

## FLOW AND GRIT AS PREDICTORS OF LIFE SATISFACTION AND HAPPINESS IN MEDICAL PRACTITIONERS AND THEATRE ARTISTS

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### Abstract

The present study aims to focus at positive psychology's role in human flourishing. It contends that positive psychology is not just a repair shop for broken lives. It attempts to explore the possible predictors of life satisfaction and happiness based on theoretical study and empirical investigation. Flow is the mental state of operation in which a person performing an activity is fully immersed in a feeling of energized focus, full involvement, and enjoyment in the process of the activity. Flow experiences do not occur in passive moments but at times when one is intensely engaged in a motivating activity, intently focused, and challenged. Grit is trait-level perseverance and passion for long term-goals. Grit entails working strenuously towards challenges, maintaining effort and interest over years despite failure, adversity, and plateaus in progress. The gritty individual approaches achievement as a marathon, his or her advantage is stamina. Life satisfaction is the cognitive component of subjective well-being. It is an evaluative appraisal of something. The term refers to both 'contentment' and 'enjoyment'. It is a judgmental process, in which individuals assess the quality of their lives on the basis of their own unique set of criteria. Happiness is the average level of satisfaction over a specific period, the frequency and degree of positive affect manifestations, and the relative absence of negative affect.

The present study aims to investigate if flow, grit, life satisfaction and happiness are significantly correlated in medical practitioners and theatre artists. It also explores if flow and grit can predict life satisfaction and happiness in medical practitioners and theatre artists. Sample for the study consists of fifty medical practitioners (trained and licensed doctors) employed in government run hospitals and fifty theatre artists employed at National School of Drama. Tools used for data collection are: Flow Short Scale (Rheinberg et al. 2003), Short Grit Scale (Duckworth and Quinn, 2009), Satisfaction With Life Scale (Diener, Emmons, Larsen & Griffin, 1985), and General Happiness Scale (Lyubomirsky & Lepper, 1999). Data collected through the questionnaires is analyzed using SPSS 20.0 software. Descriptive analysis and inferential statistics are used. Pearson product moment correlation is carried out for the data to see the relation between the variables and multiple regression analysis is carried out to study the predictors of life satisfaction and happiness.

### Introduction

Martin Seligman made a plea for a major shift in psychology's focus from studying and trying to undo the worst in human behaviour to studying and promoting the best human behaviour. Positive psychology is more than just a repair shop for broken lives. In this light the present study attempts to explore new vistas in this field.

### Flow

Flow can be defined as a psychological state in which the person feels simultaneously cognitively efficient, motivated, and happy (Moneta and Csikszentmihalyi, 1996). Csikszentmihalyi and Csikszentmihalyi (1988) proposed that flow is experienced only when challenge and skill are both high. This is depicted in the "four channel model" or "the quadrant model".

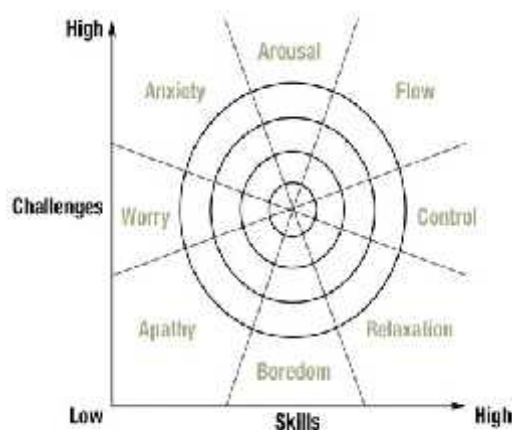


Fig 1: Reformulated quadrant model (Csikszentmihalyi and Csikszentmihalyi, 1988)



Flow theory postulates three conditions that have to be met to achieve a flow state:

1. One must be involved in an activity with a clear set of goals and progress. This adds direction and structure to the task.
2. The task at hand must have clear and immediate feedback. This helps the person negotiate any changing demands and allows him or her to adjust his or her performance to maintain the flow state.
3. One must have a good balance between the perceived challenges of the task at hand and his or her own *perceived* skills. One must have confidence in one's ability to complete the task at hand.

## Grit

*"Grit is living like it's a marathon, not a sprint"*

(Angela Duckworth, 2007)

Aesop's fable of the tortoise and the hare is an often told story. It preaches the value of staying on board, no matter how slow or uneven our progress toward goals is. At times it seems impossible and far away. At the starting line, it is the hare who is expected to finish first. Sure enough, the hare quickly outpaces the tortoise, accumulating so great a lead that he lays down to take a nap mid-race. When the hare wakes up, the tortoise, who all the while has been labouring toward his destination, is too close to the finish line to beat. Tortoise 1, hare 0.

Gritty individuals are tortoise-like, distinguished by their propensity to maintain "effort and interest over years despite failure, adversity, and plateaus in progress" (Duckworth, Peterson, Matthews, & Kelly, 2007). Less gritty individuals are, in contrast, more easily discouraged, prone to take "naps" mid-course, and frequently led off track by new passions.

Duckworth, Peterson, Matthews, and Kelly (2007) introduced the construct of grit, defined as trait-level perseverance and passion for long term-goals, and showed that grit predicted achievement in challenging domains over and beyond measures of talent. For instance, at the U.S. Military Academy, West Point, cadets higher in grit were less likely to drop out than their less gritty peers, even when controlling for SAT scores, high school rank, and a measure of Big Five conscientiousness. Duckworth et al. (2007) believed that the dual-component of grit ("zeal" and "persistence of motive and effort" ) is a crucial differentiator from similar constructs like- hardiness, resilience, ambition, need for achievement and conscientiousness.

## Life Satisfaction

The structure of subjective well-being has been conceptualized as consisting of two major components: the emotional or affective component and the judgmental or cognitive component (Diener, 1984). The judgmental component has also been conceptualized as life satisfaction (Andrews and Withey, 1976). Life satisfaction can be understood as the cognitive aspect of subjective well-being. It is the degree to which an individual judges the overall quality of his/her life-as-a-whole positively.

## Happiness

According to Seligman (2002), happiness is a multi-faceted construct comprising three qualitatively distinct kinds of well-being:

- Pleasure
- Engagement
- Meaning

Waterman (1993) describes two psychological views of happiness distilled from classical philosophy. Hedonic conceptions of happiness define happiness as the enjoyment of life and its pleasures. It entails what we mean by happiness in everyday terms: We enjoy life, we are satisfied with how our lives are going, and good events outnumber bad events. In contrast, Waterman (1993) argued that eudaimonic happiness results from experiences of personal expressiveness. Such experiences occur when we are fully engaged in life activities that fit and express our deeply held values and our sense of who we are. Under these circumstances we experience a feeling of fulfilment, of meaningfulness, of being intensely alive-a feeling that this is who we really are and who we are meant to be. Lyubomirsky, et.al (2005) gave 'Sustainable Happiness Model'. According to this model, chronic happiness is influenced by three factors- one's set point, one's life circumstances and the intentional activities in which one engages.



**Fig 2: The three factors that influence chronic happiness**

## Methodology

### Objectives

- To study the relationship between happiness, life-satisfaction, flow and grit in medical practitioners.
- To study the relationship between happiness, life-satisfaction, flow and grit in theatre artists.
- To study flow and grit as predictors of life-satisfaction in medical practitioners.
- To study flow and grit as predictors of life-satisfaction in theatre artists.
- To study flow and grit as predictors of happiness in medical practitioners
- To study flow and grit as predictors of happiness in theatre artists .

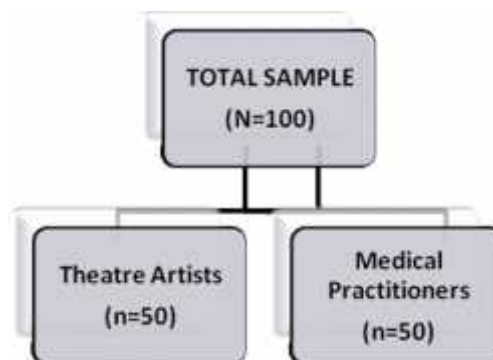
### Hypotheses

- Happiness, life-satisfaction, flow and grit would be significantly different in medical practitioners and theatre artists.
- Happiness, life-satisfaction, flow and grit would be significantly correlated in medical practitioners and theatre artists.
- Flow would predict life-satisfaction in medical practitioners and theatre artists
- Flow would predict happiness in medical practitioners and theatre artists.
- Grit would predict life-satisfaction in medical practitioners and theatre artists.
- Grit would predict happiness in medical practitioners and theatre artists.

### Population

The population under the study comprised of all the theatre artists and medical-practitioners having a work experience of at least three years in their field.

### Sample



Sample for the study consisted of fifty theatre artists employed at National School of Drama (N=50) and fifty medical practitioners (trained and licensed doctors) employed in government run hospitals (N=50). All the professionals are expected to have work experience of at least three years and they must be working in Delhi-NCR. Two group design was used.

### Variables

**Predictors:** Flow and Grit

**Criterion:** Happiness, Life Satisfaction

## Tools used for Data Collection

### 1. Satisfaction with Life Scale (SWLS)

The SWLS (Diener, Emmons, Larsen & Griffin, 1985) was a 5-item self-report questionnaire that measured one's evaluation of satisfaction with life in general (e.g. "The conditions of my life are excellent"). Individuals responded to each item on 7-point Likert scale ranging from "strongly agree" to "strongly disagree". Responses were summed to yield an overall score of life satisfaction. Research demonstrated acceptable psychometric properties for the SWLS; the Cronbach alpha of the SWLS was found to be 0.76. Normative data are presented for the scale, which shows good convergent validity with other scales and with other types of assessments of subjective well-being. Life satisfaction as assessed by the SWLS shows a degree of temporal stability (e.g., .54 for 4 yrs), yet the SWLS has shown sufficient sensitivity to be potentially valuable to detect change in life satisfaction during the course of clinical intervention. Further, the scale shows discriminant validity from emotional well-being measures.

### 2. General Happiness Scale

General Happiness Scale (Lyumbomirsky & Lepper, 1999) was a 4-item instrument containing items that tapped subjective feelings of global happiness with one's life (e.g., "compared to most of my peers I consider myself: 1= less happy, 7=more happy"). The internal consistency of this scale was 0.85.

### 3. Grit Scale

Grit Scale (Duckworth, 2004) scale was self-reporting and consisted of 46 items rated on a 5-point scale (1= not like me at all to 5= very much like me). E.g., I finish whatever I begin and reverse scored statements such as "my interests change from year to year". The scale has been reported to display acceptable internal consistency, with alphas ranging from 0.73 to 0.83 across the four samples ( West point 2008, West point 2010, 2005 National Spelling Bee, Ivy League undergraduates ).

### 4. Flow Short Scale

Flow Short Scale (Rheinberg et al. 2003) measured all components of flow experience with 10 items (7-point scale). The Flow Short Scale has been validated and successfully used in various applications ranging from experimental and correlational studies to the experience-sampling method (Rheinberg et al. 2007).

## Procedure of Data Collection

Informed consent was taken from each participant prior to his/her participation in the study. Written instructions, together with a short debriefing was provided by the researcher. The aforesaid tools (satisfaction with life scale, general happiness scale, grit scale, and flow short scale) were administered and the scores obtained were interpreted.

## Analysis and Interpretation

This section deals with statistical analyses and results which were found using independent sample t-test, Pearson product moment correlation and multiple regression.

**Table 1: Mean and S.D for the total sample ( N=100)**

Variables	Medical Practitioners		Theatre Artists	
	Mean	S.D	Mean	S.D
Happiness	17.36	4.31	18.46	3.52
Life satisfaction	24.40	6.71	22.90	5.91
Flow	54.50	12.51	59.48	11.45
Grit	40.88	4.59	41.10	5.08

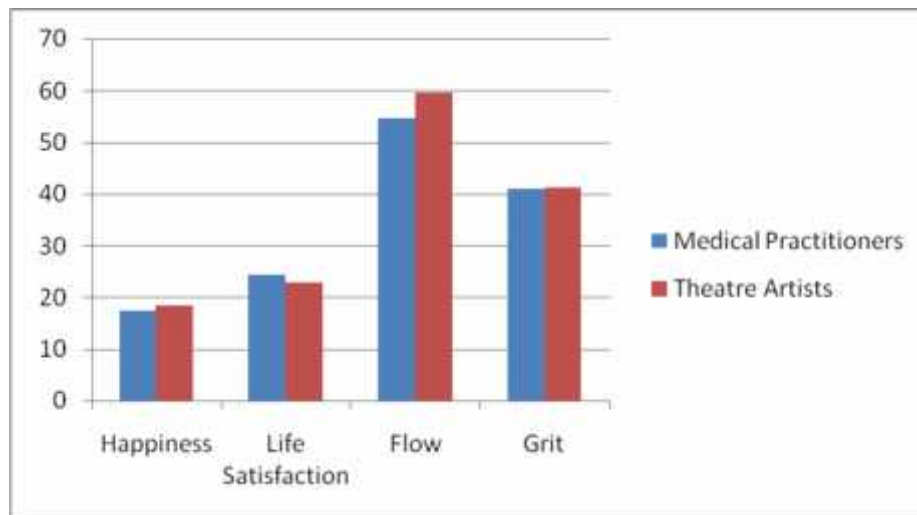
The above mentioned table displays mean and standard deviations of all the variables (happiness, life-satisfaction, flow and grit). Mean and standard deviation of happiness in medical practitioners were found to be 17.36 and 4.31 (M = 17.36, S.D= 4.31) respectively whereas, in theatre artists they were found to be 18.46 and 3.52 (M= 18.46, S.D=3.52). Also, mean and standard deviation of life-satisfaction in medical practitioners came out to be 24.40 and 6.71 (M= 24.40, S.D= 6.71) whereas in theatre artists they came out to be 22.90 and 5.91 (M= 22.90, S.D= 5.91 ). Mean and standard deviation of flow in medical practitioners were found to be 54.50 and 12.51 (M = 54.50, S.D= 12.51) while, in theatre artists they were found to be 59.48 and 11.45 (M= 59.48, S.D=11.45). Finally, Mean and standard deviation of grit in medical practitioners were found to be 40.88 and 4.59 (M = 40.88, S.D= 4.59) while, in theatre artists they were found to be 41.10 and 5.08 (M= 41.10, S.D=5.08).

**Table 2: Mean, S.D and t-values for both the groups-medical practitioners and theatre artists (N=100)**

Variables	Groups	Mean	S.D	Std. Error	t	p
Life Satisfaction	Medical Practitioners	24.40	6.71	0.95	1.19	0.035*
	Theatre Artists	22.90	5.91	0.84		
Happiness	Medical Practitioners	17.36	4.31	0.61	-1.39	0.60
	Theatre Artists	18.46	3.52	0.49		
Grit	Medical Practitioners	40.88	4.59	0.65	-0.23	0.30
	Theatre Artists	41.10	5.08	0.71		
Flow	Medical Practitioners	54.50	12.51	1.77	-2.076	0.51
	Theatre Artists	59.48	11.45	1.62		

\*  $p < 0.05$  ; d.f = 98

Independent sample t-test provides the significant difference of all the groups along the variable undertaken in the study. Life Satisfaction was found to be significantly different among the two groups of professions ( $F = 4.5$ ,  $p = 0.035$ ) which is significant at 0.05 level of significance. The other three variables were not found significantly different for the two groups as shown in the table. The results can be graphically illustrated as follows:



**Fig 2: Comparison of Happiness, Life Satisfaction, Flow and Grit between Medical Practitioners and Theatre Artists**

**Table 3: Correlation Between Happiness, Life Satisfaction, Flow and Grit ( for Medical Practitioners, N=50)**

	Happiness	Life Satisfaction	Flow	Grit
Happiness	1.00			
Life Satisfaction	0.104	1.00		
Flow	0.236*	0.459**	1.00	
Grit	0.109	0.316*	0.280*	1.00

\*\*  $p < 0.01$  \*  $p < 0.05$

The above mentioned table shows the values of Pearson's correlation coefficient for medical practitioners between life-satisfaction and grit, life satisfaction and flow , flow and grit, and life satisfaction and happiness.

The findings reveal that life satisfaction is positively correlated with flow at 0.01 level of significance ( $r = 0.46$ ,  $p = 0.00$ ) and also positively correlated with grit at 0.05 level of significance ( $r = 0.316$ ,  $p = 0.013$ ). Flow is positively correlated with grit at 0.05 level of significance ( $r = 0.280$ ,  $p = 0.013$ ). The highest correlation was found between life satisfaction and flow at 0.01 level of significance ( $r = 0.46$ ,  $p = 0.00$ ). Flow (predictor) correlates best with life-satisfaction (outcome).

The above mentioned table also shows the values of Pearson's correlation coefficient for medical practitioners between happiness and grit; happiness and flow .

The findings reveal that happiness is positively correlated with grit but insignificant at 0.05 level of significance ( $r = 0.11$ ,  $p = 0.225$ ) and positively correlated with flow at 0.05 level of significance ( $r = 0.24$ ,  $p = 0.049$ ). Thus, flow (predictor) correlates with happiness (outcome) but grit does not.

**Table 4: Correlation between Happiness, Life Satisfaction, Flow and Grit (for Theatre Artists, N=50)**

	Happiness	Life Satisfaction	Flow	Grit
Happiness	1.00			
Life Satisfaction	0.104	1.00		
Flow	-0.123	-0.114	1.00	
Grit	0.094	0.190	0.138	1.00

\*\*  $p < 0.01$  \*  $p < 0.05$

The above mentioned table shows the values of Pearson's correlation coefficient for theatre artists between life satisfaction and grit ; life satisfaction and flow.

The findings reveal that life satisfaction is positively correlated with grit but insignificant at 0.05 level of significance ( $r = 0.19$ ,  $p = 0.093$ ) and also negatively correlated with flow and insignificant at 0.05 level of significance ( $r = -0.12$ ,  $p = 0.215$ ). The table also shows the values of Pearson's correlation coefficient for theatre artists between happiness and grit; happiness and flow.

The findings reveal that happiness is positively correlated with grit but insignificant at 0.05 level of significance ( $r = 0.09$ ,  $p = 0.258$ ) and negatively correlated with flow and insignificant at 0.05 level of significance ( $r = -0.12$ ,  $p = 0.197$ ).

**Table 5: Summary of ANOVA for Multiple Regression Analysis for the dependent variable of Life Satisfaction in medical practitioners (N= 50)**

Source of variance	Sum of Squares	df	Mean Square	F	p-value
Regression	548.98	2	274.50	7.767***	.001
Residual	1661.02	47	35.34	--	--
Total	2210.00	49	--	--	--

**Table 6: Summary of Multiple Regression Analysis for the dependent variable of Life Satisfaction of medical practitioners (N= 50)**

Measures	Beta Value	t-value	p-value
Grit	0.203	1.543	0.130
Flow	0.402	3.050**	0.004

Dependent Variable: LS, predictor(constant): grit, flow,  $R=0.498$ ,  $RSquare = 0.248$ ; Adj.  $RSquare=0.216$  ,  $SEM=5.94$ ,  $df= 49$

The above mentioned table 5 illustrates that multiple correlation between flow and grit (predictors) and life-satisfaction (dependent variable) for the group medical practitioners was found to be 0.498 which was significant at 0.001 level of significance at F value 7.767 and Adjusted R Square was found to be 0.216 explaining 21.6% of the variance.

Table 6 shows that flow is a positive predictor of life-satisfaction ( $\beta = 0.402$ ) in medical practitioners at 0.004 level of significance whereas insignificant prediction by grit.

**Table 7: Summary of ANOVA for Multiple Regression Analysis for the dependent variable of Life Satisfaction in theatre artists ( N= 50)**

Source of variance	Sum of squares	df	Mean Square	F	p-value
Regression	96.038	2	48.019	1.396	0.258
Residual	1616.462	47	34.393	--	--
Total	1712.500	49	--	--	--



**Table 8: Summary of Multiple Regression Analysis for the dependent variable of Life Satisfaction of theatre artists ( N= 50)**

Measures	Beta Value	t-value	p-value
Grit	0.210	1.464	0.150
Flow	-0.143	-0.999	0.323

Dependent Variable: LS, predictor(constant): grit, flow , R= 0.237, RSquare=0.056; Adj. RSquare=0.016, SEM=5.864, df=49

Table 7 shows that multiple correlation between flow and grit (predictors) and life-satisfaction (dependent variable) for the group theatre artists was found to be 0.237 which was insignificant as shown by F value 1.396 and Adjusted R Square was found to be 0.016 explaining 1.6% of the variance which is insignificant.

Table 8 shows that grit is a positive predictor ( = 0.210 ) which is not significant. Similarly, flow is a negative predictor ( = -1.43) which is also not significant. Thus, none of the independent variables were predicting life satisfaction in theatre artists.

**Table 9: Summary of ANOVA for Multiple Regression Analysis for the dependent variable of Happiness in medical practitioners ( N= 50)**

Source of variance	Sum of squares	df	Mean Square	F	p-value
Regression	52.782	2	26.391	1.44	0.246
Residual	858.738	47	18.271	--	--
Total	911.520	49	--	--	--

**Table 10: Summary of Multiple Regression Analysis for the dependent variable of Happiness of medical practitioners ( N= 50)**

Measures	Beta Value	t-value	p-value
Grit	0.047	0.318	0.752
Flow	0.223	1.514	0.137

Dependent Variable: LS, predictor(constant): grit, flow, R= 0.241, RSquare=0.058, Adj. RSquare= 0.018, SEM=4.274, df=49

Table 9 shows that multiple correlation between flow and grit (predictors) and happiness (dependent variable) for the group medical practitioners was found to be 0.241 which was insignificant as shown by F value 1.444 and Adjusted R Square was found to be 0.018 explaining 1.8% of the variance which is insignificant.

Table 10 shows beta value for medical practitioners group shows an insignificant prediction by the predictor variables. However, beta value is found to be 0.047 for grit and 0.223 for flow which is positive.

**Table 11: Summary of ANOVA for Multiple Regression Analysis for the dependent variable of Happiness in theatre artists ( N= 50)**

Source of variance	Sum of squares	df	Mean Square	F	p-value
Regression	16.938	2	8.469	0.673	0.515
Residual	591.482	47	12.585	--	--
Total	608.420	49	--	--	--

**Table 12: Summary of Multiple Regression Analysis for the dependent variable of Happiness of theatre artists ( N= 50)**

Measures	Beta Value	t-value	p-value
Grit	0.113	0.781	0.439
Flow	-0.139	-0.958	0.343

Dependent Variable: LS, predictor(constant): grit, flow, R=0.167, RSquare=0.028, Adj. RSquare=-0.014, SEM=3.547, df=49

Table 11 illustrates that multiple correlation between flow and grit (predictors) and happiness (dependent variable) for the group theatre artists was found to be 0.167 which was insignificant as shown by F value 0.673 and Adjusted R Square was found to be -0.014 explaining 1.4% of the variance which is insignificant.

Table 12 shows that beta value for theatre artists group shows an insignificant prediction by the predictor variables. However, beta value is found to be 0.113 for grit which is positive and -0.139 for flow which

**Table 13: Summary of ANOVA for Multiple Regression Analysis for the dependent variable of Life Satisfaction in total sample ( N= 100)**

Source of variance	Sum of squares	df	Mean Square	F	p-value
Regression	304.738	2	152.369	4.023*	0.021
Residual	3674.012	97	37.876	--	--
Total	3978.750	99	--	--	--

**Table 14: Summary of Multiple Regression Analysis for the dependent variable of Life Satisfaction of total sample (N= 100)**

Measures	Beta Value	t-value	p-value
Grit	0.221	2.215*	0.029
Flow	0.127	1.273	0.206

Dependent Variable: LS, predictor(constant): grit, flow, R=0.277, RSquare=0.077; Adj. RSquare= 0.058, SEM=6.154 , df=99

Table 13 illustrates that multiple correlation between flow and grit (predictors) and Life Satisfaction (dependent variable) for the total sample was found to be 0.277 which was significant at 0.021 level of significance at F value 4.023 and Adjusted R Square was found to be 0.058 explaining 5.8 % of the variance.

Table 14 shows that grit is a positive predictor of life satisfaction (  $\beta = 0.221$ ,  $p < 0.05$ ) whereas, flow is an insignificant predictor of life satisfaction for the total sample.

**Table 15: Summary of ANOVA for Multiple Regression Analysis for the dependent variable of Happiness in total sample (N= 100)**

Source of variance	Sum of squares	df	Mean Square	F	p-value
Regression	28.761	2	14.380	0.917	0.403
Residual	1521.429	97	15.685	--	--
Total	1550.190	99	--	--	--

**Table 16: Summary of Multiple Regression Analysis for the dependent variable of Happiness of total sample (N= 100)**

Measures	Beta Value	t-value	p-value
Grit	0.084	0.820	0.414
Flow	0.091	0.884	0.379

Dependent Variable: LS, predictor (constant): grit, flow, R=0.136, RSquare=0.019; Adj.R Square=-0.002, SEM=3.96, df= 99

Table 15 illustrates that multiple correlation between flow and grit (predictors) and happiness (dependent variable) for the total sample was found to be 0.136 which was insignificant at F value 0.917 and Adjusted R Square was found to be -0.002 explaining 0.2 % of the variance.

Table 16 shows that grit is a positive predictor (  $\beta = 0.084$ ) which is insignificant. Similarly, flow is a positive predictor (  $\beta = 0.091$ ) which is also insignificant. Thus, none of the independent variable were predicting happiness in the total sample.

## Discussion

The purpose of the present research was to study flow and grit as predictors of happiness and life satisfaction in medical practitioners and theatre artists. Descriptive and inferential statistics were employed for this purpose. t-test, Pearson product moment correlation and multiple regression analysis were employed. The empirical investigation generates a number of interesting findings. The results have been discussed with the support of previous researches.

**Hypothesis 1:** Happiness, life-satisfaction, flow and grit would be significantly different in medical practitioners and theatre artists.

Results reveal that life satisfaction was found to be significantly different in medical practitioners and theatre artists ( $F= 4.5$ ,  $p < 0.05$ ). This is possibly attributed to the different job demands and job conditions of the two groups ( working hours, skills utilisation, autonomy, team work, remuneration, quality of work life, workplace flexibility , feelings of self worth, etc).

However, the other three variables: flow, grit and happiness were not found to be significantly different for the two groups. Deci (1975) suggests that when in flow, the individual operates at full capacity. The state is one of dynamic equilibrium.



Entering flow depends on establishing a balance between perceived action opportunities (Hunt, 1965). According to Massimini and Delle Fave (2000) the flow state is intrinsically rewarding and leads the individual to seek to replicate flow experiences; this introduces a selective mechanism into psychological functioning that fosters growth. Csikszentmihalyi and Nakamura (1999) state that the tendency of self toward complexity is a source of new goals and interests as well as new capacities for action in relation to existing interests. Thus, it can be understood that the flow state is dependent on the challenge-skill balance irrespective of the kind of profession. Also, as proposed by Duckworth et al. (2007) grit is a trait-level perseverance and passion for long term goal, and showed that grit predicted achievement in challenging domains over and beyond measures of talent. Individuals high in grit do not swerve from their goals, even in the absence of positive feedback. It is equally likely in the case of medical practitioners and theatre artists. The happiness of professionals depends upon the meaning they ascribe to life-situations.

**Hypothesis 2:** Happiness, life-satisfaction, flow and grit would be significantly correlated in medical practitioners and theatre artists.

The findings reveal that flow is positively correlated with life satisfaction in medical practitioners ( $r = 0.46$ ,  $p < 0.01$ ) indicating as flow state will increase life satisfaction will also increase and vice versa. a possible explanation for this may be that flow state emerges when a person is primarily satisfied with one's life. Medical practitioners who have harmony with his/her life can create harmony in other peoples' life. This is in accordance with a research by Sahoo and Sahu (2009) indicating that flow experience is significantly related to total life satisfaction. Also, grit has a significant positive correlation with life satisfaction in medical practitioners ( $r = 0.316$ ,  $p < 0.05$ ). As grit increases life satisfaction increases, as grit decreases life satisfaction will also decrease in medical practitioners and vice versa. Seligman (2004) in his book character Strengths and Virtues identified twenty-four specific strengths that were likely to predict life satisfaction and high achievement. These strengths included: zest, grit, self-control, social intelligence, gratitude, optimism and curiosity. It has also been found that flow has significant positive correlation with grit in medical practitioners ( $r = 0.280$ ,  $p < 0.05$ ) illustrating the more flow state medical practitioners attain, the more grittier they become and vice versa. This is in accordance with past researches such as Deci (1975) states that when in flow, the individual operates at full capacity. According to Duckworth (2007) gritty individuals are distinguished by their propensity to maintain effort and interest over years despite failure, adversity, and plateaus in progress. Both flow and grit involve an element of real mental self-mastery, and achieving success in both is determined by the amount of effort one is willing to put. Further, flow has significant positive correlation with happiness in medical practitioners ( $r = 0.24$ ,  $p < 0.05$ ). Thus, indicating as flow increases happiness also increases in medical practitioners. From the perspective of flow, a good life is characterised by complete absorption in what medical practitioners do. The results further show that there is no significant correlation between happiness and life satisfaction in both the groups. However, according to Argyle et al. (1989) one of the elements of happiness is the average level of satisfaction over a specific time period.

**Hypothesis 3:** Flow would predict life-satisfaction in medical practitioners and theatre artists.

Results show that flow is a positive predictor of life satisfaction ( $\beta = 0.402$ ,  $p < 0.01$ ) in medical practitioners. This is in accordance with the stated hypothesis. Flow is an intrinsically rewarding or optimal state that results from intense engagement with daily activities (Csikszentmihalyi 1990). He further posits that flow experiences do not occur in passive moments but at times when one is intensely engaged in a motivating activity, intently focused, and challenged. This engagement creates a feeling of exhilaration, satisfaction, and happiness. Flow is linked to self-esteem, life satisfaction, and successful coping (Han 1988; Wells 1988).

However, flow is a negative predictor ( $\beta = -1.43$ ) which is not significant for life satisfaction in theatre artists indicating that life satisfaction of theatre artists depend on some other factors and not flow in the present sample. This is not in accordance with the stated hypothesis.

**Hypothesis 4:** Flow would predict happiness in medical practitioners and theatre artists.

Results illustrate that flow is an insignificant positive predictor of happiness in medical practitioners and insignificant negative predictor of happiness in theatre artists. Thus, the hypothesis stands rejected. This implies that happiness in medical practitioners and theatre artists is not predicted by flow, there may be some other factors responsible for their happiness. However Csikszentmihalyi (1997) stated that happiness is derived from personal development and growth – and flow situations permit the experience of personal development.

**Hypothesis 5:** Grit would predict life-satisfaction in medical practitioners and theatre artists.

Findings show that grit is an insignificant positive predictor of life satisfaction in medical practitioners and theatre artists. This result is contradictory to the hypothesis and thus, the hypothesis is rejected. Thus, grit does not predict life satisfaction

in medical practitioners and theatre artists. Seligman, in his book *Character Strengths and Virtues*, identified twenty-four specific strengths that were likely to predict life satisfaction and high achievement. These strengths included: zest, grit, self-control, social intelligence, gratitude, optimism and curiosity. A possible explanation to this can be that the Grit questionnaire was not well understood by the respondents.

**Hypothesis 6:** Grit would predict happiness in medical practitioners and theatre artists.

The results reveal that grit is an insignificant positive predictor of happiness in medical practitioners and theatre artists. The hypothesis is rejected. Thus, indicating grit does not predict happiness in medical practitioners and theatre artists.

### Conclusion

The major findings of the present investigation are life satisfaction was found to be significantly different in medical practitioners and theatre artists, other three variables were not found to be significantly different for the two groups. Flow and grit were positively correlated with life satisfaction in medical practitioners. Also, flow had significant positive correlation with grit and happiness in medical practitioners. However, no significant correlation was found between flow and grit with life satisfaction and happiness in theatre artists. Further, no significant correlation was found between happiness and life satisfaction in both the groups. Results further revealed that it has also been found that multiple correlation between flow, grit and life satisfaction for the entire sample has been found to be significant. Grit has been found to be a significant positive predictor of life satisfaction in the total sample. It has been found that flow emerged as a positive predictor of life satisfaction in medical practitioners whereas, insignificant predictor of life satisfaction for theatre artists. Flow was an insignificant predictor of happiness in medical practitioners and theatre artists. Findings also show that grit was found to be an insignificant predictor of life satisfaction and happiness in medical practitioners and theatre artists. Thus, indicating that only flow predicts life satisfaction in medical practitioners.

### Limitations

- The sample size of the present study was small. Larger sample size can help in predicting better and sound results.
- Sample included only professionals (medical practitioners and theatre artists) working in Delhi-NCR.
- Sample included two groups-medical practitioners and theatre artists. However, flow and grit can be studied in other skilled professions.
- Flow and grit have been quantitatively analysed in the present study. However, qualitative along with quantitative methodology could have generated richer and more meaningful findings.

### Implications

- Since the study reveals that flow predicts life satisfaction in medical practitioners, intervention strategies can be developed to enhance life satisfaction in these professionals.
- Happiness is unexplored in the area of flow and grit in theatre artists. Many people do not recognise the significance and worth of performing arts and consider them as taboo. This study can help in breaking the shackles of social taboo and make the readers realise that a performer can be equally happy as other professionals.
- Practical applications to help individuals at personal and organisational level to sustain their levels of well-being can be explored. Therapists, counselors, coaches and various other professionals can employ new techniques to build and broaden the lives of individuals not suffering from mental illness.
- Possessing a growth mindset / grit seems to contribute to the tendency to sustain effort towards and commitment to goals.
- Optimists tend to attribute good events to global and stable causes and bad events to temporary and specific causes. Grit has been found to predict life satisfaction, and this can lead to prediction of success.

### Suggestions for future researches

- Grit was found to be an insignificant predictor of life satisfaction and happiness in medical practitioners and theatre artists which is in contrast with the past research by Seligman (2002). Thus, more researches need to be initiated to review this aspect.
- Flow was not found to be a significant predictor of happiness in theatre artists which is in contrast with past researches. Future researches need to be done with a larger sample size to fill this gap and to deeply understand this concept in theatre artists.
- Researches can be carried out to investigate the neurological model of understanding flow and grit among the groups.
- The nature of attentional process that fosters flow and the way optimal attentional practices are formed can be researched.



- Studies can be initiated to understand the dynamics and development of the autotelic personality of flow.
- Besides flow and grit other variables can be explored which can predict health and well-being.
- It is suggested to carry out longitudinal study with the variables flow and grit to understand their contribution in happiness and life satisfaction in a better way.
- Future studies can take up some other psychological variables along with the present variables and study their impact on the outcome.

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