# *RELATIONSHIP BETWEEN GROSS HAPPINESS INDICES AND SOCIOECONOMIC DIVERSITY:A CASE STUDY OF VISAKHAPATNAM DISTRICT OF ANDHRA PRADESH*

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## 1. Introduction:

The first World Happiness Report was published in 2012 and also the United Nations General Assembly declared 20th March as the 'International Day of Happiness'. As per the World Happiness Report (2021), India is observed to be placed at 139th place out of 149 countries and Finland securing the first place is noticed to be the happiest country. Moreover, Indian rank has been observed to slip down continuously from 111 in 2013 to 133 in 2018, 140 in 2019 and 144 in 2020.It is pertinent to note that our neighbour countries are well ahead in the happiness rankings compared to India, where in China stood at 82rd rank, Nepal at 85th, Bangladesh at 99th and Pakistan at 103rd and Sri Lanka at 126th rank. For the first time the Happiness Report of India (Rajesh K Pillania, 2020)was published during the September 2020 and according to it among the big states Punjab, Gujarat and Telangana are at the top three whereas Odisha, Uttarakhand and Chhattisgarh are at the bottom three. Among the South Indian states, Puducherry, Telangana, and Andhra Pradesh are the top three in happiness rankings. However, Andhra Pradesh raked as 5th state among the big states.

## 2 Review of Studies:

Happiness economics attempts to evaluate a wider range of factors affecting well-being, quality of life and self-reported levels of happiness. There are several measures of happiness such as Gross National Happiness (GNH) and countries such as Bhutan, France and UK have to varying degrees started using 'happiness indexes' in measuring economic performance.(Tejvan, 2017). The Gross National Happiness (GNH) measures the quality of a country in more holistic way than Gross National Product and believes that the beneficial development of human society takes place when material and spiritual development occurs side by side to complement and reinforce each other. Thus, GNH index is expected to reflect the people's lives than does the standard welfare measure of GDP per capita(Alkire, 2012). The concept of happiness utilised for Gross National Happiness (GNH) is

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amultidimensional measure of nine domains viz., psychological well-being, health, time use, education, cultural diversity and resilience, good governance, community vitality, ecological diversity and resilience and living standards.

Happiness is a relative term and so perception of happiness for the same activity differs from individual to individual, as it is a subjective matter and purely depends on value judgement. However, according to Richard Layard (2006) once the subsistence income is guaranteed, making people happier is not easy. If we want people to be happier, we really have to know what conditions generate happiness and how to cultivate them. Bruno S. Frey and Alois Stutzer (2001) made an attempt for the first time to establish empirically the link between happiness and economics and between happiness and democracy confining to Switzerland. The study demonstrated how micro and macro-economic conditions affect happiness and confirm that unemployment and inflation nurture unhappiness.Study by TengGuo, and Lingyi Hu (2011) showed that individual well-being can be predicted and measured and concluded with an inverse relationship between happiness, unemployment and inflation. Many studies observed a negative effect of unemployment on happiness. An important finding from the literature is that there are large differences in the effect of unemployment among people which implies not all people are equally unhappy (Rainer and Winkelmann, 2014)

Similarly, happiness has been linked to various economic variables. Kahneman et al. (2006) examining the impact of absolute income on happiness observed that high-income individuals are associated with no greater happiness, on average, but with slightly higher tension and stress.However, Blanchflower and Oswald (2002), Easterlin (1995) and Frey and Stutzer (2002)show in their studies that richer individuals of United States reported higher happiness.John Robbins (2010) observes that money brings happiness only in so far as it lifts people out of poverty.However, Lakshmanasamy (2010)foundthat money influence the well-being of individuals in India. The study also implies that relative income largely affects the individual's life satisfaction, but an increase in absolute income beyond a certain threshold level may not bring more happiness.

Gerdtham and Johannessen (2001) studied the effects of different socio-economic factors on happiness in Sweden during the 1991 and concluded that happiness decreases with urbanization. Recent literature has shown that individuals are the best judges of their own well-being and that subjective well-being might be an appropriate way of measuring happiness or quality of life in several aspects of an individual's life such as religion, marriage, sports, work and leisure (Boes and Winkelmann 2006) and (Diner et al, 2003). The study by Esmail and Shili1 (2018) found a strong relationship between social factors such as

health care, education, unemployment and marital status and economic development and thereby conclude that social factors are the main sources of happiness that drives economic development.

Steven Stack and J. Ross Eshleman (1998) found that marriage increases happiness equally among men and women. The study stated three important reasons for it.First, marriage provides a financial satisfaction as married people combine two incomes and may enjoy a higher standard of living. Second, it leads to the improvement in health through the support and encouragement extended by the partners in medical treatment in case of illness, in quitting bad habits such as drinking and smoking and helping spouse to follow a healthy diet. Finally, marriage provides greater emotional support which refers to being esteemed, cared about and valued as a person.The study by (Lyubomirsky et al, 2005) concluded that the government of a country has the potential to produce happiness for the maximum number of people. If the government puts more efforts to create happy citizens, the happy citizens will in turn create more social capital and less social and political unrest.

Happiness Survey conducted in India based on three aspects namely health, monetary possession and personal life by HT - MaRS, reported a higher level of happiness by smaller cities (other than Metropolises). The report also reveals the unhappiness of old people based on money and health considerations and relatively more happiness of homemakers with their money compared to working women (Hindustan Times, 2013). Similarly, for India, Rajesh K Pillania (2020) observes no significant correlation between gender and happiness. However, marital status, age group, education, and income level are all positively related to happiness. The results show married people are happier than unmarried people. Thus, brief review of existing literature on happiness clearly implies the dearth of happiness studies relating to India and no regional studies are found. Against this backdrop, the present study is aimed at to examine the happiness differences of people living in Visakhapatnam district of Andhra Pradesh as a case study.

## 3. Methodology

### 3.1 Objectives and Hypotheses:

The specific objectives of the study are -

1. To construct the happiness index and to analyse the happiness position of select sample respondents.

2. To examine happiness differences among respondents based on certain socioeconomic indicators viz., area, sex, marital status, age, social class, occupation,

income and property.

Based on the objectives to be achieved, the following hypotheses were formulated -

1. No happiness differences exist between select sample respondents on the basis of socio-economic indicators viz., area, sex, marital status, age, social class and occupation.

2. Relatively higher income earning and higher range property owned respondents are happier compared to low income earning (lower property owned) and middle income earning (middle range property owned) respondents.

**3.2 The Development of Questionnaire:**

The present study is proposed to organise through designing a well-structured questionnaire by including 22 questions covering interrelated factors of happiness and includes the following factors in developing the questionnaire.

**Economic Factors:**

Though divergent opinion is expressed with regard to relationship between income and happiness, yet none denies the importance of standard of living from the point of view of happiness.Hence, three questions out of which two relating to standard of living and one relating to debt obligations (as debt is a pressure aspect) are included.

**Health factors:**

Health plays an important role either in the promotion or demotion of happiness of individuals. A person with physically and mentally sound health may be able to perform a task successfully when compared to a person with poor health such as health impediments either physical or mental. Hence, three questions out of which two relating to physical health and one relating to mental health are included.

**Public Infrastructure:**

Public infrastructure plays an important role not only in achieving economic development, but also significantly affects the social life of citizens. Particularly, public health, protected water supply system, public transport and good road conditions keep people not only financially happy, but also healthy and safe. Hence, three questions each dealing with public health, protected water supply and public transport are included.

**Personal Factors:**

Of late, inter personal comparisons among peers, friends, relatives in any human activity have become a part and parcel of life, which results in positive as well as negative impact on happiness of individuals. Individuals who are successful in meeting such challenges and expectations based on comparisons by cope with work pressure may well

balance their work-life, so that they can enjoy happiness. Hence, two questions relating to work pressure and work-life balance are included.

**Social factors:**

Man is by nature a social animal according to the legendary Greek philosopher Aristotle. He can't survive in isolation. So, human beings are expected to cooperate mutually each other and share pleasure or pain, so that positive or negative emotions can be shared. Thus, every person should have concern to the society and fellowship which nurtures happiness. Hence, three questions reflecting the nature of friendship, virtue of charity, attitude of service to the society are included.

**Community factors:**

Community in which individuals living also helps in the promotion of happiness or unhappiness. Thus, a community with affordable good housing accommodation, sufficient greenery which is free of pollution, equipped with community resources such as parks/ children play area/library/arts and crafts centre and ensures fully safe and secured living promotes the happiness among people. Hence, three questions covering the said features are incorporated in the questionnaire.

**Governance:**

In a democratic set up good governance plays an important role in making life of people more comfortable and happier. Usually, people expect corruption free governance with controlled pollution and price levels, maintenance of law and order, effective judicial system, employment opportunities, growth and development. Hence, three questions relating to corruption, pollution and price control are included.

**Cultural and Recreation:**

Participation in cultural and recreation activities such as watching movies and stage shows, viewing television programmes, listening music, reading newspapers, journals, novels, visiting worship places, tourist places and picnic spots, visiting friends/relatives houses along with family members, participating in festival events provide not only relief from the routine stress, but also bestow cheerful moments and thus helps in the promotion of happiness. Hence, two questions reflecting those aspects are included.

Apart from 22 questions covering the said factors, questions relating to personal information such as age, sex, marital status, social group, income, are also included. Thus, questionnaire is developed by including questions to deal with satisfaction level of individuals with regard to various dimensions of said factors.

**3.3 Sample size, Scoring Method and Techniques:**

The study is completely based on primary data with a random sample of size 300, collected from Visakhapatnam city as well as from different towns and villages of the district during the period December 2020. Scores are assigned to responses of the given questions and sum of all responses represents the happiness. It ranges between a minimum of 22 to a maximum of 70. The sum of responses is then standardised to 1, so that the scores will vary between a minimum of 0.31 and a maximum of 1. The scores are analysed and interpreted following the criteria suggested by Stephen Wright (Oxford Happiness Questionnaire, Hills and Argyle, 2002) adjusting for a maximum score of 1. Thus, the score 0.31 - 0.45 implies that respondents are not happy; 0.45 - 0.59 implies somewhat unhappy; 0.59 - 073 implies not particularly happy or unhappy; 0.73 implies moderately happy; 0.74 - 0.87 implies rather happy or pretty happy and the score 1 implies that the respondents are too happy.The study is carried out with simple tools such as averages, percentages and coefficient of variation. Z test is used to examine whether there exists any significant difference between mean happiness scores of two groups of respondents. One Way Analysis of Variance and Post Hock tests are carried out to examine whether there exists any significant difference in mean happiness scores among groups of respondents.

**4 Analysis of Results**

**4.1 Happiness Scores and Position of Respondents by Area, Sex and Marital Status:**

Table 1 presents information relating to bi-variate distribution of select respondents by happiness scores and position consideringarea, sex and marital Status. It is clear from the row totals (the last column) that,of the total 300 select respondents, none of them are placed in happyness positions namely not happy; very happy and too happy as happiness scores varied between 0.45 to 0.87. Majority of 218 respondents (about 73 per cent) are noticed to be not particularly happy or unhappy; 46 respondents (about 15 per cent) are rather happy or pretty happy,while 26 respondents (about 9 per cent) are moderately happy. However, it is pertinent to note that only 10 respondents (about 3 per cent) are somewhat unhappy. The individual happiness score varies between a minimum of 0.51 and a maximum of 0.79 and averaged to 0.6850. Area wise distribution of respondents (from column totals) is such that 190 respondents (about 63 per cent) are from rural areas, while the remaining 110 respondents i.e., about 37 per cent are from urban areas.

The bi-variate frequency distribution (from cells) implies that, majority of 148 (about 49 per cent) and 70 (about 23 per cent) respondents are not particularly happy or unhappy respectively from rural and urban areas followed by about 7 per cent from rural andabout 8

per cent from urban areasare rather happy or pretty happy, while about 5 and 3 per cent are moderately happy respectively from rural and urban areas. However, about one and two per cent of respondents respectively from rural and urban areas are noticed to be somewhat unhappy. The average happiness scores of respondents for rural and urban areas are found to be 0.6830 and 0.6886 and thus, rural happiness seems to be less than that of urban respondents. But statistically, no evidence is available from the results of z-test (Z Cal = 0.5826 <Z 0.05 = 1.6449 and p = 0.2801 >? = 0.05). Moreover, coefficient of variation reveals relatively low variations in rural happiness scores when compared to urban happiness scores. Sex wise distribution of select respondents implies 162 males (about 54 per cent) and 138 females (about 46 per cent). Happiness across sex implies that majority of 120 males (40 per cent) and 98 females (about 33 per cent) are not particularly happy or unhappy; about 4 per cent of males and 5 per cent of females are moderately happy; 7 per cent of males and 8 per cent of females are rather happy or pretty happy. However, relatively more males (about 3 per cent) are somewhat unhappy compared to less than one per cent of females. Male and female average happiness scores are found to be respectively 0.6814 and 0.6923 and thus female happiness seems to be slightly higher than that of males. However, no statistical evidence is available from the results of z-test (Z Cal = 1.2373 <Z0.05 = 1.6449 and p = 0.1080 >? = 0.05).Further, coefficient of variation reveals relatively low variations in female happiness scores when compared to male happiness scores.

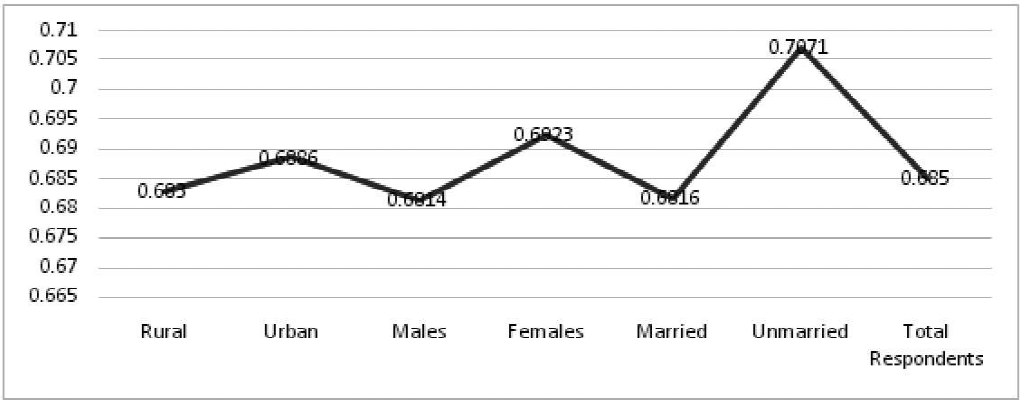
**Table 1: Happiness Score and Position of Respondents by Area, Sex and Marital Status**

| Happiness Position | Happiness Score | Respondents by Area | | Respondents by Sex | | Respondents by Marital Status | | Total Respondents |
|---|---|---|---|---|---|---|---|---|
| | | Rural | Urban | Males | Females | Married | Unmarried | |
| Somewhat Unhappy | 0.45 – 0.59 | 4 (1.33) | 6 (2.00) | 8 (2.66) | 2 (0.67) | 8 (2.67) | 2 (0.67) | 10 (3.33) |
| Not Particularly Happy or Unhappy | 0.59 – 0.73 | 148 (49.34) | 70 (23.33) | 120 (40.00) | 98 (32.67) | 198 (66.00) | 20 (6.67) | 218 (72.67) |
| Moderately Happy | 0.73 | 16 (5.33) | 10 (3.34) | 12 (4.00) | 14 (4.67) | 22 (7.33) | 4 (1.33) | 26 (8.67) |
| Rather Happy or Pretty Happy | 0.74 – 0.87 | 22 (7.33) | 24 (8.00) | 22 (7.33) | 24 (8.00) | 32 (10.67) | 14 (4.67) | 46 (15.33) |
| Total | | 190 (63.33) | 110 (36.67) | 162 (53.99) | 138 (46.01) | 260 (86.67) | 40 (13.33) | 300 (100) |
| Average | | 0.6830 | 0.6886 | 0.6814 | 0.6923 | 0.6816 | 0.7071 | 0.6850 |
| Standard Deviation | | 0.0461 | 0.0618 | 0.0537 | 0.0493 | 0.0523 | 0.0486 | 0.0525 |
| Coefficient of Variation | | 6.7540 | 8.9817 | 7.8805 | 7.1151 | 7.6684 | 6.8657 | 7.6652 |

Note: Figures in parentheses in cells indicates the percentage in total sample size 300.Source: Field Data

Distribution of respondents by marital status implies 260 married persons (about 87 per cent) and only 40 unmarried persons (about 13 per cent). Happiness by marital status implies that majority of married persons i.e., 66 per cent and majority of about 7 per cent of unmarried persons are not particularly happy or unhappy; about 7 per cent of married and about 1 per cent of unmarried are moderately happy; about 11 per cent of married and about 5 per cent of unmarried are rather happy or pretty happy. However, relatively more married persons (about 3 per cent) are somewhat unhappy compared to less than one per cent of unmarred. Married and unmarried average happiness scores are observed to be respectively 0.6816 and 0.7071 and thus happiness of unmarried persons is noticed to be higher than that of married persons andstatistical evidence is also available from the results of Z-test (Z Cal = 2.1488>Z0.05 = 1.6449 and p = 0.0158<? = 0.05). Thus, the analysis implies no happiness differences across urban and rural areas; male and females; but unmarried are happier than married. Further, coefficient of variation reveals relatively low variations in unmarried happiness scores when compared to married happiness scores.

**Figure 1: Average Happiness Scores of Respondents by Area, Sex,Marital Status**




**4.2 Happiness Scores and Position of Respondents by Age:**

Distribution of selected respondents by age (Table 2) implies that majority of 38 per cent of respondents are in the age group 40 - 50 years followed by 36 per cent in the age group30 - 40; about 13 per cent between 20 to 30 years; about 11 per cent between 50 to 60 years and only about 3 per cent in the age group 60 - 70 years. Bi-variate relationship between age and happiness position shows that a majority of about 29 per cent from 40 - 50 years, 22 per cent from 30 - 40 years, about 11 per cent from 20 - 30 years; about 9 per cent from 50 - 60 years and 2 per cent from 60 - 70 years are not particularly happy or unhappy. Further, 8 per cent in the age group 30 - 40 years, about 5 per cent of 40 - 50 years and 2 per cent of 20 - 30 years are rather happy or pretty happy, while about 5 per

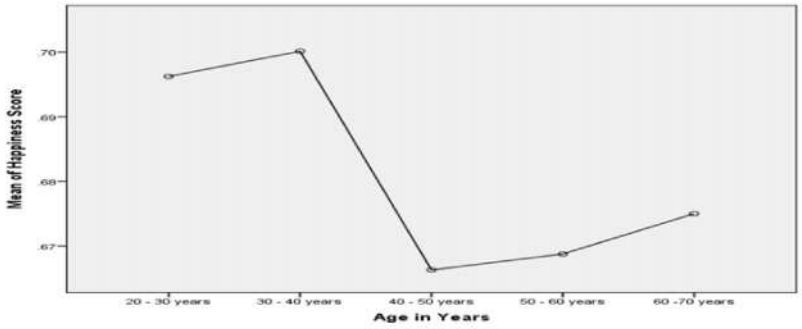
cent of aged 30 - 40 years and about 3 per cent of 40 - 50 years are moderately happy. However, about 3 per cent in the age interval 30 - 50 are somewhat unhappy. The average happiness score is found to be highest i.e., 0.7001 in respect of 30 - 40 years followed by 0.6962 in respect of 20 - 30 years, while the average happiness scores is least i.e., 0.6663 in respect of 40 - 50 years followed by 0.6688 in case of 50 - 60 years and 0.6750 for 60 - 70 years aged respondents.

**Table 2: Happiness Score and Position of Respondents by Age**

| Happiness Position | Happiness Score | Respondents by Age | | | | | Total Respondents |
|---|---|---|---|---|---|---|---|
| | | 20 – 30 | 30 – 40 | 40 – 50 | 50 – 60 | 60 -70 | |
| Somewhat Unhappy | 0.45 – 0.59 | 0 | 4 (1.3) | 6 (2.0) | 0 | 0 | 10 (3.3) |
| Not Particularly Happy or Unhappy | 0.59 – 0.73 | 32 (10.7) | 66 (22.0) | 86 (28.7) | 28 (9.3) | 6 (2.0) | 218 (72.7) |
| Moderately Happy | 0.73 | 0 | 14 (4.7) | 8 (2.7) | 2 (0.7) | 2 (0.7) | 26 (8.7) |
| Rather Happy or Pretty Happy | 0.74 – 0.87 | 6 (2.0) | 24 (8.0) | 14 (4.7) | 2 (0.7) | 0 | 46 (15.3) |
| Total | | 38 (12.7) | 108 (36.0) | 114 (38.0) | 32 (10.7) | 8 (2.7) | 300 (100) |
| Average | | 0.6962 | 0.7001 | 0.6663 | 0.6688 | 0.6750 | 0.6850 |
| Standard Deviation | | 0.0348 | 0.0481 | 0.0573 | 0.0372 | 0.0511 | 0.0525 |
| Coefficient of Variation | | 4.9985 | 6.8704 | 8.5997 | 5.5622 | 7.5703 | 7.6652 |

Note: Figures in parentheses in cells indicates the percentage in total sample size 300.
Source: Field Data

**Figure 2: Average Happiness Scores of Respondents by Age**



The test for homogeneity of variances shows statistically significant Leven'sF (4,295) = 3.105 and $p < 0.05$ and implies unequal variances.The results of ANOVA revealed that there was a statistically significant difference in mean happiness scores between at least two age groups as F (4,295) = 7.846 and $p < 0.05$. The same fact is also confirmed by statistically significantrobust tests for equality of means as suggested by Welch's F (4,43) = 7.926 and $p < 0.05$ and Brown - Forsythe F (4,66) = 9.23 and $p < 0.05$ respectively. Thus, the average scores corresponding to different age groups are not equal. Games Howell Post Hoc Test for multiple comparisons found that the mean value of happiness scores is significantly different between pairs of age groups 30 - 40 years and 40 - 50 years as $p < 0.05$, 95% confidence interval is 0.0143 to 0.0.0534 and also between pairs of age groups 30 - 40 years and 50 - 60 years as $p < 0.05$ and 95% confidence interval is 0.0088 to 0.0548. However, there was no statistically significant difference in mean happiness scores between pairs age groups 30 - 40 years and 20 - 30 years. Thus, it can be concluded that the respondents in the younger age group 20 - 40 are relatively happier than aged group 40 - 70 years.

**4.3 Happiness Scores and Position of Respondents by Social Class:**

Distribution of selected respondents by social class (Table 3) is such that 46 per cent are from Other Backward Classes (OBC); about 27 per cent are from Scheduled Caste (SC); about 19 per cent are from Open Category (OC) and about 9 per cent are from Scheduled Tribes (ST). The statistically significant Leven's F (3,296) = 8.189 and $p < 0.05$ implies unequal variances and the results of ANOVA revealed that there was a statistically significant difference in mean happiness scores between at least two social classes as F (3,296) = 30.836 and $p < 0.05$. The same fact is also confirmed by statistically significant robust tests for equality of means as suggested by Welch's F (3,131) = 35.233 and $p < 0.05$ and Brown - Forsythe F (3,265) = 43.928 and $p < 0.05$ respectively. Thus, the average scores corresponding to different social groups are not equal. Games Howell Post Hoc Test for multiple comparisons found that the mean value of happiness scores is significantly different between pairs of groups OC and SC as $p < 0.05$, 95% confidence interval is 0.0645 to 0.1087; between pairs of groups OC and ST as $p < 0.05$ and 95% confidence interval is 0.0179 to 0.0551 and between pairs of groups OC and OBC as $p < 0.05$ and 95% confidence interval is 0.0136 to 0.0551. However, no statistically significant difference in mean happiness scores observed between OBC and ST. Thus, OC group is happier compared to all other social groups, while OBC and ST groups are more or less enjoying the same level of happiness.

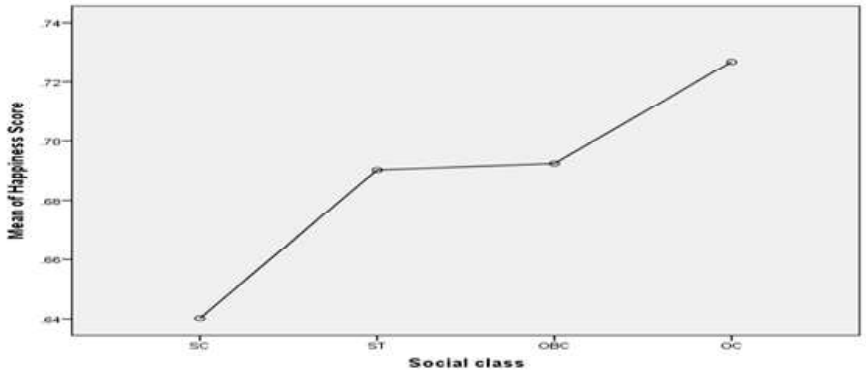
**Table 3: Happiness Score and Position of Respondents by Social Class**

| Happiness Position | Happiness Score | Respondents by Social Class | | | | Total Respondents |
|---|---|---|---|---|---|---|
| | | SC | ST | OBC | OC | |
| Somewhat Unhappy | 0.45 – 0.59 | 6 (2.00) | 2 (0.67) | 2 (0.67) | 0 | 10 (3.33) |
| Not Particularly Happy or Unhappy | 0.59 – 0.73 | 65 (21.67) | 19 (6.33) | 94 (31.33) | 40 (13.33) | 218 (72.68) |
| Moderately Happy | 0.73 | 9 (3.00) | 1 (0.33) | 14 (4.67) | 2 (0.67) | 26 (8.66) |
| Rather Happy or Pretty Happy | 0.74 – 0.87 | 0 | 4 (1.33) | 28 (9.33) | 14 (4.67) | 46 (15.33) |
| Total | | 80 (26.67) | 26 (8.67) | 138 (46.00) | 56 (18.66) | 300 (100) |
| Average | | 0.6402 | 0.6903 | 0.6924 | 0.7268 | 0.6850 |
| Standard Deviation | | 0.0530 | 0.0187 | 0.0609 | 0.0455 | 0.0525 |
| Coefficient of Variation | | 8.2787 | 2.7089 | 8.7955 | 6.2603 | 7.6652 |

Note: Figures in parentheses in cells indicates the percentage in total sample size 300.Source: Field Data

The bi-variate relationship between social class and happiness position implies that majority of about 31 per cent of OBC respondents followed by about 22 per cent of SC respondents, about 13 per cent of OC respondents and about 6 per cent of ST respondents are not particularly happy or unhappy. Further, about 5 per cent of OBC and about 3 per cent of SC are moderately happy, while about 9 per cent of OBC and about 5 per cent of OC are rather happy or pretty happy. However, out of about 3 per cent of somewhat unhappy group in the sample, it is pertinent to note that 2 per cent are from SC community. The average happiness score is found to be highest i.e., 0.7268 in respect of OC followed by 0.6924 in respect of OBC, while the average happiness scores is least i.e., 0.6402 in respect of SC followed by 0.6903 in case of ST respondents.

**Figure 3: Average Happiness Scores of Respondents by Social Class**




The statistically significant Leven's F (3,296) = 8.189 and $p < 0.05$ implies unequal variances and the results of ANOVA revealed that there was a statistically significant difference

in mean happiness scores between at least two social classes as F (3,296) = 30.836 and p < 0.05. The same fact is also confirmed by statistically significant robust tests for equality of means as suggested by Welch's F (3,131) = 35.233 and p < 0.05 and Brown - Forsythe F (3,265) = 43.928 and p < 0.05 respectively. Thus, the average scores corresponding to different social groups are not equal.Games Howell Post Hoc Test for multiple comparisons found that the mean value of happiness scores is significantly different between pairs of groups OC and SC as p < 0.05, 95% confidence interval is 0.0645 to 0.1087; between pairs of groups OC and ST as p < 0.05 and 95% confidence interval is 0.0179 to 0.0551 and between pairs of groups OC and OBC as p < 0.05 and 95% confidence interval is 0.0136 to 0.0551. However, no statistically significant difference in mean happiness scores observed between OBC and ST. Thus, OC group is happier compared to all other social groups, while OBC and ST groups are more or less enjoying the same level of happiness.

**4.4 Happiness Scores and Position of Respondents by Occupation:**

The bi-variate relationship between occupation and happiness position (Table 4) shows that a majority of 18 per cent labour, about 17 per cent employees, about 13 per cent of cultivators, 12 per cent of homemakers and about 9 per cent of self-employees are not particularly happy or unhappy. Further, about 7 per cent of employees, about 3 per cent of cultivators and 2 per cent each of self-employees and homemakers are rather happy or pretty happy.The average happiness score of employees is found to be highest i.e., 0.7080 followed

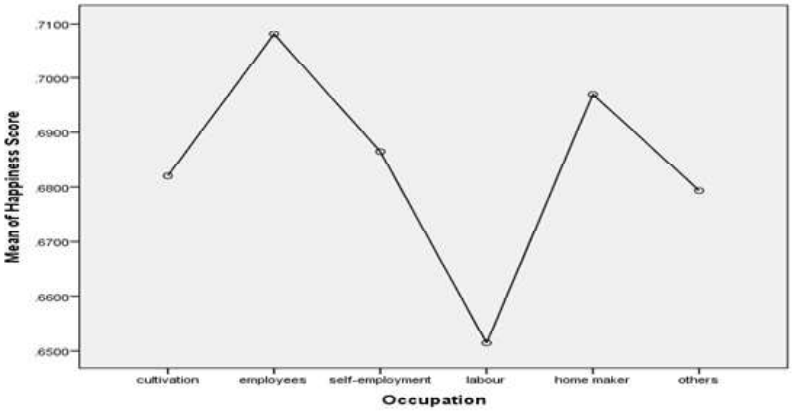
**Table 4: Happiness Score and Position of Respondents by Occupation**

| Happiness Position | Happiness Score | Respondents by Occupation | | | | | | Total Respondents |
|---|---|---|---|---|---|---|---|---|
| | | Cultivation | Employees | Self-employment | Labour | Home Makers | Others * | |
| Somewhat Unhappy | 0.45 – 0.59 | 0 | 4 (1.33) | 0 | 4 (1.33) | 0 | 2 (0.67) | 10 (3.33) |
| Not Particularly Happy or Unhappy | 0.59 – 0.73 | 38 (12.67) | 52 (17.34) | 26 (8.67) | 54 (18.00) | 36 (12.00) | 12 (4.0) | 218 (72.68) |
| Moderately Happy | 0.73 | 4 (1.33) | 6 (2.00) | 4 (1.33) | 2 (0.67) | 10 (3.33) | 0 | 26 (8.66) |
| Rather Happy or Pretty Happy | 0.74 – 0.87 | 8 (2.67) | 22 (7.33) | 6 (2.00) | 0 | 6 (2.00) | 4 (1.33) | 46 (15.33) |
| Total | | 50 (16.67) | 84 (28.00) | 36 (12.00) | 60 (20.00) | 52 (17.33) | 18 (6.00) | 300 (100) |
| Average | | 0.6820 | 0.7080 | 0.6865 | 0.6514 | 0.6970 | 0.6794 | 0.6850 |
| Standard Deviation | | 0.0456 | 0.0448 | 0.0473 | 0.0455 | 0.0382 | 0.0720 | 0.0525 |
| Coefficient of Variation | | 6.6876 | 6.3217 | 6.8931 | 6.9831 | 5.4810 | 10.603 | 7.6652 |

Note: Figures in parentheses in cells indicates the percentage in total sample size 300.Source: Field Data

*- includes retired, unemployed and part time employed.

**Figure 4: Average Happiness Scores of Respondents by Occupation**




by homemakers (0.6970) and self-employees (0.6865), while the average happiness score of labour is least i.e., 0.6514. Thus, the average happiness score of employees, homemakers and self-employees is higher than the average happiness score of select respondents, while average score of labour is very much less compared to the sample average happiness score.

The statistically non-significant Leven's F (5,294) = 1.887 and p > 0.05 implies equal variances.The ANOVA results implies that there was a statistically significant difference in mean happiness scores between at least two occupation groups as F (5, 294) = 11.2 and p < 0.05. The same fact is also confirmed by statistically significantrobust tests for equality of means as suggested by Welch's F (5,96) = 11.583 and p < 0.05 and Brown - Forsythe F (3,99) = 9.331 and p < 0.05 respectively. Thus, the average scores corresponding to different occupation groups are not equal. Tukey's HSD Test for multiple comparisons found that the mean value of happiness scores is significantly different between employees and labour as p < 0.05, 95% confidence interval is 0.03411to 0.07904;between employees and cultivators as p < 0.05, 95% confidence interval is 0.02498 to 0.04950 and also between homemakers and labour as p < 0.05, 95% confidence interval is 0.02037 to 0.07074. However, no statistically significant difference in mean happiness scores existsbetween occupation groups namely employees and self-employees and between employees and homemakers. Thus, employees, self-employees and homemakers are observed to be homogenous group and are relatively happier compared to cultivators and labour.

**4.5Happiness Scores and Position of Respondents by Income:**

The bi-variate relationship between income and happiness position (Table 5) reveals that a majority of 38 per cent respondents whose income is between Rs. 100 to 300 thousand, 24 per cent with an income of Rs. < 100 thousand and about 11 per cent from

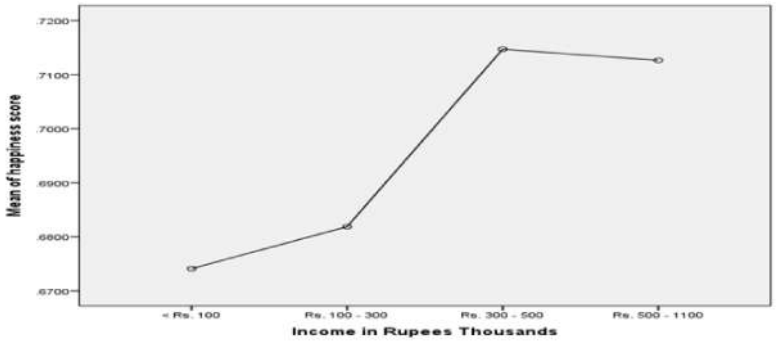
income earning group Rs. 300 - 1100 thousand are not particularly happy or unhappy. Moreover, about 5 per cent and 8 per cent respondents from income group Rs. 100 - 300 thousand are moderately happy and rather happy or pretty happy respectively, while about 5 per cent and 2 per cent respectively from income earning groups Rs 300 - 500 thousand and Rs. 500 - 1100 thousand are rather happy or pretty happy. However, about 3 per cent with an income of Rs. 300 - 500 thousand are in somewhat unhappy position. The average happiness score of respondents earning income Rs. 300 - 500 thousand is found to be highest i.e., 0.7147 followed by income earning group Rs. 500 - 1100 thousand (0.7126), while the average happiness score is least i.e., 0.6741 in respect of income earning of group of Rs. < 100 thousand. Thus, the average happiness score of is higher in respect of respondents whose income is above Rs. 300 thousand than the average happiness score of select respondents, while average score of respondents earning less than Rs. 300 thousand is lower compared to the sample happiness score.

**Table 5: Happiness Score and Position of Respondents by Annual Income**

| Happiness Position | Happiness Score | Respondents by Annual Income (in Rupees Thousands) | | | | Total Respondents |
|---|---|---|---|---|---|---|
| | | < 100 | 100 – 300 | 300 – 500 | 500 – 1100 | |
| Somewhat Unhappy | 0.45 – 0.59 | 0 | 8 (2.67) | 2 (0.67) | 0 | 10 (3.33) |
| Not Particularly Happy or Unhappy | 0.59 – 0.73 | 72 (24.0) | 114 (38.0) | 16 (5.33) | 16 (5.33) | 218 (72.66) |
| Moderately Happy | 0.73 | 6 (2.0) | 14 (4.67) | 2 (0.67) | 4 (1.33) | 26 (8.67) |
| Rather Happy or Pretty Happy | 0.74 – 0.87 | 2 (0.67) | 24 (8.0) | 14 (4.67) | 6 (2.00) | 46 (15.34) |
| Total | | 80 (26.67) | 160 (53.34) | 34 (11.34) | 26 (8.66) | 300 (100) |
| Average | | 0.6741 | 0.6818 | 0.7147 | 0.7126 | 0.6850 |
| Standard Deviation | | 0.0347 | 0.0509 | 0.0616 | 0.0329 | 0.0525 |
| Coefficient of Variation | | 5.1476 | 7.4655 | 8.6190 | 4.6169 | 7.6652 |

Note: Figures in parentheses in cells indicates the percentage in total sample size 300. Source: Field Data

**Figure 5: Average Happiness Scores of Respondents by Income**



The statistically non-significant Leven'sF (3,296) = 3.298 and p < 0.05 implies unequal variances and the ANOVA results implies that there was a statistically significant difference in mean happiness scores between at least two occupation groups as F (3, 296) = 9.036 and p < 0.05.The same fact is also confirmed by statistically significantWelch's F (3,80) = 11.386 and p < 0.05 and Brown - Forsythe F (3,104) = 9.385 and p < 0.05 test results. Thus, the average scores corresponding to different income groups are not equal.Games Howell Test for multiple comparisons found that the mean value of happiness scores is significantly different between income groups Rs. 300 - 500 thousand and Rs. < 100 thousand as p < 0.05, 95% confidence interval is 0.01051to 0.07068and also between income groups Rs. 300 - 500 thousand and Rs. 100 - 300 thousand as p < 0.05 and 95% confidence interval are 0.00264 to 0.06303. The income groups of pairs Rs. 300 - 500 thousand and Rs. 500 - 1100 thousand and the pair Rs. 100 - 300 thousand and Rs. < 100 thousand are found to be homogenous groups as no statistically significant difference in mean happiness scores between those pairs exist. Hence, high income group Rs. 300 - 1100 thousand are happier than low-income group Rs. < 300 thousand.

**4.6Happiness Scores and Position of Respondents by Property:**

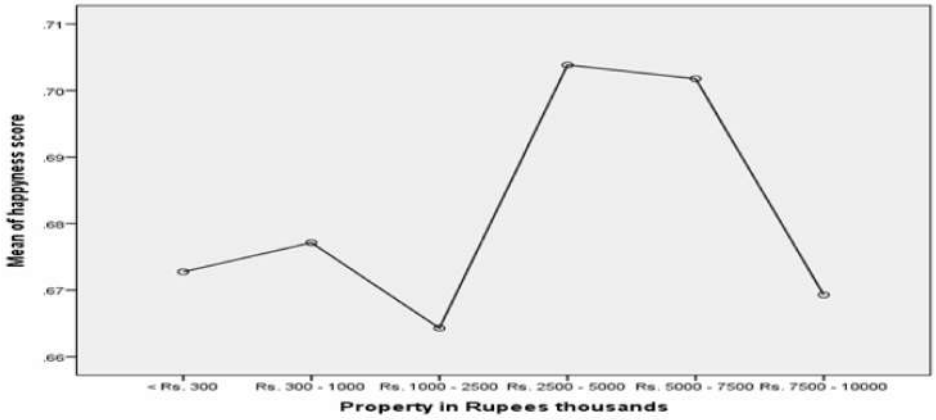
The bi-variate relationship between property and happiness position (Table 6) reveals that a majority of about 23 per cent respondents whose property is worth less than Rs. 300

**Table 6: Happiness Score and Position of Respondents by Property**

| Happiness Position | Happiness Score | Respondents by Property (in RupeesThousands) | | | | | | Total Respondents |
|---|---|---|---|---|---|---|---|---|
| | | < 300 | 300 – 1000 | 1000 – 2500 | 2500 – 5000 | 5000 – 7500 | 7500 – 10000 | |
| Somewhat Unhappy | 0.45 – 0.59 | 2 (0.67) | 2 (0.67) | 2 (0.67) | 0 | 2 (0.67) | 2 (0.67) | 10 (3.33) |
| Not Particularly Happy or Unhappy | 0.59 – 0.73 | 70 (23.33) | 50 (16.67) | 14 (4.67) | 36 (12.00) | 20 (6.67) | 28 (9.33) | 218 (72.67) |
| Moderately Happy | 0.73 | 8 (2.67) | 6 (2.00) | 0 | 4 (1.33) | 2 (0.67) | 6 (2.00) | 26 (8.67) |
| Rather Happy or Pretty Happy | 0.74 – 0.87 | 16 (5.33) | 2 (0.67) | 4 (1.33) | 12 (4.00) | 8 (2.67) | 4 (1.33) | 46 (15.33) |
| Total | | 96 (32.00) | 60 (20.00) | 20 (6.67) | 52 (17.33) | 32 (10.67) | 40 (13.33) | 300 (100) |
| Average | | 0.6728 | 0.6771 | 0.6643 | 0.7038 | 0.7018 | 0.6693 | 0.6850 |
| Standard Deviation | | 0.0437 | 0.0446 | 0.0653 | 0.0393 | 0.0531 | 0.0623 | 0.0525 |
| Coefficient of Variation | | 6.4952 | 6.5827 | 9.8303 | 5.5855 | 7.5594 | 9.3046 | 7.6652 |

Note: Figures in parentheses in cells indicates the percentage in total sample size 300. Source: Field Data

**Figure 6: Average Happiness Scores of Respondents by Property**




thousand, about 17 per cent with a property worth between Rs. 300-1000 thousand and about 33 per cent from property group Rs. 1000-10000 thousand are not particularly happy or unhappy. Further, about 3 per cent and about 5 per cent of respondents with a property worth less than Rs. 300 thousand are respectively moderately happy and rather happy or pretty happy; 2 per cent each with property worth Rs.300-1000 thousand and Rs.7500-10000 thousand are moderately happy; 4 per cent with a property worth Rs.2500-10000 thousand are rather happy or pretty happy. However, about 3 per cent of respondents irrespective of their property are noticed to be somewhat unhappy. Thus, the average happiness score is lower than the average happiness score of select respondents in respect of respondents of all groups except property group between Rs.2500-7500 thousand.

The test for homogeneity of variances shows statistically non-significant Leven'sF (3,294) = 3.147 and $p < 0.05$ and impliesunequal variances.The ANOVA results implies that there was a statistically significant difference in mean happiness scores between at least two occupation groups as F (5,294) = 5.016 and $p < 0.05$.The same fact is also confirmed by statistically significantrobust tests for equality of means as suggested by Welch'sF (5,94) = 5.548 and $p < 0.05$ and Brown - Forsythe F (5,138) = 4.241 and $p < 0.05$respectively. Thus, the average scores corresponding to different property groups are not equal.Games Howell Test for multiple comparisons found that the mean value of happiness scores is significantly different between property groupsRs. 2500 - 5000 thousand and 75000- 10000 thousand as $p < 0.05$, 95% confidence interval is 0.0015to 0.0677;between property groups Rs. 2500 - 5000 thousand and Rs. < 300 thousand as $p < 0.05$, 95% confidence interval is 0.0107to 0.0515 and also between Rs. 2500 - 5000 thousand and Rs. 300- 1000 thousand as $p < 0.05$, 95% confidence interval is -0.0079to 0.0571. However, Rs. 2500 - 5000 thousand and Rs. 5000- 7500 thousand groups are found to be homogenous

as no statistically significant difference in mean happiness scores exists. Thus, the middle range property group (Rs. 25000 - 75000 thousand) is happier than all other groups.

**5. Summary and Conclusions:**

Out of the total 300 select respondents, none of them are found place in happiness positions namely not happy; very happy and too happy. Majority of about 73 per cent are noticed to be not particularly happy or unhappy; about 15 per cent are rather happy or pretty happy; about 9 per cent are moderately happy; about 3 per cent are somewhat unhappy. The happiness score varies between a minimum of 0.51 and a maximum of 0.79 and averaged to 0.6850. The analysis reveals no statistically significant happiness differences based on area and sex, but found statistically significant differences based on marital status. Respondents belonging to relatively younger age group (20 - 40 years) are happier than other age groups and mean happiness scores are statistically significantly different between 30 - 40 years and 40 - 50 years and also between 30 - 40 years and 50 - 60 years. The OC respondents are found relatively happier compared to OBC, ST and SC respondents in the order and mean happiness scores are statistically significantly different between OC and SC and also between OBC and SC.Employees, self-employees and homemakers are observed to be homogenous group and are relatively happier compared to cultivators and labour.The mean happiness scores of employees, self-employees and homemakers arestatistically significantly different between paired combination with labour and cultivators. Among the select sample respondents, high income group i.e., Rs.300-1100 thousand is relatively happier than low-incomegroup i.e., less than RS. 300 thousand.However, in respect of property, the middle range property group i.e., Rs.2500-7500 thousand is relatively happier than high property group i.e., Rs.7500 -10000 thousand and low property group i.e., less than Rs. 2500 thousand. Finally, to conclude, the analysis found only partial evidence in favour of hypothesis 1 (as 2 out of 6 indicators only true), as no statistically significant mean happiness score differences existbased on area and sex, but statistically significant mean happiness score differences exists based on marital status, age, social class and occupation. However, the analysis found 50 per centevidence in favour of hypotheses 2 (as one out of two indicators is true) as high-income earning group are relatively happier compared to low income, but medium range property owned groups are relatively happier than high and low propertyownedgroups.Thus, the analysis implies the existence of happiness differences across respondents based on all considered socioeconomic indicators except area and sex.

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