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# DEVELOPMENT AND VALIDATION OF HAPPINESS SCALE IN INDIAN CONTEXT

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**ABSTRACT:**

*Happiness is the thing for which all of us strive for. It is the ultimate goal of our lives. Assessing our happiness can lead to knowing about the factors influencing happiness. This study is aimed at construction of a standardized tool to assess happiness in Hindi language. The sample for this study included 300 college students from Hisar district of Haryana. Mean age of participants was 21.78 with S.D 3.37.A pool of 37 items was prepared and administered to 300 students along with Oxford happiness questionnaire. The final questionnaire prepared has 8 items with 3 factors. Reliability and validity of the scale are satisfactory. Factor structure was confirmed and validated by confirmatory factor analysis. Construct validity of the scale was also established.*

**KEYWORDS:** *Happiness, Assessment, Hindi, Indian .*

## INTRODUCTION

We humans always strive to achieve a state of happiness (Buss, 2000); it is even aultimate goal for most people (Diener, Lucas, &Oishi, 2003). According to the World Happiness Record (Helliwell, Layard, & Sachs, 2015), importance of assessing happiness in societies is because economic growth cannot describe the human progress alone. According to Diener, Lucas, Smith, and Suh (1999), happiness or subjective wellbeing contains two components. They are- affective (frequent states of positive affectand low frequent states of negative affect) and cognitive (high level of life satisfaction). The affective component is an evaluation based on feelings and emotions of a person, whereas the cognitive part is information guided by evaluating a person's life, in which we tend to judge the degree or level with which their lives meet their expectations and ideals. In this context, subjective happiness is defined as affective and cognitive evaluations of the experiences in one's life (Diener, 2000).The concept of happiness culturally constructed. Happiness is not understood asa 'given universal' but is construed culturally. Uchida, Norasakkunkit, andKitayama (2004)have stated that happiness is defined in the individualist West in terms of personal achievement and in the collectivist East in terms of interpersonal coherence.

As happiness is a major factor in our lives, its assessment is also very important. Presently there are many standardized and validated tools to assess and measure happiness, like the Affect Balance Scale (Bradburn, 1969) and the Satisfaction With Life Scale (Emmons, Diener,Grifin, & Larsen, 1985). But these instruments have been criticized because they evaluate different components of happiness (affective and cognitive states). Oxford happiness inventory, Oxford happiness questionnaire are widely used assessment tools for happiness, but they are in English language and foreign context. So this study is based on developing a standardized tool to assess happiness in Hindi speaking population of India.

## Method

### Sample

The sample for this study included 300 college students from Hisar district of Haryana, out of which 65 were males and 235 were females. Mean age of participants was 21.78 with S.D 3.37.

### Tools used

**Oxford happiness questionnaire (OHQ)-**The Oxford Happiness Questionnaire has been devised by Hills & Argyle (2002), which consists of 29 single items that respondents may answer on a uniform six-point likert scale. OHQ demonstrated high scale reliabilities with values a(168)=0.91. The Oxford happiness inventory and OHQ scores aggregated over all items were strongly and significantly related, r(163)=0.80, P<0.001.

### Procedure

First, we generated and reduced an original item pool pertaining to the content domains of happiness. We began with a pool of 49 statements pertaining to the possible aspects of happiness. These items were generated using content or items from existing measures that focused on happiness and review on the factors related to happiness. The generated pool included items pertaining to satisfaction with one's life, about present, future and past, goals of life, etc. Two experts in the content area (one was professor of sociology and one was professor with specialization on social psychology) reviewed and rated these items in terms of their relevance (1 = *low*, 2 = *moderate*, and 3 = *high*) to the identified content domains. We chose statements with high relevance ratings, which resulted in a smaller pool of 22 items.

300 students filled the 22 item questionnaire along with Oxford Happiness Quesntionnaire. This scale was used for the validation of the present. They rated each item on happiness scale using a 6-point scale with 1 = *completely disagree*, 2 = *disagree*, 3 = *little disagree*, 4 = *little agree*, 5 = *agree and 6 = completely agree*. Scale instructions asked respondents to indicate if they agree or disagree with a particular statement. More the total score more a person is happy with his life and vice-versa.

Item total correlation was performed on the remaining 22 items. In this situation all the items were correlated against the internal criterion of total score. In selecting the items on the basis of item-total correlations it is better if at least 75% of correlation is positive and preferably above 0.30. After item analysis two of the items were deleted as item total correlation of these two items was below 0.30.Items analysis provides information about how well each individual item relates to the other items in the analysis. After obtaining the summated score for total statements (20) the subjects were arranged in descending order based on their total scores. The 27% (81 subjects) of the subjects with the higher total scores and the 27% (81 subjects) of the subjects with the lowest scores would provide criterion groups in terms of which to evaluate the individual statements. The 't' value of each item (discriminating index) , a measure of the extent to which a given statement differentiates between the high and low groups of subjects was calculated.. Items whose 't' value were significant at 0.05 level were retained in the final scale. All the items were discriminating in this scale, therefore none of the item was deleted at this stage.

After item analysis a principal component analysis was performed on these data, which revealed three main factors. The 8 items with the highest loading on the three factors were used to construct the initial version of the scale, which showed high internal consistency ($r$ = .78). Details regarding factor analysis are given in results section. Scores on happiness scale were analyzed by using Pearson product moment correlation. This 3 factor structure was confirmed by confirmatory factor analysis. Convergent and discriminant validity i.e., construct validity was also assessed using AMOS 21.

## Results

We examined the data first to ensure that the variables' distributions would not violate statistical assumptions of the analyses we intended to perform. We determined the measures' skewness and kurtosis levels and visually examined the shape of their distributions. No large deviations from

normality were present, and the slight deviations would not significantly affect the analyses (Fidell&Tabachnick, 2001).

## Exploratory Factor Analysis

The Bartlett's test of sphericity was significant at $p < .001$ and the size of the Kaiser–Meyer–Oklin measure of sampling adequacy (KMO = .77) revealed that the happiness scale was an excellent candidate for factor analysis (Fidell&Tabachnick, 2001). To evaluate the structure of the happiness scale, we used a common factor analysis with principal axis factoring and varimax rotation. As recommended by Fidell and Tabachnick (2001), the number of factors was determined by factor eigenvalues above 1.0 and a noticeable change in the slopes within the scree plot. We examined the rotated factor matrix to pinpoint items that loaded on these factors. Criteria for factor loadings included item values more than and equal to .50. 13 items were removed as they loaded below .50.

An orthogonal rotation of the initial factor structure was done by varimax method (table 1) to maximize the variance explained by each factor independently and to obtain simpler results, which could be interpreted more readily. As a result, the remaining 8 items gathered under 3 factors, and these 3 factors had an eigen value of 3.31, 1.22 and 1.06. Item loadings on the six factor solution ranged from .62 to .88 and accounted for 70% of item variance. These factor loadings, as well as the happiness items, are presented in Table 1. The three factors were named according to the nature of items that loaded on these factors.

**Table 1**

***Happiness Scale Items and Factor Loadings Obtained from the Exploratory Factor Analysis of the Data (N = 300)***

| | 1 | 2 | 6 |
|---|---|---|---|
| 1.ज़्यादातर मै बहुत खुश रहता हूँ। | .852 | | |
| 2.मै ज़्यादातर खुदको उत्साहित व प्रसन्न चित अनुभव करता/करती हूँ। | .831 | | |
| 3.मेरा अतीत खुशियों से भरा हुआ है। | .661 | | |
| 4.ये दुनिया एक बहुत अच्छी जगह है। | | .876 | |
| 5.जिंदगी बहुत खूबसूरत है। | | .789 | |
| 6.मैंअपने जीवन से संतुष्ट हूँ। | | .622 | |
| 7.मुझे लोगों से मिलना-जुलना पसंद है। | | | .880 |
| 8.मुझे लोगों के साथ रहना बहुत पसंद है। | | | .864 |

## Internal consistency reliability

To determine the internal consistency of the happiness scores, we used Cronbach's alpha and examined itemtotal correlations. CronbachAlpha for "chipper" factor was.71, for "life is beautiful" was .73 and for "sociable" was .75. These values support the internal consistency of the Happiness scores.

## Reliability

Test-retest reliability refers to the degree to which results are consistent over time. In order to measure test-retest reliability, same test is given to same individuals on two occasions, generally within a gap of atleast 15 days and then correlating the scores. Test retest reliability of this scale was assessed with a gap of 30 days and the correlation between both scores is $r = .39$ significant at $p<.01$ level.

## The Validity of a Scale Similar to scale

The validity of happiness scale was determined using the oxford happiness questionnaire. To achieve this, the relationship between Happiness scale and Oxford happiness questionnaire correlation was calculated using Pearson Product-Moment Correlation Analysis. The correlation was r = 0.28, and was found significant at a significance level of $p < .01$. This result proves that the validity is satisfactory according to the similar scale application. Thus, the present scale has satisfactory concurrent validity.

## Confirmatory factor analysis

The evidence of the construct validity was analyzedthrough the CFA. Amaximum-likelihood estimation method was adopted. A number of fit indices were used to evaluate the goodness-offit, including (a) CMIN/DF; (b) the Comparative Fit Index (CFI); (c)the Goodness-of FitIndex (GFI); and (d)the Root Mean Square Error of Approximation(RMSEA). Kelloway (1998) indicates that RMSEA values of0.10 represent a good fit, while values below .05 representa very good fit to the data. Furthermore, a well-fittingmodel should have CFI, and GFI values above .90(values above .95 are indicative of a good to very good fit)(Kelloway 1998).

First, we tested the goodness-of-fit of three factor model of happiness scale. The RMSEA value was .048, which is believed to be a good indicator of good fit. GFI, CFI were also above .95, which is again a good indicator of good fit.

**Table 2**

***Indicators of fitness of good for three factor model of happiness scale***

| | CMIN/DF | GFI | CFI | RMSEA |
|---|---|---|---|---|
| 3 Factor model | 1.68 | .977 | .984 | .048 |

Convergent validity of the scale was assessed using average variance explained (AVE) by three factors. Convergent validity is believed to high if AVE > .50. AVE for "chipper" was .53, for "sociable" was .61 and "life is beautiful" was .495. But convergent validity is established for all the three factors because Fornell and Larcker said that if AVE is less than 0.5,but composite reliability (CR) is higher than 0.6, the convergentvalidity of the construct is still adequate(Fornell& Larcker,1981). CR for all the three factors is above .7.

Discriminant validity was established where Maximum Shared Variance (MSV) was lower than the Average Variance Extracted (AVE) for all the constructs and square root of AVE greater than inter-construct correlations. Thus looking at table 3 we can say that discriminant validity is also established for three factors of happiness scale.

**Table 3**

***CR, AVE, MSVfor three factors of happiness scale***

| | CR | AVE | MSV |
|---|---|---|---|
| Chipper | 0.763 | 0.53 | 0.299 |
| Life is beautiful | 0.743 | 0.495 | 0.299 |
| Sociable | 0.758 | 0.61 | 0.248 |

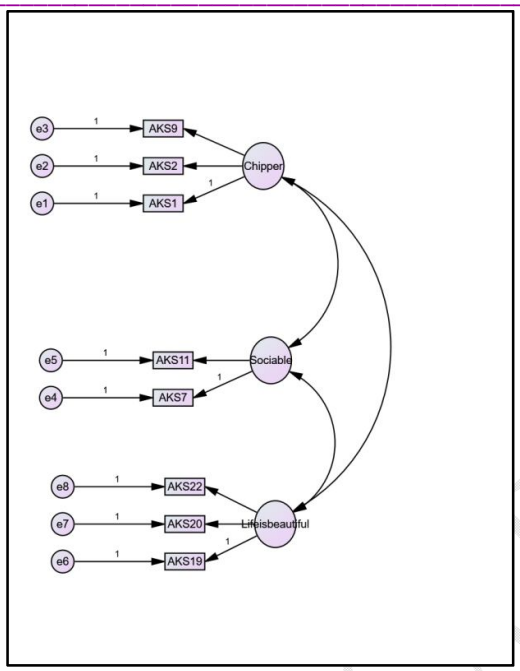


**Fig 1. Structure equation model of happiness scale**

**Table 4**

***Factor Correlation matrix***

| | Chipper | Sociable | Life is beautiful |
|---|---|---|---|
| Chipper | 0.728 | | |
| Sociable | 0.396*** | 0.781 | |
| Lifeisbeautiful | 0.547*** | 0.498*** | 0.703 |

*Note.****p< 0.001

## DISCUSSION

Aim of present study was to construct and standardize a scale to assess happiness in Hindi language for use in Indian context. A total of 22 items were administered to 300 students, out of which 8 were retained in final scale. All the items are scored on 6-point likert type scale. Factor analysis revealed 3 factors, which were named as "Life is beautiful, Chipper, and Sociable". Reliability analysis of the scale revealed satisfactory test-retest reliability, Cronbach alpha and split half reliability. The scale was also validated against Oxford Happiness Questionnaire and was found to have satisfactory concurrent validity. Further in CFA the three factors were examined through AMOS. The goodness of fit indicators indicated a good fit for the model. Construct validity was established using convergent and discriminant validity.

The scale thus constructed have three dimensions, namely, "life is beautiful" indicated the tendency of a person to perceive life as worth living, "chipper" indicates liveliness of a person and "sociable" indicates outgoing tendency of a person. All the three factors together assess happiness of a person. The responses of all the items are made on a 6 point likert scale. Total score range of the scale is 8-48, where more score indicates high happiness.

As it was discussed earlier too, happiness is a construct of interest for researchers. This scale is made in Hindi language for Indian population. Hindi is national language of India. Even today many of Indians do not understand or speak English language and this scale will add to research of happiness in terms that it can be used on people who do not understand English language. Because of Hindi language this scale will reach to the most remote areas where English is still an alien language.

## REFERENCES


Bradburn, N. M. (1969). *The structure of psychological well-being.* Oxford, England: Aldine.

Buss, D. M. (2000). The evolution of happiness. *American psychologist*, *55*(1), 15.

Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological bulletin*, *125*(2), 276-302.

Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American psychologist*, *55*(1), 34.

Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of personality assessment*, *49*(1), 71-75.

Fornell, C., &Larcker, D. F. (1981).Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, *18*(1), 39-50.

Helliwell, J. F., Layard, R., & Sachs, J. (2015).World Happiness Report 2013. New York: Sustainable Development Solutions Network, 2013.

Hills, P., & Argyle, M. (2002). The Oxford Happiness Questionnaire: A compact scale for the measurement of psychological well-being. *Personality and individual differences*, *33*(7), 1073-1082.

Gaskin, J. & Lim, J. (2016), "Master Validity Tool", AMOS Plugin. Gaskination'sStatWiki.

Kelloway, E. K. (1998). *Using LISREL for structural equation modeling: A researcher's guide*. California: Sage Publications.

Uchida, Y., Norasakkunkit, V., &Kitayama, S. (2004). Cultural constructions of happiness: theory and emprical evidence. *Journal of happiness studies*, *5*(3), 223-239.


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