

## 8.0 APPRAISAL

### 8.1 Summary

We developed an instrument that can measure music receptivity and then field tested it and assessed the psychometric properties and as the result of which we developed a 20 item long form and a 12 item short form of the Music Receptivity Scale. The scale has four domains namely, Emotional experience, Attention, Interest and Hurdles. In addition to the field testing, we also conducted the study involving musicians and also another study amongst Yoga population (involving a bhajan setup). The major findings of these studies are listed below:

1. Following field testing and analysis of data, we got a four factor and two factor solution for the 20 item MRS (items 3 and 18 were removed as they weakly loaded).
2. Also another short form of the MRS which has 12 items, with two factor solution, was found adequate.
3. Cumulative variance explained by the 20 item scale is 46% and that of the 12 item scale is 45%.
4. The internal consistency measured using cronbach's alpha was found to be 0.89. For the 20 item four factor solution, the alpha were: 0.81 (emotion), 0.84 (interest), 0.68 (attention), and 0.59 (hurdles). For the 20 item two factor solution, the alpha were: 0.87 (affect) and 0.75 (attention).
5. The test retest reliability was found to be very high,  $r(45) = 0.87$ ,  $p < .001$  for 15 days interval, and  $r(49) = .91$ ,  $p < .001$  for 30 days interval. This indicates high temporal stability of the tool.
6. The mean MRS score of the musician group was significantly higher than the main study group,  $t(69.17) = 5.515$ ,  $p < .001$ ,  $d = 0.46$ . Also, the variance of the musician group was significantly lower than the main study group,  $F(1,355) = 4.89$ ,  $p = .028$ . This indicates discriminant validity of MRS.
7. The Music Receptivity Scale (MRS) showed mixed results of convergent and divergent validity, in the study involving Yoga population.

## **8.2 Conclusion**

The Music Receptivity Scale was developed and it has a 20 item long form and a 12 item short form. As this tool was primarily intended for music therapy purposes, this tool needs to be field tested in music therapy settings. Further, the mode of application of this tool could be via a mobile application for the ease of use.

## **8.3 Strength of the study**

The psychometric instrument developed in this study is a novel one and the construct itself is novel. A construct that attempts to measure the extent of internalization of music is a first one of its kind. The Music Receptivity Scale (MRS) had good discriminant validity. It could clearly differentiate between musicians and non-musicians; i.e., musicians had significantly higher music receptivity scores compared to non-musicians. The MRS also had excellent Cronbach's alpha (0.89).

## **8.4 Limitations of the study**

We expected that all the five domains (Emotional experience, Lyrical appraisal, Interest, attention and hurdles) would come out distinctly following factor analysis. This did not happen.

The domain of lyrical appraisal merged into the domain of emotional experience. Another limitation of our study was that we did not try out the field testing of the MRS with different types of musical stimulus. Doing this would have added to the validity of the instrument. Also, as the MRS was developed for music therapy settings, field testing should also have been done in music therapy settings.

## **8.5 Applications of the study**

The MRS could be applied both in clinical and non-clinical settings. Also it can be self-administered. In clinical settings, the MRS would act as a feedback tool that aids the music therapist to know to what extent an individual could internalize the music he administered as therapy and also the nature and intensity of an individual's subjective experience could also be known. The MRS could be used in real life settings, such as, during a train journey, randomly we could choose a person and make him listen to a piece of music and then administer the MRS and know his

experience and internalization level to that piece of music. Such an experiment would have high ecological validity.

### **8.6 Suggestions for future work**

Studying music receptivity further may help us understand theories related to experience of higher order mind-body phenomena in music psychology. For further ecological validation, we would need to carefully design and control the experimental conditions to have experience of such higher order emotions and then study using this tool. The developed MRS could be integrally employed as a module in a smartphone based application, which could enable automating music therapy in clinical settings. Automated music therapy in clinical settings would largely reduce the effort and frequency of intervention from the music therapist, henceforth bringing down the overall cost incurred by the clients undertaking music therapy.

## REFERENCES

- Abrams, D. A., Ryali, S., Chen, T., Chordia, P., Khouzam, A., Levitin, D. J., & Menon, V. (2013). Inter-subject synchronization of brain responses during natural music listening. *European Journal of Neuroscience*, 37(9), 1458–1469. <https://doi.org/10.1111/ejn.12173>
- Alluri, V., Brattico, E., Toiviainen, P., Burunat, I., Bogert, B., Numminen, J., & Kliuchko, M. (2015). Musical expertise modulates functional connectivity of limbic regions during continuous music listening. *Psychomusicology: Music, Mind, and Brain*, 25(4), 443–454. <https://doi.org/10.1037/pmu0000124>
- Baxter, H. T., Berghofer, J. A., MacEvan, L., Nelson, J., Peters, K., & Roberts, P. (2007). *The Individualized Music Therapy Assessment Profile (IMTAP)*. Jessica Kingsley Publishers.
- Bleyle, P. E. (1992). Music as a mood modulator by.
- Blood, A. J., & Zatorre, R. J. (2001). Cam-Crest-and-Text.Pdf. *Proceedings of the National Academy of Sciences*, 98(20), 11818–11823.
- Brattico, E., Alluri, V., Bogert, B., Jacobsen, T., Vartiainen, N., Nieminen, S., & Tervaniemi, M. (2011). A functional MRI study of happy and sad emotions in music with and without lyrics. *Frontiers in Psychology*, 2(DEC), 1–16. <https://doi.org/10.3389/fpsyg.2011.00308>
- Brattico, E., & Jacobsen, T. (2009). Subjective appraisal of music: Neuroimaging evidence. *Annals of the New York Academy of Sciences*, 1169, 308–317. <https://doi.org/10.1111/j.1749-6632.2009.04843.x>
- Brown, S., Martinez, M. J., & Parsons, L. M. (2004). Passive music listening spontaneously engages limbic and paralimbic systems. *NeuroReport*, 15(13), 2033–2037. <https://doi.org/10.1097/00001756-200409150-00008>
- Brown, S., Martinez, M. J., & Parsons, L. M. (2006). Music and language side by side in the brain: A PET study of the generation of melodies and sentences. *European Journal of Neuroscience*, 23(10), 2791–2803. <https://doi.org/10.1111/j.1460-9568.2006.04785.x>

- Bunt, L., & Hoskyns, S. (2013). The handbook of music therapy. In *The Handbook of Music Therapy*. <https://doi.org/10.4324/9781315812458>
- Burunat, I., Toiviainen, P., Alluri, V., Bogert, B., Ristaniemi, T., Sams, M., & Brattico, E. (2016). The reliability of continuous brain responses during naturalistic listening to music. *NeuroImage*, 124, 224–231. <https://doi.org/10.1016/j.neuroimage.2015.09.005>
- Carterette, E. C., & Kendall, R. A. (1999). Comparative Music Perception and Cognition. *The Psychology of Music*, 725–791. <https://doi.org/10.1016/b978-012213564-4/50019-6>
- Chin, T. C., Coutinho, E., Scherer, K. R., & Rickard, N. S. (2018). MUSEBAQ: A modular tool for music research to assess musicianship, musical capacity, music preferences, and motivations for music use. *Music Perception*, 35(3), 376–399. <https://doi.org/10.1525/MP.2018.35.3.376>
- Chin, T., & Rickard, N. (2012). The Music use (Muse) Questionnaire: an instrument To Measure engagement in Music. *Music Perception*, 429–446.
- Cong, F., Puoliväli, T., Alluri, V., Sipola, T., Burunat, I., Toiviainen, P., Nandi, A. K., Brattico, E., & Ristaniemi, T. (2014). Key issues in decomposing fMRI during naturalistic and continuous music experience with independent component analysis. *Journal of Neuroscience Methods*, 223, 74–84. <https://doi.org/10.1016/j.jneumeth.2013.11.025>
- Csikszentmihalyi, M. (1990). *Flow: The Psychology of Optimal Experience*. *Monthly Review*. <https://doi.org/wiretap>
- Deutsch, D. (2007). Department of Psychology, University of California, San Diego, La Jolla, CA 92093. *Spring*, 4473–4482.
- Ghosh, D., Sengupta, R., Sanyal, S., & Banerjee, A. (2018). Gestalt Phenomenon in Music: Which Frequencies Do We Really Hear? *Signals and Communication Technology*, 145–163. [https://doi.org/10.1007/978-981-10-6511-8\\_7](https://doi.org/10.1007/978-981-10-6511-8_7)
- Gilbertson & Aldridge. (2008). *Music Therapy and Traumatic Brain Injury*. Jessica Kingsley Publishers.

- Hargreaves, D. J., Miell, D., & Macdonald, R. a R. (2002). What Are Musical Identities , and Why Are They Important ? *Musicae Scientiae*, July, 1–20.
- Juslin & Vastfjall. (2008). Emotional responses to music : The need to consider underlying mechanisms. 559–621.
- Justus, T. C., & Bharucha, J. J. (1996). Music Perception and Cognition. In *Cognitive Ecology* (pp. 453–492). <https://doi.org/10.1016/b978-012161966-4/50006-2>
- Karim, J., Weisz, R., & Rehman, S. U. (2011). International positive and negative affect schedule short-form (I-PANAS-SF): Testing for factorial invariance across cultures. *Procedia - Social and Behavioral Sciences*, 15(2011), 2016–2022. <https://doi.org/10.1016/j.sbspro.2011.04.046>
- Koelsch, S. (2014). Brain correlates of music-evoked emotions. *Nature Reviews Neuroscience*, 15(3), 170–180. <https://doi.org/10.1038/nrn3666>
- Koelsch, S., Fritz, T., Cramon, D. Y. V., Müller, K., & Friederici, A. D. (2006). Investigating emotion with music: An fMRI study. *Human Brain Mapping*, 27(3), 239–250. <https://doi.org/10.1002/hbm.20180>
- Koelsch, S., & Siebel, W. A. (2005). Towards a neural basis of music perception. *Trends in Cognitive Sciences*, 9(12), 578–584. <https://doi.org/10.1016/j.tics.2005.10.001>
- Konečni, V. J. (2011). Aesthetic trinity theory and the sublime. *Philosophy Today*, 55(1), 64–73. <https://doi.org/10.5840/philtoday201155162>
- Krapp. (1999). Interest, motivation and learning: An educational-psychological perspective.
- Kroupi, E., Yazdani, A., & Ebrahimi, T. (2011). EEG correlates of different emotional states elicited during watching music videos. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 6975 LNCS(PART 2), 457–466. [https://doi.org/10.1007/978-3-642-24571-8\\_58](https://doi.org/10.1007/978-3-642-24571-8_58)
- Law, L. N. C., & Zentner, M. (2012). Assessing Musical Abilities Objectively: Construction and Validation of the Profile of Music Perception Skills. *PLoS ONE*, 7(12). <https://doi.org/10.1371/journal.pone.0052508>

- LAWSHE, C. H. (1975). a Quantitative Approach To Content Validity. *Personnel Psychology*, 28(4), 563–575. <https://doi.org/10.1111/j.1744-6570.1975.tb01393.x>
- Levitin, D. J. (2006). This Is Your Brain on Music: The Science of a Human Obsession (review). In *University of Toronto Quarterly* (Vol. 78, Issue 1). <https://doi.org/10.1353/utq.0.0355>
- Lynch, M. P., Eilers, R. E., Oller, D. K., & Urbano, R. C. (1990). INNATENESS , EXPERIENCE , AND MUSIC PERCEPTION. 272–276.
- Maidhof, C., Vavatzanidis, N., Prinz, W., Rieger, M., & Koelsch, S. (2010). Processing expectancy violations during music performance and perception: An ERP study. *Journal of Cognitive Neuroscience*, 22(10), 2401–2413. <https://doi.org/10.1162/jocn.2009.21332>
- Menon, V., & Levitin, D. J. (2005). The rewards of music listening: Response and physiological connectivity of the mesolimbic system. *NeuroImage*, 28(1), 175–184. <https://doi.org/10.1016/j.neuroimage.2005.05.053>
- Müllensiefen, D., Gingras, B., Musil, J., & Stewart, L. (2014). The musicality of non-musicians: An index for assessing musical sophistication in the general population. *PLoS ONE*, 9(2). <https://doi.org/10.1371/journal.pone.0089642>
- Nagy, K., & Szabó, C. (2004). Differences in phenomenological experiences of music listening: The influence of intensity of musical involvement and type of music on musical experiences. *International Conference on Music Perception & Cognition*, Evanston, IL, 2004, 2003, 470–473.
- Puolivali, T., Cong, F., Alluri, V., Lin, Q. H., Toiviainen, P., Nandi, A. K., Brattico, E., & Ristaniemi, T. (2013). Semi-blind independent component analysis of functional MRI elicited by continuous listening to music. *ICASSP, IEEE International Conference on Acoustics, Speech and Signal Processing - Proceedings*, 1310–1314. <https://doi.org/10.1109/ICASSP.2013.6637863>
- Ross, R. M. (2005). *The D2 Test of Attention: An Examination of Age, Gender, and Cross-cultural Indices*. Argosy University.
- Salimpoor, V. N., Benovoy, M., Larcher, K., Dagher, A., & Zatorre, R. J. (2011). Anatomically distinct dopamine release during anticipation and experience of peak

emotion to music. *Nature Neuroscience*, 14(2), 257–264.

<https://doi.org/10.1038/nn.2726>

Sandstrom, G. M., & Russo, F. A. (2013). Absorption in music: Development of a scale to identify individuals with strong emotional responses to music. *Psychology of Music*, 41(2), 216–228. <https://doi.org/10.1177/0305735611422508>

Sihvonen, A. J., Särkämö, T., Leo, V., Tervaniemi, M., Altenmüller, E., & Soinila, S. (2017). Music-based interventions in neurological rehabilitation. *The Lancet Neurology*, 16(8), 648–660. [https://doi.org/10.1016/S1474-4422\(17\)30168-0](https://doi.org/10.1016/S1474-4422(17)30168-0)

Tervaniemi, M., Ilvonen, T., Karma, K., Alho, K., & Näätänen, R. (1997). The musical brain: Brain waves reveal the neurophysiological basis of musicality in human subjects. *Neuroscience Letters*, 226(1), 1–4. [https://doi.org/10.1016/S0304-3940\(97\)00217-6](https://doi.org/10.1016/S0304-3940(97)00217-6)

Thammasan, N., Moriyama, K., & Fukui, K. (2016). Continuous Music-Emotion Recognition Based on Electroencephalogram. *IEICE TRANS. INF. & SYST*, VOL E 99-D(4), 1234–1241.

Thaut & Hoemberg. (2014). *Handbook of neurologic music therapy*.

Tobias, S. (1994). Interest, Prior Knowledge, and Learning. *Review of Educational Research*, 64(1), 37–54. <https://doi.org/10.3102/00346543064001037>

Valla, J. M., Alappatt, J. A., Mathur, A., & Singh, N. C. (2017). Music and emotion-A case for North Indian Classical Music. *Frontiers in Psychology*, 8(DEC), 1–9. <https://doi.org/10.3389/fpsyg.2017.02115>

Wheeler, B. L. (2015). *Creative arts and play therapy*. Music therapy handbook. Guilford Press.


Wheeler, B. L., Shultis, C. L., & Polen, D. W. (2005). *Clinical training guide for the student music therapist*. Barcelona Publishers. <https://doi.org/10.1093/mtp/mix019>

Wigram, T., Pedersen, I. N., & Bonde, L. O. (2002). *A Comprehensive Guide to Music Therapy - Theory, Clinical practise, Research and Training*. Jessica Kingsley Publishers.



## APPENDIX

Institutional Ethics Committee approval



**स्वामी विवेकानन्द योग अनुसंधान संस्थान**  
**Swami Vivekananda Yoga Anusandhāna Samsthāna**  
(Declared as Deemed-to-be University under Section 3 of the UGC Act, 1956)  
Eknath Bhavan, # 19, Gavipuram Circle, Kempegowda Nagar, Bangalore - 560 019  
Ph: 080 - 2661 2669, Telefax: 080 - 2660 8645  
E-mail: svyasa@svyasa.org Website: www.svyasa.org

RES/IEC-SVYASA/87/2016

May 17, 2017

To,  
Dr. V. Judu Ilavarasu  
Assistant Professor,  
S-VYASA University,  
Bangalore.

Reference:

"Development of a tool to measure Music Receptivity in the context of Indian Classical Music-Music Receptivity Scale (MRS)". - Committee Approval of the above mentioned study.

Dear Dr. V. Judu Ilavarasu,

We have received from you the following study related documents vide your letter dated March 20, 2016

1	Project Proposal
2	Informed consent form

Ethics committee meeting was held on April 23, 2016 at 2:00 PM to 5:00 PM at Eknath Bhavan, Bangalore. Above documents were examined and discussed in the meeting. After due consideration, the committee has decided to approve conducting the aforementioned study.





स्वामी विवेकानन्द योग अनुसंधान संस्थान  
**Swami Vivekananda Yoga Anusandhāna Samsthāna**

(Declared as Deemed-to-be University under Section 3 of the UGC Act, 1956)

Ekknath Bhavan, # 19, Gavipuram Circle, Kempegowda Nagar, Bangalore - 560 019

Ph: 080 - 2661 2669, Telefax: 080 - 2660 8645

E-mail: [svyasa@svyasa.org](mailto:svyasa@svyasa.org) Website: [www.svyasa.org](http://www.svyasa.org)

This is to confirm that neither Dr.V.Judu Ilavarasu nor any staff participating in this study were involved in the voting procedures and decision making.

The Institutional Review Board / Independent Ethics Committee (IEC) are expected to be informed about the progress of the study / any changes in the protocol and patient information / informed consent. The investigators are also expected to submit a copy of the final report to IEC for records.

This approval is valid up to the completion of the study at the site.

Please submit to the IEC, the status report of the study as per the SOPs.

The IEC is organized & operates according to the requirements of ICH-GCP, Indian Council of Medical Research Guidelines & Schedule Y.

Best Wishes,

*Subramanya P.*

Dr. Subramanya P,  
Member Secretary,  
Institutional Ethics Committee,  
S-VYASA, Bangalore.

## Participant Informed Consent Form – Personal Interviews



**Swami Vivekananda Yoga Anusandhana Samsthana, Bangalore**

### **Participant Informed Consent**

**Study title:** Development of a tool to measure Music Receptivity in the context of Indian Classical Music-Music Receptivity Scale (MRS)

**Principal Investigator:** Mahesh George, Ph.D. Student, SVYASA University, Bangalore

(Mobile: 9980450334)

---

This study aim to develop an instrument to measure Music Receptivity of an individual to a given music piece. This may tell us about how human subjective experiences are in music listening. Towards the development of this tool, we need to conduct an In-depth Personal Interview with you, as you are a subject matter expert. The interview will be of 45 minutes duration. The aim of the interview will be to elicit your valuable opinions and thoughts to various ideas within the domain of the subject of Music.

Kindly note that there are no incentives for participating in this study. Your valuable participation would help us understand how human subjective experiences are in music listening.

No potential risks are anticipated during the interview. You are free to express any discomfort or problem during the interview. You are free to withdraw your participation at any point of the interview without penalty.

All information obtained in this study is strictly confidential unless disclosure is required by law.

---

### **Voluntary Consent by Participant**

I agree that I have read this informed consent fully. I fully understand the contents of this document and am openly willing to consent to take part in this study. I am 18 years of age or older and I am agreeing to participate in this study voluntarily. All the queries related to my participation were clarified to me and in case of any problem or further clarification I may contact the above mentioned person.

Date:

Place: Trivandrum

I agree

I do not agree

## Participant Informed Consent Form – Focus group discussion (FGD)



**Swami Vivekananda Yoga Anusandhana Samsthana, Bangalore**

### **Participant Informed Consent**

**Study title:** Development of a tool to measure Music Receptivity in the context of Indian Classical Music-Music Receptivity Scale (MRS)

**Principal Investigator:** Mahesh George, Ph.D. Student, SVYASA University, Bangalore

(Mobile: 9980450334)

---

This study aims to develop an instrument to measure Music Receptivity of an individual to music. This will tell us about how human subjective experiences are in music listening. Towards this I need to conduct a Focus Group Discussion (FGD) involving you along with 7 other individuals in order to understand various details regarding the subject.

All information obtained through this interview, your personal views, will all be kept confidential and while publishing data, identity will not be revealed.

---

### **Voluntary Consent by Participant**

I agree that I have read this informed consent fully. I fully understand the contents of this document and am openly willing to consent to take part in this interview. I am 18 years of age or older and am agreeing to participate in this study voluntarily. All the queries related to my participation were clarified to me and in case of any problem or further clarification I may contact the above mentioned person.

Date:

Place: Trivandrum

I agree

I do not agree

## Participant Informed Consent form – Field study



**Swami Vivekananda Yoga Anusandhana Samsthana, Bangalore**

### **Participant Informed Consent**

**Study title:** Development of a tool to measure Music Receptivity in the context of Indian Classical Music-Music Receptivity Scale (MRS)

**Principal Investigator:** Mahesh George, Ph.D. Student, SVYASA University, Bangalore

(Mobile: 9980450334)

---

This study aims to develop an instrument to measure Music Receptivity of an individual to a given piece of music. This may tell us about how human subjective experiences are in music listening. We will be using only self-report measures (questionnaires). You will be given a 7 minute long musical to listen to and after which a questionnaire will be given to you which you may please fill out and give back.

No incentives will be provided for participating in this study. However, if you wish results of your test scores will be sent to you through e-mail. Your valuable participation would help us understand how human subjective experiences are in music listening.

No potential risks are anticipated by undergoing these tests. You are free to express any discomfort or problem during your test session to the test administrator. You are free to withdraw your participation at any point of the study without penalty.

This assessment session is coded. In demographic page, giving your name is optional. If you need your results, you may provide your e-mail ID. No other sensitive information is collected. All information obtained in this study is strictly confidential unless disclosure is required by law.

---

### **Voluntary Consent by Participant**

I agree that I have read this informed consent fully. I fully understand the contents of this document and am openly willing to consent to take part in this study. I am 18 years of age or older and I am agreeing to participate in this study voluntarily. All the queries related to my participation were clarified to me and in case of any problem or further clarification I may contact the above mentioned person.

Date:

Place: Trivandrum

I agree

I do not agree

## **Probe questions – Unstructured In-depth personal interview.**

*Translated from Malayalam to English*

1. How can we understand the nature of one's experience and quantify one's overall intensity of experiencing music?
2. Individuals internalise music in a variety of different ways, their internal processes are varied, how do we understand this?
3. What all emotional experiences can Indian classical music possibly evoke in an individual?
4. I will explain in detail how our proposed psychometric survey tool measures internalization of music through its various items or questions and its domains. Please be attentive and give your valuable feedback and remarks.
5. Consider the hurdles; the external or internal disturbances that one may feel while listening to a piece of music. Suppose I'm going to a clinic to give music therapy. Won't their music listening be influenced by their illness condition, bodily difficulties/pain, financial issues, etc.?
6. Will an individual be able to self-report to the following questions? – To what extent did the piece of music that you just heard evoke emotions in you? And what all emotions were evoked in you?
7. Isn't it very important to be able to know, to what extent an individual was able to internalize a given piece of music?
8. On what all factors does the music receptivity or internalization of an individual depend on?

### **FGD Guide – Translated from Malayalam to English.**

1. Do you think the extent of the internal mental processes, emotions and feelings evoked when one listens to a piece of music can be measured?
2. What all emotions could possibly be evoked in listeners using the various ragas, cleverly manipulating the musical arrangements?
3. Detailing the proposed domains of the tool through which music receptivity may be measured. Invite, ideas, thoughts on it.
4. Discuss the emotions/feelings matrix and invite ideas, thoughts on it.
5. On what all factors would an individual's music receptivity/internalisation depend?

## **Relevant parts from the unstructured in-depth personal interviews**

### **Interview 1: OM (1:08:17)**

1. Further evidence is required in the case of clinical efficacy of music therapy. Specificity is very important in terms of what kind of music, for what duration, confounding factors, etc. Therefore developing such a tool that would measure subjective experiences in music listening is very much essential.
2. Individuals should be counseled to understand their musical preferences/inclinations.
3. Music that were childhood favorites are often very effective for therapy. They always bring about fond, positive memories.

### **Interview 2: SK (36:28)**

1. Nature sounds that are soothing are readily enjoyed by a layman. But for that same person to be able to enjoy a sophisticated classical raga, he has to get himself used to listening to such music, learn to appreciate such music.
2. An individual's ability to internalize music primarily depends on his ability to appreciate music. If we could identify and quantify the emotions and feelings that one experience while listening to music, then that would be a major contribution to the science of music and such a tool would be a great aid in music therapy settings.

### **Interview 3: VV (19:51)**

1. Emotion generation through music is largely dependent on cultural context.
2. Any musical note when it is in perfect sync with the pitch and in harmony it has a potential to create a meditative effect.

### **Interview 4: RR (45:41)**

1. Such a tool that could measure subjective experience in music listening would be very helpful in music therapy settings.
2. In general, instrumental music is ideal for music therapy and among them, flute is the most effective. It can bring about a deep meditative effect. The timbre of flute is



such that one gets involved deeply with it. Someone singing cannot get the job done to that perfection.

3. Slow and soothing instrumental music, raga based or western or any genre, improvised in a slow tempo will have a therapeutic effect.

4. Hindustani music is way more effective than Carnatic music for therapeutic purposes.

5. It is very important to assess musical preferences in music therapy settings to avoid any unfortunate events (a person being affected in a negative way listening to a piece of music).

#### **Interview 5: SD (59:09)**

1. For musicians, instrumental music is very enjoyable and they can internalize it to a great extent. But for a layman, meaningful lyrics and good music alongside, is an ideal combination for high music receptivity to suffice.

2. Flute would be the ideal instrument for music therapy.

3. The idea of such a tool that would measure subjective experiences in music listening is a novel idea; It would be very useful in music therapy settings.

#### **Interview 6: OV (37:30)**

1. Music has a universal character. Beyond the boundaries of race, culture or anything, everyone enjoys music. Only limitation is the language. Even that is transcended by outstanding pieces of music.

2. While trying to measure an individual's internalization to a piece of music, you have to take into account, his mental state at that point also. A person who is depressed may not be able to internalize music.

3. However great be the lyrics, only when the backing of great music comes, it can lead to generation of feelings or emotions in man.

4. A person's attention would be obviously greater to a song that he loves.

5. The emotional nature of a piece of music is the most important feature that leads to high musical internalization in man.

6. Attention, interest, emotions, lyrics, hurdles and an individual's mental state at the time of listening, all these contribute to musical internalization.

**Interview 7: PB (1:44:58)**

1. For a layman, folk song, light music, country music etc., influences him mostly.

2. Emotion generation in an individual depends on the individual's general musical aptitude or ability to enjoy music.

3. Music that resonates with a person's mental state will be great for therapy and leads to high musical internalization.

4. Music associated with life events/phases which are fond memory for one, would be effective in therapy for that individual.

5. Music that maybe great for majority of people might create adverse effects in few. Often in case when they have unpleasant/traumatic memories associated with such music.

6. Musical preferences of individuals should be assessed beforehand in therapy settings.

7. To a music piece which influences emotions and thoughts, one would have high internalization.

## In-depth Personal Interviews - CODED

### OM

#further evidence is required in the case of clinical efficacy of music therapy – **OMA**

Specificity is very important:

#what kind of music? – **OMB**

#what duration? – **OMC**

#confounding factors? – **OMD**

#developing such a tool that would measure subjective experiences in music listening is very much essential – **OME**

#individuals should be counselled to understand their musical preferences/inclinations – **OMF**

#music that were childhood favourites are often very effective for therapy. They always bring about fond, positive memories – **OMG**

### SK

#nature sounds that are soothing are readily enjoyed by a layman - **SKA**

#for a layman to be able to enjoy a sophisticated classical *raga*, he has to get himself used to listening to such music, learn to appreciate such music – **SKB**

#an individual's ability to internalise music primarily depends on his ability to appreciate music - **SKC**

#if we could identify and quantify the emotions and feelings that one experiences while listening to music, then that would be a major contribution to the science of music and such a tool would be a great aid in music therapy settings – **SKD**

### VV

#emotion generation through music is largely dependent on cultural context – **VVA**

#any musical note when it is in perfect sync with the pitch and in harmony it has a potential to create a meditative effect – **VVB**

### RR

#a tool that could measure subjective experience in music listening would be very helpful in music therapy settings – **RRA**

#for therapeutic purposes, instrumental music is the best - **RRB**

#flute is the most effective of all instruments when it comes to therapy - **RRC**

#Flute music can bring about a deep meditative effect in the listener – **RRD**

#the timbre of flute is such that one gets involved deeply with it. Someone singing, cannot get the job done to that perfection – **RRE**

#slow and soothing instrumental music, raga based or western or any genre, improvised in a slow tempo will have a therapeutic effect – **RRF**

#Hindustani music is way more effective than Carnatic music for therapeutic purposes – **RRG**

#it is very important to assess musical preferences in music therapy settings to avoid any unfortunate events (a person being affected in a negative way listening to a piece of music) – **RRH**

## **SD**

#musicians internalize instrumental music better than laymen - **SDA**

#for a layman, meaningful lyrics and good music alongside, is an ideal combination for high music receptivity to suffice – **SDB**

#Instrumental music would be the best when it comes to therapeutic application of music - **SDC**

#flute would be the ideal instrument for music therapy - **SDD**

#a tool that would measure subjective experiences in music listening is a novel idea. It would be very useful in music therapy settings – **SDE**

## **OV**

#when it comes to varied cultures, the only barrier in appreciating music is, language. Even this barrier is transcended by outstanding pieces of music - **OVA**

#while trying to measure an individual's internalisation to a piece of music, you have to take into account, his mental state at that point also. A person who is depressed may not be able to internalise music - **OVB**

#however great be the lyrics, only when the backing of great music comes, it can lead to generation of feelings or emotions in man - **OVC**

#a person's attention would be obviously greater to a song that he loves - **OVD**

#the emotional nature of a piece of music is the most important feature that leads to high musical internalization in man - **OVE**

#attention, interest, emotions, lyrics, hurdles and an individual's mental state at the time of listening, all these contribute to musical internalization – **OVF**

## **PB**

#for a layman, folk song, light music, country music etc., influences him mostly - **PBA**

#emotion generation in an individual depends on the individual's general musical aptitude or ability to enjoy music - **PBB**

#music associated with life events/phases which are fond memory for one, would be effective in therapy for that individual – **PBC**

#music that maybe great for majority of people might create adverse effects in few - **PBD**

#when individuals have unpleasant/traumatic memories associated with a piece of music, listening to that piece of music may adversely affect them - **PBE**

#musical preferences of individuals should be assessed beforehand in therapy settings - **PBF**

#to a music piece which influences emotions and thoughts, one would have high internalization - **PBG**

### **Common points – Unstructured in-depth personal interview**

1. Musical preferences of individual's should be assessed beforehand in music therapy settings.

- **(OMFRRHPBF)**

2. Developing such a tool that would be able to measure the extent of musical internalisation and the nature of subjective experiences in music listening is something very essential.

- **(OMESKDRRASDE)**

3. In general, instrumental music is ideal for music therapy and wind instruments (e.g., flute, bagpipes) are most effective amongst all kinds of instruments.

- **(RRBSDC)**

4. Flute is the most effective of all instruments when it comes to music therapy.

- **(RRCSDD)**

5. One would have high musical internalization to a piece of music which influences/evokes emotions and thoughts in him.

- **(OVEPBG)**

6. An individual's ability to internalise music depends upon his general ability/musical aptitude in enjoying and appreciating music.

- **(SKBPBB)**

7. Music associated with life events/phases (e.g., Childhood memories) which are a fond memory for one, would be effective in therapy for that particular individual.

- **(OMGPBC)**

---

### **Unique comments CODED– Unstructured in-depth personal interview**

1. In order to effectively employ music as therapy in clinical settings, specificity is further required and it is very important to know, what kind of music, for what duration is suitable for a particular individual. What are the possible confounding factors that may influence the music therapy process? - **(OM1)**
2. Nature sounds that are soothing are readily enjoyed by a layman. But for that same person to be able to enjoy a sophisticated classical raga, he has to get himself used to listening to such music, learn to appreciate such music. - **(SK1)**
3. Emotions generated through music is largely dependent on the cultural context of the individual. A traditional song in Malayalam which generally brings about feelings of peace and calmness in a Malayali population most probably may not bring about the same feelings in an Egyptian population. - **(VV1)**
4. Any musical note when it is in perfect sync with the pitch and in harmony, it has the potential to create a meditative effect in listeners who voluntarily subject themselves to it. - **(VV2)**
5. Slow and soothing instrumental music, raga based or western or be it any genre, improvised in a slow tempo will bring about therapeutic effect in listeners. - **(RR1)**
6. Hindustani music is way more effective than Carnatic music for therapeutic purposes, owing to the very nature of Hindustani music. - **(RR2)**
7. For musicians/connoisseurs of music, instrumental music is very enjoyable and they may be able to internalise it to a great extent. But, for a layman, meaningful lyrics and good music alongside, is the ideal combination for high musical internalisation. - **(SD1)**
8. Music has a universal character. Beyond the boundaries of race, culture or anything, everyone enjoys music. The only limitation is language. Even that is transcended by outstanding pieces of music. - **(OV1)**

### **Common comments from FGD - CODED**

#### **A. Music preferences should be assessed beforehand in music therapy.**

1. Each individual's musical preference should be assessed through interviewing.

**(RJM2)**

2. Raga or music should be selected based on music preferences and the individual's personality. **(INC1)**

3. For music therapy to be effective, first identify the pleasant ragas that are known to evoke positive feelings and known to be effective in therapy/healing. Then create music based on those ragas on flute. **(RJM4)**

4. When preferred music is played, it energises an individual. It keeps him attentive to a great extent and more likely, he has a good experience overall and enables him to become active and get tasks done. **(PRI4)**

**Combined CODE: RJM2INC1RJM4PRI4**

#### **B. Certain kind of music may only be appreciated by musically trained individuals.**

1. A layman may not accept or enjoy the intricacies of certain ragas which are generally appreciated by expert musicians or music listeners. **(INC2)**

2. A lay person may not usually enjoy or appreciate 'vivadi'ragas. Vivadi/dissonant notes are not generally appreciated by most listeners who are not trained in music.

**(INC3)**

**Combined CODE: INC2INC3**



### Unique comments from FGD - CODED

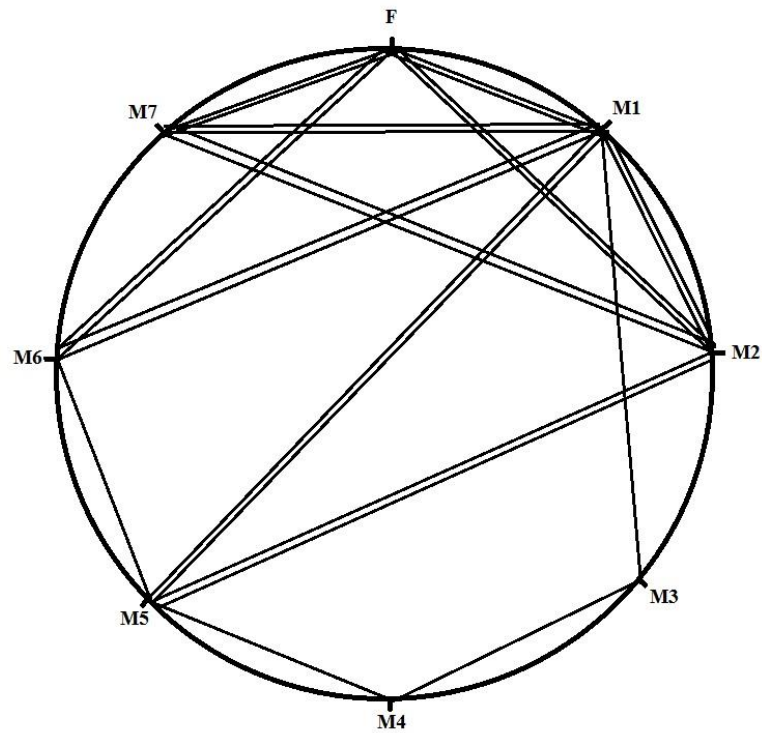
1. Internalization of music could be better understood if we can categorise what all factors would constitute such a construct and then try to measure it. **(PRI1)**
2. Pure instrumental music without lyrics can genuinely evoke devotion/'bhakti rasa'.  
**(INA1)**
3. Some individuals may not conform to the existing knowledge in that, one may not feel peak sadness to a raga known to evoke very sad emotions, rather another raga which usually doesn't evoke sadness may evoke sadness in that person. **(INB1)**
4. Only if a piece of music is performed in its perfection in such a way that the emotions inherent in a composition is communicated to the listeners, it can generate genuine emotions in listeners. **(UDU1)**
5. The emotional effect is generated in individuals owing to the nature of frequency of the notes in the respective ragas. **(UDU2)**
6. For the common man, the intricacies and subtle nuances of music may not matter much. But he would still have high internalisation to music. Therefore such a tool is very essential in a music therapy setting. **(UDU3)**
7. Only a very creative individual can create or imagine novel ideas or creations when listening to a new piece of music. **(INC4)**
8. How creative an individual becomes while listening to music depends a lot on his ability to appreciate and enjoy music. **(PRI3)**
9. However, even for trained musicians and connoisseurs of music, once they understand and enjoy the lyrics, the overall musical experience is intensified.  
**(SYM1)**
10. Hearing songs that are personal favourites repeatedly is effective. If one loves a song and if he hears it more, he tends to develop more interest towards it. **(UDU4)**
11. When one is interested towards a piece of music, obviously his attention increases directly proportional to it. **(RJM6)**
12. I require to be in a particular mood state in order to internalise music. Better put, in certain mental states/mood, I don't feel like listening to music. So I think individuals need to be in a mood state conducive to music listening if they have to

be able to internalise it. Nowadays, research shows that people who generally tend to dislike music may have some sort of learning disability. **(RJM7)**

13. Individuals who practise yoga regularly may generally have more focus/attention towards music compared to general population and the hurdles that affect a layperson may not affect them to the point where they lose focus from music listening. **(SYM2)**
14. Music does not require lyrics in order to bring therapeutic effects in people. **(PR15)**
15. People tend to notice specialised sounds, peculiar sounds that are not commonly used in music. Example, nature sounds in a music piece when they are not expecting it. Certain novel rhythms used in electronic music. Hans Zimmer uses quite a lot of such novel rhythms that he creates. **(RJM8)**
16. The sound of a wild forest stream is genuinely musical. However the sound of the waves at a seashore is having that therapeutic effect owing to the overall experience, rather than the effect of the musical nature of the waves, standalone. In this case it is the visual experience which plays a larger role. **(RJM9)**

## SOCIOGRAM

Focus Group Discussion with : Musicians/Music experts  
Facilitator : Mahesh George  
Recorder : Manshu Agrey  
Number of participants : 7  
Place : Department of Music, University of  
Kerala  
Date : 24-5-2016  
Time : 10:00 am to 11:05 am



F – Facilitator

M- Musician/music expert

## **MUSIC RECEPTIVITY SCALE – Content Validation Sheet**

Instructions to the expert evaluator: Please read the instructions and the items below and give your response at the end of each item. You may comment on any aspect of the item like sentence structure, response structure, etc. Please see the response box GIVEN AFTER EACH ITEM and express your agreement or disagreement by Ticking or Crossing inside the brackets, and please give your valuable comments if any. (The table given on the next page *(Subjective emotion(s)/feeling(s) Chart)* does not contribute to the Music Receptivity score, its purpose is for the music therapist/test administrator to appraise the subjective experiences of the individual and to correlate the Music Receptivity score of that individual to his subjective experiences and draw a meaningful conclusion.

NB: The Music Receptivity Scale would primarily be a feedback tool for the Music Therapist, using which he/she can have a continuous evaluation of his clients/patients for the various Music Therapy modules that he/she designs for an individual or a certain select group of individuals.

There are 35 emotion(s)/feeling(s) listed in these CELLS below. Please go through each of them; You may have experienced many number of emotions / feelings given below, while you listened to the given music; go on, identify all those and rate them on a scale of 1-5 (Score 1 as lowest level of experience; score 5 as highest level). Give your rating within the brackets. *Please don't think much, your immediate response will be the best.*

**SUBJECTIVE EMOTION(S) / FEELING(S) CHART**

Happiness ( )	Chills due to happiness ( )	Feeling pumped up / Energizing ( )	Emotionally uplifting ( )	Stress relieving/ Relaxing ( )
Inspiring ( )	Graceful / Blessed ( )	Requesting God for mercy / Repenting ( )	Accepting yourself ( )	Peaceful ( )
Calmness ( )	Pacifying / Soothing ( )	Love ( )	Parental Love/ Affection ( )	Romance ( )
Love towards God / Devotion / Surrender ( )	Hope /Positivity/ Optimism towards life ( )	Meditative/ Contemplative ( )	Reflections/ Flashback of your life events ( )	Interaction with / Presence of God/ The Divine ( )
Sadness ( )	Depressing ( )	Dislike ( )	Guilty ( )	Did not feel any particular emotion / feeling ( )
Mixed / Vague emotions / Feelings ( )	Fears going away ( )	Heroism / Brave / Courageous ( )	Enchanting / Put a spell on me ( )	Enigmatic / Mysterious ( )
Wonder / Fascination ( )	Eroticism ( )	Becoming one with the nature / Universe ( )	Transcending / involved deeply beyond senses ( )	Suffocating ( )

Not essential ( )	Essential ( )	Very Essential ( )
Item is culturally relevant ( )	Item is easily Comprehensible( )	

Comments: Please suggest if any more emotions/feelings could be added or deleted from this emotions/feelings chart.

Sir/ Madam,

Given below, 22 items are listed under the various domains of the construct Music Receptivity and you may please evaluate each item and respond within the boxes and comment below each item.

### Emotional Experience

1. I got emotionally triggered while listening to the given music.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

Not essential ( )	Essential ( )	Very Essential ( )
Item is culturally relevant ( )	Item is easily Comprehensible( )	

Comments:

2. The music brought back good memories.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

Not essential ( )	Essential ( )	Very Essential ( )
Item is culturally relevant ( )	Item is easily Comprehensible( )	

Comments:

3. The music took me to another world.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

Not essential ( )	Essential ( )	Very Essential ( )
Item is culturally relevant ( )	Item is easily Comprehensible( )	

Comments:

4. The music evoked images and /or connected thoughts in my mind.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

Not essential ( )	Essential ( )	Very Essential ( )
Item is culturally relevant ( )	Item is easily Comprehensible( )	

Comments:

5. While listening to the music, I was imaginative / creative.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

Not essential ( )	Essential ( )	Very Essential ( )
Item is culturally relevant ( )	Item is easily Comprehensible( )	

Comments:

6. The music 'moved me' / 'Touched my heart'.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

Not essential ( )	Essential ( )	Very Essential ( )
Item is culturally relevant ( )	Item is easily Comprehensible( )	

Comments:

### Lyrical Appraisal

1. I did not like the lyrics of the given music.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

Not essential ( )	Essential ( )	Very Essential ( )
Item is culturally relevant ( )	Item is easily Comprehensible( )	

Comments:

2. I understood the meaning of the lyrics well.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

Not essential ( )	Essential ( )	Very Essential ( )
Item is culturally relevant ( )	Item is easily Comprehensible( )	

Comments:



3. The lyrics of the music 'moved me' / 'touched my heart'.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

Not essential ( )	Essential ( )	Very Essential ( )
Item is culturally relevant ( )	Item is easily Comprehensible( )	

Comments:

### Attention

1. I was distracted due to daydreaming while listening to the given music.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

Not essential ( )	Essential ( )	Very Essential ( )
Item is culturally relevant ( )	Item is easily Comprehensible( )	

Comments:

2. It was difficult for me to be attentive while I was listening to the given music.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

Not essential ( )	Essential ( )	Very Essential ( )
Item is culturally relevant ( )	Item is easily Comprehensible( )	

Comments:

3. My intensity of focus was varying while listening to the given music.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

Not essential ( )	Essential ( )	Very Essential ( )
Item is culturally relevant ( )	Item is easily Comprehensible( )	

Comments:

4. Although I wanted to be attentive on the whole, my attention was not upto the mark.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

Not essential ( )	Essential ( )	Very Essential ( )
Item is culturally relevant ( )	Item is easily Comprehensible( )	

Comments:

5. While listening to the given music, I was losing focus, going back and forth on daydreaming.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

Not essential ( )	Essential ( )	Very Essential ( )
Item is culturally relevant ( )	Item is easily Comprehensible( )	

Comments:

## Interest

1. The given music was not interesting to me.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

Not essential ( )	Essential ( )	Very Essential ( )
Item is culturally relevant ( )	Item is easily Comprehensible( )	

Comments:

2. The given music sounded boring to me.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

Not essential ( )	Essential ( )	Very Essential ( )
Item is culturally relevant ( )	Item is easily Comprehensible( )	

Comments:

3. I would love to listen to this music again.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

Not essential ( )	Essential ( )	Very Essential ( )
Item is culturally relevant ( )	Item is easily Comprehensible( )	

Comments:

## Hurdles

1. I was comfortable with my posture while listening to the given music.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

Not essential ( )	Essential ( )	Very Essential ( )
Item is culturally relevant ( )	Item is easily Comprehensible( )	

Comments:

2. Disturbing thoughts came into my mind while listening to the given music.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

Not essential ( )	Essential ( )	Very Essential ( )
Item is culturally relevant ( )	Item is easily Comprehensible( )	

Comments:

3. I associated disturbing / unpleasant memories or events with this music.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

Not essential ( )	Essential ( )	Very Essential ( )
Item is culturally relevant ( )	Item is easily Comprehensible( )	

Comments:

4. The music played was loud for my ears.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

Not essential ( )	Essential ( )	Very Essential ( )
Item is culturally relevant ( )	Item is easily Comprehensible( )	

Comments:

5. While listening to the music, I was disturbed / distracted by external factors.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

Not essential ( )	Essential ( )	Very Essential ( )
Item is culturally relevant ( )	Item is easily Comprehensible( )	

Comments:

#### **Content Validation Certificate**

I hereby certify that I have validated the Music Receptivity Scale developed by Mr. Mahesh George, PhD Scholar, Department of Yoga and Physical Sciences, SVYASA Yoga University, Bangalore, who is undertaking the following study: Development of a tool to measure Music Receptivity in the context of Indian Music.

Name & Designation of Expert:

Address with contact details:

**FACE VALIDITY – (n=15; m=7; f=8), (R – Respondent; Respondents 1-15)**

- R1. It looks like it is trying to measure ones experiences to music.
- R2. This measures musical experience.
- R3. This test measures different aspects of a person's music listening ability.
- R4. This is a test trying to measure a person's responses to music.
- R5. This measures what all happened to an individual mentally while listening to music.
- R6. It looks like it is trying to measure ones musical taste to a particular song.
- R7. This tool can measure ones musical experiences to a given piece of music, pretty well.
- R8. It tries to assess a person's music listening ability.
- R9. This tool measures a person's experience to music.
- R10. It measures music listening skills of a person.
- R11. It tries to find out how a person listens to music.
- R12. This tool has the potential to understand a person's musical tastes, if we make him listen to lots of different songs and then make him take this test.
- R13. It measures musical experiences.
- R14. This measures how much aesthetic sense a person has to music.
- R15. It tries to measure musical experience of an individual to a given piece of music.



**Swami Vivekananda Yoga Anusandhana Samsthana,  
S-VYASA Yoga University, Bangalore**

**Participant Informed Consent**

**Study title:** Development of a tool to measure Music Receptivity in the context of Indian Music - Music Receptivity Scale (MRS).

**Principal Investigator:** Mahesh George, Ph.D. Scholar, SVYASA Yoga University, Bangalore; email ID: [seangeorgios@gmail.com](mailto:seangeorgios@gmail.com) ; Mobile no: 9980450334

This study is to develop a tool to measure Music Receptivity of an individual to music. This is a study aimed at developing a feedback tool which would assist in therapeutic application of music. We will be using only self-report measures (questionnaires). You will be given a 7-10 minute long music piece to listen to and after which a questionnaire will be given to you which you may please fill out and give back. 45 minutes of your time needs to be spent towards this study, and this is a single session, one-time assessment.

No incentives will be provided for participating in this study. However, if you wish results of your test scores will be sent to you through e-mail. Your valuable participation would help us understand how human subjective experiences are in music listening.

No potential risks are anticipated by undergoing these tests. You are free to express any discomfort or problem during your test session to the test administrator. You are free to withdraw your participation at any point of the study without penalty.

This assessment session is coded. In demographic page, giving your name is optional. If you need your results, you may provide your e-mail ID. No other sensitive information is collected. All information obtained in this study is strictly confidential unless law requires disclosure.

**Voluntary Consent by Participant**

I agree that I have read this informed consent fully. I fully understand the contents of this document and am openly willing to consent to take part in this study. I am 18 years of age or older and am agreeing to participate in this study voluntarily. All the queries related to my participation were clarified to me and in case of any problem or further clarification I may contact the above-mentioned person.

Date:

Place: Trivandrum

I agree      I do not agree

Name and Signature of the participant:

Name (*optional*):

Age:

Gender:

Residence: Rural /

Urban Educational

qualification(s):

Course undergoing currently:

Your interest in music:

a. Low    b. Average    c. High    d. Very high

Do you wishfully listen to music daily? How long do you

listen? Choose one from the options below:

a. A few times in a week    b. daily    c. more than once daily

b. d. Multiple times daily

Style(s)/Genre(s) of music that you prefer:

a. Classical music (Indian/European/any)

b. Rock/Pop music

c. Melody

d. Folk/Country music

Are you having any sort of hearing impairment/disability?                      Yes / No

Are you blind, or have any impairment to your vision, such as low vision?

>>Please specify?

Are you having any loco motor disability?    Yes / No

Currently having any mental illness?    Yes / No

Did you have any mental illness inside the last 10 years?                      Yes / No

Currently troubled by any ailments other than the ones mentioned?  
Yes / No

>>Please specify?

Are you going through a difficult phase in life?    Yes / No

Email:

*(If you want your test scores to be mailed to you):*



## MUSIC RECEPTIVITY SCALE

1. There are 35 emotions / feelings listed in these CELLS below. Please go through each of them; You may have experienced many number of emotions

/Feelings given below, while you listened to the given music; go on, identify all those and rate them on a scale of 1-5 (Score 1 as lowest level of experience; score 5 as highest level). Give your rating within the brackets.  
*Please don't think much, your immediate response will be the best.*

Happiness ( )	Chills due to happiness ( )	Feeling pumped up / Energizing ( )	Emotionally uplifting ( )	Stress relieving/ Relaxing ( )
Inspiring ( )	Graceful / Blessed ( )	Requesting God for mercy / Repenting ( )	Accepting yourself ( )	Peaceful ( )
Calmness ( )	Pacifying / Soothing ( )	Love ( )	Parental Love/ Affection ( )	Romance ( )
Love towards God / Devotion / Surrender ( )	Hope /Positivity/ Optimism towards life ( )	Meditative/ Contemplative ( )	Reflections/ Flashback of your life events ( )	Interaction with / Presence of God/ The Divine ( )
Sadness ( )	Depressing ( )	Dislike ( )	Guilty ( )	Did not feel any particular emotion / feeling ( )
Mixed / Vague emotions / Feelings ( )	Fears going away ( )	Heroism / Brave / Courageous ( )	Enchanting / Put a spell on me ( )	Enigmatic / Mysterious ( )
Wonder / Fascination ( )	Eroticism ( )	Becoming one with the nature / Universe ( )	Transcending / involved deeply beyond senses ( )	Suffocating ( )

2. The given music was not interesting to me.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

3. I was comfortable with my posture while listening to the given music.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

4. I was distracted due to daydreaming while listening to the given music.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

5. The given music sounded boring to me.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

6. It was difficult for me to be attentive while I was listening to the given music.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

7. My intensity of focus was varying while listening to the given music.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

8. I got emotionally triggered while listening to the given music.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

9. Although I wanted to be attentive on the whole, my attention was not up to the mark.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

10. Disturbing thoughts came into my mind while listening to the given music.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

11. The music brought back good memories.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

12. While listening to the given music, I was losing focus, going back and forth on day dreaming.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

13. I would love to listen to this music again.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

14. I did not like the lyrics of the given music.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

15. The music took me to another world.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

16. I associated disturbing / unpleasant memories or events with this music.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

17. The music 'moved me'/'Touched my heart'.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

18. The music played was loud for my ears.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

19. The music evoked images and /or connected thoughts in my mind.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

20. I understood the meaning of the lyrics well.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

21. While listening to the music, I was imaginative / creative.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

22. While listening to the music, I was disturbed /  
distracted by external factors.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

23. The lyrics of the music 'moved me'/'touched my heart'.

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor Disagree
- d. Disagree
- e. Strongly Disagree

***Intelligent translation of lyrics of the song, 'Samayamithapoorva sayahnam'  
from Malayalam to English:***

This time, that is tending to twilight! It is truly auspicious!  
This music which is full of Lord Shiva's grace, is nothing but *amrutham* (elixir) for  
life!

The name that is Lord Hari (Vishnu), is eternal bliss  
I am eternally blessed to have this mind that is full of music!  
In my inner soul, only thing that is there, is your music!  
This life of mine, is so content and full of your grace, O Goddess *Saraswati!*  
(Goddess of knowledge)

Your graceful smile, will always be my anointment,  
And your music (*raga*) lights up my dawn and dusk  
Your expertise in *Yoga*, is analogous to the ocean of music  
which is comprised of the seven *swaras* (7 musical notes)

O eternally beautiful, O aesthetic abundance

Your feet movements are truly musical!

...vocally sung musical notations...

Your presence is felt in my inner auspicious silence  
and when I chant *Pranava* (the holy syllable 'OM')

...vocally sung musical notations...

In your presence, my tears will turn into beautiful flowers

My laments will turn into holy water

The darkness due to my deluded, sinful mind will disappear  
Your blessings and grace will envelope me, all through my path

Even when I do not have anyone to help me,

Your essence within me will show me the way!

...vocally sung musical notations...

Lyricist: Shri Kaithapram Damodaran Namboodiri

Composer: Shri Ouseppachan

Singer: K J Yesudas.

### Marlowe-Crowne SDS Short form(13 item)

---

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you.

1. It is sometimes hard for me to go on with my work if I am not encouraged. **True** **False**
2. I sometimes feel resentful when I don't get my own way. **True** **False**
3. On a few occasions, I have given up doing something because I thought too little of my ability. **True** **False**
4. There have been times when I felt like rebelling against people in authority even though I knew they were right. **True** **False**
5. No matter who I'm talking to, I'm always a good listener. **True** **False**
6. There have been occasions when I took advantage of someone. **True** **False**
7. I'm always willing to admit it when I make a mistake. **True** **False**
8. I sometimes try to get even, rather than forgive and forget. **True** **False**
9. I am always courteous, even to people who are disagreeable. **True** **False**
10. I have never been irked when people expressed ideas very different from my own. **True** **False**
11. There have been times when I was quite jealous of the good fortune of others. **True** **False**
12. I am sometimes irritated by people who ask favours of me. **True** **False**
13. I have never deliberately said something that hurt someone's feelings. **True** **False**



## Interest in Music Scale (iM) - English Version

**On this page you will find a list of attitudes and opinions that people can have about music. Please read each item carefully, and select the answer that best describes your attitude. Answer by setting a cross into the box of the answer that fits best for you. Please do not skip any items. If you change your mind, please erase your first answer completely.**

		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	I like to make music alone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	I like to make music together with other people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	I like to listen to music alone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	I like to listen to music together with other people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	I like to go to concerts or other musical 'events'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	I get a feeling of joy and pleasure in making music	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	I get a feeling of 'flow' in making music	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	I use music to avoid contact with others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	I like to discuss music with other people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	I often listen to music so that I do not have to talk to others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	I like to read music magazines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	Music touches me deeply	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Mind-Wandering Scale

Response options were designated along a 6-point Likert scale.

S. No.	Questions	1-almost never	2 – very infrequently	3 - somewhat infrequently	4 - somewhat frequently	5 - very frequently	6 - almost always
1	I have difficulty maintaining focus on simple or repetitive work						
2	While reading, I find I haven't been thinking about the text and must therefore read it again						
3	I do things without paying full attention						
4	I find myself listening with one ear, thinking about something else at the same time						
5	I mind-wander during lectures of presentations						

## Positive and Negative Affect Schedule (PANAS-SF)

Indicate the extent you have felt this way over the past week.		Very slightly or not at all	A little	Moderately	Quite a bit	Extremely
PANAS 1	Upset	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 2	Hostile	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 3	Alert	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 4	Ashamed	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 5	Inspired	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 6	Nervous	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

PANAS 7	Determined	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		1	2	3	4	5
PANAS 8	Attentive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		1	2	3	4	5
PANAS 9	Active	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		1	2	3	4	5
PANAS 10	Afraid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		1	2	3	4	5

### **Scoring:**

#### *Positive Affect Score:*

Add the scores on items 1, 3, 5, 9, 10, 12, 14, 16, 17, and 19. Scores can range from 10 – 50, with higher scores representing higher levels of positive affect.

Mean Scores: 33.3 (SD±7.2)

#### *Negative Affect Score:*

Add the scores on items 2, 4, 6, 7, 8, 11, 13, 15, 18, and 20. Scores can range from 10 – 50, with lower scores representing lower levels of negative affect.

Mean Score: 17.4 (SD ± 6.2)

Your scores on the PANAS: Positive: \_\_\_\_ Negative: \_\_\_\_

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of personality and social psychology*, 54(6), 1063























### Content validation data received from 12 subject matter experts

Sl no.	Name	Designation	Field of expertise	Item 1			Item 2			Item 3			Item 4			Item 5			Item 6		
				1a.	1b.	1c.	2a.	2b.	2c.	3a.	3b.	3c.	4a.	4b.	4c.	5a.	5b.	5c.	6a.	6b.	6c.
1	Dr.Lekshmi J Nair	Asst. Prof. Music	Musicology	E	Yes	Yes	E	Yes	Yes	VE	Yes	Yes	NE	NA	NA	E	Yes	Yes	E	Yes	Yes
2	Dr.Sindhu L	Asst. Prof., Nursing	Psychometrics	VE	Yes	Yes	E	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	E	Yes	Yes	E	Yes	Yes
3	Dr. Asha S kumar	Asst. Prof., Nursing	Psychometrics	VE	Yes	Yes	E	Yes	Yes	E	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes
4	Dr.Beena MR	Asst.Prof., Nursing	Psychometrics	VE	Yes	Yes	VE	Yes	Yes	E	Yes	Yes	E	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes
5	Dr. Jija D	Asst. Prof., Nursing	Psychometrics	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	NE	Yes	Yes
6	Dr. Saji S	Asst. Prof., Music		VE	Yes	Yes	E	Yes	Yes	VE	Yes	Yes	NE	Yes	Yes	VE	Yes	Yes	NE	Yes	Yes
7	Dr.Sobha B Nair	NA	Musicologist	VE	Yes	Yes	E	Yes	Yes	E	Yes	Yes	E	Yes	Yes	E	Yes	Yes	E	Yes	Yes
8	Rana Bhuvan	Asst. Prof., Music	Musician	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	NE	NA	NA	VE	Yes	Yes	E	Yes	Yes
9	Dr. Anuradha	Asso. Prof., Music	Musician	VE	Yes	Yes	E	Yes	Yes	E	Yes	Yes	E	Yes	Yes	E	Yes	Yes	E	Yes	Yes
10	Veena Jayakumar	Asst. Prof., Music	Musicologist	VE	Yes	Yes	VE	Yes	Yes	E	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes
11	Udupi Balasubrahmaniam	Artist, Violin	Musician	VE	Yes	Yes	E	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	E	Yes	Yes	E	Yes	Yes
12	SyamaKrishnan R	Instructor, Music	Musician	VE	Yes	Yes	E	Yes	Yes	E	Yes	Yes	E	Yes	Yes	E	Yes	Yes	E	Yes	Yes
			Ne	12			12			12			9			12			10		
			CVR	1			1			1			0.5			1			0.67		

Sl no.	Name	Designation	Field of expertise	Item 7			Item 8			Item 9			Item 10			Item 11			Item 12		
				7a.	7b.	7c.	8a.	8b.	8c.	9a.	9b.	9c.	10a.	10b.	10c.	11a.	11b.	11c.	12a.	12b.	12c.
1	Dr.Lekshmi J Nair	Asst. Prof. Music	Musicology	VE	Yes	Yes	E	Yes	Yes	E	Yes	Yes	E	Yes	Yes	E	Yes	Yes	NE	NA	NA
2	Dr.Sindhu L	Asst. Prof., Nursing	Psychometrics	E	NA	NA	E	Yes	Yes	VE	Yes	Yes	E	Yes	Yes	VE	Yes	Yes	E	Yes	Yes
3	Dr. Asha S kumar	Asst. Prof., Nursing	Psychometrics	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes
4	Dr.Beena MR	Asst.Prof., Nursing	Psychometrics	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	E	Yes	Yes	VE	Yes	Yes
5	Dr. Jija D	Asst. Prof., Nursing	Psychometrics	VE	Yes	Yes	E	Yes	Yes	E	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	E	Yes	Yes
6	Dr. Saji S	Asst. Prof., Music		E	Yes	Yes	VE	Yes	Yes	NE	Yes	Yes	E	Yes	Yes	VE	Yes	Yes	NE	Yes	Yes
7	Dr.Sobha B Nair	NA	Musicologist	E	Yes	Yes	E	Yes	Yes	E	Yes	Yes	E	Yes	Yes	E	Yes	Yes	E	Yes	Yes
8	Rana Bhuvan	Asst. Prof., Music	Musician	NE	NA	NA	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes
9	Dr. Anuradha	Asso. Prof., Music	Musician	E	Yes	Yes	VE	Yes	Yes	E	Yes	Yes	E	Yes	Yes	VE	Yes	Yes	E	Yes	Yes
10	Veena Jayakumar	Asst. Prof., Music	Musicologist	E	Yes	Yes	VE	Yes	Yes	E	Yes	Yes	NE	Yes	Yes	VE	Yes	Yes	E	Yes	Yes
11	Udupi Balasubrahmaniam	Artist, Violin	Musician	E	Yes	Yes	E	Yes	Yes	E	Yes	Yes	E	Yes	Yes	E	Yes	Yes	E	Yes	Yes
12	SyamaKrishnan R	Instructor, Music	Musician	E	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	NE	NA	NA	E	Yes	Yes	E	Yes	Yes
			Ne	11			12			11			10			12			10		
			CVR	0.83			1			0.8			0.7			1			0.67		



Sl no.	Name	Designation	Field of expertise	Item 13			Item 14			Item 15			Item 16			Item 17			Item 18		
				13a.	13b.	13c.	14a.	14b.	14c.	Item	Item	Item	16a.	16b.	16c.	17a.	17b.	17c.	18a.	18b.	18c.
1	Dr.Lekshmi J Nair	Asst. Prof. Music	Musicology	VE	Yes	Yes	E	Yes	Yes	E	Yes	Yes	E	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes
2	Dr.Sindhu L	Asst. Prof., Nursing	Psychometrics	VE	Yes	Yes	E	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes
3	Dr. Asha S kumar	Asst. Prof., Nursing	Psychometrics	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes
4	Dr.Beena MR	Asst.Prof., Nursing	Psychometrics	VE	Yes	Yes	VE	Yes	Yes	E	Yes	Yes	VE	Yes	Yes	E	Yes	Yes	VE	Yes	Yes
5	Dr. Jija D	Asst. Prof., Nursing	Psychometrics	VE	Yes	Yes	VE	Yes	Yes	E	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	E	Yes	Yes
6	Dr. Saji S	Asst. Prof., Music		VE	Yes	Yes	NE	Yes	Yes	E	Yes	Yes	E	Yes	Yes	VE	Yes	Yes	E	Yes	Yes
7	Dr.Sobha B Nair	NA	Musicologist	VE	Yes	Yes	E	Yes	Yes	E	Yes	Yes	E	Yes	Yes	E	Yes	Yes	E	Yes	Yes
8	Rana Bhuvan	Asst. Prof., Music	Musician	VE	Yes	Yes	E	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	yes
9	Dr. Anuradha	Asso. Prof., Music	Musician	VE	Yes	Yes	E	Yes	Yes	VE	Yes	Yes	E	Yes	Yes	E	Yes	Yes	E	Yes	Yes
10	Veena Jayakumar	Asst. Prof., Music	Musicologist	E	Yes	Yes	VE	Yes	Yes	NE	NA	NA	NE	NA	NA	E	Yes	Yes	VE	Yes	Yes
11	Udupi Balasubrahmaniam	Artist, Violin	Musician	E	Yes	Yes	E	Yes	Yes	VE	Yes	Yes	NE	NA	NA	E	Yes	Yes	VE	Yes	Yes
12	SyamaKrishnan R	Instructor, Music	Musician	VE	Yes	Yes	VE	Yes	Yes	NE	Yes	Yes	NE	NA	NA	E	Yes	Yes	VE	Yes	Yes
			Ne	12			11			10			9			12			12		
			CVR	1			0.8			0.7			0.5			1			1		

Sl no.	Name	Designation	Field of expertise	Item 19			Item 20			Item 21			Item 22			Item 23		
				19a.	19b.	19c.	20a.	20b.	20c.	21a.	21b.	21c.	22a.	22b.	22c.	23a.	23b.	23c.
1	Dr.Lekshmi J Nair	Asst. Prof. Music	Musicology	NE	NA	NA	NE	NA	NA	E	Yes	Yes	E	Yes	Yes	VE	Yes	Yes
2	Dr.Sindhu L	Asst. Prof., Nursing	Psychometrics	VE	Yes	Yes	E	Yes	yes	E	Yes	Yes	E	Yes	Yes	VE	Yes	Yes
3	Dr. Asha S kumar	Asst. Prof., Nursing	Psychometrics	E	Yes	Yes	VE	Yes	yes	E	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes
4	Dr.Beena MR	Asst.Prof., Nursing	Psychometrics	VE	Yes	Yes	VE	Yes	yes	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes
5	Dr. Jija D	Asst. Prof., Nursing	Psychometrics	VE	Yes	Yes	E	Yes	yes	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes
6	Dr. Saji S	Asst. Prof., Music		E	Yes	Yes	NE	Yes	yes	NE	Yes	Yes	NE	Yes	Yes	E	Yes	Yes
7	Dr.Sobha B Nair	NA	Musicologist	VE	Yes	Yes	VE	Yes	yes	VE	Yes	Yes	E	Yes	Yes	E	Yes	Yes
8	Rana Bhuvan	Asst. Prof., Music	Musician	VE	Yes	Yes	E	Yes	yes	VE	Yes	Yes	VE	Yes	yes	VE	Yes	Yes
9	Dr. Anuradha	Asso. Prof., Music	Musician	VE	Yes	Yes	E	Yes	yes	VE	Yes	Yes	VE	Yes	Yes	VE	Yes	Yes
10	Veena Jayakumar	Asst. Prof., Music	Musicologist	E	Yes	Yes	NE	NA	NA	NE	NA	NA	VE	Yes	Yes	VE	Yes	Yes
11	Udupi Balasubrahmaniam	Artist, Violin	Musician	E	Yes	Yes	VE	Yes	yes	NE	NA	NA	E	Yes	Yes	E	Yes	Yes
12	SyamaKrishnan R	Instructor, Music	Musician	E	Yes	Yes	VE	Yes	yes	NE	NA	NA	VE	Yes	Yes	E	Yes	Yes
			Ne	11			9			8			11			12		
			CVR	0.83			0.5			0.2			0.8			1		

