



The Effect of Somatic Training on Improving Dancers' Movement Quality: A Quasi-Experimental Study

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Abstract

This study is motivated by the need to improve the movement quality of intermediate-level dancers. In practice, training tends to emphasize mastery of mechanical techniques and memorization of choreography, while body awareness and dancers' sensory experiences have not been the primary focus. This condition indicates a gap between movement form mastery and conscious movement quality. Somatic practice, as a mind-body approach, offers an alternative training method that emphasizes movement learning through sensory awareness and internal body control. This study aims to analyze whether the implementation of somatic training can significantly improve the movement quality of intermediate-level dancers at Studio Purnamasari. This study employed a quantitative approach with a one-group pretest-posttest quasi-experimental design. Six intermediate-level dancers participated in the study. Data were collected through movement quality assessments before (pretest) and after (posttest) the implementation of somatic training. The results showed an increase in the average score from 75.82 (pretest) to 87.64 (posttest), with a significant difference ($p < 0.05$). These findings indicate that somatic training effectively improves dancers' movement quality through enhanced body awareness, movement coordination, and control of energy and breathing. This study contributes empirically to the development of body-awareness-based training methods in non-formal dance education.

How to Cite

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INTRODUCTION

The development of movement quality constitutes a critical issue in dance education and training, as it determines a dancer's ability to transform movement techniques into meaningful artistic expression. Movement quality in dance is closely associated with biomechanical efficiency, neuromuscular coordination, and the body's capacity to consciously regulate energy and movement dynamics (S. Chatfield, D.Ph, 2007). Within contemporary dance pedagogy, movement quality is no longer understood merely as the accuracy of movement form, but rather as the integration of multiple bodily aspects, including coordination, balance, energy regulation, breathing control, and body awareness in the execution of movement sequences (Mangoesong, 2020)

Within the framework of dance competence, mastery of movement technique cannot be separated from a dancer's expressive ability and musical sensitivity (F.Kurniati, 2019a). In the context of Indonesian dance education traditions, dancer competence is conceptualized through three principal elements: *wiraga* (technical mastery of movement), *wirasa* (expressive interpretation), and *wirama* (rhythmic sensitivity) (F.Kurniati & Nugraheni 2019b). These three elements demonstrate that movement quality in dance is the result of an integration of technical, sensory, and expressive dimensions, all of which are developed through the dancer's embodied experience.

However, in practice, dance training in various studios and non-formal educational settings still tends to emphasize choreography memorization and the accuracy of visual movement forms. Such a form-reproduction-oriented approach positions the dancer's body as an object that imitates movement, rather than as a subject that consciously experiences the movement process. As a result, dancers may achieve technical mastery of movement structures, yet fail to fully develop movement quality that is stable, efficient, and expressive. This condition highlights a gap between the mastery of movement form and the movement quality that is consciously embodied by the dancer.

In the context of dance, movement quality is not solely determined by the mastery of movement form, but also by the body's ability to organize movement adaptively through sensorimotor coordination and kinesthetic experience (J.Karin, 2016). This perspective is supported by motor learning theory, which posits that

movement acquisition occurs through interaction with the environment and aims to enhance adaptive movement capabilities (D. Wolpert, Z. Ghahramani, 2001). This phenomenon was also observed in preliminary observations conducted at Studio Purnamasari. Intermediate-level dancers at the studio demonstrated relatively good fundamental technical skills; however, the resulting movement quality was not yet fully optimal. Several movements appeared unstable, energy usage was not consistently regulated, and body coordination in certain movement sequences had not been fully integrated.

One of the key aspects in the development of movement quality is proprioception, defined as an individual's ability to perceive body position, movement, and orientation through sensory input from muscles and joints. This ability plays a crucial role in maintaining balance, coordination, and postural control (U. Proske, 2012). In addition, body awareness within somatic practice supports the development of movement control and biomechanical efficiency, thereby enabling movements that are more conscious and integrated (W. Mehling, V.Gopisetty, 2009). Observational findings indicate that certain movements appear rigid in specific parts of the body, energy usage is often inconsistently regulated, breathing is not yet integrated with movement sequences, and body balance during rotational movements remains insufficiently stable.

Pretest data indicated that the average movement quality score was 75.82, with a score range between 70 and 81.66. This suggests that the dancers' abilities were within a moderately good category, yet still required further improvement. This condition reflects a gap between the technical mastery of movement forms and the movement quality that emerges through embodied body awareness. Body-awareness-based movement practices, such as dance movement therapy, have been shown to enhance the integration of physical, psychological, and sensorimotor aspects through structured movement experiences (S.Koch, R.Riege, 2019).

In response to the limitations of mechanistic training approaches, somatic practice has emerged as an alternative framework that positions the body as a subject possessing internal intelligence. Within the perspective of somatic education, movement learning is not solely focused on observable movement forms, but also on the sensory experience and body awareness that accompany the movement process. (Hanna, 1990) explains that somatic education emphasizes sensorimotor control as

the foundation of conscious bodily learning. Similarly, (J. Roseman- Halsband, H. Saumaa, 2018) assert that somatic practice represents a process of bodily learning grounded in nonverbal awareness and individual sensory experience. Meanwhile, (Bacon, 2010) introduces the concept of felt sense, defined as a pre-reflective sensation that enables individuals to perceive the internal quality of a movement prior to cognitive interpretation. In the context of dance, the development of felt sense allows dancers to understand energy dynamics, directional forces, and the relationship between imagination and the body. As a result, movement is not derived solely from memorized techniques, but also from consciously embodied experience.

A number of previous studies have demonstrated that somatic practices can enhance body awareness and movement control. (E.Meehan, 2021) emphasize that the exploration of simple movements, accompanied by focused attention on breathing, can improve interoceptive and proprioceptive abilities, thereby resulting in more stable movement control. (S.Fortin, 2002) also highlights that somatic practices have become an integral component of dance education across various cultural contexts. However, the majority of research on somatic practices has primarily focused on health, body therapy, or formal educational settings. Studies that specifically examine the effectiveness of somatic practices in improving dancers' movement quality within non-formal dance studio contexts using a quantitative approach remain relatively limited.

Based on these conditions, there is a need for a training approach capable of bridging the gap between the technical mastery of movement and the movement quality that is consciously embodied by dancers. Intermediate-level dancers are in a developmental stage transitioning from basic to advanced levels; therefore, they require the enhancement of movement quality, technical stability, and a more refined level of body awareness. The implementation of somatic training as a body-based therapeutic method is considered highly relevant, as it emphasizes the integration of breathing, energy regulation, balance, and movement coordination within a consciously embodied experience.

Therefore, this study aims to analyze the effect of implementing somatic training on improving the movement quality of intermediate-level dancers at Studio Purnamasari using a quasi-experimental pretest–posttest design. The novelty of this study lies in the examination of somatic practice as a body-based training method

analyzed quantitatively among intermediate-level dancers within a non-formal dance studio context. This study not only strengthens the theoretical foundation of somatic practice in dance education, but also provides empirical evidence of its effectiveness in enhancing movement quality through the integration of physical, sensory, and expressive aspects within the dancer's embodied experience.

METHOD

This study employed a quantitative approach using a one-group pretest–posttest quasi-experimental design to identify changes in dancers' movement quality before and after the intervention within the same group, by comparing measurement results obtained prior to and following the intervention (Creswell, 2014). Through this design, the researchers were able to evaluate the effect of the intervention namely somatic training on improving the movement quality of intermediate-level dancers by comparing the results of measurements conducted before the intervention (pretest) and after the intervention (posttest).

The participants in this study consisted of six intermediate-level dancers who actively participated in training at Studio Purnamasari. Participant selection was conducted using purposive sampling based on the following criteria: (1) a minimum of three years of dance experience, (2) classification at the intermediate training level according to the studio's training system, and (3) consistent participation in training throughout the study period. All participants agreed to take part in all stages of the research, from the initial assessment to the final evaluation following the implementation of somatic training.

The primary instrument used in this study was a movement quality assessment rubric developed based on six key indicators: (1) energy and breathing focus, (2) movement coordination, (3) contraction–relaxation, (4) movement rhythm, (5) rotational control, and (6) transfer of the body's center of gravity. Each indicator was assessed using a numerical scale to represent the level of movement quality demonstrated by the dancers. In addition, a body awareness questionnaire was employed as supporting data to identify changes in the dancers' body perception throughout the training process. Content validity of the instrument was established through expert discussion and evaluation, while the assessment process was documented using video recordings to ensure observational accuracy and to enable repeated evaluation of the participants' movement quality.

The research procedure was conducted in three main stages: pretest, intervention, and posttest. During the pretest stage, the movement quality of all participants was assessed using the evaluation rubric prior to the implementation of somatic training. Subsequently, participants engaged in a somatic training program designed to develop body awareness through the integration of breathing, energy regulation, movement coordination, and body balance. The somatic training was carried out in a structured manner, emphasizing the exploration of bodily sensations, control of muscle contraction and relaxation, and movement stability. Upon completion of the training program, a posttest assessment was conducted using the same instrument as in the pretest stage to identify changes in the participants' movement quality.

The data were analyzed using both descriptive and inferential statistics with the assistance of IBM SPSS Statistics version 24. Descriptive statistics were employed to describe the distribution of movement quality scores in the pretest and posttest stages, including the mean, minimum, and maximum values. Prior to hypothesis testing, the Shapiro-Wilk normality test was conducted to ensure that the data were normally distributed. Subsequently, a paired sample t-test was applied to examine differences in movement quality scores before and after the implementation of somatic training, using a significance level of 0.05 (A. Talikan, R. Salapuddin, 2024).

RESULTS AND DISCUSSION

This study aims to examine the effect of implementing somatic training on improving the movement quality of intermediate-level dancers at Studio Purnamasari. Measurements were conducted using a one-group pretest-posttest design involving six intermediate-level dancers.

Table 1. Pretest-Posttest Movement Quality Scores

Participant	Pretest	Posttest
SDN	78.33	93.33
JM	81.66	95.00
THK	70.00	80.00
NSE	79.10	91.66
ESS	75.00	85.83
ZNA	70.83	80.00

Based on **Table 1**, all dancers demonstrated an improvement in movement quality scores following the implementation of somatic training.

The mean score increased from 75.82 (pretest) to 87.64 (posttest), indicating that somatic training is effective in enhancing dancers' movement quality.

Table 2. Descriptive Statistics of Movement Quality

Statistic	Pretest	Posttest
N	6	6
Mean	75.82	87.64
Median	76.66	88.75
Standard Deviation	4.70	6.67
Minimum	70.00	80.00
Maximum	81.66	95.00
Range	11.66	15.00

The mean pretest score of 75.82 increased to 87.64 in the posttest, with an average difference of 11.82 points. Descriptively, these results indicate an improvement in the movement quality of intermediate-level dancers following the intervention.

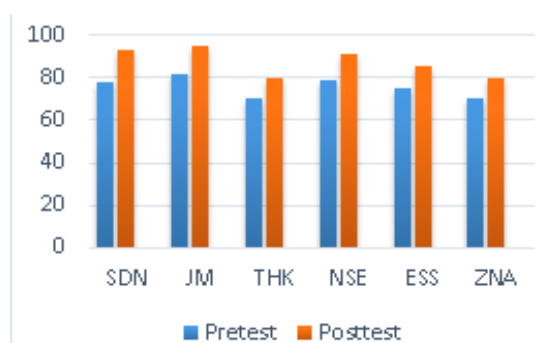


Figure 1. Pretest-Posttest Comparison Graph

The graph in **Figure 1** illustrates an increase in movement quality scores among all participants following the implementation of somatic training. The higher posttest scores compared to the pretest indicate that the intervention was effective in improving dancers' movement quality, as further supported by statistically significant test results.

Table 3. Shapiro-Wilk Normality Test Results

Variable	N	W	Sig.	Decision
Pretest	6	0.925	0.539	Normal
Posttest	6	0.868	0.217	Normal

The Shapiro-Wilk test indicated that both the pretest data (Sig. = 0.539; W = 0.925; N = 6) and posttest data (Sig. = 0.217; W = 0.868; N = 6) were normally distributed, as the significance values exceeded 0.05.

Table 4. Paired Sample t-Test Results

Test	Mean Diff	SD	SE	95% CI (Lower)	95% CI (Upper)
Pretest – Posttest	-11.81	2.20	0.90	-14.13	-9.50

Based on the results of the paired sample t-test, the obtained Sig. value was < 0.001 ($p < 0.05$); therefore, the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) was accepted. This indicates that the implementation of somatic training has a significant effect on improving the movement quality of intermediate-level dancers.



Video of Treatment Implementation

Based on the findings of this study, an improvement in participants' movement quality was observed following the implementation of somatic training. This is evidenced by the comparison of pretest and posttest scores presented in Table 1. All participants demonstrated increased scores after undergoing the training, with the mean pretest score of 75.82 rising to 87.64 in the posttest. This improvement indicates that somatic training has a positive effect on dancers' movement quality, particularly in terms of energy regulation, movement stability, and body coordination during dance performance.

The descriptive results also indicate that the median increased from 76.66 to 88.75. This increase suggests that the improvement in movement quality was not limited to only some participants, but was relatively experienced by all individuals involved in the training. The mean difference of 11.81 points indicates a substantial improvement in movement quality following the training process, particularly in the ability to maintain movement rhythm, rotational control, and more stable transfer of body weight.

The results of the Shapiro-Wilk normali-

ty test indicate that both the pretest data (Sig. = 0.539) and posttest data (Sig. = 0.217) were normally distributed, as the significance values exceeded 0.05. With the normality assumption satisfied, the analysis was continued using a paired sample t-test. The t-test results revealed a significant difference between the pretest and posttest scores, with a mean difference of -11.81 . The significance value of less than 0.05 indicates that the observed improvement in movement quality is associated with the somatic training intervention administered to the participants.

Substantively, these findings indicate that somatic training assists dancers in developing body awareness to coordinate breathing, energy, and balance, thereby resulting in movements that are more stable and controlled. This finding is consistent with the concept of somatic education proposed by Hanna (1990), which emphasizes that conscious sensorimotor control can enhance the efficiency and stability of bodily movement. In the context of dance education, Fortin (2002) also demonstrates that somatic practices can improve dancers' kinesthetic sensitivity and facilitate the integration of technique, breathing, and expressive movement into a unified embodied experience.

Thus, the improvement in movement quality scores observed in this study not only reflects the statistical effectiveness of the intervention but also indicates that somatic training can serve as an effective training approach to bridge the gap between the mastery of movement techniques and the quality of movement produced through dancers' embodied awareness.

CONCLUSION

This study demonstrates that the implementation of somatic training contributes to improving dancer's movement quality. The increase in movement quality from the pretest to the posttest indicates that somatic training contributes to enhancing movement quality through the development of body awareness, energy regulation, movement coordination, rhythm, and balance control during dance sequences. These findings affirm that improvements in movement quality are not solely dependent on the mechanical mastery of technique, but also on the dancer's ability to integrate bodily sensations, breathing, and sensorimotor control throughout the movement process. The novelty of this study lies in examining somatic practice as a body-based training method through a quantitative approach involving intermediate-level dancers within a non-

formal dance studio context. The results provide empirical contributions to the development of body-awareness-based training approaches and enrich dance pedagogy by positioning the dancer's body as the central locus of a conscious, integrated, and expressive movement learning process.

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