

Explore the Unknown -
Biodanza studies Vol.1

*From experience
to evidence:
the scientific exploration
of Biodanza*

Marcus Stueck



Penguin & Polar Bear Edition

*Evidence
Vivencia*

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Author's foreword

Marcus Stueck

"Investigating Biodanza is like exploring a treasure at the bottom of the ocean or contemplating an infinite universe full of incredible and beautiful miracles."

Marcus Stueck



This quote makes it clear that exploring Biodanza awakens a sense of discovery, wonder and deep curiosity — similar to finding a treasure or contemplating a vast, mysterious universe. At the same time, it reminds us to accompany this beauty with scientific rigour and respect in order to describe our experiences accurately and make them understandable. This book, part of the series "Biodanza Studies — Explore the Unknown", explains why this is important. The series has been published by Marcus Stueck since 2025. The aim is to promote scientific and critical thinking within the Biodanza movement and to make existing research on Biodanza accessible to a wider public. This first book – "From Experience to Evidence" – is volume 2 of the series.

The guiding principle of the book series, *"exploring the unknown"*, is an invitation from Rolando Toro to always remain a researcher of life – with the help of experience (Vivencia) as well as scientific research, e.g. by producing scientific monographs in the Biodanza schools.

The scientific book series thus follows one of Rolando Toro's central concerns: to anchor Biodanza in the foundations of conventional science, as the following significant quote shows:

"Biodanza has no magical connotations. It is based on conventional science, on biology, neurology, advanced psychology, anthropology, sociology, ecology and political science. But there is no magic in it, because things that we cannot explain in accordance with science are not taken into account." (Toro Araneda, 1991, p. 53).

Toro Araneda, R. (1991). *Teoria da Biodança: Coletânea de textos*. Editora ALAB.

The chapter on critical observation 4 (Fig. 16) in the book "From the Experience to the Evidence" explains what is meant by conventional science. It also refers to the first book in this series ("Biodanza Studies – Explore the Unknown", Vol. 2: "Limits of Biodanza?") (Chap. 4.5, Fig. 7; download at www.bionet-research.com) and to the Biodanza research cycle (Fig. 16). This cycle of theory → model → practice → investigation → critical reflection → reference back to the model or theory explains how Biodanza acquires an empirical scientific basis and how new knowledge is created in simple steps: First, you have an idea of how something works (theory). You make this idea visible as a plan (model). Then you try out the plan in practice (Biodanza practice), e.g. Biodanza Aquatica. Questions and concrete assumptions arise from the

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activity. By measuring and testing, you can see whether the assumptions are correct. In critical reflection, you consider what went well, what went wrong and whether the measurements were objective. Then you adjust the idea (theory) and the plan (model) and start again.

Critical reflection is not personal criticism, but serves to maintain a benevolent, distanced perspective on the method and thus protect its essence. It reveals the limitations of the theoretical model and thus acts as a practical tool — quasi the "immune system" of Biodanza. These are the foundations of conventional science, as Rolando Toro wished in the above quote for all subjects (*biology, neurology, advanced psychology, anthropology, sociology, ecology and political science*). The basis of conventional science is always critical reflection based on empirical data.

Critical reflection is not personal criticism, but serves to maintain a benevolent, distanced perspective on the method and thus protect its essence. It reveals the limitations of the theoretical model and thus acts as a practical tool — quasi the "immune system" of Biodanza.

As is customary at the beginning of scientific work, the lecture (see Article 1) in Venezuela and Colombia raises questions that are worth considering or investigating. Example questions are:

- Is the theoretical model a scientific model?
- Is the definition of Biodanza a scientific definition?
- In which areas is there no evidence in Biodanza?
- What contribution can I make, e.g. in the form of a scientific or empirical monograph, to provide more evidence?

The question of evidence is examined in Article 1 by examining Rolando Toro's research wishes:

- Biodanza and blood pressure
- Biodanza and biophotons
- Biodanza and epigenetics
- Biodanza and the hormonal, immune and nervous systems
- Biodanza with children

It is pointed out that there are no studies available on biodanza, biophotons and epigenetics. The lecture critically reflects on the fact that this also applies to the topics of instincts, the vital unconscious, the hormonal effects of dance, polyvagal theory (nervous system), gene expression in biodanza, etc. The bibliography of Biodanza studies at the end of the book shows that most studies were conducted in the field of psychology (8 studies, including doctoral theses), Biodanza with seniors (7- e studies, including doctoral theses) and Biodanza with children (6 studies). A few studies are available in the field of the immune system, endocrine system and physiology (3 studies), clinical implications (3 studies) and one linguistic study. For the first time, review publications on the biocentric paradigm were also examined (6 publications). As there are several lists within the movement (e.g. 22 publications in South America, although several of these did not examine Biodanza but related dance forms such as ecstatic dance, or work on resilience), it was necessary to create an official IBFed list. Only studies that were duly published with a

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peer review system were included. Independent reviewers are necessary to ensure the quality of the research. It was found in Chapter ... that there are only 32 such publications on Biodanza. There are about 500 other dance methods that claim to have a scientific basis (including Dance Movement Therapy, DTM). In order to avoid misunderstandings and not to overemphasise empirical research, Article 1 was written with the following basic assumption:

The focus is on the formation of affective relationships and affective-ethical awareness through Biodanza – science does not take precedence over practice. However, conventional research and critical reflection can help to identify mechanisms of action and limitations more clearly so that Biodanza can preserve its essence and its "immune system".

What about the use of conventional science in the Biodanza movement?

This book, *From the Experience to the Evidence*, became necessary because *representatives of empirical research were systematically excluded from Didacta training courses – even though there have been solid empirical studies on Biodanza for thirty years. Instead, experts on topics such as "epigenetics and Biodanza" were invited without a reliable study basis, or concepts such as regression were presented without taking existing research into account. To make matters worse, those responsible apparently do not understand why prospective trainers need to be familiar with the few existing empirical findings if Biodanza is to be taken seriously as a scientifically based discipline. This means that Rolando Toro's wish to see Biodanza understood as part of conventional science remains largely unheeded. It was not until 2025, at the Didakta training courses in Venezuela and Colombia, that a representative of empirical science, Marcus Stueck, was given 1.5 hours to report on Biodanza research over the last 30 years.*

This book accompanies the presentation given by Marcus Stueck as part of the Didacta training courses in Venezuela and Colombia. The lecture and this accompanying book on this historic event can be downloaded at www.bionet-research.com under *Conferences / Further Training / Material*.

The lecture and this book ("From Experience to Evidence") present three key observations that are supported by the IBFed Methodology Commission "Biodanza & Research", consisting of Juan Galivan, Emilse Pole, Myriam Sofia Lopez and Marcus Stueck (period 2022–2026):

- **Visibility of empirical research:** In many areas of Biodanza training, there has been a lack of consistent integration of existing empirical studies. (Critical Observation 1, p. 4)
- **Theoretical foundation:** The theory of Biodanza is often discussed on the basis of literature; however, there are still too few empirical studies of its own that directly confirm individual assumptions. A stronger empirical foundation would further strengthen the theory. (Critical Observation 2, p. 9)
- **Integration and definitions:** The creative integration of other methods and the diversity of Biodanza definitions are valuable. At the same time, it is important to systematically examine new combinations and definitions for their evidence and their fit with the theoretical Biodanza model so that Biodanza retains its scientific credibility as a conventionally scientifically based method — in the

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sense of Rolando Toro. (Critical observation 3, p. 11)

The following questions arise as a result of the three critical observations made in the first article in the book ("The role of empirical research in Biodanza – a critical analysis").

Based on the three critical observations, this book, *From Experience to Evidence*, derives concrete, constructive steps that are explained in more detail in the chapter *Biodanza and Empirical Sciences*.

The key point is that scientific knowledge should enrich practice, not replace it.

Concrete measures for observation 1 include:

- Empirical research as an integral part of all Didacta continuing education courses: Students should have systematic access to relevant research.
- Short modules and certificates on research methods and evidence interpretation for teachers, enabling them to critically evaluate studies and make them useful for practice.
- Eight ways of imparting knowledge to Biodanza teachers, e.g. an "Extension: Biodanza & Science" in schools, information seminars and practical manuals on topics such as Biodanza & Physiology, Psycho-Neuro-Immunology and Biodanza & Psychology (see p. 6).
- Integration of relevant scientific findings directly into training materials (e.g. chapters on Biodanza and physiology, Biodanza and psychology).

These steps strengthen the professional competence of trainers, promote the responsible use of research findings and support the perception of Biodanza as both an experience-oriented and evidence-based method — without compromising its essence.

Concrete measures for Observation 2 are described in the book, among other places:

Many statements about Biodanza have so far been based more on books and arguments than on direct studies. This is a problem: core assumptions must be empirically tested. To do this, we need a clear priority research plan with validation studies, small randomised pilot studies and mixed-method projects with control groups (qualitative + quantitative). Ongoing projects such as Biodanza Aquatica, Reparentalisation, and studies on psychoneuroimmunological effects are described on page ... They show the way forward. Researchers and institutions must be able to work independently — this means that cooperation with the IBFed is important, but organisational dependencies are problematic, as explained on p. ...

Peer-reviewed publications are crucial because they make research visible and verifiable. Externally, they create acceptance in universities and clinics; internally, monographs and independent research projects help teachers to learn scientific work in a practical way — more thoroughly than final theses. Thus, two communication channels are described in Articles 2 and 3 of the book that need to be developed:

- An internal communication channel. The production of scientific and empirical monographs, as opposed to scientific thesis papers, strengthens critical and scientific thinking in Biodanza.
- An external communication channel. This communication channel is described in Article 3 of the book. It consists of high-quality publications with a review system to increase the reach and visibility of Biodanza in institutions, organisations and the academic world. At the end of the book ("From

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Experience to Evidence"), there is a list of publications that can also be downloaded from the official IBFed website (see News, IBFed List of Scientific Publications, Current Status).

All these publications are stored in the so-called Bionet database (www.bionet-research.com), which is supported by the IBFed subcommittee and maintained by the International Bio-Centric Research Academy (IBRA).

Concrete measures for Observation 3 are described in the book, among other places:

Chapter 3 describes the tendency to constantly attribute new extensions, applications and definitions to Biodanza — often without evidence-based testing and without clarifying whether the theoretical model supports the application. On page 14, two definitions are compared and contrasted, showing how a scientific definition can be underpinned by clear, empirical criteria. On page 12, an important distinction is made: on a human level, Biodanza is a system of inclusion, but on a methodological level, it is a system with boundaries — in other words, it is an integration system, not a limitless one. These levels are often confused, which leads to a demand for ever new integrations (the 'inflation' of extensions). Six problematic boundaries are discussed:

- Spiritual practices (e.g. chakra healing) vs. Biodanza
- Tantra vs. Biodanza
- Holotropic Breathing vs. Biodanza
- Online Biodanza
- Entheogenic substances in connection with Biodanza
- Ignorance of empirical research and a tendency towards pseudoscientific arguments

The individual points are explained in detail in Volume 2 of the *Biodanza Studies* series (see Book 2; download: www.bionet-research.com).

The following image was shown in the lecture "The role of Empirical Science in Biodanza" on Didakta articles in Venezuela and Colombia (see Article 1 in the book). It shows Rolando Toro explaining the basics of Biodanza to a university rector during a trip to Tanzania.



This image symbolises a central tenet of the Biodanza movement: the exchange between practice and science. Rolando Toro in conversation with a university rector in Tanzania, who explains Biodanza with the help of a scientific book. It shows how the lively Biodanza method and academic curiosity can intertwine. **The first article in the book "From Experience to Evidence" concludes with the following quote:**

"The future of Biodanza depends on our ability to maintain the dialogue between vivencia (the art) and science. Empirical research should not be seen as a threat, but as a form of love for life that translates Toro's mission into the present."

*This book is dedicated to Rolando Toro
With deep gratitude*

Leipzig, August 2025 Prof. Dr. habil. Marcus Stueck

This book is an e-book (under review). Please send comments to info@bionet-research.com

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Table of contents

The role of empirical research in Biodanza How much science is there in Biodanza?	10
The internal scientific communication channel to understand empirical science in Biodanza – the importance of scientific monographs in Biodanza	44 (1)
How to make Biodanza more visible? The external scientific channel of communication through publications – Current IBFed list of review publications and doctoral theses – as of 2025	45 (1)

The role of empirical research in Biodanza

How much science is there in Biodanza?

Marcus Stueck

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Abstract:

This article summarises a lecture given at the Didacta training course in Colombia/Venezuela and at the Spanish Biodanza Encounter in October 2025 on the topic: "How much science is there in Biodanza? - The role of empirical Biodanza research" (downloadable at: www.bionet-research.com). It examines the role of empirical research in the international Biodanza movement and asks how scientifically sound the method actually is. Biodanza, developed by **Rolando Toro Araneda** as a system of human integration and self-renewal, is based on biological and psychological principles, but has so far only been empirically researched to a limited extent.

Based on 30 years of research, the presentation will present key findings, shortcomings and perspectives and show ways to evidence-based further development:

1. The IBFed subcommittee "Biodanza and Investigation" ensures the scientific quality of the method and promotes international cooperation via the BIONET platform.
2. Rolando Toro understood Biodanza as an empirical science and saw research as the basis of its credibility.
3. Critical observations show that empirical studies are hardly taken into account in training and practice, resulting in a loss of scientific depth.
4. The limits of the method must be preserved through research and reflection in order to protect Biodanza from arbitrariness.
5. Evidence-based means combining subjective experience with verifiable data – the basis of ethical and scientific recognition.
6. From research to practice: studies on cortisol and immunoglobulin A prove effects; reflection connects theory and experience.
7. The scientific models of Biodanza have so far only been partially empirically validated; the Relative Biocentric Health Theory (rbHT) offers new research approaches.
8. Publication is crucial, as only published results create visibility and legitimacy.
9. The IBRA coordinates international research projects and strengthens interdisciplinary collaboration.
10. Conclusion: Biodanza must integrate empirical research more strongly in order to remain scientifically recognised. Research is not a threat, but an act of love for life – it connects experience and evidence and leads Biodanza into a reflective, sustainable form.

This makes it clear that only through the consistent combination of lived experience, methodological rigour and international research can Biodanza realise its original claim – to be a science of life that harmonises emotion and knowledge.

KEYWORDS

Biocentric Paradigm, Biocentric Health, Biocentric Metho

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Introduction

Biodanza is a globally widespread method of personal development, health promotion and education. In recent decades, it has been practised in many countries, but only gradually researched empirically. This lecture addresses the question of how much science is actually involved in Biodanza – and what role empirical research plays in the future of this method.

I myself have been involved in scientific research related to Biodanza and other psychophysiological methods for over 30 years. After completing two doctorates at the University of Leipzig, I led the world's first controlled Biodanza study (1997–1998 at the Universidad Interamericana in Buenos Aires, together with Rolando Toro). Today, I am the director of the International Biocentric Research Academy (IBRA), a member of the IBFed Methodology Commission "Biodanza and Investigation" and, since 2010, the director of the Baltic Biodanza School in Riga (Latvia).

Initial questions

This lecture is based on six key questions that structure the current situation of empirical research in Biodanza:

1. Who is and what does the IBFed subcommittee (Biodanza and Investigation) want?
2. What was Rolando Toro's relationship to the empirical sciences?
3. What critical observations has the Methodology Commission, *Biodanza and Investigation* Subcommittee made on the current state of empirical Biodanza research?
4. What is meant by empirical Biodanza research, and why is it of central importance for Biodanza as well as for the biocentric principle and biocentric education?
5. How is empirical research organised within the global Biodanza movement?

6. What conclusions and inferences can be drawn for the further development of Biodanza?

These questions form the central theme of the following ten parts of the lecture.

Why this lecture

The aim of this lecture is to raise awareness of the importance of empirical research in Biodanza, to analyse the current state of scientific debate within the global movement, and to find ways in which this scientifically based perspective can be further developed.

The 10 parts of the lecture lead to key conclusions that show why research and evidence-based practice are crucial for the protection and organic development of Biodanza.

Part 1: The IBFed Sub-Commission "Biodanza and Investigation"

The "Biodanza and Investigation" subcommittee is part of the methodological structure of the International Biodanza Federation (IBFed). Its goal is to continue Rolando Toro's scientific legacy and ensure the quality and credibility of the Biodanza method.

The main tasks include:

- Assistance in writing scientific monographs.
- Empirical verification of the theoretical model of Biodanza.
- Investigating the biocentric principle and biocentric education using scientific models.
- Ensuring that changes to theories or models are empirically tested.
- Establishing and maintaining research partnerships with universities, initiatives (including the Social Forum in Italy, Giovanna Bennatti) and independent research institutions such as the International Biocentric Research Academy (IBRA).
- Supporting the administration of the scientific database BIONET (www.bionet-research.com) at IBRA.

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The subcommittee is thus responsible for ensuring the scientific quality of Biodanza. It combines empirical research, scientific documentation and international cooperation.

Part 2: Rolando Toro and the empirical sciences

Rolando Toro, the founder of Biodanza, saw himself as an empirical researcher throughout his life. His work was not an intuitive invention, but a systematically developed process based on observation, experience and verification.

As early as 1998, the first experimental Biodanza study with control groups was conducted in Buenos Aires, in which I participated together with him and other colleagues. This study showed a significant increase in optimism, joie de vivre and a change in fundamental life concepts – measured using Hofstätter's semantic differential (Stueck, Thofts, 2016).

Toro had an astonishingly detailed knowledge of psychological research methods. He discussed measuring instruments, hypotheses and control conditions with me at great length. In doing so, he demonstrated that Biodanza should be understood as a science, not as a magical or esoteric discipline. This is confirmed by a statement by Rolando Toro on the subject of Biodanza & Science:

Person 1 (Sergio Cruz): *"He always attached great importance to Biodanza being understood as a science and not as a magical discipline."* (quoted in Stueck, 2025)

Rolando Toro's research wishes

In a conversation in Tanzania in 2009, Rolando Toro formulated five key research wishes:

1. The investigation of affective processes in connection with biological parameters such as blood pressure, the endocrine and immunological systems.
2. Research into the connection between love and biology.
3. Inclusion of innovative fields such as epigenetics and biophotonics.

4. Investigation of neurophysiological mechanisms.
5. Promotion of Biodanza in educational contexts – in the sense of biocentric education.

These wishes show that Toro conceived of the biological, psychological and pedagogical dimensions of Biodanza within an empirical framework.

Current research and open fields

In recent decades, many of these ideas have been taken up:

- Studies on **cortisol** and **stress reduction** (Stück, Aughostini, Bauer, Sack, 2017).
- Research on **empathy** and **stress-related hypersensitivity** (Stück et al., 2005).
- Theoretical work on **epigenetics** and **neuroplasticity**, so far without experimental data.
- Discourses on **biophotonics** as a metaphor for light, coherence and communication – but without empirical evidence.

This results in a derivation with two central statements (according to the relative biocentric health theory, these are called biocentric basic assumptions): With regard to the scientific nature of Biodanza, two central statements can be made:

1. The scientific basis of Biodanza is currently too weak to be widely accepted in academic and professional institutions such as clinics, health insurance companies, children's facilities and universities.
2. There is a risk of pseudoscientific abuse when terms such as "epigenetics" or "biophotons" are used without being substantiated by studies. There are further examples that will be presented in this lecture.

Biodanza and education

Rolando Toro was particularly keen to integrate

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Biodanza into educational contexts. Under the heading of Biocentric Education, he understood a pedagogy that sees joie de vivre, connectedness and empathy as the basis of learning and development.

There are now several empirically supported programmes in this field that show that Biodanza can promote emotional competence, empathy and stress resistance in children. Publications and collaborations with international universities – for example, in the context of Oxford University Press – confirm this trend (see bibliography at the end).

Conclusions and research mandate

In summary, it can be said that Empirical research on Biodanza is gaining momentum, but its scope has been limited so far. Around 20 scientific papers in 30 years are a start, but they are not enough to permanently anchor Biodanza in the academic and institutional world.

It is therefore necessary to establish a structured, international research network called BIONET (see www.biodanza.org, www.bionet-research.com) in order to:

- conduct high-quality studies,
- publish results openly,
- and to connect scientific language with the lived experience of Biodanza.

Only if Biodanza remains empirically verifiable can it maintain its position as a serious, biocentric science.

Part 3 – Critical observations on Biodanza as a scientific method

A central concern of the IBFed subcommittee "Biodanza and Investigation" is to critically reflect on the current state of empirical research in Biodanza. Four observations can be shared in this regard:

Critical observation 1

Concerns the ignorance of empirical research by a large part of the Biodanza movement

Although a number of studies have been published

in recent decades, their scientific value is often overlooked or even ignored within the Biodanza movement.

Empirical research is hardly visible in the international movement. In many Didacta training courses or school modules, psychological, physiological and biological topics are dealt with without reference to existing studies that have already investigated precisely these connections. For example, regression effects are explained theoretically without taking into account the existing empirical results from Biodanza studies.

One example is the 2007 study *Biodanza Aquatica I*, in which various physiological variables such as muscle tension, skin potential, skin resistance and heart rate were measured. Studies on the typical "model curve" of Biodanza, i.e. the physiological progression between activation and relaxation, have also been proven – especially in participants with a high capacity for relaxation. Nevertheless, such evidence is hardly ever communicated or taken into account in training practice.

This ignorance of scientific research has serious consequences.

It leads to a **loss of credibility** – Biodanza is perceived as unscientific and loses recognition among experts. As a result, the method remains excluded from many official structures, such as prevention and therapy. At the same time, **stagnation in further development** arises because without research, critical reflection is not possible.

- Without empirical science, models become entrenched and theory and practice become rigid.
- Without empirical science, theory and practice lose their orientation – chaos arises instead of development.

With empirical science:

- theory, models and practice remain dynamic and capable of learning.
- theory, models and practice are continuously reviewed and adapted.
- Openness to a lively research process for innovation and further development emerges.

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In addition, the lack of scientific orientation leads to **the spread of superficial knowledge** and the uncritical integration of foreign content in schools and teacher training programmes. A situation that Rolando Toro would not have approved of. He always supported empirical research because he knew he needed it. This ignorance creates a "chaos of methods" in which different schools and teachers represent different, sometimes contradictory definitions or extensions. This in turn reinforces the **pseudoscientific stigmatisation** of Biodanza and reduces its appeal, especially for younger generations. Rolando Toro himself wanted to avoid precisely this development. As Sergio Cruz is quoted as saying, "he always attached great importance to Biodanza being understood as a science and not as a magical discipline." If this claim is abandoned, Biodanza loses not only its scientific credibility but also its ethical basis.

This leads to the **second derivative or biocentric basic assumption (according to the relative biocentric health theory/rbHT):**

If Biodanza loses its connection to Rolando Toro's scientific approach of integrating empirical sciences, it loses its authenticity, protection and developmental power, as well as its internal ethics, as the system relies on control, politics and power without the regulatory influence of independent critical reflection, which empirical science is capable of. Biodanza must not become a mere business model determined by trends and market logic. Rather, empirical research must be an integral part of the training of Didactas, directors and teachers so that the method remains on verifiable and critically reflected foundations.

Eight ways to knowledge about empirical sciences

In order to bring this knowledge back into the movement, the IBFed subcommittee proposes various ways:

Way 1 to knowledge about empirical research

Information events for school directors and Didactas on writing scientific monographs in schools

A first way to gain knowledge about empirical research in Biodanza is to attend an online information event organised by the IBFed subcommittee "Biodanza and Research".

Fig. 1: Information workshop for Biodanza school principals



This event also provides further information on studies in Biodanza, the biocentric principle and biocentric education.

Way 2 to knowledge about empirical research

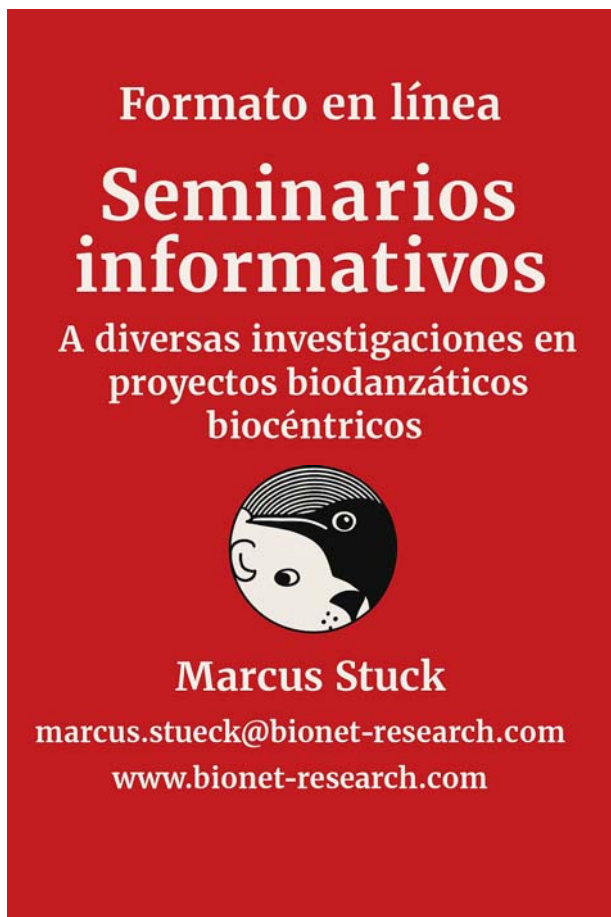
Online seminars on empirical studies and research results (10-hour curriculum).

Information at marcus.stueck@bionet-research.com

This path is as follows.

- Enquire about current dates (marcus.stueck@bionet-research.com) or register as a school.
- Then appointments are made. These are online appointments, as with a curriculum (see illustration).

Fig. 2: Information workshop for Biodanza teachers



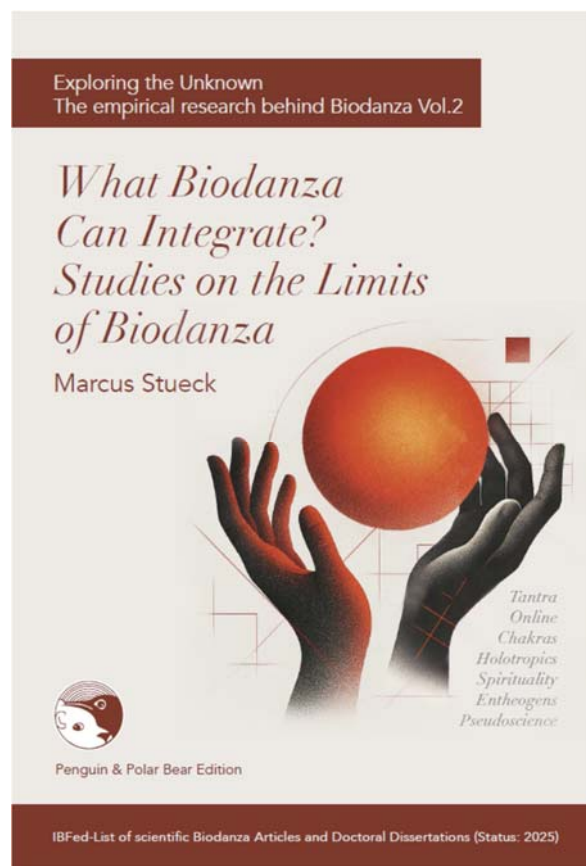
The information seminars provide an overview of existing research on Biodanza, and each event is based on a book: an example of one such book is shown in the following illustration.

It is a scientific book series founded by Marcus Stueck called "Biodanza Studies - Explore the Unknown". The phrase "Explore the unknown" was coined by Rolando Toros and can also be applied to the empirical sciences. Currently planned are:

- 3 introductory volumes
- 13 books (in German, English, Spanish, Portuguese, French).

This book is part of the first introductory book (see Figure 3). The second and third introductory books deal with the limits of Biodanza (Volume 2) and the penguin and polar bear paradigm of biocentric sciences (Volume 3). In this paradigm described by Stueck (2015), the penguin represents experience or art, while the polar bear represents the rational, e.g. empirical sciences. What is special about biocentric sciences is that the polar bear (the rational) and the penguin (the irrational) meet.

Fig. 3 The limits of Biodanza



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The books describe the empirical scientific basis of Biodanza, the biocentric principle and biocentric education. They can be ordered on the website www.bionet-research.com. Please note that the books are currently being written. Information and updates are available on the website.

The titles of the book series "Biocentric Science Books" are listed below.

BOOK 1

From Experience to Evidence – Research Explores Biodanza?

BOOK 2

What can Biodanza integrate? Research on the limits of Biodanza.

BOOK 3

Art and science – the penguin meets the polar bear

BOOK 3:

Biodanza, physiology and chronobiology

BOOK 4:

Biodanza and Psychoneuroendocrinology

BOOK 5:

Biodanza and Psychology

BOOK 6:

Biodanza with Children and Evidence-Based Biocentric Work

BOOK 7:

Evidence-based programmes for institutions and organisations – practical guides

BOOK 8:

Evaluation and tendering for biocentric Biodanza projects

BOOK 9:

Doctoral theses (PhD) on Biodanza

BOOK 10:

The history of empirical research in Biodanza

BOOK 11:

Scientific studies on the theoretical model of Biodanza – a critical reflection

BOOK 12:

Introduction to the relative biocentric health theory – a scientific model for investigating the biocentric principle and biocentric education

BOOK 13:

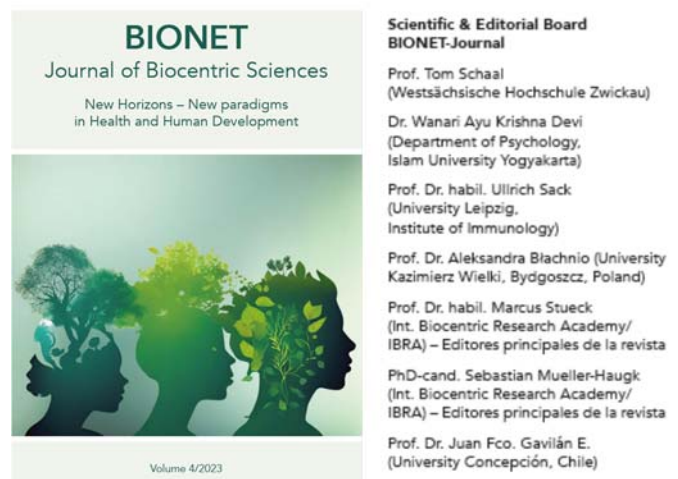
The Ego in Biodanza – Empirical Studies

Path 3 to knowledge about empirical research

Access the Bionet journals "Biocentric Sciences" at www.bionet-research.com

This format of the BIONET Journal "Biocentric Sciences" has been in existence since 2012, since the first BIONET conference in Riga. The BIONET Journal, Volume 7 "Investigación sobre Biodanza", is planned for 2026 to bring together research findings. There is also the first BIONET Journal on doctoral theses in Biodanza.

Fig. 4. BIONET Journal



SOURCE: Stueck, M. (2025). *From experience to evidence: The scientific exploration of Biodanza* (Penguin & Polar Bear Edition). BoD Publishing. Available at: <https://www.bionet-research.com/Material> (under review)

Path 4 to knowledge about empirical research

Bionet Colloquium "Empirical Sciences in Biodanza" in Lizari (Latvia, hybrid)

The BIONET conferences were held in Riga (2012, 2014, 2016) and Indonesia (2018). Since 2025, this format has been continued as the BIONET Colloquium in Lizari (Latvia). The contributions can be downloaded at www.bionet-research.com. The BIONET Colloquium "Empirical Biodanza Science" takes place every year on the last Friday in July in an online and face-to-face format. On Saturday and Sunday, there is a Biodanza workshop with changing guests and topics. Information can be found on the above-mentioned website.

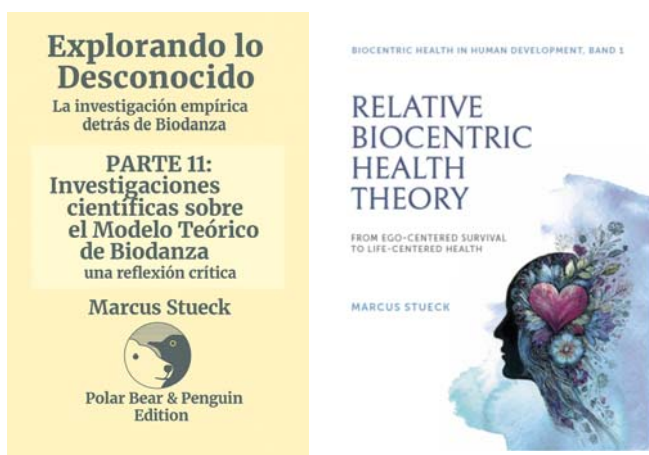
The relative biocentric health theory was presented by Stueck in 2025 after a five-year period of intensive work. It provides the first scientific explanation of the role of Rolando Toro's biocentric principle in the biocentric paradigm. Above all, however, it describes indicators of how the statements in the biocentric principle can be empirically investigated. Based on physiological studies, it describes, for example, holographic characteristics that make the unfolding of life (Stueck, 2015) visible and measurable. The two books (the book on the left from 2026) can be accessed at www.bionet-research.com. Enquiries should be sent to info@bionet-research.com.

Path 5 to knowledge about empirical research

Engagement with the scientific foundations of the theoretical model of Biodanza and the biocentric principle or biocentric education and critical reflection

There are two books available on this subject that should be read. The first is a description of the parts of the theoretical model of Biodanza that have already been well researched empirically and published.

Fig. 5: Summary of studies on the theoretical model and scientific biocentric theory



Path 6 to knowledge about empirical research:

Participation in the extension course "Biodanza and Science" for Biodanza teachers (application at info@bionet-research.com)

This extension provides insights into evidence-based Biodanza programmes for children (Empathieschule, Stueck, 2015) and for psychiatric patients. Above all, it introduces new exercises that can be used in biocentric projects in Muslim contexts, including Iran, where dancing in public is prohibited. In the extension, participants also learn about the empirical findings of Biodanza research and how they can use them in practice. In addition, they are introduced to the exercises and scientific foundations of the relative biocentric health theory (rBHT). They learn how to work with it. The extension has already been used by schools in Mendoza (Argentina) and Riga (Latvia) to prepare teachers for better entry into institutions and organisations.

SOURCE: Stueck, M. (2025). *From experience to evidence: The scientific exploration of Biodanza* (Penguin & Polar Bear Edition). BoD Publishing. Available at: <https://www.bionet-research.com/Material> (under review)



IBFed-Extention
“Science and Biodanza”

**Aprende nuevas prácticas
 en trabajo biocéntrico
 basado en evidencia
 en contextos profesionales**

Marcus Stueck
 Director of the Baltic School of Biodanza

Director of the BALTIC
 SCHOOL OF BIODANZA
info@bionet-research.com
www.bionet-research.com

Fig. 7: BIONET database



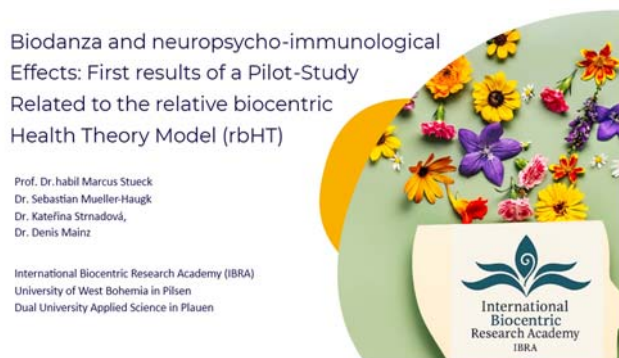
Fig. 8: Organisation of Biodanza studies "Biodanza study in your city" from planning to results workshop. Organised by the International Biocentric Research Academy (IBRA)



18

These studies, which will then be published, contribute to the development of Biodanza and to better access to institutions. Examples include studies conducted in collaboration with the Biodanza schools in Riga, Prague and Porto on the psychoneuroimmunological effects of a Biodanza workshop. The following figure shows the results of the study at the Biodanza school in Prague. It was conducted in cooperation with the University of West Bohemia in Pilsen.

Fig. 9: Example of a study within the framework of the programme "Biodanza study in your city". Results workshop presentation



Another example of this approach to empirical science being successfully pursued is a project in the Netherlands. The following figure shows a call for proposals for a study by the Biodanza Teachers' Association in the Netherlands. A workshop entitled "Biodanza and the Four Elements" was held with Augusto Madalena, with Marcus Stueck and his colleagues Ad Fasse and Anneke Klomp introducing the basics of empirical science on Friday evening and then conducting the study itself on site. On Saturday and Sunday, Augusto conducted four vivencias on Biodanza and the four elements with a four-element diagnosis (observation).

In the study, an experimental and control group will be examined using questionnaires, saliva tests and physiological parameters. In addition, a camera and

measuring devices will be used to evaluate physiological synchronisation processes between the dancers and to examine so-called biocosmic patterns. These patterns were first described in the relative biocentric health theory (Stueck, 2025). The saliva samples will then be evaluated at the University of Leipzig. The study is being conducted by the International Biocentric Research Academy.

Fig. 10 Advertisement for a "Study in your city" in Holland



Path 9 to knowledge about empirical research

Guest membership at the International Biocentric Research Academy (IBRA)

As a guest of the IBRA, you will never miss any information again. Scan the code and submit a membership request. This way, you will always be

SOURCE: Stueck, M. (2025). *From experience to evidence: The scientific exploration of Biodanza* (Penguin & Polar Bear Edition). BoD Publishing. Available at: <https://www.bionet-research.com/Material> (under review)

informed about the latest developments in empirical Biodanza research and studies on relative biocentric health theory.

Fig. 11 Become a member of the IBRA WhatsApp group and hear the latest news and presentations



Critical observation 2 –

Literature-based argumentation and non-published empirical observations are confused with scientific evidence.

Evidence means proof of the effects of Biodanza or biocentric projects. A second critical observation by the IBFed subcommittee "Biodanza and Research" concerns the way in which scientific findings are described as evidence (effects) of Biodanza in many contexts, even though no single study has investigated this evidence (effects).

Research is only considered evident (proven effective) once it has been published.

The following overview shows the

1. ranking of the value (quality) of scientific work according to the design of the work (Table 1)
2. Distinction between scientific works according to primary studies, secondary studies, literature-based argumentation and empirical observations (Table 2)
3. Ranking of the value (quality) of scientific papers according to the type of publication

To 1) Classification of Biodanza studies according to study design (s.table 1):

It classifies different study designs according to their significance and methodological quality. The

higher the rank, the more reliable the scientific results.

Systematic reviews and meta-analyses: Systematic reviews collect and evaluate all relevant studies on a specific question; meta-analyses statistically summarise their quantitative results to provide an overall effect estimate. There are only two systematic reviews on biodanza. There are no meta-analyses.

Randomised controlled trials (RCT): Participants are randomly assigned to intervention or control groups, allowing causal effects to be estimated with high internal validity. There are no studies on Biodanza.

Non-randomised controlled (quasi-experimental) studies: Intervention and control groups are formed without randomisation; they allow effect estimates to be made, but are more susceptible to distortion by confounding factors. There are 15 studies on Biodanza.

Cohort and longitudinal studies: The same group is observed over a defined period of time in order to analyse temporal relationships and risks or developmental processes. There are two studies on Biodanza in this category.

Case-control studies: Individuals with an outcome (cases) are retrospectively compared with controls to identify possible risk factors. There are no studies on Biodanza in this category.

Cross-sectional and observational studies: Data is collected at a single point in time to describe prevalences and correlations, but without reliable causal statements.

Case reports and case series: Detailed descriptions of individual or a small number of cases, helpful for forming hypotheses but not for generalisation. There are many descriptions of this in the school materials.

Theoretical works and expert opinions: Offer conceptual models or professional assessments based on experience and literature, but are considered to be of lower evidence level without empirical confirmation. There are many works on this in Biodanza.

SOURCE: Stueck, M. (2025). *From experience to evidence: The scientific exploration of Biodanza* (Penguin & Polar Bear Edition). BoD Publishing. Available at: <https://www.bionet-research.com/Material> (under review)

Table 1 Ranking of the value (quality) of scientific work according to the design of the work

Rank	Study type & publication type
1	Systematic reviews and meta-analyses
2	Randomised controlled trials (RCT)
3	Non-randomised controlled trials
4	Cohort and longitudinal studies
5	Case-control studies
6	Cross-sectional and observational studies
7	Case reports and case series
8	Theoretical works and expert opinions

Unfortunately, it must be noted that most scientific papers fall into categories 6 to 8 (case studies, case series, theoretical work with hypotheses, expert opinions). There are an estimated 32 papers in the first three categories. That is not enough.

There are no studies at all in categories 4-5.

There are too few high-quality scientific publications on the effects of Biodanza. This limits the visibility of Biodanza in universities, academia, institutions and organisations. These levels need evidence-based studies on Biodanza.

To 2) Distinction between scientific works according to primary studies, secondary studies, literature-based argumentation and empirical observations (see table 2)

In the Biodanza community, except among those familiar with scientific work, there is confusion between literature-based arguments and so-called empirical but unpublished observations.

The following chart illustrates that only **primary and secondary studies** can be considered empirical science, while the other forms do not provide verifiable evidence. However, they are mistakenly taught as evidence in Biodanza. Those who notice this are not the people who practise Biodanza, but those who want to invite Biodanza into institutions as a scientifically based method.

Table 2: Distinction between scientific works according to primary studies, secondary studies, literature-based argumentation and empirical observations

Term	Definition
Primary studies (estimated = 21)	Own empirical data collection to answer a research question.
Secondary studies (estimated = 2)	Systematic summary and evaluation of published primary studies.
Literature-based argumentation (epigenetics, neuroscience, oxytocin, instinct theory)	Compilation of knowledge from books and articles without own data collection.
Unpublished empirical observations	Own observations or experiments without methodological documentation or publication.

The figure shows the **most important distinctions in empirical sciences** as they relate to Biodanza research:

- **Primary studies (approx. 21):** Own data collection with clear methodology and publication, e.g. measurements of cortisol levels after Biodanza.
- **Secondary studies (approx. 2):** Systematic evaluations of existing primary studies, e.g. meta-analyses on Biodanza and stress.
- **Literature-based arguments (predominantly in Biodanza):** Theoretical conclusions without data collection, e.g. reference to neurobiology or epigenetics.
- **Unpublished empirical observations (mainly in Biodanza, especially in school materials):** Practical experiences without scientific documentation or peer review.

A scientifically sound method cannot be based on theoretical concepts taken from the literature that have not been tested with Biodanza. That is pseudoscientific.

SOURCE: Stueck, M. (2025). *From experience to evidence: The scientific exploration of Biodanza* (Penguin & Polar Bear Edition). BoD Publishing. Available at: <https://www.bionet-research.com/Material> (under review)

Scientific concepts such as **neuroplasticity**, **epigenetics** or **polyvagal theory** are often referred to in order to explain the effects of Biodanza – but without drawing on empirical evidence from Biodanza studies. Or pointing out that it does not exist. This happens in schools and Didacta training courses, among other places. This cannot continue if Biodanza is to remain a scientifically based method. The following figure shows which studies would be necessary and that case studies, theoretical work and expert opinions rank very low in terms of scientific rigour. Biodanza does not have enough publications in the upper ranks (the x-axis describes the value and reach of the respective contribution).

This reveals a dangerous development:

The theory of Biodanza is replacing empirical research. Literature-based argumentation is being confused with scientific evidence. Observations from practice or statements by Rolando Toro ("non-published empirical observations") are being presented as evidence, even though they should first be considered hypotheses in science. This is pseudoscientific (it looks scientific, but it is not). As a result, universities, academia, institutions and organisations do not perceive Biodanza as a scientifically sound method.

To 3) Ranking of the value (quality) of scientific work according to the type of publication (see table 3).

It is important to understand that independent peer-reviewed publications (one or two independent reviewers) are what ensure the scientific validity of a method, as they constitute the central seal of quality for scientific work.

Only through critical review by independent peers can it be verified whether the methodology is sound, the data valid and the conclusions logically comprehensible. Biodanza has not yet risen to this challenge. Only when a method has undergone this process several times is it considered scientifically recognised and reliable.

Without this external review, findings remain

subjective, unsubstantiated or potentially misleading, and the system loses its scientific credibility and integrity. The following figure shows a hierarchy of publications.

Table 3: Ranking of the value (quality) of scientific papers according to the type of publication

Rank	Publication type (brief description)
1	Systematic reviews & meta-analyses – Highest level of evidence, very rare in Biodanza (n≈2, 2 systematic reviews available, see literature)
2	Peer-reviewed articles (international journals) – Original research, high visibility (≈15, see literature)
3	Review articles (national journals) – summaries, lower reach (≈15, see literature)
4	Dissertations (PhD) – Independent research, some unpublished (≈6, see literature)
5	Master's/diploma theses – Scientific, but lower reach (≈100)
6	Book chapters in anthologies – Editor-reviewed, rarely peer-reviewed (≈100)
7	Monographs (scientific books) – Detailed, usually without peer review (≈10)
8	Reference works/handbooks – Practice-oriented, not primarily scientific (≈100)
9	Conference papers / abstracts – Short papers, some peer-reviewed (≈80)
10	Newsletters/reports – Lowest level of evidence, internal communication (≈1000)

From the perspective of the published studies, Biodanza can be regarded as a method whose scientific basis is only limitedly substantiated.

As the figure shows, most forms of publication relate to:

- Master's theses and diploma theses
- Book chapters in anthologies

SOURCE: Stueck, M. (2025). *From experience to evidence: The scientific exploration of Biodanza* (Penguin & Polar Bear Edition). BoD Publishing. Available at: <https://www.bionet-research.com/Material> (under review)

- Monographs (scientific books)
- Specialist books and manuals
- Conference papers and abstracts
- Newsletters, practical and internal reports

In the 30 years since the first empirical VG-KG study (see illustration in B.Aires with Rolando Toro, Marcus Stueck, Alejandra Villegas, Raul Terren, Veronika Toro and others, see photo), only about 20 review articles, 2 summaries and 6 dissertations have been published on Biodanza (estimate). The following figure shows the first research group of a VG-KG study in Buenos Aires in 1998.

Fig. 12 First experimental group-control group study worldwide in 1998 at the Universidad Interamericana in Buenos Aires with Rolando Toro



The following statement can be derived:

The situation is critical. There are too few scientific publications on Biodanza. This leads to low visibility in institutions and organisations. Other disciplines – such as Dance Movement Therapy (DMT) – have up to 500 publications and 20 meta-analyses. In the case of yoga, there are well over 10,000 studies worldwide (estimates).

The presentation therefore asks the question: **Why is this the case?**

This leads to the **third derivation (biocentric basic assumption):**

Empirical research is increasingly seen as a decorative accessory – "nice that there are studies", but experience is enough. This " " attitude underestimates the value of research for the protection and further development of the method. Without a clear distinction between primary research, secondary analysis and theoretical work, Biodanza loses its scientific depth. The motto seems to be: we have a model and it is valid forever and ever and does not need to be empirically confirmed or subjected to the critical reflection of empirical sciences. Unfortunately, Rolando Toro is dead and he used to take care of this thanks to his authority.

As a result, it must be soberly noted that **Biodanza does not currently fully meet the standards of a scientifically based method, as most of its justifications are based on secondary sources and theoretical references (hypotheses) rather than on its own primary studies. And this is how it is taught in schools and Didacta training courses. The few empirical studies are ignored. It is not recognised that this ignorance is damaging to the Biodanza movement.**

Critical observation 3:

There is an increasing inflation of requests for extensions and applications, new definitions and variants of the theoretical model of Biodanza, and different music catalogues. This development carries the risk that Biodanza will lose its original essence. In practice, an individualistic approach seems to prevail in many cases – both in theoretical interpretation and in methodological implementation. From a critical perspective, two opposing tendencies can be identified: (1) those who want to rigidly preserve the existing system and maintain the status quo, and (2) those who want to integrate everything and thereby – often unintentionally – create conceptual chaos and theoretical arbitrariness.

This observation leads to the need to formulate boundaries. Biodanza transcends boundaries. That is why the scientific definition of boundaries is important.

The IBFed subcommittee "Biodanza and Research" is

SOURCE: Stueck, M. (2025). *From experience to evidence: The scientific exploration of Biodanza* (Penguin & Polar Bear Edition). BoD Publishing. Available at: <https://www.bionet-research.com/Material> (under review)

concerned about the increasing proliferation of new extension and application requests, as well as divergent definitions and variants of the theoretical model and different music catalogues. This particularly concerns the use of new pieces of music and exercises, some of which can be described as dissociative – i.e. too cognitively oriented ("intellectual") or where music and movement are not in harmony. Although this is also an empirical-scientific question, it must be answered by the "Biodanza and Music" subcommittee.

New topics, formats and definitions are emerging, often without scientific review or reference to the theoretical model (e.g. proposal for a definition of Biodanza at the World Congress, which covers one page, Biodanza and entheogenic substances, Biodanza and Bach flowers, Biodanza and chakras, Biodanza and Tantra). As emphasised in the lecture:

The impression must not be given that the number of newly created extensions and applications exceeds that of the modules in Biodanza schools, thereby introducing topics that no longer relate to the theoretical model of Biodanza or to Rolando Toro's original intentions.

The same applies to the various variants of the theoretical model and also to the inflation of music and music catalogues.

Part 4 – Boundaries are the immune system of Biodanza

This critical observation regarding the inflationary flooding of Biodanza with definitions, application and extension requests, but also with new music and exercises, **raises the existential question of defining boundaries.**

If every extension or interpretation or definition seems possible, the essence of the method threatens to become blurred. Without clear boundaries, it is emphasised, "Biodanza destroys itself".

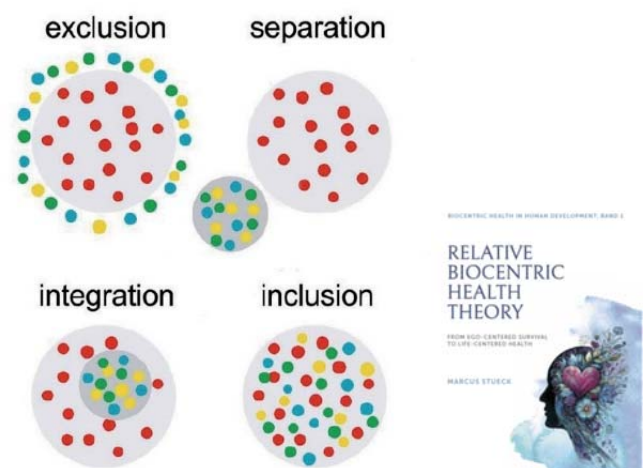
At the moment, there are even more clear boundaries, including:

- The use of entheogenic or psychotropic substances.
- The use of metaphysical energy concepts (e.g. chakras, Bach flower remedies).
- Online formats that undermine the physical-relational basis of Biodanza.
- Biodanza and tantra
- Methods such as holographic breathing.
- **Ignorance of empirical research** (e.g. use of pseudoscientific definitions).

Crossing these boundaries also crosses the ethical foundations of Biodanza and leads to a "watering down" of the Biodanza method.

Rolando Toro, who intuitively determined the boundaries himself until his death, is dead. "Now that he is dead, many do not know the boundaries or how they can be determined. Everything that is alive and contributes to the protection of life is integrated. Here, inclusion is confused with integration. The relative biocentric health theory (Stueck, 2025) illustrates the difference in a picture (see Fig. 13).

Fig. 13: Biodanza is methodologically a system of integration and humanly a system of inclusion



Here we can see that integration has boundaries. Stueck derives the following biocentric basic assumption in the relative biocentric health theory:

SOURCE: Stueck, M. (2025). *From experience to evidence: The scientific exploration of Biodanza* (Penguin & Polar Bear Edition). BoD Publishing. Available at: <https://www.bionet-research.com/Material> (under review)

On a human level, Biodanza is a system of inclusion. On a methodological level, Biodanza is a system of integration with limits.

For example, energy work cannot be integrated because the theoretical model and Rolando Toro himself exclude non-measurable energy. This limit must be respected. It is possible to cooperate with other methods, but separately from Biodanza.

Here we recommend reading a second publication (www.bionet-research.com) that deals with the limits of Biodanza (see Fig. 3).

The integration of new approaches in applications and extensions, new definitions, makes it very important to recognise the need to work scientifically on defining the limits. Questions to be asked are:

1. Is a definition, model or theory scientifically verifiable or not?
2. Does an extension or application fit with Biodanza, with its model, or not?
3. Would Rolando Toro have accepted this extension or application or not?

In a biocentric basic assumption in the relative biocentric health theory (Stueck, 2025), it is expressed as follows:

Determining boundaries is like caring for the immune system of a method. If there are too many components that do not fit the theoretical model of Biodanza or the legacy of Rolando Toro (historical research), then the medicine of "Biodanza" becomes contaminated and loses its effectiveness. The essence is lost.

What can be observed from a scientific point of view is the unbounded application of definitions in Biodanza. In the linguistic research work of Kateřina Strnadová (2025, see www.bionet-research.com [Biodanza – A Study of Linguistic Definitions]), 18 definitions were identified.

Unrestricted use of pseudoscientific definitions:

In her book *Language in Biodanza*, Kateřina Strnadová presents a linguistic analysis of, among other things, Biodanza terms and definitions. She found 18 definitions in various literary sources.

Fig. 14: Linguistic study of language in Biodanza



Many of the 18 definitions analysed in this book (see www.bionet-research.com) contain aspects that have not been empirically tested scientifically, as the following example shows. One definition reads as follows:

"Biodanza is a system of intervention in the epigenetic process through an enriched environment of love (affective contact) and existential self-regulation".

There are no studies on epigenetics that can prove its effects. Due to this lack of awareness regarding the connection between evidence and definition, there is a risk that Biodanza will give itself a pseudoscientific foundation.

Pseudoscience means that something appears to be scientific, but is not based on verifiable data, clear methodology or reproducible results. In short, the definition looks scientific, but is not substantiated or verifiable.

Rolando Toro himself says:

"Biodanza has no magical meanings. It is based on conventional science – on biology, neurology, modern psychology, anthropology, sociology, ecology and political science. But it does not contain any magic, because things that we cannot explain in accordance with science are not taken into account."

(Toro Araneda, 1991, p. 53)

Toro Araneda, R. (1991). *Teoria da Biodança: Coletânea de textos*. Editora ALAB.

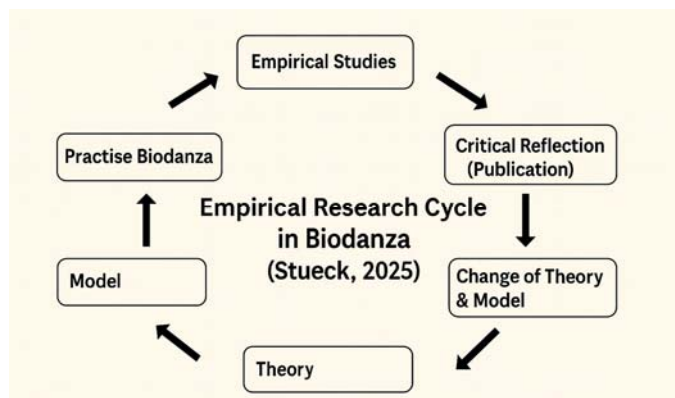
What does conventional science mean?

SOURCE: Stueck, M. (2025). *From experience to evidence: The scientific exploration of Biodanza* (Penguin & Polar Bear Edition). BoD Publishing. Available at: <https://www.bionet-research.com/Material> (under review)

It seeks evidence (proof, empirical confirmation) with the help of a so-called empirical research cycle.

The **research cycle in Biodanza (Stueck, 2025)** shows how the alternation between practice, research and theory determines **the limits and areas of validity** of the Biodanza system and also its definition.

Fig. 15: The research cycle in Biodanza



A **scientific definition in Biodanza** describes terms clearly, verifiably and in connection with scientific concepts – in contrast to poetic descriptions.

Core elements:

- **Conceptual accuracy:** clear, measurable definition of central concepts (e.g. vitality).
- **Empirical basis:** based on verifiable and published research results on Biodanza.
- **Theoretical embedding:** reference to recognised scientific models.
- **Reproducibility:** enables application and verification by other researchers.
- **Delimitation:** avoids pseudoscientific statements, focuses on comprehensible, evidence-based content.

Is the IBFed definition scientifically sound?

“Biodanza is a system of human integration, organic renewal, affective re-education and relearning of the original life functions”.

(Definition of Biodanza – International Biocentric Federation, IBFed)

This definition is also not scientifically sound in the

strict sense, as it has only been empirically validated to a limited extent and many Biodanza teachers are unaware of where to find the supporting studies.

This means that the IBFed definition is formulated in a conceptual and descriptive manner. Only through research (see appendix, publications), i.e. through studies that actually measure biological, physiological, psychological and social integration processes, does it become scientifically compatible and acquire an empirical basis.

The following are examples of empirically supportive studies validating the IBFed definition:

1. Human integration

→ including *psychosocial, emotional and physiological integration*

- **Stueck (2007), Stueck et al. (2009)** – *Psycho-Immunological Process Evaluation of Biodanza*
→ Evidence of synchronous changes in immunoglobulin A and well-being.
- **Stueck, Villegas (2008)** – *Affective connection* → Evidence of changing contact behaviour in everyday life, of changes in the capacity for love
- **Greaves, Stueck & Svence (2016)** – *Emotional and social competences in children*
→ Significant improvement in emotional and social integration.
- **Stueck 2009** – *Emotional and social competences in children*
→ Improvement in emotional and social integration among teachers with pupils as a result of Biodanza.
- **Balzer, Stueck, Anastagion (2025)** – *Chronobiopsychological synchronisation processes*
→ Evidence of synchronisation processes between skin resistance, muscle tension and skin potential as a result of Biodanza.

2. Organic renewal

→ Including *physical regeneration, stress reduction, hormonal regulation*

SOURCE: Stueck, M. (2025). *From experience to evidence: The scientific exploration of Biodanza* (Penguin & Polar Bear Edition). BoD Publishing. Available at: <https://www.bionet-research.com/Material> (under review)

- **Stueck et al. (2013, 2016)** – *TANZPRO-Biodanza studies* → Reduction of cortisol, testosterone, increase in IgA, improved heart rate variability.
- **Carbonell-Baeza et al. (2010)** – *Fibromyalgia study* → Improved physical vitality and pain perception.
- **Vitale et al. (2024)** – *Parkinson's disease study* → Improvements in motor and cognitive functions.

3. Affective re-education

→ *Emotional expressiveness, bonding and communication behaviour*

- **Stueck et al. (2019)** – *Indonesia Empathy Study* → Improved emotional expressiveness and empathy.
- **Stueck & Thofts (2016), López-Rodríguez et al. (2017)** – *University students* → Reduction in stress, depression and sleep problems.

4. Relearning of original life functions

→ *Return to basic life impulses: movement, contact, expression*

- **Stueck (2025)** – *Relative Biocentric Health Theory* → Describes empirical evidence for the restoration of original vital functions. Studies on re-parenting through Biodanza Aquatica
- **Ferraro et al. (2021)** – *Systematic Review* → Confirms consistent effects on well-being, body awareness and social coherence.

The IBFed definition can be empirically supported – but only if reference is made to the work of Stueck, Villegas, Carbonell-Baeza, López-Rodríguez, Vitale and other colleagues. Only through this reference does it gain scientific validity and evidence.

Unfortunately, the research is not well known and is not read. It is not included in training courses or school materials, nor is it even made known to prospective teachers. The lecture presents a series of ignored studies, inviting experts to speak on topics such as regression. But the fact that studies on this subject exist is not acknowledged. Therefore, ignorance of empirical science is a boundary that determines whether Biodanza is a scientific or pseudoscientific discipline.

A historic new beginning for the integration of empirical sciences into Didacta training in Venezuela in 2025:

Due to the lack of scientific reflection in parts of the Biodanza movement, it must unfortunately be stated that, as things stand, Biodanza has so far had a pseudo-scientific foundation with a pseudo-scientific definition. This is mainly because empirical findings and scientific work on Biodanza are largely ignored or not integrated into theoretical development.

The Didacta training course taking place in Venezuela (2025) represents a promising step in this context. The existence of an IBFed subcommittee is also a positive sign – however, its effectiveness will only be measured by concrete scientific results and publications.

This leads to **derivation 4 (biocentric basic assumption):**

New applications, extensions and definitions, as well as music catalogues, must be based on clear criteria:

- They should be aligned with historical research and the theoretical model.
- Before any approval, critical reviews should be carried out by the "Biodanza and Research" or "Music in Biodanza" (music catalogues) methodology commission.

This is the only way to prevent Biodanza from losing its internal structure and falling apart into arbitrary interpretations.

How can the boundaries of Biodanza be determined?

Firstly, by referring back to the theoretical model and the definition of the method, supplemented by

empirical research and further meta-models – in particular the **Relative Bio-Centric Health Theory (rbHT)**, which places Biodanza in a larger scientific context.

A quote from **Sandra Salmaso** sums up Toro's position:

"He repeatedly reminded us that the foundations of Biodanza are biological in nature and that he did not want it to be confused with anything esoteric or oriental."

After Rolando Toro's death, empirical research has become even more important. It is the tool for preserving and further developing Biodanza. Only through data-supported, methodologically sound reflection can untested extensions be critically examined and innovative developments initiated at the same time.

This leads to **the seventh derivation: Empirical research is now the central instrument for protecting the Biodanza method after Toro's death – not against change, but through scientifically proven further development.**

Part 5 – What is evidence and why is evidence-based practice necessary in Biodanza?

In the fourth part of the lecture, the concept of evidence as a central foundation of scientific work is explained and applied to Biodanza.

Evidence literally means "proof" or "verification". In science, it describes the existence of verifiable data or observations that support or refute a statement (). It is crucial that evidence is verifiable, repeatable and published – preferably in peer-reviewed journals.

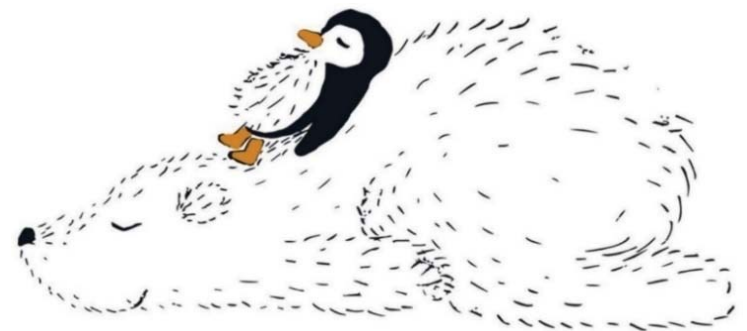
This definition differs significantly from everyday experience. When someone says, "I feel more relaxed after Biodanza," this is a subjective perception. However, if a study proves that the stress hormone cortisol decreases significantly after Biodanza, then this is empirical evidence. Only this form of scientific confirmation creates credibility, connectivity and recognition in research and institutions or organisations.

The connection between vivencia and science – the polar bear and penguin principle. Symbolically, this connection can be described as an encounter between two principles of life (the penguin-polar bear principle according to Stueck, 2025, in the relative biocentric health theory on the connection between vivencia and science):

- The "polar bear" represents the path from the body to the head – that is, systematic observation, **analysis and verification of effects and effect mechanisms.**
- The "penguin" represents the path from the mind to the body – that is, lived experience, vivencia, immediate being in the moment – **effects are experienced.**

Both directions are important: empirical science and Biodanza meet where experience can be verified.

Fig. 16: The penguin and polar bear paradigm



However, a major problem is that many schools and training courses within the Biodanza movement teach theories that are not supported by research.

Time and again, effects are postulated that have no empirical basis. The lecture mentions the following as some of the most frequently used but scientifically untested concepts in connection with Biodanza:

- the polyvagal theory (Porges),
- epigenetics,
- oxytocin as the hormone of bonding (there is only one published Biodanza study on this, but it cannot prove any effect of Biodanza),
- neuroscientific models,
- and Toro's own instinct theory.

SOURCE: Stueck, M. (2025). *From experience to evidence: The scientific exploration of Biodanza* (Penguin & Polar Bear Edition). BoD Publishing. Available at: <https://www.bionet-research.com/Material> (under review)

None of these theories has yet been empirically tested or published specifically in the context of Biodanza. They are therefore inspiring hypotheses, but not scientifically proven facts. A concrete example shows how easy it is to misinterpret things. Texts such as the following are circulating on social media: "Biodanza creates a safe space which, in line with polyvagal theory, activates the vagus nerve and enables healing through connection."

Such a statement seems convincing to laypeople, but it is scientifically inadmissible.

This is because polyvagal theory itself has been empirically proven, but has not been tested in connection with Biodanza.

Although studies show indirect evidence – such as decreasing cortisol levels, increasing IgA concentrations or a decrease in stress – there is no direct evidence of vagal Activation via objective markers such as HRV, RMSSD or RSA are direct parameters of vagal activity. (RMSSD-Root Mean Square of Successive Differences, RSA-Respiratory Sinus Arrhythmia/ Heartfrequency (HF) Since the direct parameters of vagal activity as a result of Biodanza have not been proven, the connection between Biodanza and polyvagal theory is a theoretical assumption, not a proven fact. Here, too, the attribution that polyvagal theory is at work in Biodanza is pseudoscientific. Such overstretching of scientific concepts carries risks. When claims are made in public contexts that "Biodanza heals trauma" or "works via the vagus nerve", the method loses its credibility – even if parts of the statement are theoretically correct.

It would be more scientifically accurate to say: "Biodanza can create a space that promotes security and connectedness according to theoretical models. Initial studies show stress reduction and physiological changes, but direct evidence of vagal activation is still pending." This precise, modest language strengthens confidence in Biodanza, while exaggerated claims weaken it.

Evidence is therefore not only a scientific but also an ethical standard: it protects the method from overinterpretation and secures its place in academic and institutional structures.

The external image of Biodanza and evidence-based programmes

Another aspect concerns the external image of Biodanza. Many institutions – schools, clinics, retirement homes – initially seek information on the internet. There they encounter emotional images that are moving for insiders but can be irritating to outsiders. Without scientific contextualisation, the impression of unprofessionalism or even "esotericism" or "sectarianism" arises, although esotericism is not fundamentally a bad thing. But Biodanza is stigmatised by it. One solution to this problem lies in evidence-based presentation: Empirical data creates

- trust and
- transparency
- access to educational institutions, ministries or therapeutic institutions

This approach has already been successfully implemented in Germany:

From 2007 to 2011, the Federal Ministry of Health funded the *TANZPRO-Biodanza* project for children with €500,000 – a collaboration between the University of Leipzig and the Technical University of Dresden.

Similar programmes have been developed in Latvia, Indonesia, Sri Lanka, Nepal and Iran:

Children (**TANZPRO-Biodanza for Children**)
 Teachers (**TANZPRO-Biodanza for teachers**)
 Senior citizens (**TANZPRO-Biodanza older people**)
 Water (**TANZPRO-Biodanza Reparentalisation**)
 Patients (**TANZPRO Biodanza Psychiatry**)
 Trauma (**TANZPRO Biodanza Posttrauma growth**)

TANZPRO-Biodanza stands for evidence-based dance programme with Biodanza for institutions. In Iran, biocentric projects were used that were also evidence-based.

Fig. 16 Evidence-based programmes in Iran



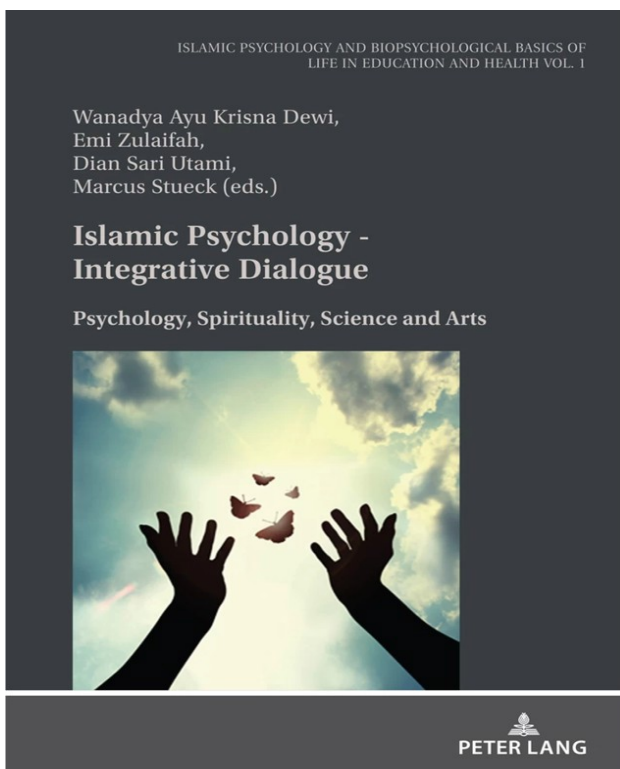
SOURCE: Stueck, M. (2025). *From experience to evidence: The scientific exploration of Biodanza* (Penguin & Polar Bear Edition). BoD Publishing. Available at: <https://www.bionet-research.com/Material> (under review)

Fig. 17 Working with the evidence-based Biodanza programme for children



The pictures show work in a Muslim context, firstly where dancing is forbidden (Iran) and secondly in Indonesia with Muslim children. This work in sensitive cultural contexts requires an evidence-based approach, above all to safeguard one's own work, as well as scientific and theoretical preparatory work with universities, some of which must be planned well in advance. Here is an example of a publication with the Islamic University in Yogyakarta. Here, a model of the four cardinal directions is proposed in which the biocentric methods can be classified.

Fig. 18 Preparatory publication for work in Muslim contexts



These international experiences show that evidence-based approaches transcend cultural, religious and political boundaries.

Where data creates trust, biocentric concepts can also be effective in strictly regulated contexts.

This is how the eighth derivation puts it:

One must traverse the rational field before one can enter the irrational field. Scientific evidence is therefore not a contradiction to lived experience – it is the bridge that connects the experiential with the provable.

Part 6 – From research to practice: strategies for investigating evidence and influencing practice

The sixth part of the lecture shows how empirical research can be put into practice and which strategies make Biodanza scientifically verifiable as a method.

The basis for this is a distinction between two strategies:

1. Determination of effects – here, individual variables are measured, such as cortisol, IgA or blood pressure. The question is: *How does Biodanza work?*
2. Determining mechanisms of action – here, the relationship between several variables is examined in order to understand: *Why does Biodanza work?*

Rolando Toro himself called for this deeper consideration with the words:

"You have to look beyond the classifications."

By this he meant that research must not stop at describing effects, but must explore the underlying processes (mechanisms of action).

Example of the distinction between effects and mechanisms of action:

A current example of the difference between effects and effect mechanisms is provided by studies conducted in Prague. In these studies, participants were asked before and after Biodanza sessions: "What most strongly characterises your behaviour at the moment – goals, motives, emotions, needs or instincts?"

It was expected that emotions and instincts in particular would play a greater role within the relative

SOURCE: Stueck, M. (2025). *From experience to evidence: The scientific exploration of Biodanza* (Penguin & Polar Bear Edition). BoD Publishing. Available at: <https://www.bionet-research.com/Material> (under review)

superposition of behavioural organisation in the experimental group (EG). Surprisingly, however, significantly more participants stated after Biodanza that goals determined their behaviour more strongly than before. In the control group, which did not perform Biodanza, no significant changes were observed.

These results indicate increased rational and goal-oriented processing processes after Biodanza – a finding that initially appears counterintuitive. To test this hypothesis, a supplementary study from 2006 was consulted, in which brain laterality was measured using skin conductance response (SCR) on the left and right wrists. This revealed a statistical tendency towards increased activity in the left hemisphere of the brain after Biodanza.

This finding could explain a possible mechanism of action behind the observed effect: after Biodanza, there appears to be a temporary activation of rational, goal-oriented processes – possibly as an expression of integrative self-regulation between emotional-instinctive and cognitive-goal-oriented control of behaviour.

The importance of critical reflection in Biodanza:

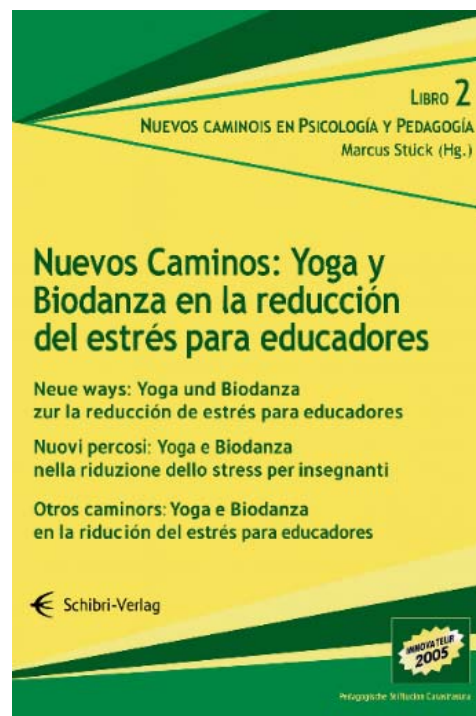
Critical reflection is a particularly important aspect. It is underdeveloped in Biodanza because it is confused with personal criticism. In science, criticism is about protecting the method by striving to find the truth.

Critical reflection in science is based on data. It combines subjective experience with objective evidence and enables personal experiences to be classified in scientific contexts.

Critical reflection on the theory of instincts

An example of this is Marcus Stück's habilitation thesis at the University of Leipzig (2007)

Fig. 19: First critical reflection on the theoretical model of Biodanza



Over a period of nine years, 100 hypotheses were tested, leading to the development of the first evidence-based Biodanza programme for teachers. This work was awarded a German science prize, "Children in Special Situations," in 2006.

In this context, a conversation took place between Marcus Stück and Rolando Toro in Arusha (Tanzania) in 2010.

The Leipzig Habilitation Commission had asked critical questions about the instinct theory and pointed out that its postulated "intelligence of instincts" was not empirically proven.

Toro initially reacted with displeasure, but then acknowledged that his theory was based on assumptions and secondary sources and needed scientific verification.

This episode shows that

A scientific attitude means being able to question one's own model. A theory cannot be based exclusively on literature.

Critical reflection is therefore not an attack on Biodanza, but rather its protection, because it increases the credibility of the method, especially in institutions.

Studies show that many practitioners of Biodanza use intuitive perception strategies, but rarely consciously reflect on how their experiences can be classified scientifically.

This is where the fifth derivation comes in:

Critical reflection makes Biodanza a scientifically sound model. It combines experience with data, enables theory development, protects participants and ensures ethical responsibility.

In summary, parts 4 and 5 of the lecture show that empirical research and critical reflection are not opposites to experience, but rather its necessary complement (see penguin-polar bear principle).

Biodanza can only find lasting acceptance in science and society if it succeeds in combining emotional and physical experience with methodologically sound evidence – as a harmonious unity of *vivencia* (art) and *science*.

Part 7 – Are the models of Biodanza scientific models?

This section addresses the question of whether the theoretical models of Biodanza – in particular the **Theoretical Model (TM)** and the **Biocentric Principle** – meet the criteria of a scientific model.

According to the general definition, a scientific model should:

- Have **clearly defined concepts**
- generate **hypotheses** that can be verified
- can be supported or refuted by **empirical data**,
- reflected in **scientific discourse** (publications, peer review).

Is the theoretical model of Biodanza a scientific model?

The theoretical model of Biodanza **only partially** fulfils these points.

It describes concepts and hypotheses, for example on trance, instinct, emotion or neurobiological processes, but these have **not yet been fully empirically investigated or independently published**. And when they are published, they are not used for argumentation (e.g. trance & regression). Areas such as **DNA/RNA expression, epigenetics, neuroplasticity, vital unconscious or biophotons** have so far only been validated theoretically, not empirically, in the context of Biodanza.

While psychological effects – such as **subjective well-being, social skills and quality of life** – have been well researched, there is a lack of controlled studies on **biological mechanisms and neurophysiological and biological processes**. Nevertheless, such mechanisms are often taught in schools and curricula or used in modules. This is scientifically problematic, as hypotheses without an empirical basis cannot be considered proven.

The theoretical model of Biodanza can therefore be described as a **theoretical-scientific but not empirically validated** model.

By way of comparison, there are now several thousand empirical studies on yoga, while the number of peer-reviewed publications on Biodanza is still in the double digits.

The **biggest problem** lies not so much in the lack of data as in the **ignorance of scientific work** within the movement. Many didactas and schools work with terms such as "neurobiology" or "oxytocin" without this content coming from Biodanza research. The only study was conducted and published in Latvia (Stueck, Raykova, Sturmane, 2025) (relative biocentric health theory, Stueck, 2025) and does not show the desired effects of working with Biodanza in psychiatry. The consequences of ignoring scientific work in Biodanza are:

- Loss of credibility,
- stagnation in further development,
- spread of half-knowledge,
- integration of elements from other disciplines,
- increasing esoteric stigmatisation.

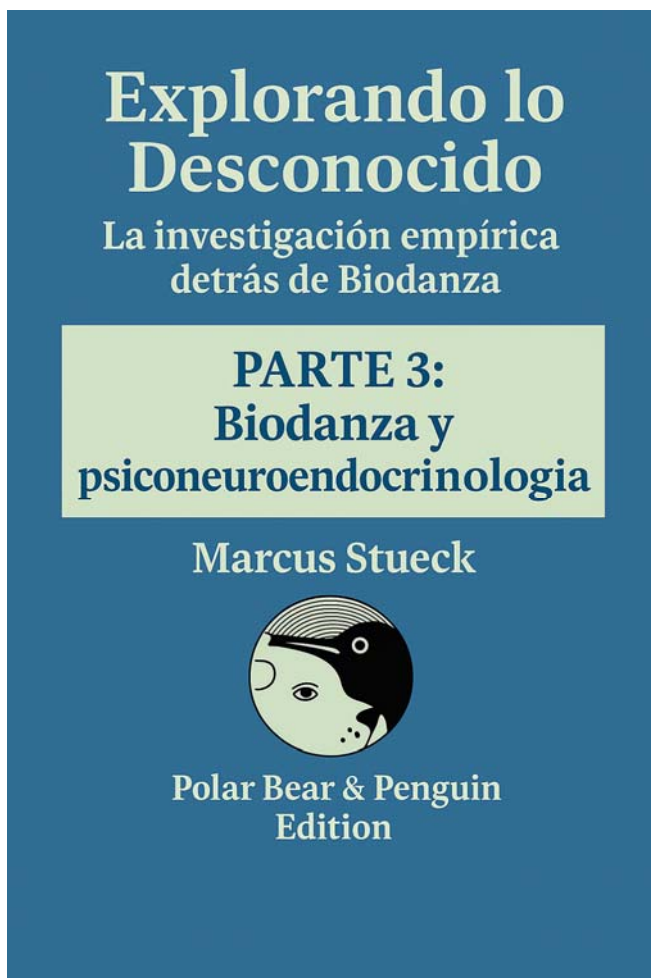
SOURCE: Stueck, M. (2025). *From experience to evidence: The scientific exploration of Biodanza* (Penguin & Polar Bear Edition). BoD Publishing. Available at: <https://www.bionet-research.com/Material> (under review)

Example of empirical progress:

An early example of empirical further development within Biodanza research is provided by the Leipzig studies on *transtase* (1999). Under the direction of **Marcus Stueck**, in cooperation with the **Institute for Clinical Immunology and Transfusion Medicine at the University of Leipzig**, saliva and blood samples were examined to determine the effects of Biodanza on various immunological and psychological parameters.

4. Among other things, differences between **Biodanza** and **non-violent communication** (control group) as well as
5. between **Biodanza** and **yoga** in relation to the concentration of *immunoglobulin A* (*IgA*).

Fig. 20 Publication on the psychoneuroimmunological findings in Biodanza



In the latter project, saliva samples were taken before and after the interventions in a comparative study involving ten Biodanza and ten yoga sessions. The results showed a **significant increase in IgA concentration** in the **Biodanza group**, as well as a **marked improvement in psychological parameters** such as well-being and relaxation – empirical evidence of an effect. It was only years later, in a renewed analysis and discussion with **Jorge Terren**, that it was recognised that there was a sharp increase in IgA levels in the Biodanza group compared to the control group, which was attributable to *instabilities in the emotional system and its autoregulatory processing* – a classic example of **self-organisation**. The transtase mechanism was thus visible and scientifically proven for the first time. This finding illustrates,

6. firstly, that between the **detection of an effect** and the **understanding of the underlying mechanism of action**, there are often years of intensive reflection and theoretical refinement. Research in Biodanza therefore requires patience, critical analysis and conceptual development.
7. However, research on transtase, among other things, also shows that empirical research must follow a cycle of theory – practice – questioning – investigation – critical reflection – change or retention of the model. It is only through this cycle that science becomes alive and integrative – it tests, improves and protects the theory at the same time.

The results were published in 2007 in Marcus Stueck's postdoctoral thesis ("Biodanza mit Lehrern" [Biodanza with Teachers]) at the University of Leipzig and in 2009 in the journal *Signum Temporis* under the title *Psycho-immunological process evaluation of Biodanza* (Stueck et al., 2009). They represent one of the first pieces of biophysiological evidence for Biodanza worldwide.

However, even this research on transtase is not (yet) included in school training or Didacta training and is hardly known, even though transtase is taught.

SOURCE: Stueck, M. (2025). *From experience to evidence: The scientific exploration of Biodanza* (Penguin & Polar Bear Edition). BoD Publishing. Available at: <https://www.bionet-research.com/Material> (under review)

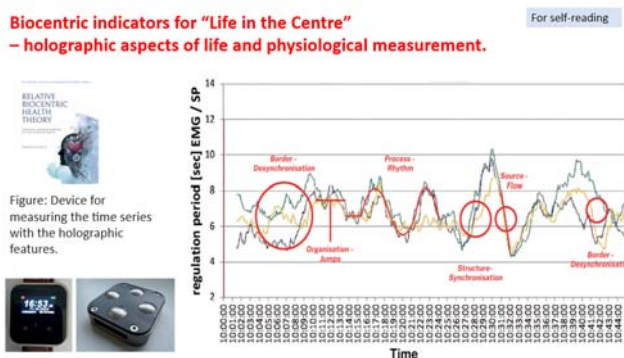
Is Rolando Toro's model of biocentric principles a scientific model?

It is a philosophical-theoretical model with scientific claims, but not a proven model in the strict sense. In order to test it empirically, indicators are needed that can measure what "putting life at the centre" means in concrete terms – for example, biological, psychological and social parameters that represent "life" as a variable quantity.

From 2020 to 2025, a **scientific model for the biocentric paradigm** was therefore developed, which will be published in several languages from 2026 onwards. For the first time, this model makes a clear distinction between theory and empirically testable models:

Each position is operationalised by **measurable indicators** – including holographic and physiological aspects ("Life in the centre – holographic aspects and physiological measurement"). The figure shows an example from physiology that uses biocentric markers (identifiers) to demonstrate that life is at the centre: rhythm, connection, jumps and instabilities, boundaries and source.

Fig. 21: Investigation into the holographic characteristics of life



The **seventh derivation** summarises: Models are not static constructs, but dynamic. They only gain scientific validity through empirical testing and publication. The Biodanza model is therefore **only partially a scientific model**, as many of its assumptions have not yet been published and verified. Only the **Relative Bio-Centric Health Theory (rbHT)** can close this gap by translating Toro's

principle into a testable research model. Evidence-based practice also makes access to institutions such as schools, clinics and universities considerably easier.

Part 8 – Publication of evidence in Biodanza

The seventh part deals with the necessity of **publishing** empirical results. This is because evidence that is only collected internally remains ineffective.

Publication means visibility. Only published research enables institutions, ministries or international organisations to recognise Biodanza as a verifiable method. A "background check-up" – i.e. unpublished data – is not sufficient.

Conclusion:

1. **Publication creates visibility:** results must be published in order to be noticed.
2. **Check-ups are not enough:** internal data collections have no influence.
3. **Public impact:** Only publications create recognition and legitimacy.
4. **Basis for action:** Decision-makers need published evidence in order to use Biodanza as a serious, scientifically based method.

The current situation shows: There are numerous studies on Biodanza worldwide, but only some of them have been published in **peer-reviewed international journals**. Many publications originate from national contexts (e.g. Germany, Latin America, Italy, Spain) and appear without an impact factor.

To date, there are two **systematic reviews**:

- Ferraro et al. (2021): *Pedagogic intervention for health: A narrative systematic review on Biodanza*.
- Stück & Tofts (2016): *Biodanza effects on stress reduction and well-being – A review of study quality and outcome*.

In contrast, dance movement therapy (DMT) already

SOURCE: Stueck, M. (2025). *From experience to evidence: The scientific exploration of Biodanza* (Penguin & Polar Bear Edition). BoD Publishing. Available at: <https://www.bionet-research.com/Material> (under review)

has several **meta-analyses**, which significantly increases its scientific relevance.

The overview presented lists all known peer-reviewed Biodanza articles from 2009 to 2025, starting with *Stueck (2009)* through *Carbonell-Baeza et al. (2010)* to *Zilka et al. (2025)*. This chronology shows a growing but still insufficient scientific basis – a call for future projects to focus more on publication and international cooperation.

Part 9 – How is research in Biodanza organised?

The eighth part is devoted to the **organisation of empirical research** within the global Biodanza movement.

It is based on the five key questions of the IBFed subcommittee "Biodanza and Investigation":

1. What was Rolando Toro's relationship to empirical sciences?
2. What is meant by empirical Biodanza research, and why is it central to the biocentric principle?
3. How is research organised worldwide?
4. What critical observations have been made?
5. What conclusions can be drawn for further development?

Today, this research work is primarily carried out by the **International Biocentric Research Academy (IBRA)**.

Members can become Biodanza teachers who develop a research project with a concept. IBRA organises monthly online meetings: 20 minutes of presentation, 40 minutes of discussion and collegial supervision of the projects. The aim is to provide methodological support for research projects and to evaluate the results together.

IBRA is **deliberately** structured **independently** of the IBFed in order to avoid political influence and ensure scientific credibility.

Its tasks:

- Promotion of interdisciplinary cooperation,

- ensuring critical distance from the method,
- Establishing a transparent, international research network.

IBRA currently operates **without institutional funding**, financed by donations, workshop revenues and contributions in kind from universities (e.g. Institute of Immunology Leipzig, University of West Bohemia Pilsen).

This work is done – as stated in the lecture – "out of love for Rolando and concern for the method".

For research to have a lasting impact, support from the Biodanza movement itself is needed.

Schools and Didacta training courses should give researchers access to groups, promote joint projects and integrate empirical results into teaching.

To this end, IBRA has been offering the **IBFed Extension 'Biodanza and Science'** training course since 2025.

IBRA's current research projects include (selection):

- *Psychoneuroimmunology, Biodanza & Biocentric Health* – Studies in Prague, Riga, Porto, Holland;
- *Effects of the Minotaur* – study in Riga;
- *Biodanza Aquatica* – two studies in Gran Canaria;
- *Relative Biocentric Health Theory* – two studies and a dissertation;
- *Biocosmic Patterns in Biodanza Groups* – study in the Netherlands;
- *The Voice in Trance in Biodanza* – study in Argentina;
- Further biocentric research on chronobiological and systemic foundations.

This international work shows that Biodanza research has now reached a new level:

it is **structured, interdisciplinary and globally networked**, but still relies on commitment, cooperation and publication in order to gain lasting scientific recognition.

SOURCE: Stueck, M. (2025). *From experience to evidence: The scientific exploration of Biodanza* (Penguin & Polar Bear Edition). BoD Publishing. Available at: <https://www.bionet-research.com/Material> (under review)

Part 10 – Preliminary conclusion and necessary steps

In the last part of the lecture, Marcus Stück takes a sobering look at the current state of empirical research in Biodanza.

The integration and use of scientific results in the international movement is **unsatisfactory**. Although empirical studies on Biodanza have existed for over 30 years, they are **hardly taken into account** in training materials, school modules and official curricula.

For the first time, empirical sciences were able to present their findings in a Didacta training course in **Colombia and Venezuela** – in Europe, Argentina and other regions, this has hardly ever happened before.

This illustrates that there is a deep divide between **academic research** and **practical Biodanza training**.

The result is a growing lack of awareness about the limitations and possibilities of the method.

In many contexts, content is taught that has **not** been **empirically tested** – such as references to **epigenetics, polyvagal theory, the intelligence of instincts, biophotons or neuroscience**. Although these terms originate from established scientific disciplines, they have never been systematically investigated in relation to Biodanza.

When such topics are taught uncritically as part of Biodanza theory, the impression of scientific validity is created without any actual evidence.

This situation raises a crucial question:

Is the theoretical model of Biodanza a **scientifically based model**, or does it remain, for the time being, a **philosophical-anthropological system** with empirical claims?

As things stand, the theoretical model can be regarded as an inspiring frame of reference, but it lacks a thoroughly verified empirical basis.

For the **biocentric principle** – the core of Toro's theory – there is as yet **no independent scientific model** that could be operationalised and tested.

In addition, there is a lack of **understanding, knowledge and support** for empirical science within the movement.

Biodanza is **hardly visible** outside the professional world because there is a lack of high-quality publications. As a result, the method remains **only partially compatible** with organisations, universities or funding institutions.

What is needed is a **communicative shift**: an open, objective discussion internally (within schools and commissions) and externally (with the professional public and research partners).

The Bionet network of researchers in Biodanza

Currently, many researchers in the field of Biodanza work in isolation, without pay and without recognition. This is difficult because research costs money and is very laborious. Unfortunately, research is seen as a "decorative" accessory in the Biodanza movement. The importance that Rolando Toro attached to it is not recognised. Many researchers do this out of love for the method and its founder and because they understand the responsibility for the Biodanza system.

Studies are usually produced privately or on an individual basis, without international coordination. There are valuable publications in Spain, Israel, Germany and Latin America, but the authors often do not know each other or communicate with each other. This lack of a common network prevents synergies and the development of a consistent scientific agenda.

This is where **BIONET** plays a central role.

The portal was created to connect people who share a common vision: the connection between **empirical science and biocentric practice**.

The aim is to make research transparent, share results and promote international cooperation.

BIONET is now linked to the official IBFed website (www.biodanza.org) in order to bring scientific content directly into the global structure of the Biodanza movement. Whether this will succeed remains to be seen. As far as scientific standards are concerned, the state of integration of empirical sciences is considered by the IBFed subcommittee "Biodanza and Investigation" to be very worrying and unsatisfactory. If this situation continues, Biodanza will move away from Rolando Toro's

original idea. It will degenerate into a business and the method

- will stagnate and become rigid to change (as the model and practice are not critically reflected upon and modified based on empirical data).
- Or it will become unbounded, opening the door to anarchy and chaos, as everyone will be able to do whatever they want. This process cannot be stopped by political decisions either.

Rolando Toro would not have allowed the "business" by finding a balance:

"Biodanza has no magical connotations. It is based on conventional science, on biology, neurology, advanced psychology, anthropology, sociology, ecology and political science. But there is no magic in it, because things that we cannot explain in accordance with science are not taken into account." (Toro Araneda, 1991, p. 53).

Toro Araneda, R. (1991). *Teoria da Biodança: Coletânea de textos*. Editora ALAB.

Necessary steps for the future

In order to protect and further develop Biodanza in the long term, the lecture mentions several **concrete areas of action**:

1. Strengthening scientific communication

- **Externally:**
Biodanza needs visibility through **high-quality publications with impact factor**. Currently, there are about **15 peer-reviewed articles** and **4–5 doctoral theses** worldwide that deal explicitly with Biodanza. This number is insufficient for international recognition. The aim is to establish a scientific communication network with regularly published studies.
- **Internally:**
Didactic training courses and public lectures should make **empirical research** a mandatory part of their curriculum.

Research results must become part of theoretical training and methodological training in order to raise awareness of scientific work.

2. Expansion of international cooperation

- Biodanza needs **research cooperation with universities** and the **supervision of biocentric dissertations**. Cooperation agreements are currently being concluded for this purpose – at the time of the lecture, **four agreements** have been **signed** with European universities. The aim is to institutionalise Biodanza research, promote young researchers and, in the long term, establish professorships or research centres on the subject of *biocentric health*.

Summary of conclusions

1. The current state of empirical Biodanza research is **fragmented and underrepresented**.
2. There is a lack of clear quality standards, coordination and integration into training systems.
3. Theories are often passed on without an empirical basis.
4. This threatens to undermine the scientific credibility of the method.
5. Empirical research, publication and communication are necessary to make Biodanza **visible, compatible and sustainable**.

Marcus Stück summarises it as follows:

"Without science, Biodanza loses its connection to reality – and with it the power that once defined it."

SOURCE: Stueck, M. (2025). *From experience to evidence: The scientific exploration of Biodanza* (Penguin & Polar Bear Edition). BoD Publishing. Available at: <https://www.bionet-research.com/Material> (under review)

Conclusion

The lecture ends with an appeal:

The future of Biodanza depends on whether we succeed in cultivating dialogue between experience (art) and science. Empirical research should not be seen as a threat, but as a form of love for life that translates Toro's concerns into the present.

This includes ensuring that Biodanza research remains visible and supported in international networks, that results are openly shared and discussed in dialogue, and that both scientists and practitioners respect the limits of the method and transparently demonstrate its effects.

The final slide invites cooperation:

"Strengthen scientific communication – cooperate in biocentric research."

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With these words, the lecture comes full circle: from the origins of Rolando Toro and his empirical approach, through critical observations, to a new, structured and responsible research practice that puts life – *la vida* – back at the centre of science.

Literature Biodanza research

Two systematic reviews – no meta-analysis

Ferraro, F. V., Aruta, L., Ambra, F. I., Distaso, F. P., & Iavarone, M. L. (2021). *Pedagogic intervention for health: A narrative systematic review on Biodanza*. *Movimento*, 27, e27069.

Stueck, M., & Tofts, P. S. (2016). *Biodanza effects on stress reduction and well-being – A review of study quality and outcome*. *Signum Temporis*, 8(1), 57–66.

Peer-reviewed articles

2009

Stück, M.; Villegas, A.; Bauer, K.; Terren R.; Toro V.; Sack U. (2009). Psycho-Immunological Process Evaluation of Biodanza. In *Signum Temporis*.

Pedagogy & Psychology. Vol 2/1/2009

2010

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2013

Stueck, M., Villegas, A., Schoenichen, C., Bauer, K., Tofts, P., & Sack, U. (2013). Effects of an evidence-based dance programme (TANZPRO-Biodanza) for kindergarten children aged four to six on immunoglobulin A, testosterone and heart rate. *Problems of Education in the 21st Century*, 56, 128–143.

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SOURCE: Stueck, M. (2025). *From experience to evidence: The scientific exploration of Biodanza* (Penguin & Polar Bear Edition). BoD Publishing. Available at: <https://www.bionet-research.com/Material> (under review)

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2021

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Zilka, G. C., et al. (2024). Biodanza and a sense of resilience in times of war. [Journal name TBD].

2025

Zilka, G. C., et al. (2025). Impact of Biodanza on children's movement, music, and encounters. [Journal name TBD].

Review article

Stück, M., Villegas, A., Terren, R., Toro, V., Mazzarella, L. & Schröder, H. (2008). Dancing away stress? Biodanza as a new body-oriented

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SOURCE: Stueck, M. (2025). *From experience to evidence: The scientific exploration of Biodanza* (Penguin & Polar Bear Edition). BoD Publishing. Available at: <https://www.bionet-research.com/Material> (under review)

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Biocentric Work

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SOURCE: Stueck, M. (2025). *From experience to evidence: The scientific exploration of Biodanza* (Penguin & Polar Bear Edition). BoD Publishing. Available at: <https://www.bionet-research.com/Material> (under review)

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Myriam Sofia, Emilse Pole, Juan Galivan

SOURCE: Stueck, M. (2025). *From experience to evidence: The scientific exploration of Biodanza* (Penguin & Polar Bear Edition). BoD Publishing. Available at: <https://www.bionet-research.com/Material> (under review)

The internal scientific communication channel to understand the empirical science in Biodanza

The importance of scientific monographs in Biodanza

I learn science by practising it

Marcus Stueck

RECEIVED & REVIEWED

Under review

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ACCEPTED

EDITED

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Methods Commission (Biodanza and Research Subcommittee), represented by Myriam Sofia, Emilse Pole, Juan Galivan and Marcus Stueck.

The difference between scientific thesis papers and monographs:

During this event, Juan Galivan gave a lecture on the importance of scientific monographs in Biodanza schools. It became clear that there is a difference between the following two forms:

- Scientific thesis (more of a compilation of theoretical aspects of a topic, based on a bibliographical study)
- Monographs (scientific treatment of a topic, with critical reflection)

This highlights an important component of scientific work, namely the critical examination of the topic and the monograph's findings.

The difference between a scientific monograph and an empirical monograph:

There are two different forms of scientific monograph in Biodanza:

- Scientific monograph (=general vision, synthesis of a theory)
- Empirical monograph (= original research based on data)

The Bionet database of scientific and empirical monographs and critical reflection on quality

Some of the scientific and empirical Biodanza monographs are available for download in the BIONET database (www.bionet-research.com). It is noticeable that the empirical monographs have a disadvantage. They usually do not have a control group. This makes it difficult to determine the specific effects of Biodanza.

Scientific and empirical monographs serve exclusively as an internal communication channel with Richtig Biodanzabewegung

Marcus Stueck identifies two directions of scientific communication in Biodanza

- External communication in the form of peer-reviewed articles, doctoral and postdoctoral theses, reviewed book chapters and reviewed books
- Internal communication in which the significance of empirical research for Biodanza is experienced ("Science is learned by doing it," Galivan).

In his lecture on the role of empirical sciences, Marcus Stueck notes that Biodanza has only about 32 publications worldwide and is therefore hardly visible in institutions, organisations or academia. This means that external communication and the reach of these 32 publications are very limited.

KEYWORDS: Biocentric Paradigm, Biocentric Health, Biocentric Methods

Introduction:

This article summarises an event held on 12 November by the IBFed

SOURCE: Stueck, M. (2025). *The role of empirical research in Biodanza: How much science is there in Biodanza?* (Biodanza Research — Introduction 1). BoD Publishing. Download [www.bionet-research.com/ Extensions, Material](http://www.bionet-research.com/Extensions/Material)

How to make Biodanza more visible?

External scientific communication through publications

Current IBFed list of review publications and doctoral theses – as of 2025

Created and reviewed by
IBFed subcommittee "Biodanza and Investigation"

c/o Marcus Stueck

RECEIVED & REVIEWED

Under review

RECEIVED 20 October 2025

ACCEPTED

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Martina Goth

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account in training and practice, resulting in a loss of scientific depth and credibility for Biodanza. Pseudo-scientific explanations of the effects of Biodanza are given without evidence from studies to back them up. Evidence-based practice in Biodanza means ensuring that subjective experience is linked to verifiable data. Publications are crucial in this regard, as only published results create visibility and legitimacy. This article presents a list of research published worldwide, divided into the following categories:

- Peer-reviewed articles on Biodanza and Biodanza with children = 21 articles
- Doctoral theses and postdoctoral theses on Biodanza (2 doctoral theses, 1 postdoctoral thesis)
- Peer-reviewed articles on the biocentric principle/education (in general) = 3 articles
- Doctoral theses and postdoctoral theses on the biocentric principle and biocentric education (in general) = 3 doctoral theses
- Book chapters in scientific books with a review system = 1 book chapter
- Reviewed books = 2 books with review system

In total, there are only 32 high-quality Biodanza publications. That is not enough. In other systems (e.g. body movement and dance therapy), there are an estimated 500 review articles. Due to the low quality of the publications, the visibility of Biodanza in institutions, organisations and the academic world is severely limited. But the biggest problem is that Biodanza representatives are unaware of this critical situation. Conclusion: Biodanza must integrate empirical research more strongly in order to remain scientifically recognised. Research is not a threat, but an act of love for life – it combines experience and evidence and leads Biodanza into a reflective, sustainable form. This makes it clear that only through the consistent combination of lived experience, methodological rigour and international research can Biodanza realise its original claim – to be a science of life that harmonises emotion and knowledge.

The publications are available in the Bionet database (www.bionet-research.com).

KEYWORDS Biocentric Paradigm, Biocentric Health, Biocentric Methods

Abstract:

Critical observations show that empirical studies are hardly taken into

SOURCE: IBFed Subcommittee on Biodanza and Research. (n.d.). *IBFed Publication List on Biodanza Research* [free download]. www.bionet-research.com and www.biodanza.org

IBFed Publication List "Biodanza&Science"



Created and reviewed by
IBFed Subcommittee "Biodanza and Investigation"

c/o Marcus Stueck
(BIONET database – www.bionet-research.com)

Scientific (peer-reviewed) journal publications on Biodanza and Biodanza with children

Meta-analysis (0)

Systematic Biodanza study reviews

1. Stueck, M., & Tofts, P. (2016). *Biodanza effects on stress reduction and well-being – A review of study quality and outcome. Signum Temporis*, 8(1). — Peer review: Yes (review). DOI: 10.1515/sigtem-2016-0018. (Source: ([ResearchGate](#)))
Brief description: Systematic/narrative overview of study quality and findings regarding stress reduction and well-being through Biodanza.
2. Ferraro, F. V., Aruta, L., Ambra, F. I., Distaso, F. P., & Iavarone, M. L. (2021). *Pedagogic intervention for health: A narrative systematic review on Biodanza. Movimento (SciELO)*, 27, e27069. — Peer review: Yes. DOI: 10.22456/1982-8918.111547. (Source: ([SciELO](#)))
Brief description: Narrative systematic review of Biodanza interventions and health outcomes (SanRA/Kappa rated).

Review article (19)

1. Perche, F., Stueck, M., Villegas, A., & Balzer, H.-U. (2007). *New ways to reduce stress in the teaching profession: Biodanza and yoga as body-oriented methods for reducing psycho-vegetative tension. Ergomed*, 03/2007, 68–75. — Peer review: Yes. DOI: none found. (Source/verification: ([ResearchGate](#)))
Brief description: Comparative presentation of biodanza and yoga as body-oriented methods for reducing stress in teachers; practical examples and case studies.

SOURCE: IBFed Subcommittee on Biodanza and Research. (n.d.). *IBFed Publication List on Biodanza Research* [free download]. www.bionet-research.com and www.biodanza.org

2. Stueck, M., Villegas, A., Mazzarella, L., Terren, R., & Schröder, H. (2008). *Dancing away stress? Biodanza as a new body-oriented psychological intervention method for stress management for teachers*. *Ergomed*, 02/2008, 34–43. — Peer review: Yes. DOI: none found. (Source: ([ResearchGate](#)))
Brief description: Presentation and evaluation of Biodanza as an intervention method to support teachers in stressful situations.

3. Stueck, M., Villegas, A., Bauer, K., Terren, R., Toro, V., & Sack, U. (2009). *Psych-immunological process evaluation of Biodanza*. *Signum Temporis*, 2(1), 2009. — Peer review: Yes. DOI: 10.2478/v10195-011-0024-7. (Source: ([archive.sciendo.com](#)))
Brief description: Process evaluation of the immunological and psychological effects of Biodanza (exploration data, antibodies/stress parameters).

4. Carbonell-Baeza, A., Aparicio, V. A., Martins-Pereira, C. M., Gatto-Cardia, C. M., Delgado-Fernández, M., & Ruiz, J. R. (2010). *Efficacy of Biodanza for treating women with fibromyalgia*. *Journal of Alternative and Complementary Medicine*, 16(11), 1191–1200. — Peer review: Yes. DOI: 10.1089/acm.2010.0039. (Source: [PubMed](#))
Brief description: Randomised controlled trial of Biodanza in women with fibromyalgia; measures: pain, function, quality of life.

5. López-Rodríguez, M. del M., Castro Sánchez, A. M., Fernández-Martínez, M., Matarán-Penarrocha, G. A., & Rodríguez-Ferrer, M. E. (2012). *Effectiveness of aquatic biodanza on sleep quality, anxiety and other symptoms in patients with fibromyalgia*. *Primary Care*, 44(11), 641–650. — Peer review: Yes. DOI: 10.1016/j.aprim.2012.03.002. (Source: [PubMed](#))
Brief description: Study on "aquatic biodanza" in fibromyalgia patients; outcomes: sleep quality, anxiety, pain.

6. Stueck, M., Villegas, A., Schoenichen, C., Bauer, K., Tofts, P., & Sack, U. (2013). *Effects of an evidence-based dance programme (TANZPRO-Biodanza) for kindergarten children aged four to six on immunoglobulin A, testosterone and heart rate*. *Problems of Education in the 21st Century*, 56, 128–143. — Peer review: Yes. DOI: 10.33225/pec/13.56.128. (Source: ([scientiasocialis.lt](#)))
Brief description: Intervention with kindergarten children; measurement of immunological (sIgA), hormonal (testosterone) and cardiovascular parameters.

7. Stueck, M., Villegas, A., Lahn, F., Bauer, K., Tofts, P., & Sack, U. (2016). *Biodanza for kindergarten children (TANZPRO-Biodanza): Reporting on changes of cortisol levels and emotion recognition*. *Body, Movement and Dance in Psychotherapy*, 11(1), 75–89. — Peer review: Yes. DOI: 10.1080/17432979.2015.1124923. (Source: [bionet](#))
Brief description: Follow-up study on TANZPRO; focus: stress markers (cortisol) and social/emotional skills.

SOURCE: IBFed Subcommittee on Biodanza and Research. (n.d.). *IBFed Publication List on Biodanza Research* [free download]. www.bionet-research.com and www.biodanza.org

8. Greaves, V., Stueck, M., & Svence, G. (2016). *Changes in the emotional and social skills of first-grade school children in the TANZPRO-Biodanza intervention group. Society. Integration. Education.* (Conference/Proceedings) — Peer review: Proceedings / Programme committee review. DOI: 10.17770/sie2016vol1.1528 (if available / Proceedings ID). (Source: (journals.rta.lv))
Brief description: Conference paper on the effects of TANZPRO-Biodanza on emotional and social skills in school beginners (bionet-research.com).
9. Piña López, J. A. (2015). *A critical analysis of the concept of resilience in psychology. Annals of Psychology*, 31(3), 751–758. — Peer review: Yes. DOI: 10.6018/analesps.31.3.185631. (Source: (scielo.isciii.es))
Brief description: Critical conceptual analysis of the term resilience in psychology (theoretical work/review).
10. López-Rodríguez, M. M., Baldrich-Rodríguez, I., Ruiz-Muelle, A., Cortés-Rodríguez, A. E., López-Esteva, T., & Román, P. (2017). *Effects of Biodanza on stress, depression, and sleep quality in university students. Journal of Alternative and Complementary Medicine*, 23(7), 558–565. — Peer review: Yes. DOI: 10.1089/acm.2016.0365. (Source: (Liebert Publishing))
Brief description: RCT or controlled study with students: stress, depressive symptoms, sleep quality.
11. Segura-Jiménez, V., Carbonell-Baeza, A., Aparicio, V. A., Femia, P., Ruiz, J. R., & Delgado-Fernández, M. (2017). *Biodanza reduces acute pain severity in women with fibromyalgia. Pain Management Nursing* (or related publication), 2017. — Peer review: Yes. DOI: 10.1016/j.pmn.2017.03.007. (Source: PubMed)
Brief description: Investigation of the acute pain effects of biodanza in fibromyalgia patients (mixed methods/quantitative pain scales).
12. Widiasmara, N., Novitasari, R., Trimulyaningsih, N., & Stueck, M. (2018). *School of Empathy for enhancing children's wellbeing. International Journal of Social Science and Humanity*, 8(8), 230–234. — Peer review: Journal states peer review; indexing/quality variable. DOI: 10.18178/ijssh.2018.V8.966. (Source: (IJSSH))
Brief description: Quasi-experimental pilot study on the "School of Empathy" intervention and its effects on children's emotional well-being.
13. Stueck, M., Kaloeti, D. V. S., Villegas, A., & Utami, D. S. (2019). *The influence of Biodanza and School of Empathy verbal-respectful communication on the ability to express emotions and needs: A pilot study among adults in Indonesia. Health Psychology Report*, 7(4), 334–340. — Peer review: Yes. DOI: 10.5114/hpr.2019.88665. (Source: (hpr.termidia.pl))
Brief description: Pilot study in Indonesia: Biodanza + School of Empathy elements and their influence on the expression of emotions/needs.

SOURCE: IBFed Subcommittee on Biodanza and Research. (n.d.). *IBFed Publication List on Biodanza Research* [free download]. www.bionet-research.com and www.biodanza.org

14. Calamassi, D., Palfrader, A., Biagiotti, C., & Galli, R. (2019). *Biodanza in healthcare residences: Qualitative study*. *Open Journal of Nursing (SCIRP)*, 9(1), 41–58. — Peer review: Publisher indicates peer review (SCIRP). DOI: 10.4236/ojn.2019.91005. (Source: ([SCIRP](#)))
Brief description: Qualitative study of Biodanza programmes in care facilities (experiences of residents and staff).
15. Calçada, J., & Gilham, C. (2022). *Biodanza and other dance forms as a vehicle for social-emotional learning in schools: A scoping review*. *LEARNing Landscapes*, 15(1), 53–73. — Peer review: Yes. DOI: 10.36510/learnland.v15i1.1059. (Source: ([learninglandscapes.ca](#)))
Brief description: Scoping review of dance forms (including biodanza) as a means of social-emotional learning in school contexts.
16. Chiesi, F., Gori, E., Collini, F., Palfrader, A., Galli, R., Guazzini, A., Collodi, S., Lorini, C., & Bonaccorsi, G. (2021). *Biodanza as a non-pharmacological dance movement-based treatment in older people with Alzheimer's disease: An Italian pilot study in two Tuscan nursing homes*. *Holistic Nursing Practice*, 35(5), 264–272. — Peer review: Yes. DOI: 10.1097/HNP.0000000000000470. (Source: [PubMed](#))
Brief description: Pilot study with institutionalised older people with Alzheimer's; outcomes: neuropsychiatric symptoms, agitation, feasibility.
17. Vitale, C., Rosa, R., Agosti, V., Siciliano, M., Barra, G., Maggi, G., ... Santangelo, G. (2024). *Effects of Biodanza® SRT on motor, cognitive, and behavioural symptoms in patients with Parkinson's disease: A randomised controlled study*. *Journal of Personalised Medicine*, 14(6), 588. — Peer review: Yes. DOI: 10.3390/jpm14060588. (Source: ([PMC](#)))
Brief description: RCT in Parkinson's patients; measurement of motor, cognitive and behavioural outcomes after Biodanza® SRT intervention.
18. Cohen Zilka, G., & Tempel, S. (2024). *Biodanza and a sense of resilience in times of war*. *Journal of Bodywork & Movement Therapies*, 40, 2136–2146. — Peer review: Yes. DOI: 10.1016/j.jbmt.2024.10.054. (Source: ([ScienceDirect](#)))
Brief description: Mixed-methods study on mechanisms through which biodanza can strengthen resilience, vitality and morale in times of war.
19. Zilka, G. C., et al. (2025). *Impact of Biodanza on children's movement, music, and encounters*. (Registered / Preprint / Research in Dance Education 2025). — Peer review: if published in *Research in Dance Education* → Yes; current status: Preprint / Listing, DOI: not yet available (Preprint / DOI possibly later). (Sources/Listing: ([ResearchGate](#)))
Brief description: Report/study on Biodanza programmes for kindergarten/preschool children; focus on movement, music and encounter development.

SOURCE: IBFed Subcommittee on Biodanza and Research. (n.d.). *IBFed Publication List on Biodanza Research* [free download]. www.bionet-research.com and www.biodanza.org

TOPICS

1. Occupational stress & interventions (teachers, emergency services personnel)

In brief: Interventions for stress reduction in the work context / emergency assistance

- 1. Perche et al. (2007). — Biodanza & yoga for stress reduction among teachers (practice/case studies).
- 2. Stueck et al. (2008). — Evaluation of Biodanza as an intervention method for teachers.
- 3. Stueck et al. (2009). — Psycho-immunological process data; relevant for stress response patterns of participants (also in a professional context).
- 4. Stueck et al. (2016) — Systematic review of stress studies

2. Clinical interventions — Fibromyalgia & pain

In short: RCTs / clinical studies with pain/fibromyalgia outcomes

- 4. Carbonell-Baeza et al. (2010). — RCT effectiveness of Biodanza in women with fibromyalgia (pain, function).
- 5. López-Rodríguez et al. (2012). — Aquatic Biodanza in fibromyalgia (sleep, anxiety, symptoms).
- 12. Segura-Jiménez et al. (2017). — Acute pain reduction through biodanza in fibromyalgia.

3. Children, nursery & school (development, SEL, School of Empathy)

In short: Biodanza / TANZPRO in educational settings, promoting social-emotional skills

- 6. Stueck et al. (2013). — TANZPRO in 4–6-year-olds (sIgA, testosterone, heart rate).
- 7. Stueck et al. (2016). — TANZPRO: Cortisol changes & emotion recognition in children.
- 9. Greaves, Stueck & Svence (2016). — Conference paper: emotional & social skills in school starters.
- 13. Widiasmara et al. (2018). — "School of Empathy" — pilot study for child well-being.
- 23. Zilka et al. (2025). — (Preprint) Biodanza for preschool children: movement, music, communication development.

SOURCE: IBFed Subcommittee on Biodanza and Research. (n.d.). *IBFed Publication List on Biodanza Research* [free download]. www.bionet-research.com and www.biodanza.org

4. Psychophysiology / Biomarkers

In short: Studies with biological stress/immune markers or physiological measurements

- 3. Stueck et al. (2009). — Psycho-immunological process data (antibodies/stress).
- 6. Stueck et al. (2013). — sIgA, testosterone, heart rate in children.
- 7. Stueck et al. (2016). — Cortisol measurements in children.
- 21. Vitale et al. (2024). — RCT in Parkinson's disease with motor/cognitive/behavioural and physiological measures.

5. Older people / neurodegenerative diseases / care facilities

In short: Biodanza in care settings, Alzheimer's, Parkinson's

- 20. Chiesi et al. (2021). — Pilot study in nursing homes with Alzheimer's patients.
- 16. Calamassi et al. (2019). — Qualitative study on Biodanza in nursing home settings (experiences of staff, residents).
- 21. Vitale et al. (2024). — Parkinson's RCT (motor/cognitive/behavioural).

6. General mental well-being / community & adults

In short: Effect of Biodanza / "conscious dance" on stress, depression, well-being in non-clinical groups

- 11. López-Rodríguez et al. (2017). — Students: stress, depression, sleep quality.
- 15. Stueck et al. (2019). — Pilot study with adults in Indonesia: expression of emotions/needs.

7. Reviews, scoping & methodological reviews

In brief: Overview studies, quality assessments and scoping reviews

- 8. Stueck & Tofts (2016). — Review of study quality and Biodanza outcomes.
- 2. Ferraro et al. (2021). — Narrative systematic review of Biodanza (Movimento).
- 17. Calçada & Gilham (2022). — Scoping review: dance forms for social-emotional learning in schools.

8. Qualitative research, implementation & practical questions

In short: implementation, feasibility, experiences in applied settings

- 16. Calamassi et al. (2019). — Qualitative study in nursing homes (practical implementation aspects).

SOURCE: IBFed Subcommittee on Biodanza and Research. (n.d.). *IBFed Publication List on Biodanza Research* [free download]. www.bionet-research.com and www.biodanza.org

- 19. Chiesi et al. (2021). — Pilot implementation in two nursing homes (feasibility & outcome measurement).

9. Resilience, conceptual work & special contexts (sport, war)

In short: Resilience theory, resilience as a predictor, biodanza in crisis contexts

- 10. Piña López (2015). — Critical analysis of the concept of resilience (theoretical).
- 14. González, Castillo & Balaguer (2019). — Resilience & basic psychological needs in women's sport (predictors of quality of experience).
- 21. Cohen Zilka & Tempel (2024). — Biodanza & resilience in times of war (mixed methods).

Primary country of origin (first mention) — Frequency

1. **Germany: 6**
2. **Spain: 5**
3. **Italy: 4**
4. **Indonesia: 2**
5. **Israel: 2**
6. **Latvia: 1**
7. **Mexico: 1**
8. **Canada: 1**
9. **International (USA/UK): 1**

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IBFed publication list "Biodanza & Science"



Doctoral theses and postdoctoral theses on Biodanza

Doctoral theses

D'Alencar, Bárbara Pereira — *Biodanza as a process of existential renewal for the elderly: ethnographic analysis* (Doctoral thesis)

Year: 2005 — Institution: University of São Paulo (Ribeirão Preto School of Nursing, USP)

— Language: Portuguese — Degree: Doctorate (Doctoral thesis).

Brief description: Ethnographic doctoral thesis that uses participant observation and interviews to examine the subjective meanings and effects of Biodanza for older people.

D'Alencar shows how Biodanza can promote feelings of autonomy, social participation, meaning and quality of life among seniors, and provides detailed qualitative insights into the everyday and physical practices of the participants. The thesis is considered one of the first scientific-qualitative doctoral theses on Biodanza. The full text and abstract are available in the USP repository and via SciELO.

Supervisor: Prof.^a Maria Manuela Rino Mendes.

A. Villegas, Alejandra — *Process evaluation of BIODANZA* (dissertation)

Year: 2006 — Institution: University of Leipzig (Faculty of Biosciences) — Language:

German / — Degree: Dissertation / PhD.

Brief description: Empirical-quantitative dissertation that conducts a process evaluation of BIODANZA interventions. Villegas combines standardised measurement methods

(psychological parameters) with process observations to document the mechanisms of action and short- to medium-term effects of Biodanza. The work is considered one of the first scientific-quantitative doctoral theses on Biodanza and has been cited many times in specialist literature and anthologies on Biodanza research.

Supervisor: Prof. Harry Schröder

SOURCE: IBFed Subcommittee on Biodanza and Research. (n.d.). *IBFed Publication List on Biodanza Research* [free download]. www.bionet-research.com and www.biodanza.org

Habilitation theses

Stück, Marcus — *Development and empirical evaluation of a stress management concept for the teaching profession (using Yoga and BIODANZA)* (Habilitation thesis)

Year: 2007 — Institution: University of Leipzig — Language: German — Degree:

Habilitation (Venia legendi).

Brief description: Habilitation thesis on the development and empirical testing of an intervention programme for stress management for teachers that integrates body-oriented methods (yoga and elements from Biodanza). The thesis describes the design, implementation and evaluation (pre/post measurements) of the programme and was published as an important scientific basis for the transfer of body-oriented methods to school contexts and summarised in a Schibri volume.

Supervisor: Prof. Dr. habil. Evelyn Witruk

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Scientific (peer)-reviewed book chapters or books on Biodanza and biocentric education (Biodanza with children)

Reviewed book chapters

Stueck, M., & Villegas, A. (2017). Evidence-based BIODANZA programmes for children (TANZPRO-Biodanza) in schools and kindergartens: Some effects on psychology, physiology, hormones, and the immune system. In V. Karkou, S. Oliver, & S. Lycouris (Eds.), *The Oxford Handbook of Dance and Wellbeing* (pp. 77–98). Oxford University Press.

Short summary (English): Stueck & Villegas describe the TANZPRO-Biodanza programme — an evidence-based, structured Biodanza curriculum adapted for kindergartens and primary schools — and review empirical findings on its possible impacts. The chapter summarises small-scale, mainly naturalistic studies that report effects across psychological (e.g., affectivity, self-regulation), physiological (motor/behavioural regulation), endocrine (hormonal responses) and immunological markers, arguing that Biodanza interventions for children may support emotional and self-regulatory development. The authors are careful to note methodological limitations (small samples, naturalistic designs) and call for larger, controlled studies to confirm mechanisms and effect sizes.

Reviewed books

Stück, M., & Villegas, A. (Eds.). (2008). *Biodanza im Spiegel der Wissenschaften* (Vol. 2). Strasburg: Schibri-Verlag. Brief description / classification

The Schibri series *Biodanza im Spiegel der Wissenschaften* brings together empirical studies and articles on the effects of biodanza (psychological, physiological, hormonal and immunological findings). Volume 1 ("Dancing for Health?") and Volume 2 ("The Danced Path" — Villegas) contain dissertations, process and evaluation studies, and review articles, and have been published in several languages (German, English, Italian, Spanish). The volumes serve as central compilations of empirical research on Biodanza.

Strnadová, K. (2025). *Language in Biodanza*. University of West Bohemia in Pilsen. <https://doi.org/10.24132/ZCU.2025.13140>.

SOURCE: IBFed Subcommittee on Biodanza and Research. (n.d.). *IBFed Publication List on Biodanza Research* [free download]. www.bionet-research.com and www.biodanza.org

Brief description: The book analyses the linguistic dimensions of Biodanza along three central areas: (1) silence or absence of language, (2) spoken language (e.g. sharing, introduction of dances, poetic language, voice) and (3) written language (e.g. study materials). It combines theoretical reflections (including mirror neurons and protolanguage) with practical examples and a research section that examines the question: *What is the potential of language in Biodanza?* (including chapters on protolanguage, mirror neurons, poetic language, voice and study materials).

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Peer-reviewed publications on the biocentric principle and biocentric education

Stueck, M. (2021). "The Pandemic Management Theory. COVID-19 and biocentric development"

Brief description: Theoretical article discussing the biocentric principle as a basis for health-related practices and educational concepts; combines Rolando Toro's biocentric ideas with public health perspectives and addresses implications for education and community interventions.

Zilka, G. C. (2022). "Biodanza and the Implementation of the Principle of Biocentric Education in Kindergartens." Review of European Studies / Research in Education Studies (CCSE Journals).

Brief description: Qualitative study (peer-reviewed in regional journals) documenting the practical implementation of biocentric education through Biodanza interventions in kindergartens and describing effects on affectivity and the relational climate. Useful as a practical case study.

Stueck, M., Kaloeti, D. V. S., Kankeh, H., Farrokhi, M., & Bidzan, M. (2023). *Editorial: Biocentric development: studies on the consequences of COVID-19 towards human growth and sustainability. Frontiers in Psychology*, 14, 1176314.

<https://doi.org/10.3389/fpsyg.2023.1176314>

Brief description (German): The editorial introduces the research topic "Biocentric Development: Studies on the Consequences of COVID-19 Towards Human Growth and Sustainability" and summarises the motivation and thematic scope of the collected contributions. It embeds the debate on *biocentric development* in the context of the COVID-19 pandemic — with a view to psychological consequences, adaptation and coping processes, and possible perspectives for sustainable, life-centred approaches to education and health. The editorial is edited by Marcus Stueck and colleagues and serves as a thematic framework for the eight articles in the research topic.

Why is the research topic at Frontiers important? Classification:

SOURCE: IBFed Subcommittee on Biodanza and Research. (n.d.). *IBFed Publication List on Biodanza Research* [free download]. www.bionet-research.com and www.biodanza.org

The editorial highlights and brings together a growing, peer-reviewed debate on biocentric perspectives in psychology, education and health research — particularly with regard to the social and individual consequences of the pandemic. It combines conceptual considerations (e.g., on *biocentric development* and pandemic management theory) with empirical contributions that examine aspects such as anxiety, coping, resilience, and community sustainability.

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Doctoral theses and postdoctoral theses on the biocentric principle and biocentric education

Doctoral theses

Delshad, V. (n.d.). *Modelling of the bio-psychological health assessment in Tehran pre-hospital emergency staff based on the theory of bio-centric health management* [Unpublished doctoral dissertation, University of Social Welfare & Rehabilitation Sciences, Tehran, Iran].

Brief description: Delshad's dissertation project aims to develop a model for bio-psychological health (risk) assessment for employees of the pre-hospital emergency services in Tehran, based on the Theory of Bio-Centric Health Management. Methodologically, the work combines instrument development (including calibration/validation of a questionnaire/assessment battery, based on the "Health Cube/Health Cube Battery"), descriptive surveys and structural equation modelling (SEM) to map psychobiological risk and protective factors for EMTs. The samples and study phases include systematic reviews, cross-sectional surveys in various districts of Tehran, and the development of validated measurement instruments for recording individual resources, stress factors, physiological reactions, and bio-centric performance indicators. The work is embedded in a research programme on the application of biocentric concepts in health diagnostics and preventive care for emergency personnel and also serves as a methodological basis for the implementation of predictive risk models.

Supervisors:

Prof. Dr **Hamidreza Khankeh**,

Prof. Dr. habil. **Mariola Bidzan**

Prof. Dr. habil. **Marcus Stueck**

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Müller-Haugk, S. (2024). *The relationship of movement-oriented pre-experiences and biocentric health aspects during the COVID-19 pandemic* [Doctoral dissertation, Gdańsk University of Physical Education and Sport].

Brief description: The dissertation links Relative Biocentric Health Theory (RBHT) with empirical research on the extent to which previous movement-oriented experiences (e.g. yoga, biodanza, other body-related practices) have protective or moderating effects on biopsychological health and coping parameters during the COVID-19 pandemic. The aim of the thesis is to develop an integrated model that relates individual background factors (biographical movement experiences), psychological coping styles and health outcomes (including anxiety, self-regulation, subjective health indicators) and thus tests the applicability of biocentric concepts in health research and prevention.

Supervisor: Prof. Marcus Stueck

Senarath, S. (2009). *Psychological adjustment and mediator intervention for tsunami-affected children in Sri Lanka* [Unpublished doctoral dissertation, University of Leipzig].

Brief description: The dissertation examines the psychosocial adjustment of children and adolescents affected by the 2004 tsunami in Sri Lanka and evaluates a "mediator intervention" programme (including elements such as Hatha yoga and Biodanza) to support emotional coping and social reintegration. Methodologically, the work includes longitudinal/cross-sectional surveys, qualitative interviews, observations and evaluations of intervention phases; the aim is to derive effective factors and long-term consequences for education, stress and trauma consequences, as well as recommendations for school and community-based intervention programmes. According to sources, the work was submitted to the University of Leipzig in 2009.

Supervisor: Prof. Dr. habil. Evelin Witruk

SOURCE: IBFed Subcommittee on Biodanza and Research. (n.d.). *IBFed Publication List on Biodanza Research* [free download]. www.bionet-research.com and www.biodanza.org