Does social development increase the happiness level? Evidence from global panel data

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Abctract. This study attempts to examine the links between social development and happiness. Social development plays a very important role in increasing the level of happiness. Social development leads to better education, health and more economic growth. The analysis is captured by employing panel data of 125 countries over the period 2014-2018. The empirical analysis is based on Fixed Effects Method (FEM), Random Effects Method (REM), Instrumental Variable Fixed Effects Method (IVFE), Generalized Method of Moments (GMM) and Driscoll-Kraay Standard Errors. The empirical analysis demonstrates that social development has a positive impact on happiness. The study suggests that government should encourage such projects, which enhance the level of social development.
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1. Introduction

Happiness is considered as fundamental goal and right of humanity. Everyone wants to achieve it. Feeling of happiness plays very important role in life because it has impact on all aspects of life. Happy people are more healthy, active, efficient, creative and productive. Moreover, happiness also helps in achieving our goals and goals of the other people in the society. So, important question what make people happy has been addressed by the numerous scholars.

In economics the work on happiness started with the work of Easterlin (1974, 1995). Easterlin first empirically examine the income and happiness nexus and explores that increase in income not always increase the level of happiness.After his findings numerous researchers started investigating different measures of happiness such as health, socio demographic, environment, norms, value, economic and political institution performance.

In today world although economic growth and development has improved the quality of life by different ways but still some countries are in search of happiness. Literature has explored numerous reasons for the low level of happiness such as environmental issues (Brereton *et al*., 2008; Majeed & Mumtaz, 2017) health problems (Graham, 2006) social issues and

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so on. According to Veenhoven (2012) lack of social development is one reason behind low level of happiness. In the past the concept of development is associated with economic development but in recent years researchers, policy makers also start focusing on social development.

In this paper we explore the impact of social development on happiness. The term "social development" refers to "The promotion of a sustainable society that is worthy of human dignity by empowering marginalized groups, women and men, to undertake their own development, to improve their social and economic position and to acquire their rightful place in society"(Bilance,1997). Recently study of Veenhoven (2012) found social development as an important determinant of happiness. According to Cox *et al.*,(1997) "Social development is a participatory process of planed social change designed to promote the wellbeing of the people and which, as such offers an effective response to the innate needs and aspiration of the whole population for the enhancement of their quality of life".

The concept of social development conceptualized during the "First International Conference of Ministers for Social Welfare" held in New York in 1968. This conference organized during the time period when world is debating on failure of Post-world war II development strategies to enhance the quality of life. Thiswas the first conference which formalized the administrator for social welfares and organizers argued that instead of only focusing on economic growth the attention should also given to social development for the wellbeing of the society (Jinadu,1985). Economic development enhances the economic growth and efficiency of factors of production whereas social development focus on best utilization of social resources to improve the wellbeing of the society. Social development enhances the life satisfaction of the society by providing access to better education, health and housing facilities, justice, freedom to speech, social security, property rightsand so on.

To the best of our knowledge, the study of Veenhoven (2012) is the only study, whichexaminesthe social development and happiness nexus. The study of Veenhoven (2012) measures social development through civic activism, participation in voluntary association, harmony among groups, harmony among individuals and gender equality. However, the previous studydoes not take into account other important indicator of social development such as fulfillment of basic needs, access to education and health facilities, and freedom to speech. So, this studymeasures social development with Social Progress Index (SPI) which consist ofthree dimensions: "Basic Human Needs, Foundation of Wellbeing, and Opportunity". These dimensions have 51 social and environmental indicators such as social participation, access to health and education facilities, enforcement of property rights, access to justice, freedom to speech and choice and many othersindicator of social development. So, by using Social Progress Index for measuring social development this study fills some of the gap of previous work. Secondly, this study done the global level analysis.

The remaining study is arranged as follow. Section 2 presents the literature review on social development and happiness. Section 3 provides model and variable used in the study. Section 4 explains the data source and description. Section 5 consistsof results and discussion. Section 6 concludes the study.

2. Literature review

In general, happiness refers to the "Degree to which an individual judge the overall quality of his life favorably" (Veenhoven, 1991). However, the academic literature discusses the concept of happiness in number of ways. Considering the theoretical approach, it is observed that theories of happiness hold different views about happiness. For example, the hedonism theory defines happiness as maximizing feeling of pleasure and minimizing feeling of pain. However, according to desire theoryhappiness is achieving what you want in life regardless of feeling of pain and pleasure (Griffin, 1986). Moreover, the objective list theory in this regard define happiness as achieving something meaning full in life (Nussbaum, 1992; Sen, 1985). Combing all these theories Seligman (2002) introduce the concept of "Authentic Happiness" that happiness is the achievement of all these (describe above).

Specifically, relating to this study there are some theories which relate happiness with social development. Firstly, according to livability theory happiness depend on to which extent basic needs of human beings are fulfilled. Here, the theory directly relates social development with happiness because fulfillment of basic needs is one of the important dimensions of social development (Veenhoven et al., 1993). It positively affects individual productivity, efficiency, and behavior which in turn increase the life satisfaction. Secondly, objective list theory explains the number of factors (positively related with happiness) which are essential for happiness such as education, health, money, success, affection and better opportunities (Seligman & Rozman, 2003). For instance, better health increases the happiness level both directly and indirectly. Directly positive health outcome increases the happiness level. Indirectly, healthier individual performs more efficiently and have high productivity which leads to high per capita income and low level of stress. So, as a result happiness level increase (Kawachiet et al., 1997; Majeed & Ajaz, 2018). Likewise, education attainment and achievements are also positively related with happiness (Ghamari, 2012).

Keeping in mind that individuals in their lives experience different level of happiness, researchers have explored various determinants of different level of happiness. So, empirical literature in the present study is divided into three different strands. In the first strand, researcher emphasized on economic factors as main source of happiness. Easterlin (1974, 1995) in this perspective, empirically investigates whether increase in income increases the happiness and concluded that increase in income not increase the happiness of all. Daly (1987) also favored Easterlin argument that growth is

not always important for happiness. Whereas some economists are against the Easterlin argument such as, Veenhoven (1991) and Gardner & Varadan (2001) conclude that money matter a lot for happiness.

In the second strand of the literature large number of studies do analysis of happiness with socio demographic variables. These studies explore that unemployment, marital status and income inequality is very important for life satisfaction. Various studies concluded that unemployment (Clark & Oswald, 1994; Winkelmann & Winkelmann, 1998; Di Tella *et al*., 2001) and unequal distribution of income (Morawetz, 1977) leads to lower level of happiness. Moreover, Clark & Oswald (2002) explore that all life events (health, education, and many), and marital status (Veenhoven, 1994; Wadsmorth, 2016) matter for happiness. Some other studies argued that institutional factors (Frey & Stutzer, 2000), success in education (Blanchflower & Oswald, 2004) and physical health (Dolan *et al*., 2008) plays a vital role in the life satisfaction.

Apart from economic development, social development (social participation, civic participation, trust among people, access to basic health and education facilities and others) also matter a lot for happiness. So, a third strand of the literature explains the relationship between social development and happiness. This part of the literature consists of different groups. First group contain the studies which have done analysis on how social participation, civic participation, social trust and connection with friends, family, coworkers related with happiness. Phillips (1967) by collecting the data from 600 individuals argued that social participation boots the positive feelings which increase happiness. Brehm & Rahn (1997) empirically prove that civic participation has influence on government and political institutions. Civic participation increases the interpersonal trust, trust on government and political institution and also develops the level of confidence. Higher confidence and trust increase the life satisfaction.

Miller & Buys (2008) by taking the data from urban Australian community for 249 residents found that value of life and feeling of trust and safety positively related with happiness, life satisfaction and health. Bjornskov (2008) explores that social trust, civic participation, communication with family and friends are strongly linked with happiness. Social connections provide protection and important for the fulfillment of basic needs of life. Moreover, social links and ties provide emotional and monetary support. Putnam (2000) and Bartolini *et al.,* (2013) explore that in US happiness level is decreasing because of decline in social connections and trust on institutions.

Second group of studies investigate the impact of housing, education, health and justice facilities on happiness.By taking the data of 3,000 households Cattaneo *et al.,* (2009) examine whether replacing the dirt floor with cement floor improve the children health or not. They found that replacement of floor has a positive influence on child health and cognitive abilities of children which in turn positively related with life satisfaction. Moreover, Hezarjaribi & Safari (2010) by collecting the data from 600 individuals argue that feeling of justice, exclusion, and meeting demands

are the important determinant of happiness. Cunado & Gracia (2012) by taking data from European value survey in 2008 for 2563 individual finds out that education have a positive impact on happiness by both direct (by increasing self-confident) and indirect (higher income, better health) channel. Niazi *et al.*, (2016) by collecting data from 308 individuals investigate that how social security, access to justice, natural resources, health and education facilities have positive influence on life satisfaction.

Last group of literature see the impact of freedom on happiness. Veenhoven (1994) by taking data from world value survey for 23 countries argued that average happiness in the nation depend on to which extent nation provide freedom, knowledge, social equality and material comforts. Furthermore, Veenhoven (2000) by adopting the data of 46 countries argued that freedom have both positive and negative impact on happiness, such as economic freedom is positively related with happiness whereas political and private freedom to some extent are negatively related with happiness. According to Layard (2003) morality, religion, trust, and freedom are the most important determinant of happiness. Tandoc *et al.*, (2013) by taking data of 161 countries argue that press freedom has positive impact on life satisfaction both directly (news, entertainment) and indirectly (by enhancing human development and environmental quality). Both human development and environmental quality are important source of happiness. Free press is not only source of information, entertainment, it also try to bring the problem of society in front of government or decision makers. Free press is just like a watchdog for govt.

In sum happiness research got a lot of attention among the scholars of all discipline including economics. Economist working on different determinants of happiness has explore numerous factors of happiness. But according to our knowledge the study of Veenhoven (2012) only done analysis on social development and happiness nexus. Additionally, previous study (Veenhoven, 2012) measures social development by civic activism, participation voluntary association, harmony among groups, harmony among individuals and gender equality. Whereas this study measure SD by Social Progress Index (SPI) which consist of different indicators such as social participation, access to health and education facilities, enforcement of property rights, access to justice, freedom to speech and choice and many others indicator of social development. To our knowledge this is the first study which utilized Social Progress Index (SPI) for measuring social development. Moreover, previous analysis done for few countries whereas this study done global analysis on happiness and social development nexus.

3. Methodology

With the revolution of happiness research, numerous economist work on different determinants of happiness. Initially, Easterlin (1974) empirically examine the happiness and income nexus and explores that increase in income not increase happiness for all. In this paper happiness is

consideredas a function of social development. The econometric model applied in this study is carried from the study of Veenhoven (2012) with some modifications. So, in order to empirically examine the social developmentand happiness nexus following econometric model is being developed.

$$H_{it} = \beta_0 + \beta_1 SD_{it} + \beta_2 X_{it} + \mu_t + v_i + \varepsilon_{it} \tag{1}$$

Where H represents the level of happiness. SD represents social development measured by social progress index which consists of three dimensions; Basic Human Needs, Foundation of Wellbeing, and Opportunity. The X_{it} is the vector of controls variables namely; Log of Gross Domestic Product Per Capita (LGDPC),Inflation (INF), Trade (TR) and Unemployment (UEM) .The term μ_t is time specific effect and the v_i is country specific effect. The term ε_{it} is error term which capture the effect of all omitted variables. The subscript i and t denote country and time respectively.

4. Variable description and data source

Initially this study incorporates the data of 217 countries for the period 2014 to 2018. But due to unavailability of data final sample consist of 125 cross section. Happiness is dependent variable. Social development is focus independent variable whereas LGDP per capita, inflation, trade and unemployment are taken as control variables. Table A in appendix presents the variable description and source of data. In order to see the impact of social development on level of happiness data is taken from World Happiness Report (2019), Social Progress Imperative (2019) and World Bank (2019).

5. Statistical methodology

5.1. Descriptive statistics

In order to obtain summary of relevant variables descriptive statistics have been done. Descriptive statisticprovides summary statistic of 125 countries over the period 2014 to 2018. Table 1 explain the mean, standard deviation, minimum and maximum. Level of happiness have a mean value 41.08% with standard deviation 265.3. The maximum value of happiness is 2017.00 whereas minimum value is 2.69. Social development is measured by social progress index which cover three dimensions: Basic Human Needs, Foundation of Wellbeing, and Opportunity. These dimensions consist of different indicators. The mean value of SD is 66.63 % and standard deviation is 16.41. Whereas maximum value of social progress index is 90.10 and minimum value is 17.50.

Table 1. *Descriptive statistics*

	HAP	SD	GDPC	INFG	TRADE	UEM
Mean	41.24	66.82	15713.86	3.76	86.51	7.44
Median	5.57	68.42	5923.87	2.23	73.11	5.94
Maximum	2017.00	90.10	108600.9	40.28	423.98	28.03
Minimum	2.69	17.50	243.10	-22.90	19.45	0.16
Std. Dev.	265.32	16.41	21277.63	5.96	54.80	5.38
Skewness	7.29	-0.39	1.88	2.26	2.84	1.55
Kurtosis	54.26	2.25	6.423	15.00	15.41	5.70
Jarque-Bera	53273.96	22.10	485.91	3087.68	3493.58	320.00
Probability	0.00	0.00	0.00	0.00	0.00	0.00
Observations	450	450	450	450	450	450

5.2. Correlation matrix

Correlation analysis is statistical tool which is used to explore the association between variables. Table 2 shows the correlation matrix. In table 2 diagonal values shows that each variable is perfectly correlated with each other.

Table 2. *Correlation matrix*

	HAP	SD	GDPC	INFG	TRADE	UEM
HAP	1					
SPI	0.13	1				
GDPC	0.05	0.72	1			
INFG	-0.04	-0.19	-0.28	1		
TRADE	0.06	0.33	0.46	-0.17	1	
UEM	0.035	0.17	-0.04	0.01	-0.01	1

6. Empirical results

6.1. Results of fixed and random effects method

Table 3 present the results of FEM and REM. The results demonstrate that coefficient of social development is positively associated with happiness. Social development has a positive significant impact on happiness through social participation, trust, freedom to speech and choose, better health, education facilities, access to justice, enforcement of property rights. Moreover, social development also leads to economic development which in turn increase happiness. This result is consistent with the finding of (Brehm & Rahn, 1997; Niazi *et al.*, 2016: Tandoc *et al.*, 2013).

Moreover, result of control variable is according to the theory. Results demonstrate that inflation is negatively related with happiness. One percent increase in inflation will cause 0.03 percent decline in happiness level. This result is aligned with the finding of Clark & Oswald, (1994). Coefficient of trade is positive and significant. So, 1 percent increase in trade will cause 0.0098 percent increase in happiness level. Unemployment have a significant negative impact on happiness. One percent increase in unemployment level leads to 0.05 percent decrease in happiness level. As unemployment come with different psychological and financial cost (Clark & Oswald, 1994 and Oswald, 1997).

Table 3. *Regression of happiness and social development (FEM&REM)*

	FEM	REM
Variable	Dependent variable: Happiness	
Social Development	.0516**	.0519**
	(.0267)	(.0266)
LGDPC	.1458	.1545
	(.4023)	(.4009)
Inflation	-.0030	-.0030
	(.0057)	(.0057)
Trade	.0098***	.0099***
	(.0028)	(.0028)
Unemployment	-.0508**	-.0506**
	(.0200)	(.0200)
Constant	36.0638***	32.410
	(3.052)	(23.027)
Observations	450	450
Number of Groups	125	125
R Squared	0.0157	0.0157
F-Statistic	6.38***	-
Wald chi 2	-	32.26***
Hausman	-	0.9995

Notes: Standard Errors in Parentheses (*** $P<0.01$, ** $P<0.05$, * $P<0.1$)

In order to make a choice between Fixed Effects Method (FEM) and Random Effects Method (REM) hausman test is being employed. The result of hausman test demonstrate that in this study using random effect for exploring relationship between social development and happiness give more appropriate results. As P-value is 0.999, which is statistically insignificant. So, we accept the null hypothesis that random effectsare more appropriate and reject the alternative.

6.2. Results of instrumental variable fixed effects and generalized method of moments

Fixed and random effects method not deal with the endogeneity and heterogeneity problems. In order to tackle endogeneity and heteroskedasticity we employed instrumental variable fixed effect and generalized method of moments. Table 4 presents the result of instrumental variable fixed effect and generalized method of moments. Results shows that social development is positive and significant impact on happiness level. One percent increase in social development will leads to 0.05 percent increase in happiness level.

Table 4. *Regression of happiness and social development (IVFE& GMM)*

Variable	IVFEM	GMM
	Dependent variable: Happiness	
Social Development	.0516***	.9546**
	(.0267)	(.4837)
LGDPC	.1458	9.2059*
	(.4023)	(5.0952)
Inflation	-.0030	1.2547*
	(.0057)	(.7076)
Trade	.0098***	-.2338*
	(.0028)	(.1383)
Unemployment	-.0508*	2.0121
	(.0200)	(1.2424)
Constant	1.1793	-103.30**
	(2.3495)	(50.94)
Observations	450	333
R Squared	1.0000	0.0105
Hansen Test	-	0.2236

Notes: Standard Errors in Parentheses (*** P<0.01, ** P<0.05, * P<0.1)

6.3. Results of Driscoll-Kraay standard errors

Table 5 presents the results of DK standard errors, that deals with the problem of temporal and cross section dependence. The results of DK test confirm that social development have a significant positive impact on happiness.

Table 5. *Results of Driscoll-Kraay standard errors*

Variable	DK Standard Error
	Dependent variable: Happiness
Social Development	2.0380***
	(.0654)
LGDPC	-1.3963
	(1.2385)
Inflation	-.9771*
	(.3529)
Trade	.1320***
	(.0134)
Unemployment	.8304*
	(.3894)
Constant	-96.827***
	(3.8363)
Observations	450
Number of Groups	125
R Squared	0.019

Notes: Standard Errors in Parentheses (*** P<0.01, ** P<0.05, * P<0.1)

6.4. Sensitivity analysis

In order to check the robustness of our results sensitivity analysis have been done. In sensitivity analysis two additional control variables urbanization and population has been included. Table 6 reports the results of main focused variable by adding the additional control sensitivity variables. Results demonstrate that impact of social development on

happiness remain same. Social development has a significant positive impact on happiness.

Table 6. *Sensitivity analysis of variables*

Variables	Sensitivity Variables	
	Urbanization	Population
Social Development	2.111***	2.102***
	(.7410)	(.7432)
R-squared	0.0174	0.0173

Notes: Standard Errors in Parentheses (*** P<0.01, ** P<0.05)

6. Conclusion

In recent years concept of happiness become important topic among scholars of all discipline including economics. Economists has explored numerous determinants of happiness. The present study investigates the impact of social development on happiness using the panel data of 125 countries over the period 2014 to 2018. Happiness is taken as dependent variable and social development is focus independent variable. Social development is measured by social progress index, which consist of three dimensions: Basic Human Needs, Foundation of Wellbeing, and Opportunity and these dimensions consists of different indicators such as social participation, access to health and education facilities, enforcement of property rights, access to justice, freedom to speech and choice and many others indicator of social development.

The empirical analysis is done by applying fixed effects method, random effects method. Moreover, in order to deals with the endogeneity problems, we employed instrumental variable fixed effects method and generalized method of moments. Furthermore, Driscoll-Kraay Standard Errors also applied as it deals with the problem of temporal and cross section dependence. The results demonstrate that social development enhance the happiness or life satisfaction.

In the light of these finding it is the responsibility of government to provide such an environment which enhance social development in the society. For that government should promote or develop such organization or institute which are working on promoting social development.

6.1. Contribution of the study

Mostly previous studies measure social development bycivic activism, participation voluntary association, harmony among groups, harmony among individuals and gender equality. Secondly, analysis is done for some countries. By considering the gap in literature this study attempts to fill these gaps. Firstly, this study done the global analysis by taking the data of 217 countries for the period 2014 to 2018. Secondly, this study measures social development by Social Progress Index (SPI) which consist of different indicators such as social participation, access to health and education facilities, enforcement of property rights, access to justice, freedom to

speech and choice and many others indicator of social development. To, our knowledge this is the first study which is using social progress index for measuring social development.

6.2. Direction for future research

This study is done by using secondary data, the same work can be done by using primary data to find out more accurate results about people happiness and social development.

Appendix

TableA. *Variables description and data sources*

Variables	Description	Source
Level of Happiness	1(Very happy) to 4(Not at all happy)	World Happiness Report (2018)
Social Development	Index	Social Progress Imperative (2018)
Gross domestic product per capita	Constant 2010 US$	World Bank (2018)
Inflation GDP deflator	(Annual %)	World Bank (2018)
Trade	(% of GDP)	World Bank (2018)
Unemployment total	(% of total labor force) (modeled ILO estimate)	World Bank (2018)

Table B. *List of countries*

No	Country	No	Country	No	Country	No	Country
1	Afghanistan	33	Ecuador	65	Lithuania	97	Russian
2	Albania	34	Egypt	66	Luxembourg	98	Rwanda
3	Algeria	35	El Salvador	67	Macedonia	99	Saudi Arabia
4	Angola	36	Estonia	68	Madagascar	100	Senegal
5	Argentina	37	Ethiopia	69	Malawi	101	Serbia
6	Armenia	38	Finland	70	Malaysia	102	Sierra Leone
7	Australia	39	France	71	Mali	103	Singapore
8	Austria	40	Georgia	72	Mauritania	104	Slovak Rep
9	Bangladesh	41	Germany	73	Mauritius	105	Slovenia
10	Belarus	42	Ghana	74	Mexico	106	South Africa
11	Belgium	43	Greece	75	Moldova	107	Spain
12	Benin	44	Guatemala	76	Mongolia	108	Sri Lanka
13	Bhutan	45	Guinea	77	Montenegro	109	Sudan
14	Bolivia	46	Honduras	78	Morocco	110	Sweden
15	Botswana	47	Hungary	79	Mozambique	111	Switzerland
16	Brazil	48	Iceland	80	Myanmar	112	Tajikistan
17	Burkina Faso	49	India	81	Nepal	113	Tanzania
18	Burundi	50	Indonesia	82	Netherlands	114	Thailand
19	Cambodia	51	Iran	83	New Zealand	115	Togo
20	Cameroon	52	Ireland	84	Nicaragua	116	Tunisia
21	Canada	53	Israel	85	Niger	117	Turkey
22	Cen. African Rep.	54	Italy	86	Nigeria	118	Ukraine
23	Chad	55	Japan	87	Norway	119	UAE
24	Chile	56	Jordan	88	Pakistan	120	UK
25	China	57	Kazakhstan	89	Panama	121	US
26	Colombia	58	Kenya	90	Paraguay	122	Uruguay
27	Costa Rica	59	Kyrgyz Rep.	91	Peru	123	Uzbekistan
28	Croatia	60	Lao PDR	92	Philippines	124	Yemen, Rep.
29	Cyprus	61	Latvia	93	Poland	125	Zimbabwe
30	Czech Rep	62	Lebanon	94	Portugal		
31	Denmark	63	Lesotho	95	Qatar		
32	Dominican Rep	64	Liberia	96	Romania		

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