

Praṇavam – Chanting Practice Experience Scale

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ABSTRACT

Traditionally, Yoga has always been associated with the practice of *Āsana-s*, *Prāṇāyāma* and *Dhyāna*, giving minimal importance to the healing power of chanting when incorporated as an additional component of Yoga. Chanting which is beyond the sounds produced by the vocal organs, is capable of bringing about the best possible human expression and experience. The aim of the present study was to construct a tool to assess the positive psychological and physiological experiences associated with chanting, based on the various thematic contents that emerged from the qualitative individual interviews conducted on certain selected chanting trainers and practitioners. The self-report scale thus constructed, comprised of statements encompassing both positive and negative items to be rated on a 5-point Likert scale ranging from Very true of me to Not true of me, with higher self-rated scores indicating greater positive experiences linked with chanting practice. The scale was found to be psychometrically very sound with high reliability. Confirmatory Factor Analysis (CFA) identified 6 latent factors which included 5 positive effect factors and 1 negative effect factor, namely Cognitive Alertness, Physical Wellbeing, Mental Quietude, Confident Expressiveness, Spiritual Awareness and Unpleasant Experiences. This 35-item short scale is amenable to be utilized both as a screening and an outcome tool, either independently or in conjunction with other objective measures and parameters, thereby yielding more robust findings.

Keywords: *Assessment; Chanting Experience; Quantitative; Scale Property; Yoga*

Yoga encompasses many strategies such as *āsana-s*, *prāṇāyāma* and *dhyāna* to enhance mental wellbeing. The healing power of chanting is also explored as another component of Yoga, involving the practice of moving beyond the body, mind and breath. The *Aṣṭāṅga-Yoga* of Patañjali refers to the concept of *Svādhyāya* as a personal discipline (Yoga-Sūtra, II:1; II:32; II:44), which is an action-oriented practice of enquiry about oneself by reflecting into and re-examining one's actions. *Svādhyāya* (self-reflection) or *Adhyayanam* or reciting *Mantra-s* or *Japa*, are all synonymous terms, which is implied in the classical commentary to the Yoga-Sūtra-s of Patañjali where *Svādhyāya* is defined as, “*Svādhyāyaḥ Praṇavādi Pavitrāṇām Japaṁ Mokṣa-Śāstra Adhyayanam Vā*” – the repetition of sacred *Mantra-s*, as the *Praṇava (OM) Mantra* or the study of scriptures

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relating to freedom from bondage, are one and the same (Swami Hariharānanda Aranya, 2000, p. 113).

Reciting *OM* repeatedly, focusing on its potent meaning is addressed as a means to move towards self-awareness and reduction of many obstacles or interruptions to clarity (Yoga-Sūtra, 1:29). Similarly, *Japa* (repetitions of *Mantra-s*) is also considered as *Svādhyāya*.

Commenting on *Svādhyāya*, the renowned healer Śrī Desikāchār quoted Patañjali, “*Svādhyāya* is a way to examine oneself systematically, reflect on our thoughts and actions and in the final analysis understand that we are not the ultimate masters of everything that we do” (Desikāchār, 2003, pp. 46, 70). Chanting is inherent in many religious rituals as a means of prayer that links one to God or a supreme being. It is intended to purify the mind and body, making them fit and efficient for activities of daily life and to serve as a bridge to connect to higher realms of Consciousness.

Chanting should not be equated to merely making sounds using vocal organs. Rather, it is to be valued as a form of human expression, which is not just to communicate but to bring out the best possible expression and experience of the Soul. For Indian philosophers and phoneticians, the chant of *Pranavam* is eternal and a representation of both the manifest and unmanifest truth or reality.

Scientific evidence on Chanting

In the past few years, there has been great interest among the scientific community to investigate the effect of various types of chanting on the physical, psychological and spiritual qualities of life. There is substantial work supporting the evidence that the practice of specific chants influences specific physiological processes like cardiac rhythms, respiratory rate, baroreflex sensitivity, self-regulation, heart-rate variability and establishing autonomic balance (Bernardi et al., 2001; Damerla et al., 2018; Harini et al., 2019). Similar findings are also observed with long-term *Om* chanting among hypertensive subjects indicating a comprehensive calming effect as observed both in psychological measures of stress and anxiety, as well as physiological indicators such as BP, heart-rate and pulse rate (Amin et al., 2016). Further, yogic relaxation through Mind Sound Resonance Technique (MSRT) compliments conventional physiotherapy by reducing state anxiety and common neck pain, providing improved flexibility (Bali et al., 2010). Long-term effects of *kīrtan* chanting or music listening have demonstrated reduction in perceived stress and enhancement of mood, psychological wellbeing and quality of life among old adults who experienced subjective cognitive decline (Innes et al., 2016). Several experimental studies conducted have provided primary evidence for the anxiety reducing effects of *mantra* chanting in different target groups (Dhansoia et al., 2015; Saoji et al., 2017; Wang et al., 2018). In fact, not only active chanting, but even listening to chants or instrumental music can have an anxiety reducing effect (Padam et al., 2017). Chanting has also been reported to reduce sports competitive anxiety among athletes (Routhan & Ruhela, 2014). Researchers have reviewed that chanting reduces emotional arousal and enhances positive coping appraisal, spiritual quality and connectedness among HIV infected subjects (Bormann et al., 2006; Bormann & Carrico, 2009). Evidence supports that a small practice of *mantra* chanting can reduce the severity of clinical symptoms in veterans distressed by post-traumatic stress disorder (Bormann et al., 2013). Another study using qualitative methodologies to analyze interviews of veterans with PTSD captured critical event narrations by participants who were exposed to chanting practice. The investigators report that content analysis of the outcomes resulted in 12 discreet categories, including relaxing

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and calming down, letting go of negative feelings, thinking clearly and rationally, diverting attention away from triggering events, focusing attention, refining *mantram* skills, dealing with sleep disturbances, coming back from flashbacks, slowing down, communicating thoughts and feelings more effectively, feeling in touch spiritually and letting go of physical pain (Bormann, Hurst & Kelly, 2013). Even though a single case experimental study lacks generalizability, an attempt was made to investigate the effect of *Viṣṇu-Sahasranāma* chanting by a single subject for 12 weeks, which supports its beneficial effect in reducing stress and cortisol level (Kumar et al., 2016). Another single group experimental study has highlighted the impact of chanting in enhancing the respiratory function, mood and long-term regulation of a depressive state (Kenny et al., 2005).

Some of the aforementioned studies and others also provide support for enhanced cognitive skills like processing speed, memory (verbal and spatial) and task orientation among chant practitioners (Ghaligi et al., 2006; Pradhan & Derle, 2012; Bhargav et al., 2016; Narayanan & Venugopalan, 2018). Brain functional status correlated to chanting demonstrates a pattern of changing brain haemodynamics, synchronicity as well as deactivation related to chanting (Kalyani et al., 2011; Gao et al., 2016). Researchers studying different cultural chants with specific *mantra-s* have tried to correlate the location of activation of the various brain areas (Shimomura et al., 2008). In fact, the very listening of *Vedic* recitals itself induces a significantly higher coordination of the frontal, parietal and frontal-parietal lobes of the brain. The inner subjective experiences of these participants were deep, describing *Vedic* recitations as being internal vibrations rather than external sounds that brought about a lively silence (Travis et al., 2017).

Generally, in Yoga research chanting is used as an adjunct component along with other yoga techniques, as well as a meditational tool.

METHODOLOGY

The present study commenced with a focus group discussion (FGD) with a group of teachers who were primarily yoga therapists and consultants, but who were also exposed to the practice of chanting, with the skill of integrating it along with the yoga postures and *Prāṇāyāma*, as required. The main purpose of this meeting was for the investigators to frame relevant questions for the qualitative interviews to be conducted following the FGD. Subsequently, 9 chanting trainers and practitioners were interviewed to elicit their subjective experiences and explore their direct observations of the process patterns of chanting practice. The need then was to consolidate the documented thematic contents of these subjective experiences and observations so as to provide a guideline to construct a measurement tool on chanting experiences.

Tool Construction

A scale with 40 items describing a variety of personal experiences was constructed. These item statements were generated from the narratives of chanting practitioners, gathered during the previous qualitative study (Satish et al., 2021). All the items were written concisely in simple English and given to judges with expertise in providing healing through chants, in order to rate each item for its relevance and clarity.

It was found that there was complete concurrence on all the 40 experiential statements, and therefore all the items were retained while slightly amending only two of them.

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Thus, the tool captured information on the following dimensions: (a) Demographic details, (b) Nature of Chanting exposure and Chanting Practice quality, and (c) Self-reported chanting related experiences. The 40 statements inclusive of both positive and negative experiences of chanting were to be rated on a 5-point Likert scale, with response anchors ranging from Very true of me to Not true of me. The values thus assigned to the positive and negative items were based on direct and reverse scoring so as to arrive at a unidimensional total score. Higher self-rated scores would indicate greater positive experiences related to chanting practice. Adhering to this context, the tool was aptly named as “*Pranavam – Chanting Practice Experience Scale*”.

Procedure

The Institutional Review Board (IRB) of the Yoga institute cleared the format of the tool and sanctioned the project to be carried out virtually due to the lockdown imposed on account of the Coronavirus pandemic prevalent during that period of time. The scale was therefore circulated online using google forms, and this process of data collection lasted from June to September 2020.

The primary sampling criterion was that those participants who consent to respond, must be practitioners of some form of chanting, which could be *Vedic Mantra-s* and/or *Śloka-s*, either in Sanskrit or any other vernacular language known. They could also be practising chants of other religions like Biblical hymns, Buddhist or Gregorian chanting or Sikh *Simran-s* or recitation of the Quran.

In order to expand the sample size, the Snowballing technique was also used to enlist participants from the general population who were religious and ritualistic practitioners of chanting, but not trained in any particular tradition. Thus, these individual practitioners belonged to diverse religious and cultural backgrounds based in different locations. Those who consented to participate in the study completed the online google form. There were no specific exclusion criteria that were enforced.

Out of the 254 responses obtained, 215 of them were retained after initial data cleaning. During this initial cleaning phase, any incomplete data or data repetitions were eliminated before undertaking further analysis. The repeated data pool comprised of more than one response filled in by the same respondent on the google form, from which only the last submitted responses were utilized for the study, while rejecting all the other remaining ones.

RESULTS

The characteristics of the participants in this study have been presented in Table 1. Their Mean age was 48.17 years with a SD of 9.22. The sample represented more women chanters (n=187) than men (n=28), and more Indian citizens (n=165; 76.7%) compared to foreigners (n=50; 23.3%). The majority of the sample had good educational attainment and were gainfully employed. Nearly 8% of the sample knew two or more languages. Those with the knowledge of music and the lack of it were equally represented. On the other hand, religious orientation and spirituality have been found to be very important attitudes strongly linked to the practice of chants. In all religious traditions, there is some form of chanted expression or recitation from holy books as a part of religious practice. The sample here has equivocally rated themselves as being spiritual (98%) and only about 14% of them have stated that they are non-religious.

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The percentage distribution of response categories was equal for all items, except 5 items (i1, i5, i24, i29 and i33) which had more of a negative skewness. On all other items, the distribution was equal. There is a possibility that these 5 items could be evocative of a tendency towards social desirability. The Cronbach Alpha coefficient was 0.88 and the scale reliability remained unaffected even upon removal of any items. Furthermore, the Split-Half Reliability of the scale using the Spearman-Brown formula for equal length was 0.84 and the Cronbach Alpha coefficients for Parts 1 and 2 were 0.78 and 0.81, respectively.

Table No. 1: Demographic Profile of the sample

Variables	Sample Characteristics	
<i>Age</i>	Mean	Standard Deviation
	48.17	9.22
	Frequency	Percentage
<i>Gender</i>		
Males	28	13
Females	187	87
<i>Education</i>		
Undergraduate	7	3.3
Graduate	92	42.8
Post Graduate	116	53
<i>Occupation</i>		
Employed	160	74.4
Not employed	55	25.6
<i>Citizenship</i>		
Indian	165	76.7
Other counties	50	23.3
<i>Religious</i>		
Yes	83	38.6
Moderately	102	47.4
No	30	14
<i>Spiritual</i>		
Yes	167	77.7
Moderately	46	21.4
No	2	0.9

Exploratory Factor Analysis (EFA)

Exploratory factor analysis was performed initially to understand the item loadings, for which the simple Principal Component Analysis (PCA) method was employed, without any rotation. This analysis was performed using the SPSS 24.0 software.

The KMO measure of sampling adequacy was 0.875 and the Bartlett's test of Sphericity was found to be significant (Chi-Square=3506.221; $p < 0.001$) indicating that further factor analysis would be appropriate with at least one significant correlation between 2 items. The communalities were found to be adequate, ranging from 0.481 to 0.731.

The PCA resulted in 10 components with Eigen values of more than 1, thereby explaining the total variance of 61.74%. Next, in order to verify whether these components are in fact

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orthogonal, the Component Correlation Matrix would have to be checked. For this purpose, further factor analysis was performed once again with all the 10 components following the Promax Rotation. On examining the component correlation matrix, it was observed that the correlation between the possible components was less than 0.5, suggesting that all the components are indeed orthogonal (Table 2).

Table No. 2: Component Correlation Matrix

Component	1	2	3	4	5	6	7	8	9	10
1	1.000	0.480	0.479	0.217	0.324	0.097	0.327	-0.084	0.354	0.046
2	0.480	1.000	0.394	0.171	0.251	0.171	0.112	-0.016	0.229	0.028
3	0.479	0.394	1.000	0.281	0.353	-0.003	0.193	-0.020	0.084	-0.114
4	0.217	0.171	0.281	1.000	0.092	0.037	0.072	0.114	0.077	0.010
5	0.324	0.251	0.353	0.092	1.000	0.003	0.234	0.013	0.087	-0.102
6	0.097	0.171	-0.003	0.037	0.003	1.000	0.062	0.218	0.294	0.076
7	0.327	0.112	0.193	0.072	0.234	0.062	1.000	0.130	-0.021	0.045
8	-0.084	-0.016	-0.020	0.114	0.013	0.218	0.130	1.000	0.029	0.010
9	0.354	0.229	0.084	0.077	0.087	0.294	-0.021	0.029	1.000	0.160
10	0.046	0.028	-0.114	0.010	-0.102	0.076	0.045	0.010	0.160	1.000

Extraction Method: Principal Component Analysis

Rotation Method: Promax with Kaiser Normalization

Following these findings, a factor analysis with varimax rotation (or orthogonal rotation) was determined as being appropriate. Hence, the analysis was repeated with varimax rotation to further examine the item loading on each of the components generated by the EFA, and thereafter identify the possible meaningful factors to be extracted from these components.

Table No. 3: Item and Component Loadings

Item Codes	Comp 1	Comp 2	Comp 3	Comp 4	Comp 5	Comp 6	Comp 7	Comp 8	Comp 9	Comp 10
i22	0.774									
i27	0.742									
i23	0.726									
i21	0.625									
i26	0.604									
i25	0.571									
i31	0.555									
i20	0.551									
i3	0.415									
i18		0.791								
i11		0.741								
i19		0.681								
i36		0.668								
i17		0.547								
i15		0.527								

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Item Codes	Comp 1	Comp 2	Comp 3	Comp 4	Comp 5	Comp 6	Comp 7	Comp 8	Comp 9	Comp 10
i40		0.509								
i5		0.483								
i35		0.459								
i6			0.685							
i16			0.588							
i2			0.575							
i9			0.475							
i39			0.414							
i28				0.706						
i24				0.607						
i8				0.538						
i29				0.500						
i7				0.470						
i30					0.699					
i13					-0.654					
i38					-0.524					
i37					-0.501	0.452				
i33						0.687				
i34							0.655			
i32							0.627			
i14								0.733		
i4								0.678		
i1									0.743	
i10									0.474	
i12										0.717

The items in the first component are connected with cognitive and physiological experiences (9 items). The second component is comprised of experiences related to mental quietude (9 items). Confident expressiveness is denoted by the third component (5 items). The fourth component is associated with physical discomfort (5 items). Finally, the fifth component constitutes experiences related to improved appetite and body heat (4 items). The components 6-9 that consisted of 2 items each, had significant correlation with the other components and hence they were retained for further analysis. These statements bordering on either spiritual awareness or certain discomforts resulting on account of continuous chanting exercise (which could occur either while practising personally or also during therapeutic teaching to another), were coherently reassigned to those corresponding components. Item no. 37 is the only one that has repeated itself under both the fifth and sixth components. The tenth component alone is loaded with only one single item no. 12, and therefore it was excluded from the Confirmatory Factor Analysis (CFA). Further, this particular component 10 also did not correlate significantly with any of the other components (Table 2).

In order to arrive at more cogent factor structures, the Confirmatory Factor Analysis was performed for identification of a specific model. It was decided to have a minimum of 3

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indicators for a factor, with each item (manifest variable) loading on one specific factor only. The error terms were not correlated. The main objective of specifying a confirmatory model is the advantage of prior knowledge that was taken into account while defining the factor solutions, and relying on this theoretical support, the CFA model was tested (Blunch, 2008; Schmitt, 2011).

Theoretical Specification of a 6-Factor Model

Examination of item loadings on the components revealed that the first factor is comprised of 5 items indicative of different cognitive indices like improved attention, memory, learning and a general increase in the mental energy to perform tasks. This is in line with research evidence that has documented the favourable impact of chanting on cognitive tasks requiring attention and memory, and various other cognitive functions as well. There are also 4 other items on this factor that point to physiological benefits like better sleep, appetite and digestion, and relief from respiratory issues. Likewise, research evidence on physiological impacts have also highlighted improvements in lung function and blood pressure, as attested by objective instruments. These two domains of cognitive and physiological changes that are likely to occur as a result of chanting, were split into two exclusive latent factor loadings. Hence, they were postulated as the first two factors specifying cognitive alertness and physiological wellbeing, respectively.

The second component was constituted by items indicative of inner quietness, manifested through mental calmness that is often reported as an experience related to the practice of chants. Thus, all the items that uniformly contributed to mental peace and tranquility, depicted the third factor labelled as mental quietude. However, item nos. 17 and 35 that also appeared under this second component, did not coincide with mental quietude. Rather, they were found to be more appropriate indicators of confident expression and spiritual awareness respectively, and were therefore shifted to those factors accordingly.

There is sporadic evidence in the literature suggesting improved confidence in expression and clarity of speech and pronunciation, by doing regular chanting (Bormann et al., 2013). Thus, 4 items in the third component which served as markers of this enhanced ability of communication plus i17 from the second component, crystallized the fourth factor representing confident expressiveness. Item no. 39 alone of this third component was separated as a manifestation of another type of physiological experience.

There were three items found to be implicative of a link to spiritual orientation or awareness. One of them was placed in the second component (i35), while the other two were placed in the seventh component (i32 and i34). Thus, these three items were grouped together as manifest indicators of the fifth latent factor of spiritual awareness.

Apart from these, items eliciting experiences of some form of physical discomfort or thought interference were also encompassed as part of the overall experiential sphere. These may include experiences that one may encounter particularly during the initial learning phase or they could also be associated with specific clinical conditions like Asthma. Chanting is a process of recitation which emphasizes accuracy in terms of correct pronunciation, speed and following specific rules such as proper intonations and appropriate pausing. It can sometimes last even up to an hour. Such continuous and intense practices are often associated with some unpleasant physiological sensations like breathlessness, heaviness in the head or experiencing excessive heat in the body. It was apparent from the respondents' ratings that even these unpleasant aspects were essential variables that contributed to the

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chanting related experiences, although there is no concrete research evidence to support these negative effects as being felt on account of intense chanting. However, these experiences were also considered to be valid statements leading to the formulation of a factor encompassing all unpleasant experiences. Therefore, the sixth factor was determined exclusively based on the experiences of chanting practitioners.

Thus, the CFA proved to be very suitable in validating the 6-factor structure of the *Pranavam* scale, with the data provided by a sample of 215 active chanting practitioners. The model was assessed using the Maximum Likelihood Estimation. Both CFA and the model fitness test were conducted using the Lavaan procedure of the R statistical package.

Table No. 4: Model Fitness Test Results

Model	Estimator	Chi-Square	df	p	CFI	TLI	RMSEA	p
1	Maximum	1322.31	687	0.00	0.785	0.769	0.066	0.05
2	Likelihood	1087.94	579	0.00	0.820	0.804	0.064	0.05

For CFA of the scale items, two models were estimated via the maximum likelihood estimation, by arranging all the 40 items within the 6 factors. Model 1 had a satisfactory fit, with a RMSEA value of ≤ 0.06 and a Comparative Fit Index (CFI) of 0.78 for a Chi-Square value of 1322.31 ($p < 0.01$).

Four indicator items viz i1, i4, i13 and i29 had standardized coefficient values of 0.22, 0.20, 0.09 and 0.19 respectively, which fall below the cut-off value of 0.25. Hence, these indicators had to be discarded from the specific latent factors, after which the model fitness was again tested, resulting in Model 2 having a marginally better fit, with a RMSEA value of ≤ 0.06 and a CFI of 0.82 for a Chi-Square value of 1087.94 ($p < 0.01$). Further, the removal of these four indicators and also the exclusion of i12 from CFA, condensed the final *Pranavam* scale to 35 items.

Table No. 5: Factors, Item Loadings and Standardized Coefficients with significance

Factors	Items	Std. Coeffs.	p	Description
Cognitive Alertness	i22	0.704	0.01	Better capacity to remember
	i27	0.782	0.01	Improvement in grasping
	i23	0.812	0.01	Ability to sustain attention for longer time
	i21	0.671	0.01	Energy to attend to different things
	i26	0.783	0.01	Better focus
Physical Wellbeing	i25	0.585	0.01	Improvement in digestion
	i20	0.549	0.01	Ability to sleep more soundly
	i3	0.510	0.01	Ability to work continuously without breathlessness
	i31	0.641	0.01	Absence of respiratory problems
	i39	0.488	0.01	Regularized bowel movement
	i10	0.714	0.01	Improvement in breathing comfort
	i30	0.317	0.01	Intensified appetite
Mental Quietude	i18	0.824	0.01	Experience of serenity
	i11	0.724	0.01	Lightness of the mind
	i19	0.635	0.01	Freedom from fear

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Factors	Items	Std. Coeffs.	<i>p</i>	Description
	i36	0.698	0.01	Feeling of peace with self and world
	i15	0.564	0.01	Reduced negative feelings
	i40	0.587	0.01	Feeling energized
	i5	0.488	0.01	Feeling calm and relaxed
Confident Expressiveness	i6	0.781	0.01	Improvement in communication
	i16	0.757	0.01	Better expression of feelings
	i2	0.614	0.01	Better clarity in speech and pronunciation
	i9	0.733	0.01	Improved confidence
	i17	0.637	0.01	Improvement in pitch modulation of the tone
Spiritual Awareness	i34	0.575	0.01	Feeling the presence of God
	i32	0.549	0.01	More attentive while praying
	i35	0.670	0.01	More admiring of nature
Unpleasant Experiences	i14	0.439	0.01	Feeling of breathlessness
	i38	0.439	0.01	Tiredness with loud chanting
	i28	0.566	0.01	Continuous chanting causing heaviness of the head
	i24	0.392	0.01	Continuous chanting felt like disturbing noise
	i8	0.459	0.01	Tendency for irritability
	i7	0.507	0.01	Breathlessness while talking
	i37	0.308	0.01	Tendency to yawn a lot
	i33	0.466	0.01	Boredom and wandering of the mind

Table No. 6: Composite Reliability Coefficients and Indicators of Six Factors

Six Factors	No. of Indicators	Composite Reliability
Cognitive Alertness	5	0.88
Physical Wellbeing	7	0.73
Mental Quietude	7	0.83
Confident Expressiveness	5	0.81
Spiritual Awareness	3	0.64
Unpleasant Experiences	8	0.66

DISCUSSION

The *Pranavam* tool has been found to be a valid measurement model which distinctly identifies five positive experiences. Cognitive alertness characterized by focus, memory and sharpness of processing which have been well substantiated in earlier studies on cognitive tasks as well as brain mechanisms, thus providing evidence for activation of various brain regions.

Previous research evidence also supports anxiety reduction and stress amelioration resulting as a consequence of frequent *mantram* repetition among veterans, which corroborates with the mental quietude experience revealed by the present measurement tool (Bormann et al., 2005).

Several studies related to physiological symptoms have focused on the measurement of BP, autonomic balance and cortisol levels as markers of chanting effect. This study highlights

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the immediate effect of chanting, as on breathing comfort and digestion. The increase in *Jātharāgni* (digestive fire) as an outcome of good chanting and the ease of breath are similar to the effects of *Prāṇāyāma* practices. Here, the factor of physical wellbeing is different from the usual medical parameters which are based on objective measures of instruments, whereas this is connotative of the actual subjective sense of physical wellbeing.

Confidence and communication are the other two outcome factors that are closely linked to the ease of expressiveness due to chanting practice. This factor is clearly in line with the qualitative research evidence which is suggestive of better expressiveness among those afflicted with PTSD and who were exposed to chanting. Their ability to effectively manage anxiety is a proxy measure of improved confidence (Bormann et al., 2013).

Most of the practitioners were more spiritual than religious. The practice of chanting in some form or the other included *Vedic* chanting and recitation of prayers in Sanskrit. The factor of spiritual awareness is indicated by experiencing or realizing the presence of God, a sense of peace and a feeling of oneness with nature. This factor indicates a very subtle connection with one's innermost depths and a space that is beyond the mind of the person. Such an experience of spirituality *does not* indicate a state of ego transcendence or fulfillment. Chanting serves as a catalyst to bestow an orientation of this supreme caliber that is endowed with the capacity to perceive the existence of the same divinity embodied in all entities and beings.

It is not always necessary that every experience associated with chanting has to be positive. Oftentimes, there are certain hitches in the process of learning which can have very contraindicative consequences. Pressure in the head, strain on the vocal cords, irritability, excessive appetite, etc. are some experiences that assert the importance of taking proper precautionary measures while applying chants in therapy or healing processes.

This six-factor assessment scale of chanting related outcomes is a valid measure to gauge the effect of various types of chanting. The tool can be utilized both as a screening and an outcome measure along with various other objective parameters that are commonly employed in chanting research studies.

Suggestions for Future Research

There is a need to add further to the psychometric properties of the *Praṇavam* scale in terms of its concurrent and discriminant validity by correlating the therapeutic use of chants with certain specific psychological tests assessing mood and emotional regulation, cognitive performance, in addition to other physiological measures as well.

CONCLUSION

The short 35-item *Praṇavam* Scale is a tool to measure the chanting related experiences of people who practise and also administer the technique of chanting as a healing aid. The initial psychometric properties of this self-report measure indicate item reliability and a set of experiences related to chanting which have been delineated into six factors, with five positive dimensions including Cognitive Alertness, Physical Wellbeing, Mental Quietude, Confident Expressiveness and Spiritual Awareness, and one negative dimension including a host of uncomfortable sensations that are mostly transient, termed as Unpleasant Experiences. The instrument can also be used in conjunction with other objective measurements thereby yielding more robust findings.

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Conflict of Interest

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