric education) and 1 for high level education (high school and university education). Two questions were used to measure the perceived health status of an individual (1) how is your health in general? (2) Compare to another person of your age and sex, how is your mental health now? Each question is in a dummy variable, 0 for low perceived health level and 1 for high perceived health level. There are 10 subgroups of social capital Social capital namely willingness to help others, volunteer work, social contact with family and friends, trust others, interest in politics, plant trees, drinking water, traditional festival.....

Due to the relationship between independent variable and error term, we have one problem to be considered is endogeneity. Because of endogeneity, we may have result bias and inconsistent parameter. Some instrumental variable is used to address this issue by (Powdthavee, 2008). In this paper we use job satisfaction and schooling years as instrumental variables and apply conditional mixed process (CMP) method to estimate the parameters in the right hand side model, because CMP model could address the endogeneity problem in the estimation model. Conditional mixed process (CMP) is appropriate for two types of estimation situation (Rodman, 2001). First, estimation in which a truly recursive data-generating process

is posited and fully modelled. Secondly, estimation in which there is a simultaneity but instruments allow as in two stage least squares (2SLS). This study uses cross-section data which has potential heteroscedasticity problem. When error variances are not the same for all cases, the standard errors are wrong and the parameters are biased (Yatchew and Griliches, 1985). This research adopts Ordinal Generalized Linear Model (OGLM) which can be used to estimate ologit, oprobit or hetprob (Williams, 2010). OGLM is a general method to estimate heterogeneous choice or location scale or heteroscedastic ordered model. If so OGLM is an appropriate method to address heteroscedasticity problem in the estimation model.

$$Y_i = \alpha + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \epsilon_i$$

Where

Y_i ; happiness

X_{1i} ; income

X_{2i} ; education

X_{3i} ; perceived health level

X_{4i} ; social capital vector

X_{5i} ; vector of demographic characteristics. subscript i shows data for i th individual.

3.3 Estimation Method

3.3.1 Conditional Mixed Process (CMP)

The working of conditional mixed process (CMP) involves simultaneous equation system. As according to Roodman(2011), it has two properties. First is recursive, which refers to multistage estimation within simultaneous equation system. Second full observability refers to right hand side endogenous variable which is full observable. In Conditional mixed process (CMP) we estimate Multi-equation, mixed process models potentially existing hierarchy random effect. Here mixed process mean different equation could have different dependent variable. Other alternative model are OLS for continuous data, tobit, probit and ordered probit. Conditional mean model could variable from many observation that is dependent variable in one equation could be independent variable in the other equation. This dependency should have one recursive structure if dependency within censor observed variable and could be separated into many stages. If dependency in latent variable it will enter to simultaneous structure. CMP will be fit in SUR, simultaneous equation and instrumental variable model.

3.3.2 Heterogeneous Choice Model or Ordinal Generalized Model (OGLM)

Heterogeneous Choice Model or Ordinal generalized Model (OGLM) able to address Heteroscedasticity in logistic regression (Williams, 2010).

for a latent model

$$Y_i = \alpha + \alpha_1 X_{i1} + \alpha_2 X_{i2} \dots \dots \dots \alpha_k X_{ki} + \sigma \epsilon_i \quad (1)$$

ϵ_i is the error term under either normal distribution or logistic. The residual variance is represented by σ . For probit model it is equal to $\frac{\pi^2}{3}$ while for logit model it is equal to 1.

When Y^* is Latent variable that unobserved, true estimation is not for α but

Allison (1999; in Williams, 2010) states which $\beta_k = \frac{\alpha_k}{\sigma}$ which $k; 1, 2, 3 \dots \dots \dots K$

If σ is not different for all cases residual will be homoscedastic and $\frac{\beta}{\alpha}$ ratio is not different for all cases either. But if there σ is variability Heterogeneous Choice Model could be applied.

The model solve next two equation simultaneously:

Outcome or choice equation:

$$Y_i^* = \sum_k X_{ik} \beta_k + \epsilon_i \quad (2)$$

Variance equation

$$\sigma_i = \text{expected}(\sum_j Z_{ij} Y_j) \quad (3)$$

4 Results

4.1 Descriptive Statistics

Mean, standard deviation and number of observation are displayed in table 1. This study uses total of 1601 observations, out of which 35.85% are female, 31.33% are unmarried, and 29.66% live in rural area. From education level there are 10.86% respondent with primary education or illiterate, 38.26% college education and 51.12% graduate or higher level education. Most of the respondent are Muslims that is 94.87% age between 18 to 65 years old and mean age is 32 years. Income lies between less than Rs.10000 to above Rs.10,0000 while mean income is Rs.22000. Most Pakistani respondent are happy 56.84%, and very happy 21.30%, unhappy 17.72% and very small respondent are very unhappy 4.12%.

Table 1: Summary statistics

Variables	Definition	Obs.	Mean	Standard Deviation
Happy	Individual Happiness with life on likert scale between 1 to 4 where 1 indicates extreme unhappy while 4 Shows highly very happy.	1601	2.953	0.744
log of Income	log of Household monthly income	1601	1.298	0.503
Unemployed	1 if the individual is employed or out of labour force, otherwise is equal to 0, if the individual is unemployed.	1601	0.979	0.144
Female	1 if the individual is female, otherwise is equal to 0	1601	0.359	0.480
Rural	1 if the individual is living in rural area, otherwise is equal to 0	1601	0.297	0.457
Primary Education	1 if the highest level of education achieved is primary education otherwise is equal to 0.	1601	0.109	0.311
Secondary Education	1 if the highest level of education achieved is secondary education otherwise is equal to 0	1601	0.182	0.386
Unmarried	1 if individual is unmarried otherwise is equal to 0	1601	0.319	0.466
Divorced	1 if individual is divorced otherwise is equal to 0	1601	0.151	0.477
Family Size	1 if family size is greater than 3, otherwise is equal to 0	1601	0.551	0.498
35-64 Age	1 if the individual age is in between 25 to 35 years, otherwise is equal to 0	1601	0.289	0.453
18-34 Age	1 if the individual age is in between 35 to 45 years, otherwise is equal to 0	1576	0.835	0.371
	1 if the individual age is in-between 45 to 55 years, otherwise is equal to 0	1599	0.949	0.221
Religion	1 if the individual religion is islam, otherwise is equal to 0	1601	0.321	0.467
Regliousty	1 if the individual religious, otherwise is equal to 0	1601	2.666	0.594
Subjective Health	subjective health on Likert scale between 1 to 3 where 1 indicates least satisfaction while 3 indicate highly satisfied with health condition	1601	0.352	0.478
Positive Emotions	1 if individual have positive emotions, otherwise is equal to 0	1601	0.127	0.334
Negative Emotions	1 if individual have negative emotions, otherwise is equal to 0	1601	0.765	0.424
Time spend	1 if individual satisfy with the way spent his time, otherwise is equal to 0	1601	0.618	0.486
Volunteer Work	1 if individual involve in volunteer ever , otherwise is equal to 0	1601	0.200	0.400
Free in Decision Making	1 if individual feel free to make decision, otherwise is equal to 0	1601	0.794	0.308
Social Contacat	1 if individual have social contact, otherwise is equal to 0	1601	0.944	0.229

Identity	1 if individual identity is important for him/her, otherwise is equal to 0	1326	0.815	0.388
Trust	1 if individual trust other , otherwise is equal to 0	1601	0.774	0.418
Help	1 if individual getting help from other , otherwise is equal to 0	1601	0.734	0.442
Job Satisfy	1 if the individual is satisfied with his work, otherwise is equal to 0	1601	0.712	0.453
Freedom of Speech	1 if individual have freedom of speech, otherwise is equal to 0	1601	0.587	0.493
Pollution	1 if pollution in area, otherwise is equal to 0	1601	0.623	0.485
Drinking Water	1 if safe drinking water is available, otherwise is equal to 0	1601	0.660	0.474
Plant Tree	1 if individual plant tree , otherwise is equal to 0	1601	0.496	0.500
Facility of Sports Area	1 if sports facility is available, otherwise is equal to 0	1601	0.532	0.500
Interest in Politics	1 if individual have interest in politics, otherwise is equal to 0	1601	0.485	0.500

Note: PHCDS survey 2016.

4.2 Estimation Result

In this section of paper we examined the relationship between the happiness, demographic and social capital indicators. To handle with the problem of endogeneity we use schooling years as instrumental variable. Based on the over-identification test, year of schooling is identified as an instrumental variable.

By running Conditional Mixed Process (CMP) model is identified the main drivers of happiness are income, education, self-perceived health and some social capital variables. Demographic variables shows that happier responded are married, live in urban region, living in small family size, younger in age, Islam and more religious. No significant difference in happiness feelings between the males and females and background ethnicity. These findings were also support from the existing literature for example (Inglehart,1990) in his study found no difference in happiness level between men and women.

Table 2: Conditional Mixed Process Result Estimation

Predictor	Coefficient	Predictor	coefficient	Predictor	Coefficient
Log of Monthly Income	0.118** (0.067)	Family size >3	0.086*** (0.036)	Identity	-0.028 (0.144)
Unemployed	-0.039** (0.016)	Religion	0.099*** (0.049)	Trust	0.339*** (0.146)
Male	0.172** (0.069)	Regliousty	0.134*** (0.070)	Help	0.061 (0.077)
Rural	-0.068**	Subjective health	0.218***	Job Satisfy	0.460***

	(0.043)		(0.057)		(0.081)
Primary education	-0.107** (0.010)	Positive Emotions	0.246*** (0.068)	Freedom of Speech	0.077* (0.073)
Secondary education	0.077*** 0.020	NegativeEmotions	-0.471*** (0.100)	Pollution	-0.026* (0.017)
Married	0.033*** (0.015)	Time spend	0.734 *** (0.089)	Drinking water	0.039* (0.027)
Divorced	-0.438** (0.233)	Volunteer work	-0.184* (0.130)	Plant Tree	0.065*** (0.012)
18-34 years	0.193** (0.106)	Free in decision	0.344*** (0.083)	Facility of Sport Areas	0.094* (0.066)
35-64 years	0.030 (0.021)	Social contact		Interest in Politics	-0.050 (0.025)
Summary Statistics					
Number of obs.	1273				
Chi-Square	339.74				
P -Value	0				
Pseudo R2	0.175				

Note: Robust standard errors in parentheses. *** p < 0:01, ** p < 0:05, * p < 0:1.

After running the ordered probit regression, we use Brant test to detect Heteroscedasticity in the model. Because of the Heteroscedasticity, the violation from parallel regression may accrued. Brant test suggest that some of predicator used in the ordered probit model such as log of monthly income, year of schooling, self-perceived health and interaction with other people. To address this problem we use Ordinal Generalized Linear Model (OGLM). The marginal effect given in table 3 shows probability of being high happiness level category when an independent variable changes while holding all other variables at their means. In both model the sign of marginal effect is almost same except for few independent variables like negative emotions and identity.

Table 3: Ordinal Generalized Linear Model Result Estimation

Predictor	Coefficient	Predictor	coefficient	Predictor	Coefficient
Log of Monthly Income	0.231*** (0.118)	Family size >3	0.162* (0.155)	Identity	0.018 (0.256)
Unemployed	-0.042*** (0.019)	Religion	0.224 (0.263)	Trust	0.554*** (0.261)
Male	0.281*** (0.121)	Regliousty	0.261*** (0.124)	Help	0.082 (0.138)

Rural	-0.132*** (0.028)	Subjective health	0.396*** (0.103)	Job Satisfy	0.826*** (0.149)
Primary education	-0.213* (0.193)	Positive Emotions	0.451*** (0.120)	Freedom of Speech	0.077* (0.074)
Secondary education	0.141** (0.056)	Negative Emotions	-0.824*** (0.180)	Pollution	-0.008 (0.019)
Married	0.125** (0.051)	Time spend	1.424*** (0.165)	Drinking water	0.086*** (0.020)
Divorced	-0.847** (0.409)	Volunteer work	-0.260 (0.233)	Plant Tree	0.039* (0.027)
18-34 years	0.372** (0.188)	Free in decision making	0.629*** (0.147)	Facility of Sport Areas	0.094* (0.067)
35-64 years	0.011 (.0177)	Social contact	0.923*** (0.157)	Interest in Politics	-0.050*** (0.025)
Summary					
Number of obs.	1273				
Chi-Square	379.74				
P -Value	0				
Pseudo R2	0.1365				

Note: Robust standard errors in parentheses. *** p < 0:01, ** p < 0:05, * p < 0:1.

Table 4: Marginal Effects

	Very unhappy		Unhappy		Happy		Very happy	
	CMP	OGLM	CMP	OGLM	CMP	OLGM	CMP	OGLM
Logof Monthly Income	-0.008	-0.008	-0.019	-0.021	-0.005	-0.007	0.032	0.036
Unemployed	0.003	0.000	0.006	0.001	0.002	0.000	-0.011	-0.002
Male	-0.012	-0.010	-0.028	-0.025	-0.007	-0.008	0.046	0.043
Rural	0.005	0.005	0.011	0.012	0.003	0.004	-0.018	-0.020
Primary education	0.007	0.008	-0.031	-0.033	0.004	0.006	-0.029	-0.033
Secondary education	-0.005	-0.005	-0.005	-0.001	-0.003	-0.004	0.021	0.022
Married	0.030	0.031	0.070	0.076	0.017	0.024	0.009	0.019
Divorced	-0.002	-0.005	-0.005	-0.011	-0.001	-0.004	-0.117	-0.131
18-34 years	-0.013	-0.013	-0.031	-0.033	-0.007	-0.011	0.052	0.057
35-64 years	-0.002	0.000	-0.005	-0.001	-0.001	0.000	0.008	0.002
Family size >3	-0.006	-0.006	-0.014	-0.014	-0.003	-0.005	0.023	0.025

Religion	-0.007	-0.008	-0.016	-0.020	-0.004	-0.006	0.027	0.035
Regliousty	-0.009	-0.009	-0.022	-0.023	-0.005	-0.007	0.036	0.040
Subjective health	-0.015	-0.014	-0.035	-0.036	-0.008	-0.011	0.059	0.061
Positive Emotions	-0.017	0.030	-0.040	-0.040	-0.009	-0.013	0.066	0.070
Negative Emotions	0.033	-0.016	0.075	0.074	0.018	0.023	-0.126	-0.127
Time spend	-0.051	-0.052	-0.118	-0.128	-0.028	-0.041	0.196	0.220
Volunteer work	0.013	0.009	0.029	0.023	0.007	0.007	-0.049	-0.040
Freein decision making	-0.024	-0.023	-0.055	-0.056	-0.013	-0.018	0.092	0.097
Social contact	0.034	0.021	0.191	0.041	0.017	0.131	0.019	0.071
Identity	0.002	-0.001	0.005	-0.002	0.001	-0.001	-0.008	0.003
Trust	-0.023	-0.020	-0.054	-0.050	-0.013	-0.016	0.091	0.086
Help	-0.004	-0.003	-0.010	-0.007	-0.002	-0.002	0.017	0.013
Job Satisfy	-0.032	-0.030	-0.074	-0.074	-0.018	-0.024	0.123	0.128
Freedom of Speech	-0.005	-0.004	-0.012	-0.011	-0.003	-0.004	0.021	0.019
Pollution	0.002	0.000	0.001	0.004	0.001	0.000	-0.007	-0.001
Drinking water	-0.003	-0.003	-0.008	-0.006	-0.002	-0.002	0.011	0.013
Plant Tree	0.000	0.001	0.003	0.001	0.000	0.001	-0.002	-0.006
Facility of Sport Areas	-0.007	-0.006	-0.014	-0.015	-0.004	-0.004	0.025	0.024
Interest in Politics	0.002	0.003	0.007	0.005	0.001	0.002	-0.008	-0.012

4.3 Discussion

From the estimation result using CMP and OGLM known that happiness determents in Pakistan are income, education level, self-perceived health, and some social capital variables. Some component of social capital like self-identity, trust on others and volunteer work do not have significant effect on happiness. All significant variables have positive impact on happiness like increase in income of the individual will increase happiness. The per-capita income of Pakistani citizens in 2016 is Rs. 1170. Therefore Pakistan is fall in range of developing countries where Easterlin paradox does not exist. In this paper we use cross section data which has little possibility for existing Easterlin Paradox, which mean that increase in income especially in developing countries like Pakistan will increase relative economic position and so do happiness.

Health is wealth, therefore feeling healthier makes happier. Without good health people will be less productive so that he could not able to earn more money or save more money for other things which will maximize his/her utility and make him/her happier. Our regression result help to go further and look at the strength of the relationship between the happiness and self-reported health keeping other factors equal. From model estimation it is confirmed that self-reported health has a statistically significant impact on happiness. Strong and statistically significant impact is found when we compare the respondent who reported very bad or bad self-reported health with those being in very good or good self-reported health on the happiness of an individual. Happiness level continually increases with the increase in the level of education, especially the person having university education attainment. It is because as according to Chen (2012), higher education will increase opportunity for broader networking and employment. (Cunado and Gracia,2012) found that higher education open more and better job opportunities with leads to better/higher income level and higher happiness. More over many economist use education level as an earring proxy of individual (Blanchflower and Oswald ,2012). Higher education leads to higher income level and higher happiness.

Social capital has significant effect on happiness. Increase in social contacts, positive emotions, job satisfaction, plant trees and trust give positive impact on happiness. Higher willingness to social contacts will increase happiness. Positive emotions will increase happiness. More trust in religion diversity will increase happiness. It make more tight social cohesion. It also reflects no discrimination in Pakistan. Higher Election will decrease happiness. It means that religion and religiosity belongs to candidates are still matter for voting in election. Some social capital component, help others, identity, volunteer work and pollution do not have significant effect to happiness.

The picture of Pakistani people characteristics is drawn from their demographic characteristics. There is no difference between men and women happiness, but on average we found that women are less happy than men and not exist any specific theory for happiness over gender. (Akerlof and Kranton,2000) propose gender identity hypothesis about job characteristics. Men should not do domestic works and have to earn more money than women.

Happiness is significant when we account for age. From result it can found that younger person are happier. This effect further decreases with the increase in age. (Diener et.all,2003) found u shaped relationship between the overall life satisfaction and age. Their results shows that both younger and middle age group people persons are happier as compare to the middle old age people. The specific house hold type as according to the family size also have effect on

happiness. A strong negative effect is found with large family size households on happiness. The citizens living in urban area are happier than the people living in rural area. Our findings on the region variables is different from other research work. According to them people living in rural areas are happier than in urban area because of better environment quality, better social engagement and more peaceful life in rural areas (Smyth et al, 2011). But on the other hand On the other hand rural people may have worse life than urban people because of lower income, public transportation, and health quality (Youmans, 1977). They need much more public goods providing (Jongudomkarn and Camfield, 2006). The data show that more than 60 percent of Pakistan population living in rural areas have income lower than the income of urban people. This finding explain why rural people have lower happiness than urban people. One possible cause is population pressure in there.

Muslims are happier than others. This findings may not tell the fact because there is very few sample data for non-muslims (5.22 percent). Religion might be matters for happiness but not for religiosity. Religious people are happier than others. More religious someone is healthier mental and less depressed he is (Chamberlain and Zika, 1988; Green and Elliot, 2010). Religious people usually have tight engagement in religious activity therefore they get huge social support and network (Lim and Putnam, 2010).

Possible sources of unhappiness is health problem when people getting older and be poor (Nuegarten dan Nuegarten, 1986). Health cost is expensive enough for most of them.

From marginal effect of Conditional Mixed Process (CMP), increasing in 1 percent absolute income will decrease one unit probability of very unhappy and unhappy but increase one unit probability of happy and very happy.

For health perceived, increasing health perceived will increase one unit probability happy and very happy and decreasing a unit probability very unhappy and unhappy. For social capital components Willingness to volunteer help, more interest in elections more probability to be very unhappy and unhappy and less probability to be happy and very happy. For trust, more disagree to give more trust on same religion people, more probability to be happy and very happy but less probability to be very unhappy and unhappy. For plant more trees, availability of playing space, safe drinking water, more positive emotion high probability to be very happy and happy but less probability to be very unhappy and unhappy. For negative emotions, more pollution and volunteer work have more probability to very unhappy and unhappy and less probability to be very happy and happy. For interest in election, more interest in election more probability to be very unhappy and less probability to be very happy.

5 Conclusion

This paper presents the first empirical study of socio-economic determinants of Happiness in Pakistan using data from the PHCDS survey 2016. Results of the econometric model prove that income, employment, age, region, marital status, emotions, identity, subjective health and some social contact variables are all significant determinants of an individual's Happiness in Pakistan. The results indicate that the log of monthly income of an individual has a significant positive link with his/her happiness and is more significant for men than for women, while unemployment has a significantly negative effect on the happiness of an individual in Pakistan.

The findings further reveal that an individual's happiness changes over the course of their life. Results related to the age variable indicate that happiness has a significant life course component and reveal a U-shaped relationship between age and happiness, with citizens aged between 34 and 50 years reporting a lower level of happiness in general. Those individuals who report having a good subjective health are more likely to report a significant high happiness level. Living in a rural area has a significant negative effect on the happiness of an individual in Pakistan. Finally, social capital variables like positive emotions, time spent, relationship with family, friends, etc. are significant in explaining happiness in Pakistan.

This paper also estimates marginal effects to provide a more quantitative interpretation of the results. The dependent variable is on a scale of 1 to 4 in order to calculate meaningful marginal effects. Unemployment and bad subjective health conditions have the largest negative effect on reporting happiness. The unemployed are 9 percent less likely to report high happiness than the employed. Moreover, individuals who report not good subjective health conditions are 7 percent less likely to report high happiness. Further, the results indicate that happiness is highly affected by social variables like trust, social interaction, helping others, volunteer work, etc.

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