

## SELF-EFFICACY AND MOTOR PERFORMANCE: THE IMPACT OF MOTOR-EXPRESSIVE ACTIVITIES IN PRIMARY SCHOOL

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### Abstract

The recent scientific contributions of neuro-pedagogy map learning processes in the light of a multi-perspective vision that, recognising the existence of a circular dialogue between cognitive, experiential and bodily narrative dimensions (Damasio, 1995; Gallese et al., 2006; Glenberg, 2008; Barsalou, 2010; Caruana & Borghi, 2016), return centrality to the body in action in terms of increasing perceived self-efficacy and intrinsic motivation (Brambilla et al., 2010; Biddle et al., 2019; Errisuriz et al., 2018). The need to acquire a holistic view of the educational process in the context of Physical Educational practices and the search for methodological practices and variants that can become the crossroads of interdisciplinary dialogues (Colella et al., 2020), meet the assumption that the sense of self-efficacy influences both motivation and behaviour, as well as the ability to cope with challenges and to adopt proactive attitudes (Bandura, 1997; Schunk & Pajares, 2009). This study investigates, with reference to age group, gender and learning context (school/dance), the relationship between self-efficacy and motor performance in developmental age. The aim is to consider how and according to which theoretical and practical assumptions motor-expressive activities can fit into first-cycle schools, in order to effectively act in the horizontal and vertical curriculum, by enhancing the development of fields of experience and competences. The study involved a convenience sample of 248 children between the ages of 8 and 10, (M=75; F=174), selected by non-probabilistic sampling. The first group was provided with experiential paths of expressive movement and yoga, and a second group was offered traditional Physical Education practices. The results, investigated through the administration of the self-report PSP\_C (Children's Self-Efficacy Scale) (Colella et al., 2008), show that a correct disposition of the body's musculoskeletal structures in relation to the force of gravity and the efficient and enunciative movements enabled by the prompting of the proprioceptive mechanisms of the body scheme in stasis and dynamics, promoted an increase in perceived self-efficacy in the group that practiced motor/expressive activities. This confirms that self-efficacy develops through direct experience and meaningful learning and could be a determining factor for personal growth and general well-being (Zimmerman, Cleary 2006). The educational approach declined in movement-expressive practices (Pallonetto, 2023), experiential anatomy (Olsen, Tolja, 1994), ideokinesis (Bernard et al. 2021), yoga (Bazzano et al. 2018) and educational dance (Palumbo, 2024), implemented the dimension of feeling and body awareness by opening the channels of somatic memory and sense-motor intelligence.

**Keywords:** Motor education, primary school, expressive movement, dance, yoga.

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### 1. Introduction

The important dialogue between neuroscience and pedagogy has provided the educational community with new insights into psycho-corporeal (Damasio, 1995; Gallese et al, 2006; Glenberg, 2002; Barsalou, 2008; Caruana & Borghi, 2016) and bio-psycho-social (Nicolodi, 2015). This has led to the recognition of the body not only in terms of movement and action, but also in terms of inter-body relations, as a multidimensional entity. This multidimensionality encompasses communicative, expressive, relational and self-knowledge functions. In fact, the contributions of the neuroscientific literature describe the existence of a syncretism between cerebral, mental and motor activity (Caruana & Borghi, 2016), framing the child's development through a global perspective lens that integrates the different areas of development. This perspective reflects the application of simplicity (Berthoz, 2011; Sibilio, 2015) to the educational phenomenon. It shifts the system's locus of control toward action, understood as an embodied and situated

form of cognition. The perception and representation of the self, in fact, derive from the construction of the mental representation that the individuals make of themselves and the evaluation that they make, not only of their own actions, but also in relation to their environment and others (Bandura, 1997). This perspective highlights the need to examine the multiple implications and effects on educational practices in which the body and the body in action represent a central tool for promoting integral personality development. In particular, it contributes to increase perceived self-efficacy and intrinsic motivation (Brambilla et al., 2010; Biddle et al., 2019; Errisuriz et al., 2018). By moving beyond the outdated notion of corporeality as a fragmented, secondary, or purely training-oriented element, motor-expressive activities seek to foster a cross-disciplinary educational approach. This approach encourages the expression of personal creativity, the development of active listening, trust, empathy, and communication skills. Furthermore, it promotes the exploration and definition of one's identity and role within a group, while fostering collaboration toward a shared goal. Given that regular engagement in motor activities plays a crucial role in both a child's psychophysical development (Strong, 2005) and the adoption of physically active lifestyles that are more likely to persist into adulthood (Telama et al., 2005), this study aims to examine the relationship between motor-expressive activities, conveyed by executive variants that recruit both qualitative and quantitative and spatio-temporal movement variables, and perceived self-efficacy.

## 2. Method and results

### 2.1. Objective

This study examines the role of various motor experiences, motor skills, and self-perception of abilities by comparing mean scores. The objective is to analyze differences in the effects of motor-expressive activities versus traditional motor education on children's self-efficacy perceptions during motor performances.

### 2.2. Sample

The present study involved a convenience sample of 248 children aged between 7 and 10 years (table 2), (M=75; F=174) (table 1), attending a primary school in the province of Salerno, in an urban context with a medium socio-economic level, selected by means of non-probabilistic sampling. Participants were divided into an experimental group and a control group. The experimental group (n=112) engaged in experiential and laboratory pathways of motor-expressive activities, including movement-expressive practices (Pallonetto, 2023), experiential anatomy (Olsen & Tolja, 1994), ideokinesis (Bernard et al., 2021), yoga (Bazzano et al., 2018) and educational dance (Palumbo, 2024). These activities were designed and conducted by a specialist. The control group (n.=136) followed traditional Motor Education practices, proposed by the same expert. The activities, for both groups, were conducted once per week, with each session lasting 45 minutes, over a one month period.

Table 1. Gender.

		<i>Frequency</i>	<i>%</i>
	F	174	70.0
	M	75	30.0
	Total	248	100.0

Table 2. Age.

		<i>Frequency</i>	<i>%</i>
	7	31	14,2
	8	73	29,4
	9	72	29,0
	10	68	27,4
	Total	248	100

### 2.3. Instruments

The results were investigated through the administration of the self-report PSP\_C (Child Self-Efficacy Scale), (Colella et al., 2008). The PSP\_C is a psychometric instrument designed to measure self-efficacy in children in developmental age that emphasises the importance of personal beliefs in regulating behaviour and managing challenges. The scale consists of a self-report questionnaire with straightforward interpretation, which allows children to respond authentically and immediately to the questions in it, which are related to the perception of their own abilities. The PSP\_C assesses three key dimensions of self-efficacy: autonomy in movement, specifically the perception of one's ability to move independently and safely; motor skills, referring to confidence in one's ability to perform physical activities and sports; and endurance and fatigue management, namely the perceived ability to sustain physical effort during movement. The questionnaire consists of six items addressing strength, speed and coordination skills with a scale of values for answers from 1 to 4 points. The children are asked to express a self-perception score corresponding to their perception during play or physical education activities.

### 2.4. Results

The aim of the data analysis conducted in this study was to explore the relationship between participation in motor activities and perceived self-efficacy, considering different motor activity experiences (motor-expressive activities and traditional physical education). In order to better understand this connection, the data were analysed by calculating means and standard deviations, while the ANOVA test was performed to assess the significance of differences between the examined groups (table 3). The research activity was conducted through an action-research model integrating both qualitative and quantitative approaches. The qualitative methodology involved observing students directly involved in the activity, in order to explore the subjective perception and emotional impact of the proposed bodily practices. In parallel, the quantitative approach allowed the collection and analysis of numerical data regarding the relationship between participation in motor activities and perceived self-efficacy, accounting the different types of motor practice. The results revealed that participants engaged in motor-expressive activities show higher mean values in self-efficacy variables compared to those who practise traditional physical education: the mean value of the 'self-efficacy\_tot' variable is significantly higher for participants engaged motor-expressive activities (M=19.11, SD=2.07) compared to those who do not (M=16.20, SD=2.61). Specifically, it emerges that the practice of motor-expressive activities shows particularly high values of perceived self-efficacy, suggesting a potential contribution of this discipline to the development of confidence in one's motor skills (M=19.11, SD=2.11) compared to those who do not practice such activities (M=18.74, SD=1.92). The analysis of variance (ANOVA) highlights statistically significant differences between the groups across all the examined variables ( $p < 0.001$ ), suggesting that participation in motor-expressive activities significantly affects the perception of one's motor skills. For instance, regarding the variable 'I1\_speed', the difference between the groups is significant ( $F = 30.646$ ,  $p < 0.001$ ), further supporting the impact of motor-expressive activities on speed perception. The data analysis shows that children engaged in motor-expressive activities achieve higher mean scores across all assessed variables. In particular, motor-expressive activities seem to foster higher levels of self-efficacy and coordination than traditional sports. Finally, the analysis supports the hypothesis that the observed differences are not random, but rather attributable to the influence of motor-expressive activities, thus confirming their significant role in the development of motor skills and competences.

Table 3. Descriptive statistics.

		N	Weighed average	Standard Deviation	Error std.
I1_speed	no	75	2,71	,731	,084
	Motor-expressiv	131	3,14	,523	,046
	traditional	42	3,24	,532	,082
	Total	248	3,02	,629	,040
I2_coordination	no	75	2,57	,597	,069
	Motor--expressi	131	3,08	,535	,047
	traditional	42	3,05	,439	,068
	Total	248	2,92	,585	,037
I3_force	no	75	2,71	,610	,070
	Motor-express	131	3,15	,482	,042
	traditional	42	3,05	,439	,068
	Total	248	3,00	,551	,035

I4_speed	no	75	2,79	,622	,072
	Motor-express	131	3,26	,505	,044
	traditional	42	3,19	,455	,070
	Total	248	3,10	,574	,036
I5_coordination	no	75	2,63	,785	,091
	Motor-- express	131	3,18	,688	,060
	traditional	42	2,98	,563	,087
	Totale	248	2,98	,739	,047
I6_speed	no	75	2,80	,717	,083
	Motor-express	131	3,31	,570	,050
	traditional	42	3,24	,576	,089
	Total	248	3,15	,657	,042
selfefficacy_tot	no	75	16,20	2,615	,302
	Motor- espressi	131	19,11	2,118	,185
	Traditional	42	18,74	1,926	,297
	Total	248	18,17	2,595	,165

### 3. Conclusions

Self-perceptions and beliefs about one's own abilities, which arise from motor performance, are shaped and refined over the course of a lifetime, as influenced by age, gender, experiences, interpersonal relationships, and physical and psychological changes. This attributes a crucial role to the quality of physical activities performed, as these can contribute decisively not only to the formation of a positive self-image by enhancing individual self-esteem but also to the development of perceived physical self-efficacy. The present study seems to outline a methodological framework in which motor-expressive activities contribute to promoting a proper alignment of the musculoskeletal system in relation to gravitational forces. By stimulating the proprioceptive mechanisms of the body schema in both static and dynamic conditions, these activities facilitate efficient and expressive movements and may enhance perceived self-efficacy. Within the structured motor-expressive environment, children free to express and experience themselves in a protected and non-judgmental setting, were guided by a skilled facilitator who served as both a reference point and a reflective model (Minghelli & Palumbo, 2024). This experience fostered a deeper sense of embodiment and body awareness by activating somatic memory and sensorimotor intelligence. This result, although partial and requiring further validation, appears to support the idea that motor activities, when fostering discovery, sensory openness, and the integration of thought, body, and emotion (Marchesano et al., 2025), lead to an increase in perceived self-efficacy. When cultivated through direct and meaningful movement experiences (Whitehead, 2013), perceived self-efficacy emerges as a key factor in personal growth and overall well-being (Zimmerman & Cleary, 2006).

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