Arithmetical Analysis of Gender Based Relative Behavior on Life Satisfaction, Self Esteem and Mental Health

Ramesh Kumar

Abstract

Term 'Gender' is very challenging and burdened with variety of meaning when it comes to its socialization though social norms in India. Although the gender difference is an unsolicited issue in Indian society, its effect is very much reflected in Indian culture from office to home and lane to metros. Another major esteemed obsession in due gender shows effect is life satisfaction, self-esteem, and mental health of adults. The major objective of this investigation was to scrutinize gender differences on self-esteem, life satisfaction and mental health of male, female, and transgender of mainly studied in Rajasthan and Haryana state (India). This study is sampled differently in the process of Snowball sampling from 240 adults (80 males, 80 Females and 80 transgender) ranged in age 31-45 years. This data is statistically analyzed with Chi-Square test distribution and analyzed widely with ANOVA table and most importantly F-test proceeding. Again graphical representation showing 3D simulation among gender, F value and df value from F-test and Chi-Square test are thoroughly investigated. The findings revealed that self-esteem significantly positively correlated with life satisfaction; anxiety symptoms, severe depression significantly negatively correlated with the both self-esteem and life satisfaction.

Keywords: *life-satisfaction, self-esteem, mental health and gender.*

About authors:

Department of Education, Mizoram University, Aizawl, Mizoram - 796 004, India

Introduction

The youth of any society can develop an attitude, influence, skill and demeanor that seeks to keep information and services safe, healthy, eliminate discrimination and violence, especially against girls, and such a civil society is ready whose environment gives everyone a chance to achieve efficiency equally (Coleman, 1974; McGill et al., 2000; Buckingham, 2007; Board, 2004). They should be made partners in formulating policies and developing practices in which all genders are recognized and gender stereotypes and norms are challenged. In adulthood many challenges faced by both male and female like social expectations, new changes of life, playing new roles (spouse, parents); develop new attitudes, interests, and values through society (McWhirter,, 1997). In India, the Term 'Gender' is very challenging and burdened with variety of sense when it comes to its socialization though social norms. In this modern era, it is difficult for adults because most of the male and female desired to make well adjustment with social norms (Goldberg and Hillier, 1979; Grossaman et al., 2005; Hammarström and Janlert, 2011). The position of women in Indian society was strong in the ancient or Vedic period, at that time women had equal representation in social institutions like Sabha and Samiti. In addition, women like Appala and Lopamudra also contributed to the creation of Vedas. Self-esteem was generally defined as a whole assessment of one-self in also a positive or negative way, overall view of self (Frost and McKelvie, 2005). Rosenberg et al., (1995)described that global self-esteem, as deviated to specific self-esteem, is highly correlated with well-being. The Self-esteem is a psycho-social construct that evaluate a person's attitudes and perceptions of self-respect. Goldberg, (1978)study findings reveal that male had high self-esteem than female but gender and self-esteem were not significantly different. It meant self-esteem was not affected by gender or vice versa in young adults (Teoh and Afiqah, 2010). Rosenberg et al., (1995) was describing the findings that negative correlation between self-esteem and depression.

Subjective well-being is a cognitive process which engages comparison of people's

observation from their present with the expectations that are connected with life satisfaction. Expectations are considered the most important component in assessing one's well-being (McDowell, 2010). According to Diener (1984), subjective well-being is made of three domains includes life satisfaction, the presence of positive hopes, and absence of negative hopes. Life satisfaction is a cognitive facet of well-being, which refer to the judgment of one's life (Gentile et al., 2009; Diener, Suh, &Oishi, 1997).

In this present study, we wanted to expand earlier research investigating relationship of gender with self-esteem, mental health and life-satisfaction among adults. We hypothesized that poor mental health significantly negatively related with both life satisfaction, and self-esteem gender difference in life satisfaction self-esteem, and mental health would be present in adults.

Materials and Methodology

Sampling Technique

The study comprised 80 males, 80 females and 80 transgender (ritual performers) participants. They were aged between 31 to 45 years with a mean age of 35.66 (SD=3.94) years. The size of the data was collected from state of Rajasthan, and Haryana, India. During the data collection unfortunately, some participants did not give their name that they were participated in this study.

Chi-Square Distribution

In any statistical representation, while selecting a random size for any sample with normal population being its SD value determined by σ then, it is deviation of sample, X $\in$ (X_1,X_2,……, X_n). Then the statistics of defining Chi-Square is used$Y^2 = [(m-1) * X^2]/\sigma^2$. This distribution is derived in case of Chi-Square distribution defined by probability density function.

This Chi-Square distribution is coined as, $Z = Z_O * (Y^2)^{(\frac{U}{2}-1)} * e^{Y^2/2}$. Here the term u=m-1 is the number of degree of freedom and m is samples/distribution taken. This statistics is validated with t-test measure (F-test) following by term of understanding in each sample ANOVA measure.

Procedure

The transgender participants were selected on the bases of those who are ritual performers and follow the Guru-Chelas custom, and male and female participants were also selected for this study from same locality. They were instructed to entire the demographic data, self-esteem inventory, general health questionnaire-28, and life satisfaction scale.

Results

Society consists of various actors, among whom there is interaction. This interaction has a physical and environmental basis. Each subject is oriented towards maximum satisfaction. The fulfillment of universal needs is imperative to maintain the existence of society intact. Identification requirements regulate the area of coexistence of structural elements.The system of action and situational elements towards which action is oriented determine the structure of society. Cohesive elements balance the process of interactions. Disjunctive elements present disruptions in social balance. The associations and actions of the actors are adjusted by institutionalization to control the dissociative elements. This leads to the growth of mutual cooperation and mitigation of contradictions.

Age and Gender Variables

A person's behavior is an expression of an attempt to accomplish certain goals. He has some natural and acquired needs. Such as work, apps, security etc. In the absence of fulfillment of these needs, a person suffers from frustration and mental stress. He is not able to fulfill them himself. Therefore, in order to have full satisfaction of these needs, man has developed a macro-system in his long developmental order (Table 1).

Table 1: Descriptive Statistics of Age and Gender for Study Variables

Gender	N	Age	Self-esteem Mean (SD)		Life-satisfaction Mean (SD)		Anxiety/Insomnia Mean (SD)		Severe depression Mean (SD)	
Male	34	31- 35	17.52	3.64	70.23	11.48	10.67	4.68	10.17	4.69
	23	36- 40	18.47	2.69	70.13	8.00	11.73	4.49	9.08	3.94
	23	41- 45	17.78	3.69	71.65	8.74	11.95	3.89	9.73	3.82
Female	42	31- 35	15.52	4.69	66.28	8.86	15.11	5.87	12.80	6.31
	32	36- 40	16.18	3.71	65.09	7.78	14.68	5.75	12.13	5.24
	06	41- 45	17.66	2.58	74.50	9.39	12.33	2.73	11.33	4.36
Transgender	61	31- 35	10.52	2.59	62.47	5.28	18.21	3.92	17.22	3.57
	17	36- 40	12.05	3.03	63.11	6.78	18.00	5.25	17.05	4.09
	02	41- 45	22.00	1.14	61.50	7.77	19.00	0.00	18.50	3.53

Now describing this circumstance we require the two specific ingredients through invariance of statistical analysis. The first one is collection of probability distribution i.e. the mean value which specifying a statistical model. The second one is transformation of group invariance in forms of regression co-efficient (r) and p-value analysis. Considering the experimental situation for Life-satisfaction (X_1), Anxiety (X_2) and Severe Depression (X_3) for each different observation of vector file X_1, X_2 and X_3 with variable X1=(x_1, x_2, x_3,….., x_n) and for all, now we here essence the probability distribution function in these terms. The collection of these distributions in terms of X_1, X_2 and X_3 is often written as $\{P(\cdot \mathrm{I}\beta)\mathrm{I}\beta \in X\}$ and β is the collection of parameter for invariance in terms of probability distribution.

Now these distributions of X_1, X_2 and X_3 vectors are running on significant invariance analysis for determining relationship among life-satisfaction, self-esteem and depression. The probability function used is $P(X_1 \mathrm{I}\,\beta) = \int_n^{n=1:x} P(x \mathrm{I}\,\beta)\, d\beta$ and so on for X_2 and X_3. After studying these dataset and getting ANOVA Table 2 expresses that there was a significant relationship between self-esteem and life-satisfaction (r=.540, p < 0.01). The measures of mental health namely anxiety (r=-.531, p < 0.01), and severe depression (r=-.656, p < 0.01) significantly negatively correlated with self-esteem, as well as life-satisfaction significantly negatively related with both anxiety (r=-.472, p < 0.01), and severe depression (r=-.534, p < 0.01).

Table 2: Correlations and Descriptive Statistics for Study Variables (N=240)

Measure	1	2	3	4	Mean (SD)
Self - Esteem	-				14.98 (4.60)
Life -Satisfaction	.540**	-			66.54 (8.80)
Anxiety/ Insomnia	-.531**	-.472**	-		14.75 (5.52)
Severe Depression	-.656**	-.534**	.743**	-	13.12 (5.55)

***. P < 0.01*

Anxiety and severe depression were significantly positively associated (r=.743, p < 0.01). Thus higher self-esteem was associated with life satisfaction. This descriptive statistics showing correlation for individual measure for the parameter Self-Esteem (Y_1), Life-Satisfaction (Y_2), Anxiety (Y_3) and Severe depression (Y_4), which determines n-dimensional simplex vertex

with volume of Mean i.e. standard deviation of $\Delta(Y_1, Y_2, Y_3, Y_4)$. This indicates a matrix determination of the correlation sizing how graphical analysis can be univariate in the range$Y_{1\to4}$. This graphical representation is Figure-1.

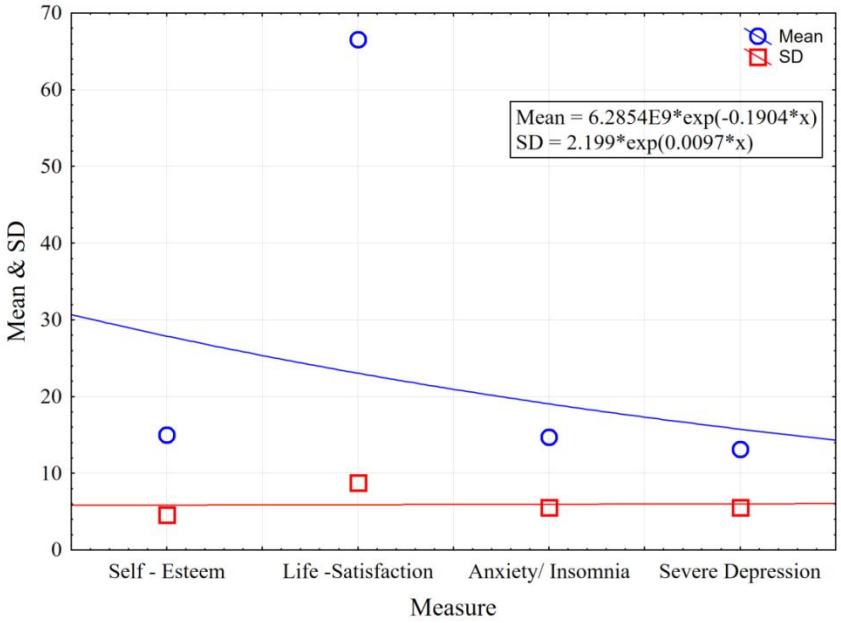

Figure 1: Depicting graphical interpretation for Mean & SD with each measure of source.

Impact of Age and Gender on Self-esteem and Life-satisfaction

The result also revealed that higher levels of anxiety/insomnia and severe depression were negatively associated with both self-esteem and life satisfaction (Figure 1 and Table 3).

Table 3: ANOVA Results for the Impact of Age and Gender on Self-esteem

Sources of Variation	Sum of square	df	Mean sum of square	F	Level of significance
Age	265.30	2	132.63	10.88	.001
Gender	148.31	2	74.15	6.08	.003
Age* Gender	222.69	4	55.67	4.57	.001
Error	2816.96	231	12.20		

Here, to standardize the variance models and affine them with an invariance reflection, a statistics assumed and to determine the maximum likelihood classes, the most affordable classical F-testing procedures as given by ANOVA Table 4 is used. This is given in a proper graphical analysis with simulation in three-dimensional statistics showing with Figure 2. We here stated null hypothesis and the alternate hypothesis. Then defined the residual sum, SE, and its square, SE^2 along different number of restrictions, m, (Sources of Variation). The F test is defined as, $F = \frac{(SE_1 - SE_2)/m}{\frac{SE_2}{m-k}}$ Where, K is independent variable over the sources of variation. The F values for Age (10.88), Gender (6.08) and Gender proliferated Age (4.57) pronounces overall dependency on self-esteem and significance level lies between 0.001-0.003 (Satisfied).

Figure 2: 3-D simulation for Age and Gender in covariance with Self-esteem.

Table 4: ANOVA Results for the Impact of Age and Gender on Life-satisfaction

Sources of Variation	Sum of square	df	Mean sum of square	F	Level of significance
Age	101.42	2	53.24	0.80	.453
Gender	910.67	2	455.10	6.80	.001
Age* Gender	279.14	4	69.79	1.04	.386
Error	15454.21	231	66.90		

ANOVA were conducted to examine age and gender differences on self-esteem, mental health and life-satisfaction. The findings mentioned in Table 3, self-esteem results indicate significant main effect for age [F (2, 231) = 10.88, p <.01], gender [F (2, 231) = 6.08, p <.01], and interaction between age and gender [F (4, 231) = 4.57, p <.01]. Males (M=17.93) were higher self-esteem then females (M=16.45), and transgender (M=14.86). The LSD post hoc tests revealed that transgender were significantly lower, males higher and female second higher on self-esteem. We perform LSD post hoc test on age and found that females (M = 17.66, age = 41-45), transgender (M = 22.00, age = 41-45), and males (M = 18.47, age = 36-40) were higher on self-esteem. This correlation of ANNOVA result is well measured and shown with Figure 3.

Figure 3: Elucidation for Age and Gender in covariance with Life-Satisfaction.

Table 5: ANOVA Results for the Impact of Age and Gender on Anxiety (GHQ-28)

Sources of Variation	Sum of square	df	Mean sum of square	F	Level of significance
Age	1.84	2	0.92	.04	.961
Gender	685.05	2	342.52	14.80	.001
Age* Gender	69.67	4	17.42	.75	.557
Error	5347.67	231	23.15		

Table 4 revealed that life-satisfaction results depict main effect for age [F (2, 231) = 0.80, p < NS], gender [F (2, 231) = 6.80, p <.01], and interaction between age and gender [F (4, 231) = 1.04, p < NS]. Males were more satisfied with their life (M = 70.67) then females (M = 68.62) and transgender (M = 62.63). The third variable for study was anxiety/insomnia results indicates significant main effect for gender [F (2, 231) = 14.80, p <.01] (Table-V). This representation is summarily table side with Figure 4.

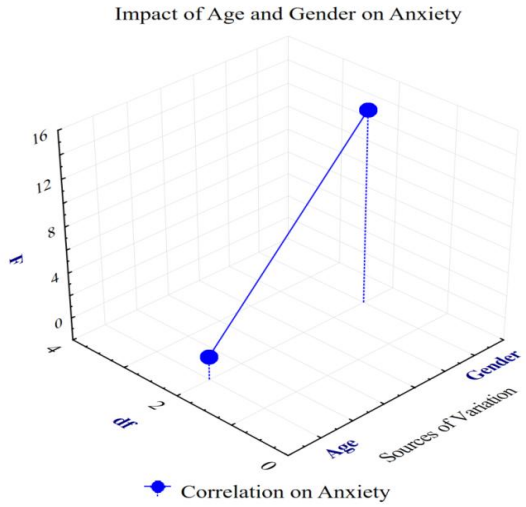

Figure 4: Graphical interpretation for Age and Gender in covariance with Anxiety.

Table 6: ANOVA Results for the Impact of Age and Gender on Severe Depression (GHQ-28)

Sources of Variation	Sum of square	df	Mean sum of square	F	Level of significance
Age	18.61	2	9.31	.43	.652
Gender	851.50	2	425.74	19.60	.001
Age* Gender	17.06	4	4.27	.20	.940
Error	5018.74	231	21.73		

Impact of Age and Gender on Anxiety and Severe Depression

The main effect on age and interaction between age and gender were not signifying. The LSD post hoc tests revealed that Transgender (M = 18.40) reported higher level of anxiety than females (M = 14.05) and males (M = 11.45). The last variable severe depression in table-VI, results reveal that significant main effect for gender [F (2, 231) = 19.60, p <.01].The LSD post hoc tests revealed that Transgender (M = 17.57) reported higher level of severe depression than females (M = 12.09) and males (M = 9.66). A summary of age and gender comparisons on all studied variables is presented in Table -I. This mathematical illustration is summarily sublimated with Figure-5.

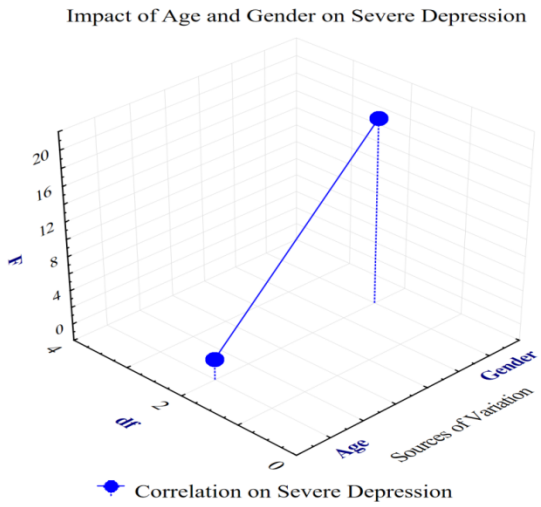

Figure 5: Graphical explanation for Age and Gender in covariance with Severe Depression.

Discussion and Conclusion

This study aimed to evaluate three genders on self-esteem, life satisfaction and mental health. The findings reveal that levels of self-esteem, mental health, and life-satisfaction significantly diverse in males, females and transgender people. It was also found that two measures of mental health namely anxiety/insomnia and severe depression significantly negatively correlated with the life satisfaction and self-esteem. Low level of self-esteem significantly related with life dissatisfaction, anxiety and severe depression and depression was negatively related with self-esteem.

Results of present study reveal that males were more satisfied with their life in comparison to females and transgender. The marital status of a person directly influences their life satisfaction and quality of life. Present study show that the transgender have low self-esteem, lower life satisfaction, high scores on anxiety and severe depression than both males and females adults. Many studies found that transgender communities reported higher on depression, anxiety, etc. Low self-esteem among transgender social excision significantly associated with low self-esteem in transgender, anxiety, depression, suicide attempts, drug abuse, unsafe sexual performance, life satisfaction and low self-esteem. Transgender people have better self-esteem, higher level of anxiety and severe depression after 40 years than earlier life. Females were higher on life satisfaction after 40 year of age than both males and transgender. Several limitations to the present study like study is the bulk of analysis on self-report data from 31-45 year adults, only ritual performer transgender from two state of India involved in this study. It was founded that those have low self-esteem, life satisfaction would more likely to have low mental health. These results suggest mental health development programs for betterment of transgender population.

References

Board, Y. J. (2004). National standards for youth justice services. *London: Youth Justice Board*.

Buckingham, D. (2007). *Youth, identity, and digital media* (p. 216). the MIT Press.

Coleman, J. S. (1974). Youth: Transition to adulthood. *NASSP Bulletin*, *58*(385), 4-11.

Diener, E., Suh, E., &Oishi, S. (1997). Recent findings on subjective well-being. *Indian journal of clinical psychology*, *24*, 25-41.

Frost, J., &McKelvie, S. J. (2005). The relationship of self-esteem and body satisfaction to exercise activity for male and female elementary school, high school, and university students. *Athletic Insight: The Online Journal of Sport Psychology*, *7*(4), 36-49.

Gentile, B., Grabe, S., Dolan-Pascoe, B., Twenge, J. M., Wells, B. E., &Maitino, A. (2009). Gender differences in domain-specific self-esteem: A meta-analysis. *Review of General Psychology*, *13*(1), 34.

Goldberg, D. (1978). *Manual of the general health questionnaire*. Nfer Nelson.

Goldberg, D. P., & Hillier, V. F. (1979). A scaled version of the General Health Questionnaire. *Psychological medicine*, *9*(1), 139-145.

Grossman, A. H., D'Augelli, A. R., Howell, T. J., & Hubbard, S. (2005). Parent'reactions to transgender youth'gender nonconforming expression and identity. *Journal of Gay & Lesbian Social Services*, *18*(1), 3-16.

Hammarström, A., &Janlert, U. (2011). Cohort profile: the northern Swedish cohort. *International journal of epidemiology*, *41*(6), 1545-1552.

Horley J. Life satisfaction, happiness, and morale: two problems with the use of subjective wellbeing indicators. Gerontologist 1984;24:124-127.

McGill Jr, H. C., McMahan, C. A., Zieske, A. W., Sloop, G. D., Walcott, J. V., Troxclair, D. A., ... & Youth Research Group, F. T. P. D. O. A. I. (2000). Associations of coronary heart disease risk factors with the intermediate lesion of atherosclerosis in youth. *Arteriosclerosis, thrombosis, and vascular biology*, *20*(8), 1998-2004.

McWhirter, B. T. (1997). Loneliness, learned resourcefulness, and self-esteem in college students. *Journal of Counseling & Development*, *75*(6), 460-469.

Rosenberg, M., Kozlovsky, A., Gelernter, I., Cherniak, O., Gabbay, J., Baht, R., & Eli, I. (1995). Self-estimation of oral malodor. *Journal of dental research*, *74*(9), 1577-1582.

Rosenberg, M., Schooler, C., Schoenbach, C., & Rosenberg, F. (1995). Global self-esteem and specific self-esteem: Different concepts, different outcomes. *American sociological review*, 141-156.