

Assessing Emotion Regulation, Empathy and Emotional Expressivity among Indian Classical Dancers and Non-dancers: A Comparative Study

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Indian classical dance is a rich and age-old art form that represents an exceptional blend of spirituality, aesthetics, and emotional expression which makes it a fascinating area to study how it affects human emotionality. The purpose of the present comparative study is to investigate Emotion Regulation, Empathy, and Emotional Expressivity among Indian Classical Dancers and Non-Dancers. A total sample of 259 participants were included in this with 130 non-dancers with no prior experience in dance or theatre and 129 classical dancers with more than five years of experience and training from reputable institutions. The Berkeley Expressivity Questionnaire (BEQ), Empathy Assessment Scale (EAS), and Emotion Regulation Questionnaire (ERQ) were utilized for data collection. Results revealed that classical dancers were more emotionally expressive and empathetic than non-dancers, highlighting the possible emotional advantages associated with dance training although no significant differences were observed in cognitive reappraisal and expressivity suppression facets of emotion regulation between the groups. Significant positive relationships between emotional expressivity and empathy as well as between empathy and cognitive reappraisal were found. Moreover, a negative correlation was found between emotional expressivity and expressive suppression, validating the results of the study. These findings provide insight into the emotional aspects of Indian classical dance and its consequences for both artistic growth and emotional health. Future studies should look into how classical dance forms can be applied to Dance Movement Therapy (DMT) to improve emotional growth and overall, well-being.

Keywords: Indian classical dance, emotion regulation, emotional expressivity, empathy, comparative study

Dancing is a vigorous, non-competitive kind of exercise that can benefit mental and emotional well-being in addition to physical health. Humans can convey their thoughts and feelings through movement with their bodies. This is a common feature of Indian classical and folk dances, which, bearing in mind the fact that they have been found to contribute to good health and strength, distract anger and tension, and also to stimulate body control and peace of mind (Mukherjee, 2013). Specifically, dance helps people learn how to move their bodies, use their creativity, and communicate what's on their minds. A recent addition to dance literature is the use of diverse Indian dance forms for therapeutic purposes (Mukherjee & Chatterjee, 2013). No doubt, regular practice of dance in the right way has great importance not only for physical ability but also contributes to increase both inner power and self-confidence and it teaches us the connection between body and mind. (Mukherjee & Chatterjee, 2013). One essential way that people communicate their emotions is through dance (Krantz et al., 2006) and hence, intense training in dance can enhance our emotional well-being and

expression. This paper is an attempt to discover the effect of prolonged and proper training in Indian classical dance on emotion regulation, empathy, and emotional expressivity.

Indian Classical Dance and its Elements

Indian classical dance also known as Shastriya Nritya is a great fabric of cultural art which goes back to the mythological themes in the legends of different sects. It is a major part of the cultural legacy of India wherein mythology, legends, literature, and everyday life are the sources of its inspiration (Manjula, 2017). Indian classical dance styles are categorized into major seven kinds: Kathak, Bharatnatyam, Manipuri, Kathakali, Odissi, Kuchipudi, and Mohinattam. These dance forms can be characterized by their use of gestures, rhythm, grace, and expression with the *Natyashastra* being the key source for detailing their features. All Indian classical dances are to varying degrees rooted in the *Natyashastra* and therefore share common features: including posture, stance, hand gestures (*mudras*), footwork (*adavus*), and facial expressions (*abhinaya*) (Mukherjee & Chatterjee, 2013).

Indian classical dances are dances of the mind and soul and it is a form of communication that brings out the innermost feelings and at the same time depicts the cultural aspects of a civilization (Sudhakar, 1994). *Abhinaya or expression* is a core element of Indian classical dance. It includes the practice of expressing oneself through hand gestures (*mudras*), body motions, and facial expressions. *Rasa or the Emotional Flavour* is a product of *Natyashastra's* *rasa* theory which emphasizes the role of emotions in evoking a specific sentiment in the audience (Ibkar, 2015) and outlines how emotions are experienced artistically in Indian traditional arts. Love (*shringara*), joy (*hasya*), sadness (*karuna*), rage

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(raudra), courage (veera), fear (bhayanaka), disgust (vibhatsa), wonder (adbhuta) and peace (shanta) are the nine main rasas or navaras. Dancers use their movements and facial expressions to convey their emotional states or feelings known as *Bhava* (emotion).

Various concepts of Natyashastra are closely related to the enhancement of Human emotionality. A study by Khandelwal and Joshi (2016) found that navras dancing therapy significantly improved adolescents' emotional intelligence. Even when compared with other forms of dances, Indian classical dance can influence our emotional abilities greatly. For example, the results of a study showed that compared to folk dancers, Odissi (Indian classical dance form) dancers demonstrated a greater degree of emotional maturity.

Emotion Regulation and its Relationship with Dance

The regulation of emotions is a complex process, which includes the process of managing and changing the emotional experiences and expressions (Eisenberg, 2005). According to Thompson (1994), emotional regulation is the process, both internal and external, by which a person learns to recognize their emotions to control them and accomplish their goals. According to the Process model of emotion regulation given by James Gross in 1998 in his study "The emerging field of emotion regulation: An integrative review.", emotion regulation is defined as a series of processes through which individuals can influence the emotions they experience, when they experience them, and how they express these emotions. He introduced two most popular and effective techniques for regulating emotions-cognitive reappraisal and expressive suppression. *Cognitive reappraisal*, a key strategy in emotion regulation, involves reframing the meaning of a situation to alter its emotional impact (Mohammed, 2022). This strategy is associated with positive psychological outcomes and social support (Chen, 2019). In contrast, *expressive suppression*, which involves inhibiting the outward expression of emotions, is linked to negative psychological outcomes and affective states (Chen, 2019). The two emotion regulation strategies-expressive suppression and cognitive reappraisal are being studied in this research as facets of emotion regulation.

Dance may be a significant "emotional regulator" (Horwitz et al., 2015). Research employing brain-imaging methods shows that the processing of dance involves both cognitive and sensorimotor regions (Calvo-Merino et al., 2005; Brown & Parsons, 2008; Koch & Fuchs, 2011). According to several studies (Rizzolatti et al., 2001; McGarry & Russo, 2011), seeing other people behave can activate the brain's motor and emotional systems. It has also been proposed that this may have an impact on various forms of empathic behaviour. The various facets of embodied cognition through dance, which incorporate both perceptual and performance processes, may provide light on the ways in which artistic aspects of dance training influence emotion regulation.

Emotional Expressivity and its Association with Dance

The term "emotional expressivity" describes how people use both spoken and nonverbal behaviours to communicate their emotional feelings. It includes an array of behavioural adjustments, including adjustments to posture, expressions on the face, and other noticeable actions that indicate the strength of emotional impulse (Friedman et

al., 1980). Emotional expressiveness is characterized by a range of behavioural shifts (such as posture & facial expressions), including sobbing, slamming doors, laughing, and pouting (Gross & John, 1995). This concept places a strong emphasis on visible behavioural responses, and according to Gross and John (1995), an individual's degree of behavioural impulses determines the degree of emotional expression.

Numerous important conclusions have emerged from studies on the connection between dance and emotional expressiveness. Burger (2020) found that certain movement traits are connected to how emotions are perceived in dance, indicating a connection between emotional expression and movement. Colin (2016) investigated how emotionally focused training methods could enhance dancers' emotional engagement and artistic quality, highlighting the significance of emotional connection in dance performance. Dancing allows people to express a wide range of emotions through body movements and gestures, fostering a deeper connection with their own emotions and those of others (Sawada, 2004). Hence, the connection between dance and expressivity is symbiotic.

Empathy and its Connection with Dance

It is commonly defined as the capacity to place oneself in another person's shoes and entails sharing and comprehending the emotions of another (Dominiczak, 2017). This comprehension is attained by projecting one's personality onto the other person, which entails positive attention and emotional engagement (Vymětal, 1997).

Dancing provides dancers with a creative means of expressing their emotions, and it may aid in the development of the empathy needed to recognize and comprehend emotions (Kordahi & Hassmén, 2022). Kinaesthetic empathy, which is the capacity to feel another person's emotions through perceiving their position and movements, is how dance and empathy are associated (Reason & Reynolds, 2010). This phenomenon is especially significant when it comes to dancing, as the audience's empathy can be elicited by the dancers' movements and attitudes. A key element in the connection between dance and empathy is mirror neurons which are in charge of eliciting an emotional state that is comparable to that of the observee, enabling the viewer to experience the feelings that the dancer conveys (Wu et al., 2022). Dancers' physical expression and artistic accomplishments may help people become more empathic. Dancing facilitates the development of empathy in people by improving their ability to understand and articulate their own emotions.

Aim of the Study

The aim of this study is to investigate Emotion Regulation, Empathy and Emotional Expressivity among Indian Classical Dancers and Non-Dancers. To achieve this aim following hypotheses were postulated:

Hypotheses of the Study

- H1: There would be a significant difference in empathy in classical dancers and non-dancers.
- H2: There would be a significant difference in emotional expressivity in classical dancers and non-dancers.
- H3: There would be a significant difference in emotion regulation - cognitive reappraisal facet in classical dancers and non-dancers.

- *H4*: There would be a significant difference in emotion regulation-expressive suppression facet in classical dancers and non-dancers.
- *H5*: There would be a significant relationship between emotional expressivity and empathy.
- *H6*: There would be a significant relationship between emotional expressivity and emotion regulation- Cognitive reappraisal facet
- *H7*: There would be a significant relationship between emotional expressivity and emotion regulation-Expressive suppression facet
- *H8*: There would be a significant relationship between empathy and emotion regulation- Cognitive reappraisal facet
- *H9*: There would be a significant relationship between empathy and emotion regulation-Expressive suppression facet

Method

Participants

The included sample consists of Classical dancers with more than 5 years' experience in atleast one classical dance form from a recognised institution and non-dancers without any prior experience in Western dance, folk dance, or theatre. The acceptable age range was kept from 15- 35 for the responses to be included in the study. The total sample size of the study included 300 participants from all across Delhi, India. Of the total sample, 213 identified as female, 87 identified as male, and no participants identified as non-binary or preferred not to disclose their gender. Out of 300 responses, only 259 responses were considered for the study. Among the 41 responses that were not included, 11 had training or experience in western dance, 13 had training or experience in theatre or acting and 17 had training in classical dance but for less than 5 years. From the 259 responses that were included 129 were classical dancers with more than 5 years' experience and 130 were non dancers. Among the 129 classical dancers, only 29 dancers had 5-10 years of experience and 100 dancers had more than 10 years' experience.

Research Design

This is a comparative study following a Quasi- experimental research design in which the participants were divided into two groups-Classical dancers and non- dancers on the basis of years of experience in classical dance form. Classical dancers group consisted of Classical dancers with more than 5 years' experience in at least one classical dance form from a recognised institution. Non-dancers group included individuals without any prior experience in classical dance, western dance, folk dance, or theatre.

Measures

The form included some preliminary information like age; Experience or training in Classical dance, Western dance, Theatre or acting or None; Form of Indian classical dance; Years of experience in classical dance and name of the institution one received classical dance training from.

The measures included the Berkeley Expressivity Questionnaire (BEQ) which is 16 item self-report measure of emotional expressivity which was introduced in 1995 by Gross and John assesses individual differences in the way people express their emotions; the Empathy Assessment Scale (EAS) by Cem Malakcioglu which is 13 items a measurement tool designed to assess empathy levels in individuals and the Emotion Regulation Questionnaire (ERQ) which is a 10 item self-report measure developed by Gross and John that assess the use of two specific emotion regulation strategies: cognitive reappraisal and expressive suppression.

Data Collection

This is a qualitative study for which a quarter of the data was gathered via online forms, with the other 75% being obtained through paper questionnaires. The sample was selected by two different methods for both groups. Purposive sampling method was used to collect data from the Classical dancers' group which included dancers with more than 5 years' experience. Meanwhile, convenient sampling was used to collect data from non-dancers. Both informed consent and participant confidentiality were assured. No one was forced to take part in the research. Participants were asked for their consent to take part in this study through a consent form.

Data Analysis

The statistical analysis for this dissertation was carried out on the Statistical Package for the Social Sciences (SPSS) software, 2.1 version. Two main statistical tests were employed to test the hypotheses: Independent sample t-test and Pearson correlation analysis.

Results

Independent Sample t-test Analysis

An independent sample t-test was performed to evaluate whether there was a difference in empathy, emotional expressivity, Cognitive Reappraisal and Expressive Suppression between Classical dancers and Non-dancers.

Table 1

Mean Comparison of Classical Dancers and Non- Dancers on Empathy Assessment Scale, Berkeley Emotional Expressivity Questionnaire, and Emotion Regulation Questionnaire

Variables	Non-Dancer		Classical Dancer		t(257)	p
	M	SD	M	SD		
Empathy Assessment	45.72	07.40	48.22	05.72	-3.03	0.003**
Emotional Expressivity	68.60	15.87	75.39	13.91	-3.95	0.000**
Cognitive Reappraisal	29.33	06.55	28.71	06.49	0.77	0.441
Expressive Suppression	17.91	04.91	17.56	05.10	0.56	0.575

Note. ** $p < 0.01$

Table 1 indicates that Classical Dancers ($M = 48.22$, $SD = 5.72$) had significantly higher Empathy than Non dancers ($M = 45.72$, $SD = 7.40$), $t(257) = -3.03$, $p = .003$. The results also indicated that Classical Dancers ($M = 75.39$, $SD = 13.91$) scored significantly higher on Emotional Expressivity than Non dancers ($M = 68.60$, $SD = 15.87$), $t(257) = -3.95$, $p < .001$. The results indicated that there was no significant difference between the Cognitive Reappraisal of Classical Dancers ($M = 28.71$, $SD = 6.49$) and Non dancers ($M =$

29.33 , $SD = 6.55$) and Expressive Suppression of Classical Dancers ($M = 17.56$, $SD = 5.10$) and Non dancers ($M = 17.91$, $SD = 4.91$).

Correlational Analysis

A Pearson correlation analysis was performed to evaluate whether there was a significant relationship among empathy, emotional expressivity, Cognitive Reappraisal and Expressive Suppression.

Table 2

Pearson Correlational Analysis of Empathy Assessment Scale, Berkeley Emotional Expressivity Questionnaire, and Emotion Regulation Questionnaire

Variables	M	SD	1	2	3	4
1. Empathy Assessment Scale	46.965	06.723	.			
2. Berkeley Emotional Expressivity Questionnaire	72.251	15.345	.46**	.		
3. Expressive Suppression Facet	17.73	05.002	-.03	-.43**	.	
4. Cognitive Reappraisal Facet	29.02	06.517	.26**	-.02	.38**	.

Note. ** $p < 0.01$

Table 2 indicates the relationship between the Empathy assessment scale, Berkeley Emotional Expressivity Questionnaire and Emotion Regulation Questionnaire. Berkeley Emotional expressivity Questionnaire has a significant positive correlation with Empathy Assessment Scale ($r = .46$, $p < .01$) meanwhile, Berkeley Emotional expressivity Questionnaire has a significant negative correlation with the Expressive Suppression Facet of Emotion Regulation Questionnaire ($r = -.43$, $p < .01$). Empathy Assessment Scale has a significant positive correlation with Cognitive Reappraisal Facet of Emotion Regulation Questionnaire ($r = -.26$, $p < .01$).

Discussion

The aim of this study was to assess Emotion Regulation, Empathy and Emotional Expressivity among Indian Classical Dancers and Non-Dancers. This comparative study was conducted to understand the impact of years of training in Indian Classical Dance on human emotionality specifically, Emotion Regulation, Empathy and Emotional Expressivity. The objective was to compare Emotion Regulation, Empathy and Emotional Expressivity between Classical dancers and non-dancers and also to examine the relationship between Emotion Regulation, Empathy, and Emotional Expressivity. The following were the hypotheses of the study:

Hypothesis 1 posited that there would be a significant difference in empathy in classical dancers and non-dancers. The results of the independent sample t-test as presented in Table 1 indicate that there is a significant difference in empathy between classical dancers and non-dancers. This suggests that classical dancers may have a greater ability to understand and share the feelings of others compared to non-dancers. Several researches support these results, a study conducted by Christensen et al. (2016) suggested that an individual reacts emotionally stronger to dancing than a non-dancer, which was assessed by using sensors that were glued on the skin, able to detect sweat response, linked to emotional reactions. This shows that training in dance, may be improving the ability to decode and register emotional contents, which may be one of the mechanisms that

increases empathy. Another study found that ballroom dancers showed higher scores of empathic concern (EC) compared to the control group, indicating that dance training may specifically enhance the ability to understand and feel the emotions of others. (Wu et al., 2023).

Hypothesis 2 postulated that there would be a significant difference in emotional expressivity in classical dancers and non-dancers. The results also shows that classical dancers tend to be better in presenting their feelings through the medium of non-verbal communication like facial expressions and body language contrasting to the results of a study conducted by Izountouemoui and Esteves (2023) which found no significant difference in emotional expressivity between dance experts and non-experts. Emotional expressivity in Indian classical dances is specifically enhanced in the dancers as compared to non-dancers because of a range of physical and mental factors. The art of Indian classical dance involves an expression of emotions both with the outer, visible expressions (abhinaya) and with the inner, mental visualizations. (Ramdoo, 2021). Besides, the Indian classical dance training involves the use of facial and eye gestures to convey words which is one of the basic features of emotional expressivity (Morrison, 1975).

Hypothesis 3 claimed that there would be a significant difference in emotion regulation-cognitive reappraisal facet in classical dancers and non-dancers and hypothesis 4 suggested that there would be a significant difference in emotion regulation- expressive suppression facet in classical dancers and non-dancers. In the current study, it was found that there was no significant difference in the Cognitive reappraisal facet and Expressive suppression facet of emotion regulation between the classical dancers' group and non-dancers' group. Consequently, Beining (2023) study suggests that there is no difference between ERQ scores in dancers and non-dancers, and a study that examined the effects of dance and dance achievement on emotional intelligence and emotion regulation also found that there was no significant difference between dancers and non-dancers in emotion-regulation scores, neither in cognitive

reappraisal scores nor in expressive suppression scores (Kordahi & Hassmén, 2022). The catch that dance skills aren't a big contributor to understanding emotion regulation strategies between dancers and non-dancers may also explain that other aspects play a more important role in regulating emotion than dance skills. As has been suggested by Orgs (2008) although expertise in dance leads to variation in brain functioning when actions are observed, it does not necessarily lead to variations in emotion regulation. These evidences point out that while dances have some advantages in emotion regulation, these advantages may be not of great significance in contrast to non-dancers.

Hypothesis 5 claimed that there would be a significant relationship between emotional expressivity and empathy. Pearson correlation analysis presented in Table 2 indicates a positive relationship between empathy and emotional expressivity. This implies that those who are more prone to communicate their feelings honestly and freely have higher levels of empathy. This result is in line with other studies that have demonstrated that those who have stronger empathy also typically exhibit greater emotional expressiveness (Fardis, 2007; Lin et al., 2024). The social behaviour of sharing emotions face-to-face plays an active role in the person empathizing. This relationship between empathy and expressivity might be because for one to show empathy one has to be emotionally expressive.

Hypothesis 6 posited that there would be a significant relationship between emotional expressivity and emotion regulation-Cognitive reappraisal facet. there is no relationship between the Emotional expressivity and the Cognitive reappraisal facet of Emotion Regulation Questionnaire.

Hypothesis 7 theorised that there would be a significant relationship between emotional expressivity and emotion regulation- Expressive suppression facet. It was found that expressive suppression is negatively correlated with emotional expressivity. Expressive suppression as an emotion regulation strategy involves suppressing or withholding their emotions to control their emotional experiences, meanwhile, emotional expressivity involves expressing emotions then and there. So, it is only typical to find that emotional expressivity is negatively correlated with expressive suppression as an emotion regulation strategy.

Hypothesis 8 posited that there would be a significant relationship between empathy and emotion regulation-Cognitive reappraisal facet. Empathy has a significant positive correlation with cognitive reappraisal Facet of the Emotion Regulation Questionnaire. Thereby, it can be argued that the more empathic an individual might be, the more prone they are to use cognitive reappraisal as an emotion regulation technique. In research conducted by also found similar results. A study conducted by Laghi et al. (2018) tried to explore how reappraisal and suppression as individual characteristics differently affect both cognitive and affective dimensions of empathy and articulate with various prosocial conducts. Moreover, they also concluded that cognitive reappraisal was associated with empathic concern in the same way as prosocial behaviour.

Hypothesis 9 claimed that there would be a significant relationship between empathy and emotion regulation-Expressive suppression facet and it can be observed from Table 2 that there is no relationship between empathy and the expressive suppression facet of Emotion Regulation Questionnaire.

Limitations and Future Research

While the current research makes a significant contribution to the

understanding of the effect of dance proficiency, empathy, emotional expressivity, and emotion regulation on each other, some limitations should be taken into account while interpreting our findings, concerning their generalizability. The study made use of short self-reports of empathy, emotional expressivity and emotion regulation, which can be highly susceptible to the bias of social desirability as well as might not be successful in getting a detailed picture of these variables. The study is cross-sectional thus it cannot be used to infer causation or to investigate whether empathy, emotional expressivity, and emotion regulation change over time. This could entail long-term evaluations to see how these factors evolve and the role of dance practice in emotional development. The study used groups of classical dancers and non-dancers as its sample, possibly limiting options to capture the full spectrum of dancers' expertise or styles. To take the study further, future research might study the link between dance expertise and empathy, emotional expressivity, and emotion regulation across the different types of classical dance and other dance forms as well.

Furthermore, some upcoming research works can be directed to other psychological aspects that are crucial to dance performance as well as practice which are performance-related anxieties, the uniqueness of social interaction, self-esteem, and underestimated parts of emotional intelligence This information in turn will serve to boost the level of understanding of the psychological influences that affect the performance, education and training undertaken by dancers and will be used as guidelines to develop interventions and programs for the improvement of emotional well-being and performance in the dancers. Further research in the area of dance movement therapy (DMT) may contribute to the development of the present findings and investigate the possible classical dance styles' applicability in DMT (Pai, 2020). With the addition of these classical dance styles into DMT, we can have a more diverse avenue and a cultural richness to offer in therapy.

Implications of the Study

This research creates new knowledge on dance training as one of the ways to promote the emotional competence which is composed of empathy and emotional expressiveness. The outcome is a strong foundation for the development of dance-based interventions that will be effective in improving the emotional well-being and social skills of children, adolescents, the elderly, and others. The study proved the fact that the professionals in dance can communicate and the skills of understanding emotions and this can help in DMT and other related areas in psychology, therapy, counselling, and education. The result of the study can serve as guidance for dance education and training programs by pointing out the primacy of emotional capacities in dance performance and instructing.

Conclusion

This study aimed to assess Emotion Regulation, Empathy, and Emotional Expressivity among Indian Classical Dancers and Non-Dancers. This comparative study was conducted to understand the impact of years of training in Indian Classical Dance on human emotionality, specifically focusing on Emotion Regulation, Empathy, and Emotional Expressivity. To test all 9 hypotheses, data collection was done using both offline and online mediums. Around 75% of the responses were collected manually, and the rest were collected online. The total sample consisted of 300 responses, from

which 259 responses were included in the study. Among the 259 acceptable responses, 129 were classical dancers with more than 5 years of experience and training from a recognized institution in at least one classical dance form, and the remaining 130 were non-dancers with no experience or training in any dance form or theatre. Purposive sampling was used for the Classical dancer's group, while convenient sampling was employed for the non-dancers group. The data collection instruments included the Berkeley Expressivity Questionnaire (BEQ), Empathy Assessment Scale (EAS), and Emotion Regulation Questionnaire (ERQ). The results revealed that classical dancers exhibited higher levels of empathy and emotional expressivity compared to non-dancers, highlighting the potential emotional benefits of dance training. However, no significant differences were found in cognitive reappraisal and expressivity suppression between the two groups. Furthermore, the study identified significant correlations between emotional expressivity and empathy, as well as emotional expressivity and expressive suppression, emphasizing the intricate relationship between emotional abilities in the context of dance expertise. Additionally, empathy was positively correlated with cognitive reappraisal, suggesting a link between empathy and adaptive emotion regulation strategies. These findings contribute to the understanding of how dance training can influence emotional abilities and provide insights into the potential therapeutic applications of dance in enhancing emotional well-being. The implications of this study extend to dance education, dance movement therapy, and cross-cultural understanding, emphasizing the importance of emotional skills in the artistic and personal development of dancers.

Prospective researches could entail long-term evaluations to see how these factors evolve and the role of dance practice in emotional development. Furthermore, some upcoming research works can be directed to other psychological aspects that are crucial to dance performance as well like self-esteem, performance anxiety, and unexplored components of emotional intelligence. Further research in the area of dance movement therapy (DMT) may contribute to the development of the present findings and investigate the possible classical dance styles' applicability in DMT.

References

- Beining, B. F. (2023). A rollercoaster of emotions: How non-dancers understand emotions that are communicated nonverbally through dance performances. in m. tolfelson & department of communication studies. *Beining Journal of Undergraduate Research*, XXVI, 1-2. <https://www.uwlax.edu/globalassets/sets/offices-services/urc/jur-online/pdf/2023/beining.brianna.cst.pdf>
- Brown, S., & Parsons, L. M. (2008). The neuroscience of dance. *Scientific American*, 299(1), 78-83. <https://doi.org/10.1038/scientificamerican0708-78>
- Burger, B., & Toiviainen, P. (2020). See how it feels to move: Relationships between movement characteristics and perception of emotions in dance. *Human Technology*, 16(3), 233-256. <https://doi.org/10.17011/ht/urn.202011256764>
- Chatterjee, A. (2013). The therapeutic value of indian classical, folk and innovative dance forms. *Rupkatha Journal on Interdisciplinary Studies in Humanities*, 5, 1. <https://rupkatha.com/the-therapeutic-value-of-indian-classical-folk-and-innovative-dance-forms/>
- Chen, W., Du, T., Beijing Royal School, & Purdue University (2019). *Examining the impact of cognitive reappraisal and expressive suppression on psychological and social functioning in a Chinese sample*. 2019 2nd International Conference on Global Economy, Finance and Humanities Research (GEFHR 2019) (p. 59) [Conference-proceeding]. <http://www.clausiuspress.com/conferences/LNEMSS/GEFHR%202019/GEFHR013.pdf>
- Christensen, J. F., Gomila, A., Gaigg, S., Sivarajah, N., & Calvo-Merino, B. (2016). Dance expertise modulates behavioral and psychophysiological responses to affective body movement. *Journal of Experimental Psychology: Human Perception and Performance*, 42(8), 1139-1147. <https://doi.org/10.1037/xhp0000176>
- Dominiczak M. H. (2017). Empathy, the arts, and the practice of medicine. *Clinical Chemistry*, 63(3), 796-797. <https://doi.org/10.1373/clinchem.2016.266775>
- Eisenberg, N. (2005). *The development of empathy-related responding*. ResearchGate. https://www.researchgate.net/publication/7428393_The_development_of_empathy-related_responding
- [Empathy--understanding through identification] (1997). *PubMed*. <https://pubmed.ncbi.nlm.nih.gov/9648607/>
- Fardis, M. (n.d.). *Expression and regulation of emotions in romantic relationships*. ScholarWorks at University of Montana. <https://scholarworks.umt.edu/etd/423/>
- Friedman, H. S., Prince, L. M., Riggio, R. E., & DiMatteo, M. R. (1980). Understanding and assessing nonverbal expressiveness: The affective communication test. *Journal of Personality and Social Psychology*, 39, 333-351.
- Garcia, V. (2016b, December 13). *Dancing with an emotional connection to movement quality research project in the composition course with the eighth grade learners in vocational dance education from Escola de Dança do Conservatório Nacional*. <https://repositorio.ipl.pt/handle/10400.21/7718>
- Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of General Psychology*, 2(3), 271-299. <https://doi.org/10.1037/1089-2680.2.3.271>
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, 85(2), 348-362. <https://doi.org/10.1037/0022-3514.85.2.348>
- Gross, J. J., & John, O. P. (1995). Facets of emotional expressivity: Three self-report factors and their correlates. *Personality and Individual Differences*, 19(4), 555-568. [https://doi.org/10.1016/0191-8869\(95\)00055-B](https://doi.org/10.1016/0191-8869(95)00055-B)
- Horwitz, E. B., Lennartsson, A., Theorell, T., & Ullén, F. (2015). Engagement in dance is associated with emotional competence in interplay with others. *Frontiers in Psychology*, 6. <https://doi.org/10.3389/fpsyg.2015.01096>
- Izountouemoui, A., & Esteves, F. (2023b). Does dance expertise enhance sensitivity? A comparative study. *Empirical Studies of the Arts*, 0, 0. <https://doi.org/10.1177/02762374231206720>
- Khandelwal, H., & Joshi, U. (2016). Role of emotional management training through NAVRAS dance therapy on emotional intelligence of adolescents. *Deleted Journal*, 02, 06. <https://doi.org/10.4172/2471-4372.1000137>
- Koch, S. C., & Fuchs, T. (2011). Embodied arts therapies. *The Arts in Psychotherapy*, 38(4), 276-280. <https://doi.org/10.1016/j.aip.2011.08.007>
- Kordahi, Y., & Hassmén, P. (2022). Are dancers more emotionally intelligent and self-regulated than non-dancers? *Research in Dance Education*, 1-12. <https://doi.org/10.1080/14647893.2022.2097657>
- Krantz G., Madison G., Merker B. (2006). Melodic intervals as reflected in body movements. *Annals of the New York Academy of Sciences*, 999, 374-376.
- Laghi, F., Lonigro, A., Pallini, S., & Baiocco, R. (2018). Emotion regulation and empathy: Which relation with social conduct? *Journal of Genetic Psychology/The Journal of Genetic Psychology*, 179(2), 62-70. <https://doi.org/10.1080/00221325.2018.1424705>
- Lin, T., Simon, J. C., & Gutsell, J. N. (2024). *The association between emotional expressions and empathic accuracy*. Research Square. <https://doi.org/10.21203/rs.3.rs-3858053/v1>
- Manjula, K. (2017). A study of indian classical dances. *International Journal of Research*, 4(01), 1311-1313. <https://journals.pen2print.org/index.php/ijr/article/view/10338>
- McGarry, L. M., & Russo, F. (2011). Mirroring in dance/movement therapy: Potential mechanisms behind empathy enhancement. *The Arts in Psychotherapy*, 38(3), 178-184. <https://doi.org/10.1016/j.aip.2011.04.005>
- Mohammed, A., Kosonogov, V., & Lyusin, D. (2021). Expressive suppression versus cognitive reappraisal: Effects on self-report and peripheral psychophysiology. *International Journal of Psychophysiology*, 167, 30-37. <https://doi.org/10.1016/j.ijpsycho.2021.06.007>
- Morrison, M. (1975). The expression of emotion in court dances of Yogiakarta. *Asian Music*, 7, 33.
- Orgs, G., Dombrowski, J., Heil, M., & Jansen-Osmann, P. (2008). Expertise in dance modulates alpha/beta event-related desynchronization during action observation. *European Journal of Neuroscience/EJN. European Journal of Neuroscience*, 27(12), 3380-3384. <https://doi.org/10.1111/j.1460-9568.2008.06271.x>
- Pai, R. (n.d.). *Bridging the gap: Exploring Indian classical dances as a source of dance/movement therapy, a literature review*. DigitalCommons@Lesley. https://digitalcommons.lesley.edu/expressive_theses/234
- Ramdo, S.D. (2021). The outer (visible) & the inner (invisible) dimensions in the art of expressing emotions through Indian classical dance: Physical Abhinaya and mental abhinaya. *Gap Parampara- Global Journal of Art, Aesthetic and Culture*, 1(1), 17-20. https://scholar.google.com/citations?view_op=view_citation&hl=en&user=I-nfHN8AAAAJ&citation_for_view=I-nfHN8AAAAJ:u-x6o8ySG0sC
- Reason, M., & Reynolds, D. (2010). Kinesthesia, empathy, and related pleasures: A

- inquiry into audience experiences of watching dance. *Dance Research Journal*, 42(2), 49-75. <https://doi.org/10.1017/s0149767700001030>
- Rizzolatti, G., Fadiga, L., Gallese, V., & Fogassi, L. (1996). Premotor cortex and the recognition of motor actions. *Brain research. Cognitive Brain Research*, 3(2), 131-141. [https://doi.org/10.1016/0926-6410\(95\)00038-0](https://doi.org/10.1016/0926-6410(95)00038-0)
- Sawada, M., Suda, K., & Ishii, M. (2003). Expression of emotions in dance: Relation between arm movement characteristics and emotion. *Perceptual and Motor Skills*, 97(3, Pt 1), 697-708. <https://doi.org/10.2466/PMS.97.7.697-708>
- Sudhakar, K. (1994). *Indian classical dancing: The therapeutic advantages*. Sterling Publishers.
- The Natyasastra & Indian Cinema: A study of the Rasa Theory as a cornerstone for Indian aesthetics (2020). *Zenodo*. <https://doi.org/10.5281/zenodo.15906>
- Thompson, R. A., Meyer, S., & Jochem, R. (2008). Emotion regulation. In J. A. Quas and R. Fivush (Eds.), *Encyclopedia of infant and early childhood development* (pp. 431-441). <https://doi.org/10.1016/b978-012370877-9.00055-4>
- Wu, X., Lu, X., Zhang, H., Wang, X., Kong, Y., & Hu, L. (2022). The association between ballroom dance training and empathic concern: Behavioral and brain evidence. *Human Brain Mapping*, 44(2), 315-326. <https://doi.org/10.1002/hbm.26042>

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