

Variations in the Dimensions of Free Floating Anxiety amongst University Students who Practice Meditation

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The study provides insight into the variations in the dimensions of free floating anxiety of persons who meditate as compared to persons who do not meditate. The importance of these dimensions is embedded in their ability to bring to the fore those very specific personality factors responsible for the variations in the free floating anxiety by using IPAT Anxiety Scale. The sample consisted of 30 each of male and female university students who were practicing meditation at least for 20 min daily for the past 3 years and matched group of 30 each of male and female students who do not meditate. The results showed the reflection of the low levels of free floating anxiety to all its dimensions only amongst male meditators; however amongst female meditators the significantly low anxiety levels did not reflect comprehensively to all its dimensions. The implications of the observed difference are discussed.

Keywords: Anxiety, Meditation, Dimensions of anxiety, IPAT Anxiety Scale.

The period beginning from the 20th century to the present is termed as the epoch of advanced industrialization that concomitantly caught the human civilization progressively from thereon towards the whirlpool of anxiety. This is endorsed by Sloan (1996) and Rosen (1998) who have reported that over the last few decades' people seem to have become more anxious, worrying about safety, social acceptance and job security more than in the past. The perceived trend is so strong that even well known authors have labeled the twentieth century "the age of anxiety" (Spielberger & Rickman, 1990). In this regard, two meta-analyses have found self-reports of anxiety / neuroticism to have increased substantially from the 1950's to the early 1990's (Twenge, 2000). These illustrations from research studies clearly authenticate the fact that modern life produces higher levels of anxiety and we are presently a part of an increasingly anxious prone milieu.

Sarason and Sarason (2002) defined anxiety to be usually a diffuse, vague, very

unpleasant feeling of fear and apprehension. An anxious person is known to worry a lot; particularly about unknown dangers. In addition, the anxious individual shows combinations of the following symptoms: rapid heart rate, shortness of breath, diarrhea with loss of appetite, fainting, dizziness, sweating, sleeplessness, frequent urination and tremors.

Anxiety disorders account for about half of all the conditions that people see psychiatrist each year in the US (Manderscheid & Sonnenschein, 1994). It is known to occur at any age and can be associated with substantial functional impairment. Anxiety is believed to be the part of the clinical picture of many different conditions and may result from or be associated with various medical conditions (Beidel, 2000). These epidemiological observations clearly reveal the vulnerability of today's population in general towards maladaptive anxiety. This emphasizes the need for primary interventions that can act

as a buffer against this susceptibility to anxiety.

Many therapeutic interventions have been developed and standardized since their inception in the 19th and 20th century for ameliorating anxiety with known efficacy. These are systematic desensitization, cognitive therapy, behavioral therapy, rational-emotive therapy and meditation. Here meditation due to its sound socio-cultural and universal acceptance is poised to play a profound role as a primary intervention for prevention of maladaptive behavior provoking anxiety.

Meditation is described in old Hindu and Buddhist texts like Bhagwad Gita, Patanjali's Yoga Sutra, Tipitaka and Abhidhamma as capable of alleviating anxiety amongst its practitioners by giving them clarity of thought and progressively stifling stray thoughts. Impelled by the growing popularity of Maharishi Mahesh Yogi's 'Transcendental Meditation' technique in the US in the late 1960's; the scientific traditions of the west initiated their probe into the understanding of the phenomenon of meditation in the 1970's. Benson (1975) and his colleagues examined the psychological and physiological components of meditation. After studying the cultural, religious, philosophical and scientific underpinnings, these researchers concluded that various forms of meditation require (i) focusing one's attention on a repetitive word, sound, prayer, phrase, image or physical activity and (ii) passively returning to this focus when distracted. These two simple steps result in certain predictable physiological changes both within and outside the central nervous system promoting a sense of calm. Benson (1975) labeled these effects as the 'relaxation response', the biological consequence of a wide variety of mental focusing techniques, just one of which is meditation.

Delmonte (1985) reviewed the relationship between meditation and anxiety

and concluded that in general high anxiety levels predict a subsequent low frequency of practice. The evidence also suggested that those who practice meditation regularly tend to show significant decreases in anxiety. This review also reported of experienced meditators being significantly less anxious than their controls (Goleman & Schwartz, 1976; Hjelle, 1974; Van den Berg & Mulder, 1976). Chamber, Lo, and Allen (2007) found that mindfulness meditation may not necessarily lead to increased positive affect, but may rather result in a more moderate, balanced emotional demeanor characterized by low levels of negative affect. Also the increased self-reported mindfulness was found to be significantly correlated with decreases in self-reported depressive symptoms and anxiety but increased self-reported positive affect.

High anxiety is known to be detrimental to or compromise cognitive performance. Decaro, Thomas, and Beilock (2008) surmised that students with higher levels of working memory have superior memory and computational capacity which they use on a regular basis to excel in the classroom. However, if these resources are compromised, for example, by worries about the situation and its consequences, the performance of these high working memory individuals suffers significantly.

The recent literature search conducted on 'Science Direct' show that there are reports that have delved into the dimensions of anxiety. These studies mainly describe two dimensional aspects of anxiety namely cognitive and somatic anxiety (Steptoe & Kearsley, 1990) or state and trait anxiety (Goldman, Dormitor & Murray, 1979). However they do not articulate the personality factors that play an important role in the experience of anxiety in individuals who practice regular meditation. In contrast, the present study attempts to utilize the inherent dimensional aspects of IPAT Anxiety Scale by Cattell and

Scheier (1963) to highlight the personality factors that are influenced by meditation to bring about a highly significant reduction in anxiety.

The primary objective of this study is to understand the variations in the dimensions of free floating anxiety that exists between individuals who practice meditation and individuals who do not.

Method

Sample:

It comprised of 120 unmarried university students enrolled for post graduate courses, who volunteered for the study. They were aged between 21 to 28 years with a mean age of 23.3 years. They were divided into four groups of 30 each: meditating males, non meditating males, meditating females and non meditating females.

Tools:

'*IPAT Anxiety Scale*' by Cattell and Scheier (1963) was used to measure the free floating anxiety of the participants. The primary aim of the IPAT Anxiety scale is to measure freely manifested anxiety, whether it is caused by environmental factors or not (Cattell, Scheier & Madge, 1986). This instrument measures the total/overall free floating anxiety of the individual that is 'Total Anxiety'. These include:

i. Defective integration / Q3 means lack of integration of self sentiment. The measure of this dimension under covert, overt and total anxiety is depicted as 'defective integration-covert', 'defective integration-overt' and 'defective integration-total' respectively. High score on these dimensions are indicative of personality characterizing undisciplined, self conflict, lax, follows own urges and careless of social rules. Low score on the other hand implies controlled, exacting will power, socially precise, compulsive and following self image.

ii. Ego weakness / C means lack of ego.

The dimensional measures of free floating anxiety derived from this factor are 'ego weakness-covert', 'ego weakness-overt' and 'ego weakness-total'. High score on these dimensions is indicative of emotional instability, at mercy of feelings, easily upset, changeable. Low score implies emotional stability, maturity to face reality with calm and composure.

iii. Suspiciousness / L scores reveal suspiciousness and paranoid insecurity. Dimensional measures derived from this factor are 'suspiciousness-covert', 'suspiciousness-overt' and 'suspiciousness-total'. High score is indicative of suspicious and hard to fool personality. Low score on the other hand implies trusting and accepting conditions stoically.

iv. Guilt proneness / O scores signify guilt proneness. The dimensional measures derived are 'guilt proneness-covert', 'guilt proneness-overt' and 'guilt proneness-total'. High score is indicative of the individual being apprehensive, self reproaching, insecure, worrying and troubled. Low score implies self assured, placid, secure, complacent and serene temperament.

v. Frustration / Q4 scores suggest frustration, tension and Id pressure. The measures which are part of this dimension are 'frustration-covert', 'guilt proneness-overt' and 'guilt proneness-total'. High score is indicative of tense, frustrated, driven and overwrought individual characteristics. Low scores imply relaxed, tranquil, placid and composed nature.

The reliability of IPAT Anxiety Scale is found to be 0.6. The validity of this scale is approximately 0.9 under the factorial validity approach.

Procedure:

Students who have participated in a university meditation program were screened to identify those who were experienced

practitioners between three to five years. Out of this, 30 male and 30 female students who reported of meditating daily for at least 20 minutes were selected for the study and were treated as meditating group. A matched group of 60 students (matched with respect to sex, age, marital status and class of study) who did not meditate at all were selected and were treated as the comparison group of non meditators. However, the socio-economic status and family condition of these participants could not be controlled. The participants were briefed about the purpose of the study. After securing their informed

consent, they were given the 'personal details form' along with the 'IPAT Anxiety Scale' individually. They were allowed to complete the questionnaire leisurely in one sitting.

Results

The mean and the standard deviation scores obtained by the meditating and non meditating males on the different dimensions of covert, overt and total anxiety with their *t* values are given in Table 1. From the table, it can be seen that the meditating group has significantly lower scores than the non meditating group on all the dimensions of covert, overt and total anxiety.

Table 1 Comparisons between meditating and non meditating male students on the measures of anxiety and its dimensions

Measures	Meditating Males (N = 30)		Non Meditating Males (N = 30)		<i>t</i> value
	M	SD	M	SD	
Covert anxiety	12.67	5.13	21.23	4.44	6.91***
Defective integration-covert	2.03	1.63	4.43	1.77	5.46***
Ego weakness-covert	1.93	1.61	2.93	1.64	2.38*
Suspiciousness-covert	1.17	1.08	1.80	1.27	2.08*
Guilt proneness-covert	3.93	2.13	5.87	2.19	3.46**
Frustration-covert	3.60	1.50	6.13	1.91	5.72***
Overt anxiety	9.96	4.41	20.00	4.42	8.80***
Defective integration-overt	1.60	1.61	3.33	1.88	3.83***
Ego weakness-overt	1.40	1.27	3.00	1.72	4.09***
Suspiciousness-overt	1.87	1.07	2.97	1.00	4.11***
Guilt proneness-overt	3.24	1.97	5.80	1.47	5.43***
Frustration-overt	1.77	1.79	4.90	1.81	6.74***
Total Anxiety	22.63	8.50	41.23	7.29	9.09***
Defective integration-total	3.63	2.52	7.77	2.54	6.32***
Ego weakness-total	3.33	2.26	5.93	2.33	4.38***
Suspiciousness-total	3.03	1.63	4.77	1.67	4.06***
Guilt proneness-total	7.27	3.76	11.67	2.82	5.13***
Frustration-total	5.37	2.59	11.03	3.09	7.69***

p* < 0.05, *p* < 0.01, *** *p* < 0.001.

The mean and standard deviation scores of the meditating as well as non meditating females on the different dimensions of covert, overt and total anxiety are presented in Table 2, along with the *t* values. From the table, it can be seen that the female meditating group has significantly lower scores than the non meditating group on most of the dimensions of covert, overt and total anxiety (*p* < .001).

Table 3 presents mean and standard deviation scores obtained by the male and the female meditating groups in the different dimensions of covert, overt and total anxiety including them and their corresponding '*t*' values obtained. The results reveal the male meditating group has significantly less overt and total anxiety than their female counterparts (*p* < .001), while the difference between the two groups in covert anxiety is not significant. The differences between most of their dimensions are found to be

Table 2 Comparisons between meditating and non meditating female students on the measures of anxiety and its dimensions

Measures	Meditating Females (N = 30)		Non Meditating Females (N = 30)		t value
	M	SD	M	SD	
Covert anxiety	14.76	3.60	19.80	3.98	5.41***
Defective integration-covert	3.50	1.68	4.00	2.16	1.00
Ego weakness-covert	1.73	1.34	2.47	1.36	2.11*
Suspiciousness-covert	0.93	0.91	2.00	1.11	4.07***
Guilt proneness-covert	4.67	1.58	5.23	2.09	1.18
Frustration-covert	3.93	1.72	6.10	2.19	4.26***
Overt anxiety	14.50	3.65	19.76	3.63	5.59***
Defective integration-overt	2.10	1.54	3.37	1.63	3.10**
Ego weakness-overt	1.73	1.48	2.13	1.22	1.14
Suspiciousness-overt	2.47	1.41	2.80	1.09	1.02
Guilt proneness-overt	4.57	1.89	6.47	1.79	3.99***
Frustration-overt	3.63	1.88	5.00	2.00	2.72**
Total anxiety	29.27	5.51	39.57	5.55	7.21***
Defective integration-total	5.60	2.27	7.37	2.71	2.74**
Ego weakness-total	3.47	2.06	4.60	2.03	2.15*
Suspiciousness-total	3.40	1.61	4.80	1.30	3.71***
Guilt proneness-total	9.23	2.30	11.70	2.36	4.09***
Frustration-total	7.57	3.08	11.10	3.20	4.36***

* p <.05, **p <.01, ***p <.001.

Table 3 Comparisons between meditating male and meditating female students on the measures of anxiety and its dimensions

Measures	Meditating Males (N = 30)		Meditating Females (N = 30)		t value
	M	SD	M	SD	
Covert anxiety	12.67	5.13	14.76	3.60	1.83
Defective integration-covert	2.03	1.63	3.50	1.68	3.43**
Ego weakness-covert	1.93	1.61	1.73	1.34	0.52
Suspiciousness-covert	1.17	1.08	0.93	0.91	0.90
Guilt proneness-covert	3.93	2.13	4.67	1.58	1.51
Frustration-covert	3.60	1.50	3.93	1.72	0.80
Overt anxiety	9.96	4.41	14.50	3.65	4.33***
Defective integration-overt	1.60	1.61	2.10	1.54	1.23
Ego weakness-overt	1.40	1.27	1.73	1.48	0.93
Suspiciousness-overt	1.87	1.07	2.47	1.41	1.85
Guilt proneness-overt	3.24	1.97	4.57	1.89	2.45*
Frustration-overt	1.77	1.79	3.63	1.88	3.92***
Total anxiety	22.63	8.50	29.27	5.51	3.58***
Defective integration-total	3.63	2.52	5.60	2.27	3.17**
Ego weakness- total	3.33	2.26	3.47	2.06	0.24
Suspiciousness- total	3.03	1.63	3.40	1.61	0.88
Guilt proneness- total	7.27	3.76	9.23	2.30	2.44*
Frustration- total	5.37	2.59	7.57	3.08	2.99**

* p <.05, **p <.01, ***p <.001.

insignificant except frustration-overt ($p < 0.001$); defective integration-covert, defective integration-total, frustration-total ($p < 0.01$); guilt proneness-overt and guilt proneness-total ($p < 0.05$). The results of the comparisons of the non meditating male and female groups (Table 4) show that there is no other significant differences between the two groups in any of the dimensions of covert,

overt and total anxiety except in the ego weakness-overt and ego weakness-total dimension ($p < 0.05$). These indicate that as far as the non meditating persons are concerned, gender is not a significant factor affecting their anxiety levels. However it brings into prominence the subtle differences between the genders on some of the dimensions contributing to the experience of anxiety.

Table 4 Comparisons between non meditating male and non meditating female students on the measures of anxiety and its dimensions

Measures	Non Meditating males (N = 30)		Non Meditating Females (N = 30)		t value
	M	SD	M	SD	
Covert anxiety	21.23	4.44	19.80	3.98	1.32
Overt anxiety	20.00	4.42	19.76	3.63	0.22
Total anxiety	41.23	7.29	39.57	5.55	1.00
Defective integration-covert	4.43	1.77	4.00	2.16	0.85
Defective integration-overt	3.33	1.88	3.37	1.63	0.07
Defective integration-total	7.77	2.54	7.37	2.71	0.59
Ego weakness-covert	2.93	1.64	2.47	1.36	1.20
Ego weakness-overt	3.00	1.72	2.13	1.22	1.14*
Ego weakness-total	5.93	2.33	4.60	2.03	2.36*
Suspiciousness-covert	1.80	1.27	2.00	1.11	0.65
Suspiciousness-overt	2.97	1.00	2.80	1.09	0.62
Suspiciousness-total	4.77	1.67	4.80	1.30	0.09
Guilt proneness-covert	5.87	2.19	5.23	2.09	1.14
Guilt proneness-overt	5.80	1.47	6.47	1.79	1.57
Guilt proneness-total	11.67	2.82	11.70	2.36	0.05
Frustration-covert	6.13	1.91	6.10	2.19	0.06
Frustration-overt	4.90	1.81	5.00	2.00	0.20
Frustration-total	11.03	3.09	11.10	3.20	0.08

* $p < .05$

Discussion

The remarkable feature of this study is the use of the IPAT Anxiety Scale to its full potential to highlight the underlying delicate distinctive personality attributes that are involved in engendering anxiety and the impact of meditation on these dimensions of personality. The major limitation of the present study is its comparative co-relational design lacking an experimental framework hence the conclusions drawn is valid only in associative terms lacking causality. The results show that meditating persons have significantly low anxiety compared to those who do not meditate. This is a replication of

the findings of low levels of anxiety amongst meditators (Delmonte, 1985).

Delmonte (1985) in his review of literature on meditation and anxiety found that regular meditators have very low levels of anxiety. However, the present study elucidates the nuances of the differential role of the five dimensions within their covert, overt and total corollaries in this change. The meditating males showed significantly low scores on all 15 dimensions of anxiety in comparison to the non meditating males. This suggests that male individuals who practice meditation may have overall sound mental health compared to their non-meditating counterparts.

Highly significant low scores in defective integration and ego weakness found amongst the male meditators compared to that of male non meditators is analogous to Bandura's description of the characteristics of individuals with high self efficacy (Bandura, 1977). Here if we apply Bandura's theory of self efficacy, the meditating males with low scores in defective integration and ego weakness dimensions may be able to remain task oriented even in the face of pressing situational demands and use good analytical thinking leading to better performance (Bandura, 1997). This shows that the young males who ardently practice meditation daily for a minimum duration of 20 minutes become thoroughly buffered from the debilitating factors of anxiety. They are also likely to exhibit positive personality characteristics (Chamber, Lo, & Allen, 2007) of high social intelligence, maturity to face reality, remain trusting, self assured, tranquil and free from debilitating guilt and frustration. This shows that regular practice of meditation facilitates self development and may motivate to ever increasing achievements amongst males who practice meditation regularly compared to males who do not. The highly significant anxiolytic effect of meditation on free floating anxiety may be manifested perhaps by effectuating the following changes in their personality: (i) Socially precise and acceptably compulsive, exacting will power is indicated by the significantly low scores in defective integration-covert, defective integration-overt and defective integration-total. (ii) Emotional stability, maturity to face adversity with calmness and clarity of thought is reflected by the significantly low scores in ego weakness-covert, ego weakness-overt and ego weakness-total. (iii) In transactional interaction a trusting and accepting disposition are implied by significantly low scores in suspiciousness-covert, suspiciousness-overt and suspiciousness-total. (iv) Statistically significant low scores in guilt proneness-covert, guilt proneness-overt

and guilt proneness-total reveal a comparatively more placid, secured, complacent and serene behavior. (v) Relaxed, tranquil and composed temperament is reflected by the significantly low scores in frustration-covert, frustration-overt and frustration-total.

In meditating females, the pervading low levels of anxiety in all dimensions observed in the meditating males were markedly absent. In spite of the significantly low levels of anxiety in the covert, overt and total anxiety amongst meditating females which is similar to that found amongst meditating males compared to their respective gender counterparts, its impact did not reflect on the dimensions of defective integration-covert, ego weakness-overt, suspiciousness-covert and guilt proneness-covert amongst the females. The implications of no significant change in defective integration-covert, points to the fact that meditation did not effectuate a sustained lowering of covert internal self conflict and careless attitude pointing to a comparatively lower beneficial effect of meditation in female meditators. This fact is corroborated by significantly higher values of defective integration-overt and defective integration-total amongst female meditators as compared to male meditators showing thereby larger scope for improvement.

The statistically significant low scores of meditating females in frustration-covert, frustration-overt and frustration-total compared to that of non meditating females' shows the intense effect of meditation on lowering frustration. The comparison between male meditators and female meditators show highly significant difference in its overt and total dimension implying large scope for further improvement amongst female meditators. The comparison between non meditating males versus non meditating females did not yield any statistically significant difference except in ego weakness-overt and ego weakness-total at

just significant level. This difference may be due to for some extend at least to the known difference in the emotional stability, maturity to face reality with calm and composure. It also suggests that more prolonged, continuous, intense and uninterrupted practice is necessary to harness sustainable beneficial effects of meditation in these aspects of personality amongst females.

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