

INPLASY PROTOCOL

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"Neural correlates of the perception of emotions elicited by dance movements. A scope review".

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Review question / Objective: The main question of the study is "how do dance neuroscience studies define and assess emotions?" The main objective is to establish, through the available literature, a scientific overview of studies in dance neuroscience that address the perception of emotions in the context of neuroaesthetics. Specifically, it is expected to verify if there is methodological homogeneity in studies involving the evaluation of emotions within the context of dance neuroscience; whether the definition of emotion is shared in these studies and, furthermore, whether in multimodal studies in which dance and music are concomitantly present, whether there is any form of distinction between the contribution of each language on the perception of emotions evoked by the stimulus.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 20 February 2023 and was last updated on 20 February 2023 (registration number INPLASY202320086).

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Conflicts of interest:
None declared.

INTRODUCTION

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neuroscience that address the perception of emotions in the context of neuroaesthetics. Specifically, it is expected to verify if there is methodological homogeneity in studies involving the evaluation of emotions within the context of dance neuroscience; whether the definition of emotion is shared in these

studies and, furthermore, whether in multimodal studies in which dance and music are concomitantly present, whether there is any form of distinction between the contribution of each language on the perception of emotions evoked by the stimulus.

Rationale: There is a growing number of works interested in the aesthetic experience within the performing arts, including dance. Such an experience is included in a recent area of empirical aesthetics, called neuroaesthetics, which seeks to investigate the neural mechanisms responsible for the aesthetic experience. Neuroaesthetics is one of the general areas researched by dance neuroscience and incorporates studies focused on both cultural and emotional dimensions of the spectator's experience. Previous studies suggest an involvement of the posterior portion of the right parietal cortex in the perception of emotions evoked by dance movements (Grosbras, et. al, 2012; Reason, et. al, 2016). Such studies are just examples of the use of dance as an object of neuroaesthetics that, by integrating other already published works (Zardi, et. al, 2021) with the same interest, allocate language in the focus of future works for the investigation of the mechanisms responsible for the artistic appreciation, in particular the perception of emotions evoked by dance.

Even so, as already reported by Christensen and Calvo-Merino (2013), "The role of the genuine emotional experience of such [dance] movements in the aesthetic experience is still unclear". In addition to this lack of clarity, there is heterogeneity in the way in which the concept of emotions has been approached in the studies published so far, demanding that it is necessary to create a research framework capable of critically reflecting on previous works and directing future works.

Condition being studied: Emotion perception elicited by dance stimuli.

METHODS

Search strategy: The search strategy will be designed to access all published materials and will comprise the following stages:

A limited Medline search to identify relevant keywords containing title, abstract and subject descriptors;

The identified terms and their synonyms used by the database will be used in the extensive review of other databases listed in this document;

Reference lists and bibliographies of articles collected in the previous stage will also be searched.

The initial search will contain the terms (("dance" OR "dancing" OR "ballet" OR "dancer") AND ("emotion" OR "emotions" OR "regret" OR "regrets" OR "feelings" OR "feeling" OR "affect" OR "affective" OR "emotional"))

Published works indexed in the following databases will be included: PUBMED, EMBASE, ISIS (WEB OF KNOWLEDGE), LILACS, PsycINFO.

Participant or population: Healthy human volunteers.

Intervention: Dance stimuli.

Comparator: Do not apply.

Study designs to be included: All study designs available.

Eligibility criteria: This review will consider all studies that involve humans as research subjects, without limitation on period and language of publication, study design, age, gender or dance expertise. Interventions of interest include those related to the perception of emotions evoked by dance movements in stimuli with real human figures, total or partial, or even virtual, total or partial, live or on video, with or without sound accompaniment, which have as an outcome any measure of emotion and also some neurophysiological measure that can characterize the perception of emotions evoked by dance movements.

Information sources: Published works indexed in the following databases will be

included: PUBMED, EMBASE, ISIS (WEB OF KNOWLEDGE), LILACS, PsycINFO.

Main outcome(s): Outcomes that address the neural mechanisms of emotion perception and the definition explored by the work will be prioritized.

Data management: After the searches have been carried out in all the databases, the works will be grouped using the Rayyan tool, available free of charge at <http://www.rayyan.com>. A first selection of articles will then be made by title and abstract as indicated in the objective and inclusion criteria of this review. At the end, the selected materials will be read in full and grouped according to the type of study.

Quality assessment / Risk of bias analysis: Do not apply.

Strategy of data synthesis: The definition of emotion will be presented according to what is reported in the work. If not fully explained, the reference on which this definition is based will be used. Regarding the other variables, for quantitative data, priority will be given to the odds ratio (for categorical outcome data) or the difference in standardized means (for continuous data) and its 95% confidence interval. Heterogeneity between pooled studies will be tested using the standardized chi-square test. When statistical grouping is not possible, the results will be presented in a narrative form.

For qualitative data, there will be a narrative grouping of results.

Subgroup analysis: Do not apply.

Sensitivity analysis: Do not apply.

Language restriction: None.

Country(ies) involved: Brazil.

Keywords: emotion; dance; perception; neuroaesthetics.

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