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Special issue:
15 years of Brazilian Journal of Motor Behavior

Editorial: fifteen years of Brazilian Journal of Motor Behavior

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The Brazilian Journal of Motor Behavior (BJMB) is a NO charge or fees, peer-reviewed and open-access journal published by the Brazilian Society of Motor Behavior (SOCIBRACOM - https://socibracom.com). The BJMB accepts original contributions pertaining to the multidisciplinary study of human movement throughout the lifespan, involving a broad range of topics related to the field of Motor Behavior such as motor control, development and learning, movement disorders, clinical, theoretical and model studies. These articles could come from diverse disciplines such as kinesiology, biomechanics, neurophysiology, neuroscience, psychology, medicine, sports performance and rehabilitation. *The following types of manuscripts are considered for publication: research articles, systematic review and meta-analysis articles, mini-review articles, scoping review articles, research notes, current opinion, critiques articles, tutorials articles and infographic articles.*

The BJMB was launched with its first edition published in December of 2006. Thus i**n 2021, we are celebrating the 15th anniversary of BJMB.** This is an important date considering, first, the longevity and, second, the importance of BJMB contributing to disseminate important knowledge and the researchers' work in the motor behavior area. Of course that the BJMB's journey was not simple nor easy. As an infant balancing on its feet and trying out the first independent steps, the BJMB experienced difficulties and uncertainties, but we are delighted and glad to inform you that BJMB is stronger than ever and steadily standing on its feet. One example is the total of 39 papers published in 2021. As the steadiness of the BJMB is only attained because of the many hands holding it, we would like to thank all those who have been contributing to the BJMB as authors, reviewers and editors, and thousands of people who have read BJMB's publications. In order to celebrate the BJMB anniversary and to monumentalize this milestone, we launched a commemorative special issue. We invited past editors from the BJMB, past presidents from the SOCIBRACOM and internationally recognized researchers in the field of motor behavior to contribute to this special issue, marking the 15th anniversary of the Brazilian Journal of Motor Behavior.

Articles in the present special issue discuss changes in the motor behavior area in

these past 15 years, argue about theoretical paradigms in motor development, motor learning and motor control, show interesting findings related to walking and eye movements, and explore new ways for teaching in motor behavior area. As a result, here is a rich combination of themes related to motor behavior presented in 12 articles disclosed in this commemorative issue.

First, we showed the history of the BJMB in an infographic - the new type of manuscript of the BJMB.[1] We have presented a timeline with the development of the BJMB, including numbers of manuscripts, readers, authors, issues, etc. Also, we indicated the databases that the BJMB is indexed (just to remember that the BJMB was indexed in the Periodica and Biblat databases after this number). The inclusion of infographic articles is an initiative to provide a quick, easy-to-use and enjoyable publication that conveys notable knowledge. Two types of infographics will be publishable: theory perspective and article infographic (see more information in the BJMB's guidelines - https://socibracom.com/bjmb/index.php/bjmb/about/submissions). We expect to publish one or two infographics by BJMB's number. Thus, submit your infographic!

Following the infographic, Prof. Go Tani rediscussed the relationship between motor behavior and physical education[2], presented in the first number of the BJMB.[3] The author discussed and reviewed the changes that have taken place in these 15 years of BJMB considering the challenges posed and actions suggested in the previous article. Unfortunately, he concluded that the scenario had no significant changes compared to the scenario of 15 years ago. The scientific production of Brazilian researchers has properly connected to the theoretical advances that motor behavior has been showing throughout this period. However, the fact that research is being strongly influenced by productivism has led researchers to perform studies without worrying about its practical consequences both for the academic-scientific consolidation of the area as well as for the improvement of professional intervention. This is a worrisome fact. It induces us all to deduce a lack of interest in more macroscopic issues of the area, and an egocentric/selfish search for individual academic-scientific status. Thus, the author suggests that applied research should be stimulated, streamlined, and valued.

Five articles, in the format author's point of view, debated theoretical paradigms in motor development, learning and control. Prof. Stodden and collaborators[4] proposed a cross-boundary unification directive that concomitantly illustrates the "why" and "how" of development that can be applied to any specific theoretical approach to this issue. They proposed that exploration should be this unified intervention directive for human intervention and provide evidence, and exemplars, that can be promoted from this simplistic unifying theme. The authors suggested that the overarching theme of promoting exploration as a principal component for any intervention provides a unifying phenomenological approach that bridges the underlying foundations of current theoretical approaches in multiple domains to positively impact holistic development for all children. They articulated a vision that provides the needed stimulus to re-think our approach to intervention by re-emphasizing a focus on holistic development. Also debating motor development paradigms, Prof. Barela[5] presented a dynamical view of motor development and a few factors affecting the developmental course and rate of motor changes. The author discussed two main questions in the study: The first one is where does movement come from? What is the initial basis and how do we start on in our developmental course? The second question is how and what do trigger changes in our developmental course?

Answering the questions, Barela proposed that motor skill acquisition involves exploration and selection of many possible body segment configurations through repetitive perception-action cycles. Such dynamics push the learners beyond the boundaries of the stable coordination mode to a new state dynamic required for a new given task demand. Such process happens through a mixture of deterministic and influences such as those imposed by physical education teachers, which play a role of an important constrainer responsible to organize structured and planned activities, to provide useful information regarding skill dynamics and performance and as a motivator. These influences are decisive in promoting developmental changes necessary and mandatory for skill acquisition. From a motor learning point of view, Prof. Lage and collaborators[6] synthesize and update the recent findings of the practice organization. The authors showed that the second half of the 2010's can be considered a watershed in the practice organization history. Several studies pointed out new possibilities to understand perceptual mechanisms involved in more variable and repetitive practices. Two main aspects were discussed: "focus on memory" and "focus on perception". Lage and collaborators concluded that different levels of hemodynamic activation, electroencephalographic activity, neurochemical activity, and oculomotor behavior have provided evidence that perceptual processes are affected differently by variable and repetitive practices. These discoveries expand our knowledge about the mechanisms that underlie the practice organization. Following this, Prof. Benda and collaborators[7] reviewed the relationship between motor development and motor learning and present a new metaphor that represents the sequence of motor development. The authors discussed that motor development is composed of several moments of motor skills learning throughout life. As new motor skills are learned, the motor repertoire increases, which amplifies the extent of motor development. They proposed the rose metaphor, based on a living being, where the basis is thinner but strong enough to support the other phases. In addition, the authors presented that the central phase is emphasized, in which fundamental motor skills provide all the support for the specialized skills to be learned. Then, the focus on fundamental motor skills is an important agenda in motor development research. In conclusion, the authors highlighted that the need to offer children conditions to explore and experience motor activities in order to enhance motor competence. Finally, the group of Prof. Ugrinowitsch[8] presented a theoretical approach built upon the top-down model of motor control. They discussed a large body of empirical evidence to explain the control, learning, and adaptation of motor actions: The Internal Models. The authors defined the Internal Models proposal as the capacity to simulate the dynamics of specific aspects from the environment. Leite and collaborators concluded that our sensory inputs present serious limitations, which hinder the possibility of controlling the body and directly interacting with the environment. Thus, the Internal Models approach proposes that the central nervous system simulates the reality so that the organism can move and interact with the environment based on predictions and estimations. The basic elements for these predictions are the Inverse and the Forward Models, which produce a series of computations and play very specific roles.

Two authors demonstrated the relationship between eye movements and motor performance. First, Prof. Vickers[9] reveals new insights that come from comparing quiet eye studies within the motor accuracy and motor error paradigms. She started the paper defining quiet eye, which her group presented 25 years ago. Following, results from quiet eye accuracy and error paradigms were presented and discussed. To finalize the paper,

Prof. Vickers highlighted several recommendations that should be carried out in future studies involving the quiet eye, including the recognition of the differences between quiet eye motor accuracy and motor error paradigms, the number of trials per condition, etc. In sequence, Prof. Rodrigues and collaborators[10] showed experimental data about the relationship between pupil diameter and cognitive workload during car driving. The authors tested the adaptation and application of the method of fixation-aligned pupillary response averaging to the car driving context, and analyzed the effects of driving experience on pupillary responses of young adult drivers, as indicative of cognitive workload. They concluded that adaptation and application of fixation-aligned pupillary response averaging to the car driving context was successful. Also, pupil dilation was a robust indicator of cognitive workload while driving a car; talking on a cell phone while driving, in both handheld and hand-free situations, significantly caused increased pupillary dilation, mainly in the novice group.

The walking aspects were also addressed, in this commemorative number, by two authors. Prof. Moraes and collaborators[11] reviewed the intrinsic risk factors for falls, particularly the changes in motor behavior of faller older adults. Their purpose was to present evidence that faller older adults exhibit motor behavior changes beyond the typically investigated standing and walking tasks. The authors proposed that faller older adults share some essential characteristics: except for postural control, fallers have substantial alterations in gait control compared to non-fallers, including changes in the control of reaching and grasping movements. In conclusion, the authors claimed the possibility that fallers not only present alterations in balance and gait, as widely argued, but also changes in other movement categories, particularly involving upper limb movements. On the other hand, Prof. Barela and her group[12] described general information regarding the use of the partial body weight support paradigm as a strategy to manipulate constraints during walking by individuals with and without gait impairments. The authors presented two overground partial body weight support systems implemented and the main studies that have been conducted so far. Based on their studies, they revealed some of the gait parameters that could be changed according to the surface (i.e., treadmill or ground) and the amount of body weight unloading. More importantly, the authors verified that individuals with severe gait impairment could walk with a partial body weight support system. Specifically, some children with cerebral palsy had the opportunity to stand up for a longer period of time than they usually could on a daily life basis.

As a closing contribution to this BJMB's 15th-anniversary issue, Prof. Oliveira[13] shared his experience with innovative learning strategies in the field of motor behavior. He reported insights, improvements and innovations developed in an undergraduate course about the development of human motor behaviors. For example, he summarized ten tips to improve the quality of the students' learning: flip a classroom only if you want the students to take ownership of their learning, be willing to flip your mind, remember that pedagogy drives and technology accelerate, plan ahead, be willing to take risks and be ready to fail, be mindful and programmatic, use the LMS as a learning portal, manage the learning spaces well, teach the students how to learn within a flipped course context, and create ungoogleable learning experiences. The author concluded that one of the biggest mistakes that we often make in higher education is to think that all students learn from the same teaching method. To assume that one selected teaching strategy is enough to equally promote learning to all students is, undoubtedly, a common fault committed by many

instructors and Prof. Oliveira pushes us to think and to teach differently.

All the above-mentioned contributions, besides replenishing us with thoughtful insides and important knowledge, also somehow depict the history of the BJMB in these past 15 years. It has been written with hard efforts, as many of the collaborators devoted shaping and writing the papers, but also with desirable and needed collaborations. If the BJMB stands up and balances on its feet, it is because many extended their arms and offer their hands to support it in many different ways. We are much grateful to all who helped and pleased with the outcome and the impact that we believe the BJMB furnishes on the motor behavior field. On the other hand, now that the BJMB is about to turn an adult, we need to envision and desire higher goals that only will be attained with all the supportive hands and also with many others that we expect to be offered. The challenges are many, as always have been, but with the collaboration of all of those involved in the motor behavior field, we are assured that the BJMB will last and improve in the following years and decades to come.

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