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EMOTION IN MOTION: THE PSYCHOLOGY OF EXPRESSIVENESS IN CONTEMPORARY CHOREOGRAPHY

Abstract.

Purpose. To investigate the psychological and physiological underpinnings of expressiveness in contemporary dance by analyzing dancer states and audience perceptions, with particular attention to how performers communicate emotion without linear narratives. **Methodology**. Twenty-four advanced dancers performed choreographic excerpts in two modes: neutral execution (NE), emphasizing technical precision, and expressive execution (EE), requiring performers to embody specific emotions. Performances were recorded and rated by 30 trained observers on clarity, intensity, and authenticity of expression. Physiological data were collected using heart rate variability (HRV) and galvanic skin response (GSR). **Findings.** Observer ratings were consistently higher in EE than in NE for clarity ($M = 4.2$ vs. 2.7), intensity ($M = 4.5$ vs. 2.8), and authenticity ($M = 4.0$ vs. 3.1), with $p < .001$ across measures. Physiological data indicated heightened arousal in EE: HRV decreased by 15%, and GSR increased by 22%. A strong positive correlation ($r = .62$, $p < .01$) between observer ratings of intensity and dancer arousal suggests that embodied emotion is perceptible to observers. **Originality.** The study provides empirical evidence that expressiveness in contemporary dance is a measurable psychological phenomenon grounded in embodied cognition and intersubjective resonance, linking dancers' physiological states with audience perceptions of emotional expression. **Practical value**. The findings can inform pedagogical approaches to teaching expressiveness as a skill,

choreographic design strategies that use emotional cues, and therapeutic applications of dance in emotional regulation.

Keywords: expressiveness; contemporary dance; embodied cognition; emotional arousal; audience perception; emotional regulation.

Problem statement

Emotion is fundamental to human communication and social interaction. In the arts, it is both the subject and medium through which meaning is conveyed. While facial expressions and vocal inflections have long been studied as primary carriers of emotion, body movement is increasingly recognized as a powerful channel of affective communication [30]. Dance, in particular, integrates intentional movement with expressive qualities that embody and project emotional states.

Contemporary choreography often dispenses with narrative storytelling, leaving emotional resonance to be constructed through abstraction, gesture, and the dynamics of movement. This shifts the focus onto the dancer's ability to project authentic emotional intent through physicality. Scholars argue that expressiveness is not merely a by-product of technique but a learnable skill [1]. Training dancers to integrate technical precision with emotional authenticity has become a priority in many educational settings.

From a psychological perspective, expressiveness involves three interacting dimensions: **intention, embodiment, and perception**. First, intention refers to the performer's capacity to generate or recall affective states, whether through memory, imagery, or improvisation [32]. Second, embodiment concerns the physicalization of these states, where emotion is transformed into movement qualities such as speed, force, and amplitude [31]. Third, perception involves the decoding of expressive cues by observers, whose interpretation is shaped by empathy, cultural expectations, and shared neurocognitive processes [27].

Recent advances in neuroscience have highlighted the role of **embodied simulation** in emotion perception [15]. Mirror neuron systems and limbic networks enable observers to resonate with and understand emotional movement, even in the absence of explicit cues. Studies show that perceivers can identify emotions from abstract dance movements with above-chance accuracy [9]. This supports the idea that dance expressiveness operates as a shared social language.

Yet, while theoretical discussions are abundant, empirical studies linking dancer physiology, expressive intent, and audience perception remain limited. Few have examined whether audience judgments of expressiveness correspond to measurable changes in performer arousal. By bridging psychology, physiology, and performance studies, this research aims to provide a comprehensive account of expressiveness as both internal state and external signal.

The central hypotheses are that:

1. Expressive execution will lead to higher observer ratings of clarity, intensity, and authenticity compared to neutral execution.

2. Expressive execution will correspond to measurable increases in physiological arousal.

3. There will be significant correlations between performer arousal and observer ratings, indicating that authentic embodied emotion is perceptible to audiences.

Purpose of the article

To investigate the psychological and physiological underpinnings of expressiveness in contemporary dance by analyzing dancer states and audience perceptions, with particular attention to how performers communicate emotion without linear narratives.

Presentation of the main material of the study

Methodology

Participants:

- **Performers:** Twenty-four dancers (12 female, 12 male), aged 20–28 (M = 23.4, SD = 2.2). All had at least six years of training in contemporary dance and prior performance experience. None reported neurological or cardiovascular conditions.
- **Observers:** Thirty students (15 psychology, 15 dance studies), aged 19–30. All had prior coursework on emotion perception and aesthetics. Observers were blind to the study's hypotheses.

Design and Stimuli. Choreographic excerpts (90 seconds each) were created to be structurally neutral, focusing on abstract gestures without narrative content. Each dancer performed each excerpt under two randomized conditions:

- **Neutral Execution (NE):** Dancers were instructed to prioritize accuracy of spatial placement, timing, and alignment, avoiding expressive gestures.
- **Expressive Execution (EE):** Dancers were asked to embody a specified emotion (joy, anger, or sadness) using guided imagery and affective memory prompts.

Procedure

Performances took place in a studio under controlled lighting and acoustic conditions. Each dancer performed both NE and EE conditions in randomized order, with five-minute rest intervals. Physiological data were collected using:

- **HRV:** Measured with Polar V800 monitor, analyzed as RMSSD.
- **GSR:** Recorded with Shimmer3 sensors attached to non-dominant hand.

Performances were video-recorded and later presented to observers on individual monitors. After each recording, observers rated clarity, intensity, and authenticity on 5-point Likert scales (1 = very low, 5 = very high).

Statistical Analysis

A mixed ANOVA tested differences between NE and EE across measures. Pearson correlations examined alignment between dancer arousal (HRV, GSR) and observer ratings. Significance was set at $p < .05$.

Results

Observer Ratings. Observers rated EE performances significantly higher on all dimensions:

- Clarity: EE (M = 4.2, SD = 0.5) > NE (M = 2.7, SD = 0.6), $p < .001$.
- Intensity: EE (M = 4.5, SD = 0.4) > NE (M = 2.8, SD = 0.7), $p < .001$.
- Authenticity: EE (M = 4.0, SD = 0.5) > NE (M = 3.1, SD = 0.6), $p < .01$.

Physiological Data

- HRV decreased by 15% in EE, indicating heightened sympathetic activation.
- GSR increased by 22% in EE relative to NE.

Correlation Analysis. Observer ratings of intensity positively correlated with GSR ($r = .62$, $p < .01$). No significant correlations were found between HRV and clarity or authenticity.

The present study affirms that expressiveness in contemporary choreography is not merely a subjective quality but an empirically measurable intersection of psychological, physiological, and social processes. By integrating observer ratings

with physiological monitoring, we demonstrated that dancers' emotional engagement translates directly into perceivable and quantifiable changes in audience perception.

Table 1. Observer Ratings by Condition

Condition	Clarity	Intensity	Authenticity
NE	2.7 ± 0.6	2.8 ± 0.7	3.1 ± 0.6
EE	4.2 ± 0.5	4.5 ± 0.4	4.0 ± 0.5

This convergence supports theoretical frameworks of **embodied cognition** and **emotional contagion**, where movement functions as a bridge for shared affective experiences.

A notable finding is the strong correlation between **physiological arousal and perceived intensity**. This suggests that expressiveness is not solely a performative choice but deeply rooted in authentic psychophysiological states. When dancers genuinely engage affective systems, the audience perceives heightened authenticity. This parallels studies in acting and music performance, where emotional sincerity has been shown to predict aesthetic impact more reliably than technical accuracy alone.

The data also reveal that expressiveness improves **clarity** of performance. While often assumed to be a product of clean technique, clarity here appears linked to the coherence of emotional intent. Dancers who invested emotional states into their movement were rated as more "clear," even when their technical execution was constant. This finding challenges traditional pedagogical divides between "technique" and "expression," suggesting that clarity is amplified when movement is emotionally grounded.

From a choreographic standpoint, these results encourage creators to design works that strategically integrate **emotional cues**. By aligning structure, imagery, and movement dynamics with specific affective states, choreographers may enhance both performance authenticity and audience engagement.

Cross-disciplinary implications are equally significant. In **dance therapy**, the deliberate use of expressive movement has been shown to facilitate emotional release, self-awareness, and empathy. In **rehabilitation science**, incorporating emotional expressiveness into movement retraining could enhance motivation and adherence. Finally, in **neuroscience**, dance serves as a model system for studying the synchronization of motor control, affective states, and social resonance.

Limitations include the relatively small and homogeneous sample, limited emotional categories, and reliance on trained observers. Future research should examine cross-cultural decoding of dance expressiveness, include untrained audiences, and explore additional modalities such as facial expression and vocalization. Longitudinal studies might also clarify how expressiveness training reshapes cognitive and physiological pathways over time.

Conclusion

Expressiveness in contemporary choreography is both an art and a science. This study demonstrated that emotionally driven performance elevates perception of clarity, intensity, and authenticity while simultaneously engaging the dancer's physiological arousal systems. The alignment of internal states and external perception underscores that emotion in motion is a shared phenomenon, bridging performer and audience through embodied communication.

For pedagogy, the implications are profound. Rather than treating expressiveness as an emergent trait, educators can approach it as a trainable skill. Structured exercises in imagery, affective memory, and improvisation can cultivate the ability to transform inner emotion into outwardly legible

performance. This reframes expressiveness as central, not peripheral, to technical education.

For choreographers, the findings encourage designs that prioritize affective coherence. Works structured with emotional intent may resonate more deeply with audiences, even in abstract contexts. For applied practitioners, especially in therapy and rehabilitation, these results affirm the healing and communicative power of expressive movement.

Ultimately, expressiveness emerges as the heart of choreography: it is what transforms steps into stories, gestures into empathy, and performance into human connection. The scientific validation of this truth enriches both artistic practice and interdisciplinary research. By recognizing expressiveness as both measurable and teachable, the field of dance science moves closer to uniting the rigor of empirical inquiry with the artistry of lived movement.

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