

# BIONet – The IBF Research Network

BIONet is an open network about scientific research about life sciences, e.g. regenerative medicine, Biodanza research, positive psychology, health psychology & early education worldwide (see area 1 and 2). BIONet is also open for artists, qualitative research works, self-experiential science, which gain and express their knowledge out of subjective intuitive experience (see are 3).

This integrated new research paradigm of life science points out 3 areas:

1. Quantitative Research about biological Basics of Life in Human Development.
2. Quantitative and empirical research about psychological and educational Basics of Life in Human development.
3. New scientific approaches towards qualitative and experiential intuitive research of life and human development

Area 1 and 2 include all research which is done in medical, educational and psychological life science with experimental and quasi-experimental design and standardized scientific research methods.

Area 3 is a contribution towards new paradigms in Science, which express the knowledge either qualitatively or in non-linear language. For this area all Biodanza researchers and Biodanza teachers, but also artists and qualitative researchers, who use nonlinear languages (e.g., poets) are invited to present their art of gaining knowledge about ourselves intuitively inside the nature of life. This pathway could be an inspiration of area 1 and 2.

BIONet is supported by the international Biocentric foundation which was founded by Rolando Toro who founded Biodanza. Biodanza Research is a good example where researchers are active in the 3 areas in a rational-verbal and a non-verbal-intuitive pathway.

There will be a conference held every two years from 2012 onwards. This this peer reviewed journal will be published every year from 2012 onwards.

Within the IBF Research Network (BIONet) the main coordinators of the Biodanza research or other life research disciplines are Prof. Marcus Stueck and Dr. Alejandra Villegas, who are one of the pioneers of the Biodanza research worldwide. Those responsible for regional coordination are:

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# Overview on Biodanza research – an 8-aspect-approach

## 1. Introduction

In 2008 Rolando Toro, Marcus Stueck and Alejandra Villegas compiled a list of future research challenges and created an overall research concept or master plan. This contains 8 aspects, and seeks to integrate and coordinate global Biodanza research (Stueck, Villegas, Toro, 2008). We aim to establish scientific studies of Biodanza in academic institutions, to integrate evidence-based research programs in Biodanza, to coordinate all Biodanza studies worldwide, and to document and critically discuss this research. In the last decade different universities have already achieved a great deal in this area. The 8-aspect approach to research was first published in the book “Dance towards health – Empirical research about Biodanza” (Stueck, Villegas, 2008, 566 pages, 4 languages) in the series “Biodanza as Mirrored in the sciences”.

## 2. Research Masterplan

The most important aspects of the 8-point plan are given here, along with with current research (up to 2012), primarily carried out at Leipzig:

### **I) Developing and updating the theoretical model of Biodanza**

Critical reflection on the theoretical model; Habilitation work (Stueck, 2007, University of Leipzig), especially the instinct theory (scientific discourse and the instinct, review of Prof. Prinz/Director of the Max Planck Institute for Brain Sciences in Leipzig). This was discussed with Rolando Toro, 2008. Objective: Acknowledgment or adaptation of the theoretical model with the help of empirical evidence and based on scientifically proven definitions.

### **II) Experimental life sciences basic research on the effects of Biodanza (since 1998):**

A total of 11 studies are known the authors; All of these were carried out by the research group of Marcus Stueck and Alejandra Villegas at Leipzig University. Studies 1–7 used a control group:

- (1) biochemical evidence of the effects of Biodanza on immunological blood parameters in normal subjects (including the first detection of the cellular effects of Biodanza in comparison to the control group),
- (2) evidence of self-organization (Transtase-Theory Jorge Terren) in the immune system and IgA in saliva during 10 Biodanza sessions in comparison with control group (Stueck, 2010),

- (3) detection of positive and optimized psychovegetative auto-regulating effects of Biodanza in the BRAC rhythm (eg using EDA, heart rate) compared to control group (Stueck, 2009),
- (4) psychophysiological mechanisms and Biodanza. This measured a reduction of hypersensibility as a result of Biodanza, and examined the relationships between hypersensibility and empathy, and between hypersensibility and exhaustion (i. e. burnout), (Stueck, Villegas, 2009),
- (5) analysis of biochemical and immunological effects of Biodanza in children (Cortisol, IgA, testosterone), (Stueck, Villegas, Terren, Toro, Sack, 2009),
- (6) biochemical analysis of participants having Biodanza interventions were compared to a control group. Biochemical and immunological blood parameters included stress hormones, leukocytes, granulocytes and T cells), (Stueck, Villegas, Sack, 2009),
- (7) studies of physiological stress relaxation behavior and Biodanza (EDA, blood pressure reduction with control group), (Stueck, Villegas, Balzer, et. al., 2007)
- (8) establish the link between chaotic, unsynchronised emotional-vegetative patterns of EDA to Biodanza and significant improvement of well-being, (Stueck, Villegas, et. al., 2009),
- (9) psychovegetative activation during 48-hour monitoring of EDA. A significant increase in sympathetic nerve activation was observed on the first day and first night after Biodanza, (Stueck, Villegas, Balzer, 2009),
- (10) proof of Biodanza-curve model (developed by C. Garcia, 1997) with Biodanza beginners, (Stueck, Villegas, 2009),
- (11) study of musical parameters of Biodanza music associated with physiological relaxation and activation effects (pilot study at the Mozarteum in Salzburg), (Gloeckner, Balzer 2002; zit. in Stueck, Villegas, 2009).

### **III) Quasi-Experimental psychology studies with weekly Biodanza classes (since 1998) at university of Leipzig (project-coordinator)**

A total of 7 studies (all with control groups): carried out at Leipzig university, university colone and universidad abierta interamericaner Buenos Aires

- (1) Health psychology and physiological effects of Biodanza (including reduction of psychosomatic complaints, stress reduction, increase of optimism, self-efficacy, positive session effect), (Universidad Abierta Interamericana Buenos Aires, Villegas, Stueck, Terren, Toro, 1999, 2000).
- (2) Confirmation of study 1 by repetition at Leipzig: (PhD-Theses of Alejandra Villegas, University of Leipzig, 2006).
- (3) Investigation of Biodanza with psychotherapy patients. The first study found an antidepressant effect during an initial worsening of symptoms, better psychophysiological sleep patterns and better interpersonal skills. The second study, a trial on Biodanza and addictions, is still in progress at an addiction clinic in Leipzig; there is a control group (Stueck, Villegas, 2009).

- (4) Investigation of one-year Biodanza groups (including one year of significant increase in the measured personal variables compared to the control group), (Stueck, Villegas, 2009).
- (5) Studies of health psychological aspects of Biodanza with school teachers (not Biodanza teachers); these include significant degradation of control ambition, significant improvements in various health psychological variables and detection of different mechanisms of action of Biodanza (professorial dissertation M. Stueck, 2007).
- (6) Biodanza with old people (included a control group) (Fidora, Mader; Stueck, 2005; cit. in Villegas, Stueck, 2009).
- (7) Biodanza and Health in Italy (Capri, Terzoli, 2012, University of Rome)
- (8) Pereira, B. (2005). Biodance as process of existential renewal for the elderly (see page 11).
- (9) Senarath, S. (2010). Psychological Adjustment and Mediator Intervention for Children and Adolescents Affected by the Tsunami 2004 in Sri Lanka (see page 11).
- (10) Reis, A. C. (2012). Qualitativ research work in sozial psychological (see page 12).
- (11) Carbonell-Baeza, A., Aparicio, V., Martins-Pereira, C., Gatto-Cardia, C., Ortega, F., Huertas, F., Tercedor, P., Ruiz, J., & Delgado-Fernandez, M. (2010). Efficacy of Biodanza for Treating Women with Fibromyalgia (see page 48)

#### **IV) Quasi-Experimental research on Biodanza extensions (since 2006)**

There are two pilot studies, though without control groups. Biodanza in water (Aqua-Biodanza) (biochemical analyzes, Stueck, Balzer, Matuk, 2007), 4 BIODANZA elements. (all cit. in Villegas, Stueck, 2009)

#### **V) Cross-cultural studies of Biodanza (Since 2005)**

4 studies all with control groups:

- (1) psychological study of stable trans-cultural effects of Biodanza (including comparative test groups in Argentina and Germany), (stueck, Villegas, 2009),
- (2) empirical study of the use of a therapeutic treatment program containing Biodanza for traumatized children after the tsunami in Sri Lanka (Phd-Theses, Senerath, 2009, University of Leipzig),
- (3) Biodanza and trauma therapy during natural disasters (Witruk, Reschke, Stueck, 2009, University of Leipzig).

#### **VI) Studies on the quality of the Biodanza Teacher training (since 2003)**

1 study with no control group. (Stueck, Villegas, 2012 at Leipzig and Riga; publication in progress)

#### **VII) studies of Biodanza with children (since 2008)**

3 studies with control groups:

- (1) collaborative project between the German Ministry of Health, Dresden University of Technology and the University of Leipzig on the effect of healthy lifestyles in nurseries (2008–2011), by using
- (2) Project to prevent violence in schools and day care centers (2008–2011) by using evidence based programme with Biodanza for children (TANZPRO-Biodanza for Children, Stueck, Villegas, Luzzi, Torro, 2010).
- (3) School of empathy by using and integrativ model of empathy (verbal, non-verbal, Stueck, 2009) with the method Biodanza for children an non-violent communication. (Rosenberg, in Stueck, Villegas, Toro, 2010)

### **VIII) publications in scientific journals, high-quality scientific work (since 1998)**

The Leipzig research group has carried out the following:

- (1) At the University of Leipzig two Doctoral (PhD) theses and one professorial thesis (Habilitation) have been successfully defended against external academic assessors (Stueck, 2007),
- (2) scientific articles published in journals with peer-review system (see attachment),
- (3) diplom dissertations on various Biodanza issues in various projects since 1998 (these were experimental studies, not literature reviews).  
(see also section 5 on dissertations)

## 3. Examples of research as part of the 8-aspect-approach

### **To aspect I: Theoretical model**

The theoretical model of Biodanza was presented in the habilitation of M. Stueck (2007). Some aspects of the model were regarded critically by the external academic examiners; for example, the emphasis on instinct theory and the usage in the Biodanza context of old psychological concepts without critical examination. In a critical assessment of this work, we elaborated suggestions for the usage of actual psychological terms. This critical assessment was first published in the German language in the habilitation manuscript of M. Stueck (2007, 2008 in Schibri-publ.house, see infobox 1).

### **To aspect II: Experimental life sciences basic research on the effects of Biodanza**

Example of using the scientific method to investigate the impact of Biodanza are shown in the following Figures. The results are all taken from reference “Dance towards health – Empirical research about Biodanza” (Stueck, Villegas, 2008, 566 pages, 4 languages).

Table 1 and Figure 1 show the Pre-Post results of measuring the IgA. In Figure 1 you can see the so called Transtasis-Effect. It means that after a few sessions the level of IgA measured before each session increased to a new standard (aspect of self organisation).

Due to the complexity of the theoretical Biodanza model, (see Chapter 1, German version) all of the aspects cannot be critically assessed. Some starting points will be picked out for critical assessment or review and new development. The search for a comprehensive model is understandable. Nevertheless the attempt to summarize the wholeness of the human existence in all its complexity (personal, interpersonal and transpersonal) is an immense venture.

This complex model can be broken down in various partial models. For the purpose of describing the renewing of cell organization, the models of autopoiesis and of dissipative structures have proved to be sufficient (Kallen, 2003).

In relation to motivation theories, the Dopamine-Reward model has proved to be effective in Biodanza, and should therefore be clarified to Biodanza experimentally.

Also electrophysiological EEG tests would be necessary in the study of the brainwaves and potentials in Biodanza sessions and the verification of the primary consciousness (Varela 1995) in regressive states. So general experiments on processes in the brain with imaging techniques during Biodanza sessions are necessary. This will allow the further development of Biodanza as well as its verification. It is also similarly necessary for other aspects of the model such as the verification and proof of the existence of a vital unconscious. The theoretical model of Biodanza is still an intuitive and relatively new model, which relies on a deep understanding of neighbouring disciplines. However, when it comes to the psychological origins of this model, although actual neurophysiological concepts were taken into account, it also relies on relatively older theories such as the theory of instinct.

Biodanza was created in South American Spanish- and Portuguese-speaking countries (Chile, Brazil and Argentina) and uses terms and aspects concepts that should be exactly defined and adapted for the psychological categorical system of the English-speaking and European psychology academic societies. The extension of the theoretical model with modern approaches to explain human perception and behavior should be considered; this will nonetheless contribute to verification of the concept of Biodanza.

For the Biodanza concept of movement dissociation, the actual psychological concept of emotional dissonance in relation to the examination of emotional work (among others Zapf et al, 2002) is possibly usable and therefore should be tested for its applicability. Also the application of instinct theory in Biodanza is to be reviewed; it plays a rather secondary role in the frame of modern psychological concepts of research into motivation (Dorsch, 1994; Becker-Carus, 2004; Schmidt & Schmalt, 2000).

Reflection on these aspects of Biodanza theory will be taken care of exemplarily in the habilitation appendix to show possible alternative approaches. It should be borne in mind that although the Biodanza method is forty years old, it is still a very new discipline and that some time is still needed in order to assess the theoretical model through scientific examinations.

Up to now few scientific studies have been conducted on Biodanza to verify the mechanisms of effect in the theoretical model. Toro postulated that Biodanza sessions and training have a direct effect on the limbic system; this is still to be investigated.

*Infobox 1: critical reflection about theoretical model of Biodanza, Stueck, 2007*

Sitzung	1	2	3	4	5	6	7	8	9	10
<b>Prä M</b>	33.78	38.52	27.79	35.83	29.41	30.08	43.88	83.46	44.48	46.42
<b>(SD)</b>	22.27	19.38	13.70	22.86	16.35	13.40	18.25	57.23	21.88	13.15
<b>Post M</b>	92.10	83.71	65.71	78.40	60.45	55.67	49.68	58.78	71.20	41.64
<b>(SD)</b>	36.94	32.04	37.51	35.80	31.62	28.41	25.75	30.76	39.07	21.73
<b>P</b>	<b>.03**</b>	<b>.00**</b>	<b>.05*</b>	<b>.02*</b>	<b>.00**</b>	<b>.00**</b>	.60	.26	.25	.55
<b>d'</b>	2.00	2.11	1.28	1.33	1.35	1.50	0.24	0.61	0.75	0.28
<b>Power</b>	1.00	1.00	.95	0.99	1.00	1.00	.19	.56	.56	.22

Abbreviations: Prä – Pre, M – Mean, SD – Standard Deviation, P – Significance, d' – Effect, IgA – Immunoglobuline A, VG – Experimental group

Table 1: Pre-post-IgA (mg/l) (VG Biodanza).

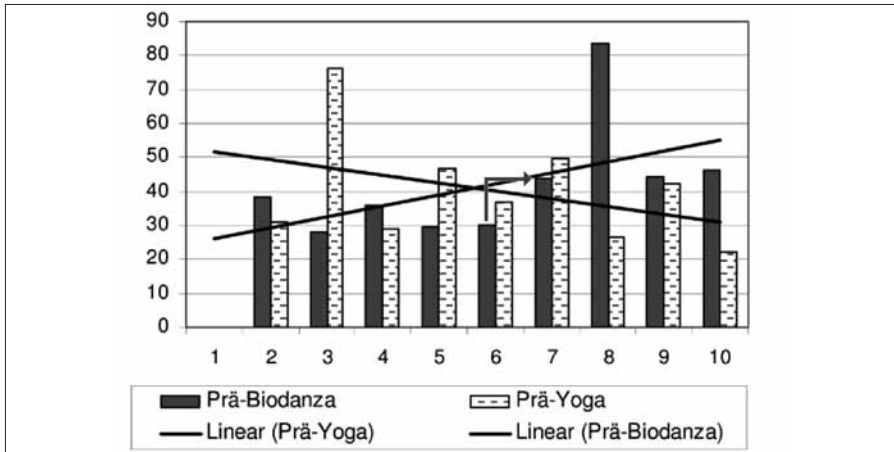


Figure 1: Comparison of pre-values (IgA), starting at the second session. From the six to the seven session in the pre-values of Biodanza appears a process of self organisation (transtasis).

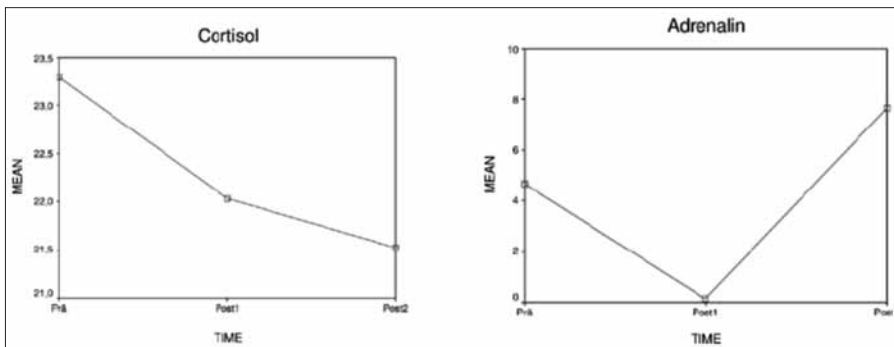


Figure 2: Stress hormones and Biodanza Marathon

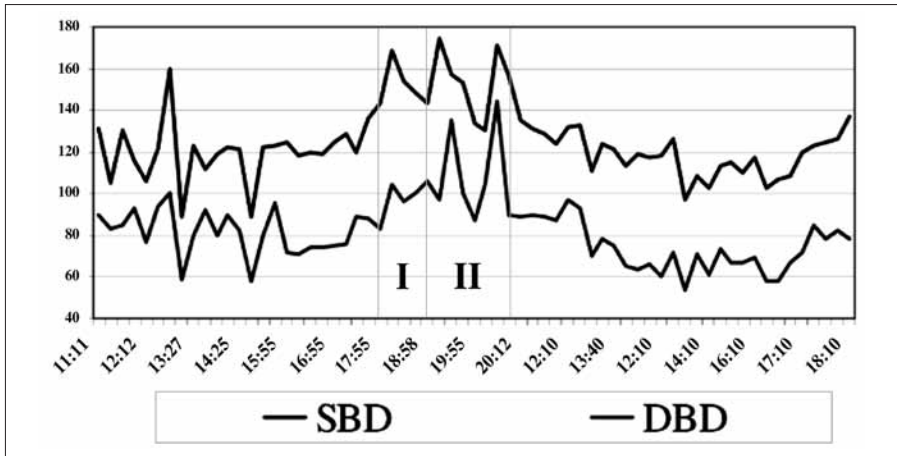


Figure 3: Long-term monitoring of blood pressure.

The results confirm the positive effect of self-regulatory Biodanza for IgA. This is indicated by the six significant differences in means of the pre-post measurements. In Figure 1 you can see the values of measured IgA. The dark bar stands for the Biodanza values (experimental group) and the lighter bars show the values from the Yoga group (control group). The transtasis effect can only be seen in the experimental group. The decreasing line shows a trend for the Experimental group's IgA and the increasing line shows the trend of the experimental group. Further scientific methods to use are for example the measuring of stress hormones (Fig. 2) and blood pressure (Fig. 3).

Figure 2 shows the results of a Biodanza workshop (2 days) where the stress hormones Cortisol and Adrenaline were measured. On the y-axis you can see the means of stress hormones that were measured at different times. These are shown on the x-axis (Pre/Friday evening, Post 1/Sunday evening, Post 2/2 days after Biodanza workshop, evening).

Figure 3 shows the long-term monitoring of blood pressure at a school (single case studie, female teacher 44 years). The upper line is the systolic blood pressure (SBD) and the lower line stands for the diastolic blood pressure (DBD). In this figure the following events can be seen:

First peak – stress at school

Second peak (18:38) – preliminary meeting of Biodanza

Following peaks – high blood pressure during Biodanza



#### 4. Publications and international research standards

With scientific work in Biodanza the non-linear, experience-oriented and poetic “language” of Biodanza can be translated into the linear, rational communication system used by politicians and specialised personnel in the health and educational systems, scientists, institutions, social organisations and investors. Scientists place great value on adhering to scientific standards and “linear rules of communication”, insisting that research projects are followed by publications that correspond to international standards. Therefore the following chapters are sorted according to quality standards used for scientific publications:

- Articles in peer reviewed journals (these are the most important kind of publication)
- followed by habilitations (*professorial theses*)
- followed by dissertations

When published in books or journals without a review system, articles, book chapters and diploma theses do not accomplish scientific publication standards. Conference submissions are located very low down in the rankings.

Research should be conducted in a responsible way at independent universities, oriented at scientific standards and concluded with a publication in a scientific peer reviewed journal. Any other approach does not support Biodanza at all. Scientific projects should fulfil these quality standards to ensure the highest possible seriousness.

#### 5. Dissertations on Biodanza

This is a complete list of all doctoral and professorial dissertations (from any country) about Biodanza known to the authors. The original translations of abstracts to English have been used (except where stated).

**Petrini, J. (2002). O Grupo de 3ª idade na busca de um espaço cordial: Um estudo psicológico. Thesis: Psicologia escolar, prevencao e intervencao psicologica.** No abstract could be found.

**Pereira, B. (2005). Biodance as process of existential renewal for the elderly. PhD Thesis: Departament of Enfermagem. Fortaleza, University Estadual do Ceará.** In this study, we searched, from the ethnographic method, to identify the effects of Biodance in elders that lived it. The study is the first qualitativ PhD thesis worldwide. It was done with eight elderly that integrate the group of Biodance of SESC from Fortaleza, Ceará. The data were collected through semi-structured interview and participant observation, analyzed by method of narrative analysis. In the search of meaning of Biodance to elders, it highlighted that it constitutes a mechanism of facing of difficulties with health, stimulating the change of behavior in relation to health conditions, due increase the vital impetus and will to live. In this sense, the Biodance promotes the rescue of health that grew older.

Descriptors: Anthropology, cultural; dance therapy; Health of the elderly/nursing; Quality of life (see chapter 3 in this journal)

**A. Villegas (2006). Investigation of effect and process effects of dance-oriented intervention method Biodanza. PhD Thesis: Faculty of Biosciences, Pharmacy and Psychology, University of Leipzig.**

This study was made as the first data-based quantitative PhD thesis worldwide and was done at the University of Leipzig. The Biodanza dance oriented method based on a combination of music, movement and human encounter. This study took place regularly over a period of 10 weeks of Biodanza sessions, whose effectiveness has been verified by means of variables of mental health and stress management. In the theoretical part of the study the basics of Biodanza declared. It also refers to the need to involve the body and dance in psychotherapy. The results of this work show that Biodanza promotes health and personal development. (chapter 3 in this journal)

**Stueck, M. (2007). Development and empirical evaluation of a Stress management concept for the teaching profession. Habilitation: Faculty of Biosciences, Pharmacy and Psychology, University of Leipzig.**

This study is about the first successful defended professorial dissertation worldwide (habilitation at Leipzig university) it is the first scientific based introduction of body-oriented methods of Biodanza directly into the heavily loaded school context. The Application of this new way was needed, because alarming health problems of teachers are not considered, especially in terms of increase in psychosomatic disorders and diseases of the musculoskeletal system, in the body inclusion intervention programs evaluated to date. As part of the work was an innovative new model of understanding and access to the load address, which was evaluated by the author based on psychological, physiological and immunological variables directly with 245 subjects in the school system.

**Senarath, S. (2010). Psychological Adjustment and Mediator Intervention for Children and Adolescents Affected by the Tsunami 2004 in Sri Lanka. PhD Thesis: Faculty of Biosciences, Pharmacy and Psychology, University of Leipzig.**

Epidemiological studies show that natural disasters can have widespread and devastating impact on health and national community stability even when only a few individuals are primarily affected. On December 26, 2004, Tsunami waves spawned by a magnitude of 9.0 earthquake hit Indian Ocean countries. This unprecedented natural disaster claimed more than 200,000 human lives in the developing countries. Sri Lanka suffered a heavy damage over more than 50 % of its coastal-belt region; tsunami took away over 40,000 lives, left nearly 1 million people homeless, and exposed millions of children and adults to traumatic events. Researchers investigate short-and long-term consequences, encounter heavy tolls on mental health of those who are affected. A significant increase of pervasive psychosocial problems, and effort in coping strategies were associated with post-traumatic stress disorder (PTSD).

In this Phd was investigated a evidence based programme TRANZPRO-Biodanza for children (Stueck, Villegas, Luzzi, Toro, 2010)

**Reis, A. C. (2012). A Danca da Vida: a Experiência da Biodanca. Second qualitativ PhD thesis, Instituto de Psicologia, Universidade de Sao Paulo.**

Biodanza is a system of interpersonal development created by psychologist Rolando Toro and based on group experiences, mediated by music and dance. This qualitativ research work reports part of a survey in Social Psychology, whose objective is to understand the meanings attributed to the Biodanza experience by the participants of a group which was investigated, and to discuss its implications regarding the constitution of the subjectivity. For the data collection, the participant observation and the interview were used, and the information was analyzed by means of the phenomenological method. The material presented in this work shows that the Biodanza experience is multifaceted, consisting of a therapeutic experience involving learning, identity, the look, affection, and the present. In the different varieties of this experience, the very movement of the subjectivity is highlighted in its processes of change. In conclusion, Biodanza is a creative experience, which also brings an aesthetical sense, for it engenders, in the dance of the self, the experience of being someone else.

## 6. Communication of scientific know-how for Biodanza instructors

This seminar can be ordered by all Biodanza schools worldwide and consists of a detailed description of the research results, the theoretical foundation of the aspects mentioned above and also practical exercises and measurements. In the European Biodanza schools the results of the seminar have been integrated into the education of Biodanza instructors and have already been used (Biodanza schools at Cologne, 2003; Milan, 2004; Vienna, since 2004 regular; Catania/Sicily, 2007; Slovenia 2009 regular; Riga, since 2009 regular)

## 7. Conclusion and outlook

A range of research into Biodanza continues in Leipzig. In particular, Biodanza extensions are being analysed (Biodanza Aquatica – in water, Biodanza for children) and the implementation of Biodanza into the German school context is currently being evaluated.

edited by Paul Tofts

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# Investigation of the impact of the dance-oriented intervention method Biodanza

## Abstract

*This study was the first dissertation in Biodanza using empirical research data at the University of Leipzig. The Biodanza dance oriented method is based on a combination of music, movement and human encounter. This study took place regularly over a period of 10 weeks with Biodanza sessions (each a 1,5 h Vivencia); its effectiveness was verified using mental health and stress management outcome variables. It also shows the value of involving the body and dance in psychotherapy. This work is an example of how Biodanza promotes health and personal development.*

Descriptors: dance therapy Health, Quality of life, Stress Coping, Personality development

## 1. Introduction

The dance oriented intervention method Biodanza is based upon the interaction of music, movement and interpersonal encounters and experiences. In the context of this study Biodanza sessions were held over the period of 10 weeks. One session means one Vivencia that lasts 1,5 hours. The effects of this study were then verified using variables of the psychological health and the ability of stress coping.

This project began in Leipzig in 2000. The research in Argentina (1998–1999 give reference) was repeated at the University of Leipzig with the same research design and was completed with the first Biodanza dissertation in Leipzig from Alejandra Villegas in 2006 (Villegas, 2006 this is not in the list of references).

## 2. Method

36 people took part in the testing group of the analysis of which 31 were students and 5 were in employment. The average age was 269 years ( $s=6$ ; range 21–51).

In the control group (they were doing aerobics instead of Biodanza) there were 20 participants of which 80% were students and the rest in employment. The average age was 27 years ( $s=10$ ; range 20–55).

**Factor A:** Control group (CG; Aerobics); testing group (TG; Biodanza)

**Factor B:** measuring times: Pre (before Biodanza-course, before Aerobic-course); Post1 (right after the courses); Post2 (three months after courses).

<i>Session</i>	<i>Main exercises</i>
<i>1</i>	<i>e. g. synergic going, rhythmic variations, synergetic jumping, dances of flow,</i>
<i>2</i>	<i>e. g. physiological walking, walking in pairs, dances of lightness, segment dance of the head,</i>
<i>3</i>	<i>e. g. going walking with music, connection with circular rhythm, liberation of movement, tropical dances, harmonization circle, dances of flowing in pairs, cradling of each other,</i>
<i>4</i>	<i>e. g. circle with singing, walking in pairs, liberation of voice and movement, Yin-Yang dance, communication circle encounters, activation circles</i>
<i>5</i>	<i>e. g. circle of welcome, going without worries, game of the hands, rhythmic variations, samba, harmonization circle, dance of sensitivity, stroking of the face in pairs,</i>
<i>6</i>	<i>e. g. rhythmic synchronisation, cascade of the segments, dances of earth, water, fire and air, harmonization circle, stroking of hands in pairs, concentric eye circles, encounters,</i>
<i>7</i>	<i>e. g. circle of welcome, rhythmic-sensual going, dance of the horses, breathing dance, segment dance hip, integration of the three centres, encounters, activation circle</i>
<i>8</i>	<i>e. g. rhythmic circle with singing, going with purpose, preparation tiger, tiger dance, rhythmic harmonization circle, cradling of each other,</i>
<i>9</i>	<i>different rhythms, central and peripheral movements “Batucada”, leading one another with eyes closed, synaesthetic pleasure, activation of tenderness, encounters,</i>
<i>10</i>	<i>circle, going in pairs, rhythmic synchronisation, expressive dance, dance for someone else, circle of cradling, dance of sensitivity, dance of blossom, encounters, ceremony of triumph</i>

*The 10 sessions included all the important Biodanza exercises. The goal was, next to the psychological effects, to analyze the psychophysiological effects of the exercises (See Psycho-physiological effects).*

*Table 2: Main exercises of the Biodanza-intervention of each class*

The variables used are all taken from different Questionnaires (TPF, STAXI, STAI, U-Fb, FAB A, AVEM, FKK, SW-Fb, SCOPING, SOC-13, B-L, SR-Fb, VEV, InAn):

- Psychological health, relevant habitual personality traits (Behavioral control, Mental Health)
- regulation of emotions (anger expression, anxiety as a property)
- Social skills
- Features stress-related demand management (Resilience; Excessive Planungsambition)
- Work-related behavior and experience patterns (Subjective importance of work, problem solving offensive)
- resources (competence and control beliefs, sense of coherence)
- Stress cognition, stress assessment and stress management strategies (Optimism, active coping)
- Self-regulation quality
- Subjective impairment due to physical and general complaints
- changes in experience and behavior

### 3. Results

Comparing measurements immediately after Biodanza (post1) with the values beforehand (pre-), the Biodanza group, based on a total of 65 variables, showed 22 significant positive changes (33.8 % of the variables) and two significant ( $p < 0.05$ ) positive trends were observed (3.1 %). In the aerobic group, however, only 11 (16.9 %) showed significant positive changes, five significant positive trends (7.7 %), and two significant trends (3.1 %), which describe a negative change, were observed.

It would be good to pick out a few results which are particularly important (either a really relevant variable, or a really good significance).

Comparing the delayed measurements (post2) with the values beforehand (pre-), from a total of 65 variables in the Biodanza group 24 (36.9 %) showed significant positive changes and in three (4.6 %) significant positive trends were detected. By contrast, in the aerobic group, only three significant positive changes (4.6 %) and four significant positive trends (6.2 %) were observed. Thus most of the short-term effects from the aerobics course did not continue in the long term.

Comparing the delayed and immediately post-Biodanza measurements. With a number of 58 variables in the Biodanza group in Post1-Post2 Comparison of effect evaluation two significant positive changes (3.4 %), five significant positive trends (8.6 %) and a negative trend (1.7 %) were detected. In the aerobic group, only one positive influence (1.7 %) and three negative trends (5.2 %) were shown.

The observed results of Biodanza interventions and significant tendency for changes in evaluation of the effect of the Testing group are summarized below:

Questionnaire	Variables	Short term Effects (pre-post1)	Long term Effects (pre-post2)	Aftereffects (post1-post 2)
TPF	Behavioral control	↑	↑	
	Mental Health	↑	↑	
	Meaningfulness vs. Depression	↑	↑	
	Asymptomatic vs. Nervousness	↑	↑	
	Expansiveness	↑	↑	
	Autonomy	↑	↑	
	Self-esteem	↑	↑	
	Capacity for love	↑	↑	↓
STAI	Trait-Fear	↓		
FABA	Inability to recover			↓
	Impatience		↓	↓

Questionnaire	Variables	Short term Effects (pre-post1)	Long term Effects (pre-post2)	Aftereffects (post1-post 2)
AVEM	Distancing ability		↑	
	Offensive problem management	↑	↑	↑
FKK	Own self-concept skills	↑	↑	
	internality		↑	↑
	self-efficacy	↑	↑	
	externality		↓	
	Internality vs. externality	↑	↑	
SW-Fb	Self-Efficacy (Summenwert)	↑	↑	↑
SCOPING	Threat	↓		
	Optimism	↑	↑	
	Social Coping		↓	
	Emotional Coping			↓
Inner Booster	Total Value		↓	↓
B-L	Subjective impairment of physical or general complaints	↓	↓	
VEV	Changes in experience and behavior (total value)	↑	↑	
	Optimism, positive future orientation	↑	↑	
	Self-Confidence	↑	↑	
	Contact ability, contact security	↑	↑	
	Improvement of insulation and Hopelessness	↑	↑	
	Inner peace and balance	↑	↑	
	Autonomy	↑		

Anmerkung: ↑ = significant Increase ( $p < 0.05$ )    ↓ = significant decrease;  
 ↑ = increasing trend ( $p < 0.10$ )    ↓ = decreasing trend

All statistical assessments were performed at the significance level of  $p \leq .05$  and  $p \leq .01$ . A level of  $p \leq .10$  was considered as a statistical trend or tendency. TPF=Trier Personality Questionnaire (Becker, 1989), STAI=State-Trait Anxiety Inventory (Laux et al., 1981), FABAs=questionnaire for analyzing stress-related demand management (Richter et al., 1996), AVEM=work-related experience and behavior patterns (Schaarschmidt & Fischer, 1996), naturism=questionnaire on competence and control beliefs (staples, 1991), SW-Fb=questionnaire for the assessment of self-efficacy (Schwarzer and Jerusalem, 1994), SCOPING=stress-Coping questionnaire (Schroeder, 1990), Inan=Questionnaire „inside impeller“ (Schroeder & Reschke, 1996), BL=complaint lists (D. of Zerssen, 1975), VEV=change questionnaire of experience and behavior (Zielke and head-Mehnert, 1978)

Table 3: Effects of the Biodanza Intervention

According to the results, it can be said that after Biodanza the subjects in both the short and long term experienced themselves significantly more effective. In addition, there was a significant reduction in long-term stress cognitions, indicating that the subjects had become more relaxed by Biodanza. Also, the physical complaints have declined significantly due to the Biodanza intervention.

Particularly noteworthy is that the Biodanza group in short term, apart from the scale abandonment vs. Self, an improvement, was recorded in all the health-related psychological, habitual personality traits. Even in the long term highly significant positive changes were found in 6 of the 9 scales and highly significant effects in two other significant economies of scale or – tendencies. In the Control group there were only two short scales underlying changes. This suggests specific health and personality-promoting effects of Biodanza.

The questionnaire uses “changes in experience and behavior” (Zielke, Head & Mehnert, 1978) which measures retrospectively, using 44 change-sensitive items. Changes towards an improved relaxation experience, calmness and optimism were revealed in the experimental group both for Post1 and to Post2-measurements higher sums averages than in the control groups. Post1-measurement time resulted in both the Experimentalgroup and in the Controlgroup significant changes to the cut-off value of 168 for the sum. The value of 168 would be achieved if one subjects in all items noted no change. The significances refer to the comparison between the total value and cut-off value. For Post2-measuring, this effect is obtained in the Experimentalgroup, in the Controlgroup it decreases (see Table 4 and Figure 1). These results confirm the specific short-and long-term autoregulatory effects of the Biodanza method, especially a long-term transfer takes place.

The short-term positive changes in the Biodanza group could be observed in comparison with the CG in the following areas:

- a) the area of health-related habitual personality traits very significant positive short term changes could be shown through increases in the mean values in the scales *behavior control*, *Mental Health*, *meaningfulness*, *freedom from symptoms*, *autonomy*, *expansiveness*, *self-esteem* and *ability to love*. All of them are requirements relevant essential for successful action in stress and situations.
- b) In the emotion regulation a decreasing trend was observed in the *Trait Anxiety*. The anxiety level to evaluate situations as threatening, and thereby react with an increase in state anxiety could be reduced quickly.
- c) In the *work-related experience and behavior patterns* a positive change in the form of a significant increase in short-term offensive problem solving was observed. Accordingly, the subjects right after the Biodanza course have more active and optimistic attitude towards challenges and problems arising that affect the work area.



Variables	EG		CG	
	Mean (SD)	p Power	M (SD)	p (d')
<b>Changes in experience and behavior: total value vs the cut-off value (Post)</b>	199 (24)	<b>.003** (1.00)</b>	182 (10)	<b>.005** (.62)</b>
<b>Changes in experience and behavior: total value vs the cut-off value (Post2)</b>	185 (28)	<b>.001** (.81)</b>	179 (29)	<b>.14</b>

Table 4: VEV (changes in experience and behavior) – Comparison To Cut-Off-Value

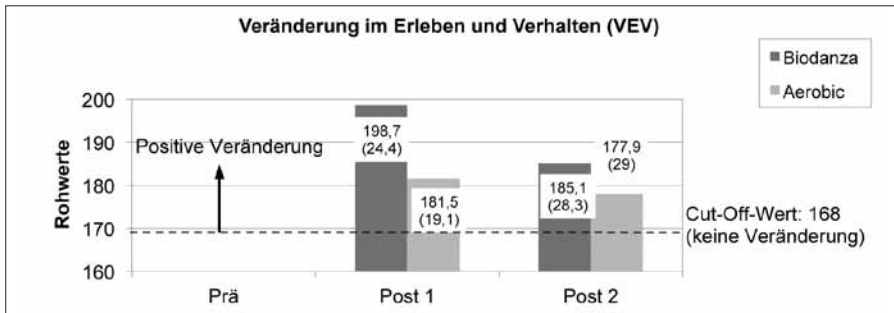


Figure 1: VEV-sum values in comparison to the cut-off value 168

- d) With regard to the *competence and control beliefs* also significant positive short-term changes can be determined. The changes were reflected in the *self-concept of their own abilities* and in the *self-efficacy*, and an increasing trend of the tertiary scale *internality vs. externality*. The increase in self-efficacy was confirmed by the results of various tests. Immediately following the Biodanza course, the subjects felt therefore more able to safely plan and implement actions.
- e) There were also positive changes in *stress rating* in the scales *threat* and *optimism* demonstrated. Challenges of everyday life will be judged by the subjects optimistic right after Biodanza course and are perceived less as a threat.
- f) A decrease in the subjective impairment of physical and general complaints was observed in the short term. This means that the subjects much more symptom-free and healthier feel immediately after the Biodanza course.
- g) In the *experience and behavior* also very positive changes were observed immediately after the course. This applies especially to significant increases in the factors “*optimism, positive future orientation*”, “*confidence*”, “*interpersonal skills, contact security*”, “*improvement of hopelessness and isolation*”, “*Inner peace and balance*” and “*autonomy.*”

Since almost all factors of testing group and control group in comparison of means are significantly different from each other, it can be assumed that the experience and behavior of the subjects in the testing group has significantly changed even more than in the control group.

- h) No short-term effects could be observed in terms of *social skills, the emotional regulation of anger, the stress-relevant requirements management, the self-regulation of stress experience, in the sense of coherence, and the inner boosters.*

#### Long-term effects (pre-Post2)

- a) The significant positive changes in the health-related habitual personality traits, the positive changes of the *offensives problem solving*, as well as the effects of *competence and locus of control, work-related experience and behavior patterns* and the *subjective impairment due to physical* and and general complaints remained stable long after the Biodanza course.
- b) Also, the positive changes in the factors of *experience and behavior* except *autonomy* remained stable over time after the Biodanza course.
- c) In the *emotion regulation* the short-term positive trend regarding the *Trait Anxiety* remained in the aftermath of the Biodanza intervention is not stable. Similarly, the scale of *autonomy in experience and behavior*.  
But more positive long-term effects in the Biodanza group could be observed, that could not be found in the pre-Post1 comparison. Long-term effects and a transfer will be accepted into everyday life for them, too.
- d) A positive change in the area of *stress-related demand management* could be shown in a significant decrease of the scale *impatience*. Thus, the subjects were able to take over the ability to be less impatient to respond to requests in their everyday lives.
- e) A further increasing trend of *distancing capability* scale was established in the *work-related experience and behavior patterns*. Accordingly, the subjects of the Biodanza group can easier turn off from work and relax so psychologically better in the long term.
- f) Regarding the *competence and control beliefs* significant positive changes in other variables were observed. Such as a significant increase in the scale *internality*, the decrease (trend) of the scale *externality* and the significant increase in the tertiary scale *internality vs. Externality*. These changes suggest that the subjects were able to take over the long-term belief that their actions are effective and that they can make important decisions on their own, and that they feel more independent from others.
- g) In addition, a long-term effect on *stress management behaviors* are observed in the form of a reduction in the scale of *social coping*.
- h) A positive significant change was observed also with respect to the inner boosters. The subjects learned in long term to respond to possible stress-inducing triggers more relaxed.
- i) No significant effects could be detected in *emotion regulation, the sense of coherence* with respect to the *social skills of the general stress experience and the self-regulation*.

## After-effects effects (Post1-Post2)

- a) In the area of health-related habitual personality traits a declining trend of the scale *capacity for love* can be observed in the aftermath of the Biodanza course. This means that in the period after the course taking care of other people was less important for them.
- b) With respect to the *relevant stress management* a significant decrease in *recovery ability* in the aftermath of the Biodanza course was shown. In contrast, the control group showed an increase in the ability to recover in the form of a significant trend in the aftermath of the course. This means that when recovery ability of the subjects of the testing group has increased in long term, while it decreased in the subjects of the control group. Furthermore, a lasting declining trend in the scale *impatience* could be determined in the testing group.

Questionnaire	Variables	Questionnaire	Variables
TPF <sup>1</sup>	Oblivion vs. Self-Centering	FABA	Excessive Planning ambition
STAXI	Trait Anger		Striving for dominance
	Angry Temperament	AVEM	Subjective Meaning of work
	Angry reaction		Professional Ambition
	Anger In		Expenditure Readiness
	Anger Out		Striving for Perfection
	Anger Control		Distancing Ability
UFB	Failure and Criticism Fear		Resignation Tendency
	Contact fear		Inner Peace and Balance
	Ability to demand		Life Satisfaction
	Unability to say „No“		Social Support
	Feelings of guilt	Scoping	Profit
	Decency		Anger
FKK	Social Externality		Active Coping
	Fatalistic Externality		Emotional Coping
	Externality		Self-Efficacy
SOC	Sence of Coherence	SR-Fb	Self-Regulation
SKT	General Stress Experiencing (total value)		

Table 5: Lack of Effects

1 In TPF, the EG and CG only are comparable in the scales self-respect and Expansivity because they are homogeneous output values ( $\alpha \geq 5\%$ ). In the other variables there is baseline homogeneity.

- c) In the *work-related experience and behavior patterns* the *offensive problem solving* still increased in the aftermath of the Biodanza course, which encourages the adoption of a transfer effect.
- d) Another increasing trend was observed with respect to the *competence and control beliefs* (in the scales *internality* and *self-efficacy* in the SW-Fb). The ability to make important decisions for themselves, represent their interests successfully and to become less dependent on external circumstances and people, the subjects were able to improve through the Biodanza course in the long term and continue to develop even in the time after the course.
- e) With regard to the coping behavior a lasting decreasing trend was observed of the scale *emotional coping*.
- f) Decrease is also the trend in the sum value of the inner boosters. It can be assumed that the ability to respond to certain stress-inducing triggers, has decreased in the period after the course again.

To understand which areas Biodanza may not be effective in, it is necessary to enumerate the variables in which there was no change; these are shown in table 5

It could be shown that the three Kusta scales (mood, activity, relaxation) of the testing group significant pre-post improvements for 6 to 8 (60–80%) of the total 10 Biodanza sessions. The control group was recorded in all three areas less significant pre-post changes than the Biodanza group. Significant changes could be shown in the scale of the CG after about 1 to 6 sessions (10–60%).

## 6. Discussion

The Biodanza intervention method affects a broad spectrum of areas. Positive changes did not occur only in psychological process variables, that demonstrate an improvement in mood and an increase of activity and relaxation many of the Biodanza sessions. Due to the method also a wide range of psychological health and stress-related variables were changed not only in the short term but also in the long term. The participants of the Biodanza course experience themselves and their actions more effective and thereby take more control over their environment. Added to this is the knowledge of the significant increase in skills for stress management, an overall positive experience and behavior, as well as a more optimistic assessment of challenges which affect the everyday life but also the working life. Through Biodanza the subjects feel healthier not only spiritually but also physically in both the short and long term.

The positive test results can accept this motion and body-oriented method that Biodanza adapted as a supportive intervention for health and personality.

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# Biodanza as existential renewal process for the elderly

## **Abstract**

*In this study, we sought, using ethnographic methodology, to identify the effects of Biodanza in elderly people (seniors) that practised it. The study was done with eight seniors, from the group of Biodanza of SESC from Fortaleza, Ceará, Brazil. The data were collected through semi-structured interview and participant observation, analyzed by method of narrative analysis. In searching for the significance of Biodanza to seniors, it is clear that it constitutes a mechanism for facing difficulties with health, stimulating change of behaviour in relation to health conditions, due to an increase in vital impetus and the will to live. In this sense, Biodanza promotes the rescue of health in those that grow older.*

Descriptors: Anthropology, cultural; dance therapy; Health of the elderly/nursing; Quality of life

## 1. Introduction

An approach to the clinical value of affective relationships using the support of friends recognises that solitude is in the list of risks for emotional health and emotional ties narrow the list of protective factors (2). Social isolation is as important a risk factor for mortality as are smoking, hypertension, high cholesterol, obesity and lack of physical exercise. The feeling of not having anyone to talk to is a health risk, showing the importance of life style in modern urban societies and in particular of increasing isolation, caused by the habit of watching TV alone.

In the search for alternatives to deal with these problems, Biodanza has been for the author the preferred method in geriatrics, as the rehabilitation of the elderly should be thought of as the principle unit which includes organic levels, emotional, intellectual and social (3). The perception of many problems experienced by the elderly in modern society requires the adoption of the biocentric principle, the basis of Biodanza; this is the proposal to “create more life within life,” to build the great wheel of solidarity. Biodanza exercises with the elderly are geared towards balancing psychological functions (3). It also has the advantage of developing the potential of the elderly through the method; this will allow a far more satisfactory quality of life, because, surely, the person will be more integrated with herself, be more harmonious with others and with the nature and, consequently, have fewer conflicts (4).

The beneficial effects of Biodanza for people’s health have drawn the attention of many professionals. The benefits are practical, mitigating possible pathologies such

as mental disorders, diabetes and hypertension, which affect the majority of the elderly population (5–8).

Given this context, we define the basic theme for this study as the use of Biodanza as a resource for promoting the health of older people. We expect their health to be stimulated by nurturing relationships, by a process of living based on solidarity and its meanings; these meanings are made by people who participate in a community group, thus they can become more diverse, given their personal and cultural experiences.

In seeking answers to questions about the representation of this activity in their lives and the contribution that nursing as caring (9, 10) could give towards healthy aging, we chose the guiding question of the study: how has Biodanza influenced the health of older people who practice it? In this sense, our goal was to identify the effects of Biodanza in the health of older people who experienced the existing group at SESC in Fortaleza.

## 2. Method

In this study, we chose the qualitative epistemology, to re-Demoralization case study with an ethnographic approach. Ethnographic research provides a description of events that occur in the life of a group, the behaviors of individuals in relation to their participation in the group and their interpretation of the meanings of these behaviors to the group. The research took place in Fortaleza, Ceara, northeastern Brazil, specifically in Social Service of Commerce (SESC), created and maintained by business and trade employees. SEESC has developed several projects with people over 50 years of age. An example is Biodanza, which since the early 90's became part of the activities to promote quality of life for seniors (older people). There is a profit, and the proceeds are applied to assist workers. The subjects were eight elders chosen from the participating Biodanza groups at SESC, Regional Fortaleza-Ce, from February 2003 to October 2004, which agreed to contribute to this research. The research data were collected through semi-structured interviews and a participant observation group, which met once a week at SESC. The mode of participation in the work provided "as participant observation"; the identity of the researcher and the study's objectives are revealed to the group researched from the beginning (11). Data analysis of the narratives of the elderly Biodanza group participants was guided by the search for coherence between the thought of Paul Ricoeur, with influence in the design of Geertz in interpreting cultures (12). Thus, the explanation was towards analyzing the internal relations of the text that makes up the parts of speech. The analysis tries to understand the meanings that speech reveals, for example, the whole in relation to the parts. The analysis proposes five themes that constitute the methodological steps for objectification of the text. This allows distance and ownership, which along with explanation and understanding will permeate the interpretation. The 5 themes are: 1 the effectuation of language as discourse; 2 the effectuation of

discourse as structured work; 3 the relationship of speech to written discourse and the discourse in the works; 4 the work of the speech as a projection of a world; 5 discourse and discourse work as mediators of self-understanding (13). According to this method, interpretation is a process comprising the following methodological steps: fixation of the interviews in a text, reading simple material, structural analysis and deep understanding .

Because this research within the group process involves the statements, opinions, and actions of people who participate in a group, we seek to give special attention to the ethical aspects involved in the research. The research was therefore subject to the approval of the Ethics Committee of the Universidade Estadual do Ceará, who gave assent. Moreover, the facilitator of the group approached SESC, requesting permission to develop the work in that institution, confirming that the principles of ethical research involving humans would be followed.

### 3. Results

#### **Self-rated Health-Disease: Biodanza as Path to Healing**

When it comes to health and disease, we can observe the cultural process happening in, stock and share ideas about how people get sick, how healing occurs and how they cope with illness. On one hand we have the established biomedical model as “master of knowledge”, which was influenced by compartmentalized knowledge of body and soul, and also by a culture of dissociation. On the other hand, we have the cultural model of health, passed from generation to generation, in which they use their own resources in the community. Thus, scholars seek to explain the process by visible health cultural and interpretive cultures, respectively (14, 15).

The latter culture is a web of symbols and meanings that allows individuals, families and groups to interpret their experience and guide their actions (15). In this sense, illnesses delimits the elements of the group and the ways of facing illness. Because it is a dynamic process, health changes at certain times of the lives that have marked the current life, as do the illnesses that were present in the daily lives of the elderly during the time of the survey.

Consider what happened to Rosa Amelia, before becoming a member of the group: “as for health ... I got breast cancer, the left, it’s been three years now in January ... I took all the tests and the doctor said we will do the quadrant. Then I said, Doctor, do treat the quadrant, just get everything right” ... then he did. [...] Never shed a tear. Then my neighbours were crying ... and Dona M... but I never cried at all.” In the narrative of Rosa Amelia, we can perceive her participation in cancer treatment, when she had the opportunity to decide the operative method with your doctor, after speaking and understanding. This makes the patient feel an active part in their treatment. It is important to notice that this conversation, which integrated treatment and dominated the decisive dimension of any medical action, humanized the relationship between individuals, who are fundamentally different; doctor and patient



(16). We also observed the disease in a sharing social network, when she says she cried in front of her neighbourhood, the first impact of the news of breast cancer, a disease that is culturally known as mortal.

Culture is a social fabric of symbols and meanings; it allows people, families and social groups to interpret events that occur in their lives and guides ways of responding to these events. Any disorder, physical or psychological, can be understood through cultural mediation (14, 15, 17, 18). All activities of health care responses are socially organized in the face of disease and can be studied and understood as a cultural system.

In the daily life of women with breast cancer there are present the factors of hope, faith and aggressiveness. Those “who show one of these characteristics can more easily move towards the future and/or express and relieve their inner tensions, this can significantly prolong survival or even produce spontaneous remissions” (19).

Although Rose Amelia never mentioned in the Biodanza group that she had a history of breast cancer, we believe that the support given by the affective group contributed to her coping with the disease. “that nobody remembers problems ... Biodanza helps to forget,” as she said. Social support can be seen as an interpersonal phenomenon that is driven by the expression of caring, trust and reassurance, giving validation of personal worth (8). This support can be understood as a form of solidarity – something which is rooted in the social essence of the human being, corresponding to one of the most fundamental duties of social life (10).

Related to social support is the story of Sunflower, who had strabismus (squint), spent his whole life being discriminated against and only now plucked up the courage to have it operated upon. His courage was supported by his social network; in conversations with relatives he discovered that he could fix his problem and realize his dream. He said: “This problem in my view [strabismus], my mom said it was legitimate for a fall ... I was really keen to have the operation and had no reservations. [...] I was with an optician for almost 20 years, I was talking to him ... he was and said I should not pay for it because I was not going to see more ... it was just a matter of aesthetics ... beauty. [...] Then, talking with my sister she said: Go to my granddaughter ... I was her ... when I got there I talked to her. She said no. Will it?? lose any of your other good eye ... It will not. That's the simplest thing. My dad was like that and I went for the operation. ... Then I took and did.” It is a noteworthy medical power that Sunflower could undermine to be condemned to live with an “aesthetic” problem such as strabismus and take the opportunity to realize a dream, to improve her self-image and consequently, her self-esteem. It was an accomplishment, a gift that Sunflower gave himself. According to explanatory models, the way in which layman and physicians interact in medical consultation are influenced not only by the physical context in which they occur, but also by social class and gender of the two parties involved (20). After surgery, Sunflower received visits from teammates and showed great joy when they said he had become more handsome, this was very important to him, especially since he reported that he was hurt in childhood by his

foster father “for being ugly”. This was only possible through the interaction and solidarity he received in the social network.

In a love letter to himself, written during Biodanza marathon, Sunflower wrote after looking in a mirror: “I ... I really love having my perfect body, with all my limbs. Watch over him, it was God who gave this to me ... I love myself.”

As we can see, in the speech of Acacia, he feels healthy because they still can dance all night. In this sense, health is perceived by force and physical activity. The process by which the disease, a patient’s perspective on “illness”, is patterned, interpreted and treated, is called the Kleinman explanatory model; this is defined as the set of ideas of everyone involved in the process of an episode of clinical disease, and its treatment; these ideas guide choices among available therapies and therapists, as well as developing the personal and social meanings of the experience of illness (14).

In another narrative that leads us to believe in the improvement of health through Biodanza, Acacia says: “... I felt pain in my bones, in all that was bone. Any little thing was ... lived in physiotherapy, ect. In the spinal column I had *todinha* parrot’s beak, is found there ... actually I have a hernia in the lower back, which I had operated on; a cervical hernia which I still have, I have arthritis, lordosis got down here ... there goes me to physiotherapy. When it was not in the back rooms ... I did not need more than a physiotherapist and walking for a year now, I do not know what is back pain. Jewelry, beautiful and wonderful.”

Her renovation is mainly driven by organic special states of trance in Biodanza that activate processes of renewal and global regulation of biological functions, reducing the factors of disorganization (entropy of the system). And by a process, the feeling of “improvement” will emerge slowly, gradually being realized (3).

Acacia’s health is revealed also in her attitude of joy and participation in social events: “After I leave, great. But until I leave ... There are days that I’m not like, I do not want to leave .. I’m not leaving, you know? Before Biodanza, ‘age problem’, ‘is getting old’, what they said at home, then I was accommodating me ... I do not leave home more than just to church, going to school for obligation... I think when we get older ... have to look up ... ’re appearing problem, has to look better. The vitality improved 1000 %, ave Maria! You need to see me in Nautical (club) danced all night, beautiful and wonderful! With all vitality, creativity with all ... with all energy.”

When she felt that she was sick, Acacia sought professional help. Thus, we tried Biodanza as therapeutic aid, suggested by her psychologist.

In addition to the support received, it is important that the elderly in the family are encouraged and valued. Derogatory comments, as quoted by Acacia, will lead to low self-esteem, which in turn leads to social isolation. Some come to believe that they have “already passed away” as Acacia says, which in other words means that they no longer have value, has no more rights. This has been a cause of conflict in their home environment, especially in relation to her husband, who seems bothered by all the vitality of Acacia; he is perceived in his speech to talk about her behavior at the party at the yacht club, when she was showing a lot of joy and vitality.

### Permanent Existential Renewal Process

Biodanza in the existential sense of renewal has a sense of autopoiesis, as the changes occur at two levels. At the biological level we observe the improvement in the quality of healthcare, as on the mental level, to realize that people reveal themselves as being more integrated, harmonized and happy. At the social level people seek better integration with others and with the whole environment around themselves. We use the word “autopoiesis” to define the human being as a system that produces continuously and, therefore, the human system needs to interact with the environment is modifying both congruently (21).

Comparing living systems with the social system, we emphasize that living systems, to continue the renewal process, discard their dead cells. Society, as a living system, can not do without its old, because they still have life; no autopoietic unit discards any of its components alive. And if it does, this is a self-mutilation society, and therefore pathological (22). Biodanza is working with the elderly and discovering them reborn, From their pieces of meaning uncovered in the analysis of their narratives, spring freedom, autonomy and a relationship with mankind.

“Biodanza I found essential in my life; it changed me completely. First, I was uninhibited. It was love that I started to feel for people. I had a fault ... we did not embrace, nor kissed ... and then I started to hug and kiss people. We will feel emotions and our problems are so like other people and that’s a consolation” (Lotus).

When Lotus talks about the difficulty of playing the other, he seems to be a spokesman for a generation, accustomed to not touch and to not express the joy of being with another. In this respect, the importance of a tactile sense is fundamental to human life; tactile stimulation is very important, yet the most neglected of needs. However, we must observe the responses of the elderly to a caress, a hug, a handshake, an affectionate squeeze, to feel how these experiences are vitally necessary for one’s well-being (23). This tactile stimulation can manifest in the form of “warmth”, as noted in the words of Saudade: “... the part I like best is the Opening Circle, cervix, those dances, I find interesting and like a lot. I feel that warmth, that warmth. Previously I did not have that warmth, not in my house. It was missing, the usual hug.” Upon awakening dormant feelings in the elderly and emotions becoming richer in your life, Biodanza frees misery love it imposed, allows one to experience oneself as one and to be integrated. And, by connecting with themselves and others, the elderly can make appropriate choices and acquire new attitudes toward life (6). When we encounter the statement “no one grows alone” from Lotus Flower, we remember that identity is permeable to the presence of the other, i.e., the other is the bridge to our growth; against situations with certain movements permeated by music induces experiences that enable to modify the body and human existence at different levels: organic, lifestyle, and even sociocultural processes (24).

This can also be shown in the words of Margaret, who stated: “I changed a lot ... I developed both ... both physically ... and mentally, because my mind has changed a lot ... Today I’m somebody else.” A change in the way of behaving in a social envi-

ronment was also experienced by Rosa Amelia, recognizing that “before Biodanza I think I listed them well throughout life with people ... but after Biodanza I improved more ... Because after we have Biodanza easier to express ourselves ...”

The feeling of being alive through the others and the other, by the exaltation of their own characteristics, is able to enhance all circuits of the health identity but also the vitality of the individual (24). This perspective is the expression for Daisy, by ensuring: “Now I think I’m living life better ... Open more prospects at me. Before I thought I was just sick ... I was afraid to leave because I thought I would feel bad for all ... Acquire energy ... I learned so much there, that Biodanza. Today we talk more, thank God! I am part of the Bible circle, I am part of the prayer group, ... I’ll even go to a carnival.” It is considered that to be included in groups is beneficial because it provides an environment of social harmony and integration where there are performed numerous activities such as crafts, exercise, dance, theatre, choir, exchanging of recipes and food and do group travel which make life more lively and cheerful (25).

Daisy, stating that: “today we think different ... Biodanza contributed to this transformation ... I was too anxious?. In Biodanza I learned that I have to try to live ... to learn something” reveals how much she was benefited by Biodanza and gives us the existential dimension of renewal. In any case, this activity can be the medium in which to experience existential significance, since it can offer the chance to obtain personal satisfaction for the elderly, by awakening the meaning of existence and by experiencing situations that prove life has meaning.

A change of attitude towards life is also noticeable in the narrative of Acacia when she says: “It is very interesting ... I was a very fearful ... I spent my whole life, everybody telling me, do this, do that ... I do not like being sent ... I took it and spontaneously said ... what she was wanting to hear, right? In past time I never started to talk ... I’d be on the fence. ... I think that was a big step, one of the paths that led me to Biodanza.”

Acacia is reporting to a moment of intimacy of the verbal group, in which one person spoke of a conflict and asked her opinion of the companions. The fact of having given advice was a big step for her in her personal growth. Thus, freeing people’s attitudes repetitively stimulated by through the creativity provides them aware of their reality, increase self-confidence, artistic and creative interests. It equates to create, among other things, to transform, to innovate, to change yourself and the world, with the same gesture (26).

The exercises of the line dancing are inspired creativity in tribal dances. These dances are used as an expression, the drawings are interpreted only by the individual in his existential stance. The changes are subtly perceived by the person in your daily life.

On the other hand, work with the Biodanza line of affectivity develops cooperation and integration intra-species, to stimulate the herd instinct.

## 4. Discussion

Biodanza seeks to understand the human dimension in its holistic view and seeks to restore, by bonding with other people and the integration of being, whose conceptual basis comes from meditation on life, or perhaps despair, the longing for rebirth of our gestures, our empty and barren structure of repression, the potential of happiness, tend to reach states increasingly intense satisfaction with life. Humans are able to understand their suffering when their identity is not intact. But from the principle that the human being has the potential of autopoiesis (see section xx above), it is recommended that consideration be given not to misery, but rather to a conspiracy by the acts of living, the gentle unfolding of human potential, which is only possible in the context of sensitive and creative human encounter – the Biodanza group. Thus, by integrating the Biodanza group, seniors have many complaints, mostly from disease. But gradually, their language is changing, as they are encouraged by their potential. The physical progress of a group of elderly may seem minimal and time-consuming, but it is a victory to take them home and show them how rewarding it is to find out, how good it is to be with others and snuggle up in the ecological nest. As Margarida Rosa Amelia perceived a feeling of being a part of the human species, and can express themselves, experiencing touch and be touched, even if, at first, just a touch with the tips of her fingers, as did many others and Sunflower. After all, the body of another always seemed to them a minefield ... And now they can use their skin, not as an organ of defence or separation from each other, but as an element of unity among people. Now you can open your eyes and discover the other's gaze that is possible in human encounter. They can start the walk of life, no matter what age, at first, with faltering steps, but discovering that they can go walking with determination and with the pursuit of their existential project, as Acacia noted. They discover that there is still time to dream of love, as did Poppy and Sunflower, because life plants that seed, that is slowly unfolding. And as the orchestra conductor they can govern their own lives, freeing themselves from the overprotection and care with which the elderly are treated. You can play your own symphony, making your life a beautiful song. We observed increased vital impetus and will to live. There was also a decrease of insecurity, which was revealed when the seniors started to express themselves better, showing more joy in living and participation in social events. As regards health, despite their conversation focussing more on illnesses, their improved health was revealed by an increased physical capacity to do things, the reduction of complaints and the feeling of still being "strong." We observed a strong influence of social networking on issues relating to the treatment of diseases, understanding how cultural mediation is significant for the illnesses, which mobilises great potential for solidarity. From the narratives, we could confirm that Biodanza can help in coping with barriers to older people, expressed by prejudice, social isolation and lack of respect for their rights; the latter are often camouflaged by overprotection or by being abandoned to solitude, which starts in the home environment. The existential renewal was found in

their conversation, when seniors found themselves changed physically and mentally. The highlight of Biodanza was the opening of prospects for a better life, with better quality; the search for daily improvements, which is only possible by developing the creative potential that drives people to recreate their lives. Experience has shown that it is possible to slow the aging process in many ways, using group work and this methodology, as it stimulates the consciousness of having a body and accept it with the changes that inevitably come in old age.

We have noticed that the Biodanza method is effective in keeping the individual feeling motivated and participatory, in avoiding social isolation and promoting the joy of living, in promoting their adjustment and adaptation to the environment and in strengthening their identity, which is needed to cope with the difficulties that arise with the passing years. Thus, the person becomes fully integrated into the world and at the same time unique, accepting his body with all its functions and his body image modified by aging; he becomes less restrained in his emotions and more open to pursuing the pleasure of living in coexistence harmoniously with others.

Thus we believe in the possibility of healing, of a redemption of life, of the discovery of the pleasure of living with Biodanza as a way, among many, that enables this journey in rediscovering oneself. Finally, groupwork has been seen as an excellent means of helping older people to counter their social decline and to promote their health. However few nurses have awoken to see the potential they have in their hands. Group activity, with use of Biodanza, presents itself as a field in which the nurse has a broad potential to be active, since this activity consists of a special kind of care, an alternative to conventional nursing causing the person to discover in his entirety, with the body's health, the emotional balance needed to awaken and maintain his value in the world.

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# Biodanza as a health-promoting intervention for teachers

## Abstract

*This study is the first successful science-based introduction of the body-oriented method of Biodanza directly into a school context. The application of this new method was prompted by severe health problems of teachers which are often not considered in body-oriented programmes that have evaluated up to now; these include an increase in psychosomatic disorders and diseases of the musculoskeletal system. An innovative new model of understanding was evaluated, based on psychological, physiological and immunological variables measured directly on 245 subjects in the school context.*

Descriptors: dance therapy; Health of Teachers; Quality of life, Stress Coping, Relaxed School

## 1. Introduction

This project started in several schools in 1999 and finally lead to a prize-winning *habilitation* at the Institute of Psychology at the University of Leipzig, Germany. The academic habilitation thesis is the the highest academic achievement at German Universities, and normally presented as part of being appointed a professor. Carrying out academic investigation into Biodanza is not easy. The first version of the thesis was declined, with the explanation that this was an explorative work with questions. The commission of the Faculty of Bio-science of the University of Leipzig wanted a hypotheses-guided work with a description and study about the mechanisms of action. This was a huge setback. Even though the first version had already won a research-prize from the pedagogic foundation Cassianeum, the thesis had to be rewritten. This was a huge piece of work to undertake, yet also an opportunity and a challenge.

## 2. Method

The subjects were teachers from middle and high schools in and around Leipzig. The Biodanza intervention for teachers was designed as a 10-week course, (one 2 hour session per week); measurements were made to evaluate its effectivity.

In order to determine the quantitative effects of Biodanza, testing group (TG, n = 29 teachers (26 female and 3 male subjects), interventions) and control group (CG n = 38, without intervention) were researched in the Pre-Post 1-Post 2-comparison.



Variables	EG (training)			CG (no training)		
	Pre	Post1	Post2	Pre	Post1	Post2
Psychological effect variables	29	29	29	38	38	38

*The numbers are sample values.*

The TG did the training program and the qualitative effect variables and the psychological process variables were tested on them. Dropout rates were: TG: 5 subjects (17%); CG 6 subjects (16%).

For the data analysis, a three-step two-factorized variance-analysis with measuring-repeatings was done. Factors were

**Factor A:** Control group (CG; no Biodanza); testing group (tg; Biodanza)

**Factor B:** measuring times: Pre (before Biodanza-course, September); Post1 (right after Biodanza-course, November); Post2 (six months after Biodanza-course, May).

Post hoc the effect value  $d'$  and the power ( $1-\beta$ ) were defined. The qualitative effect was determined through interview)carried out at the Post1- and Post2- measuring points. 21 subjects of the TG were questioned.

### 3. Results

#### a) Quantitative results (questionnaires)

##### - *Increase of behaviour-type “Preservation” define here*

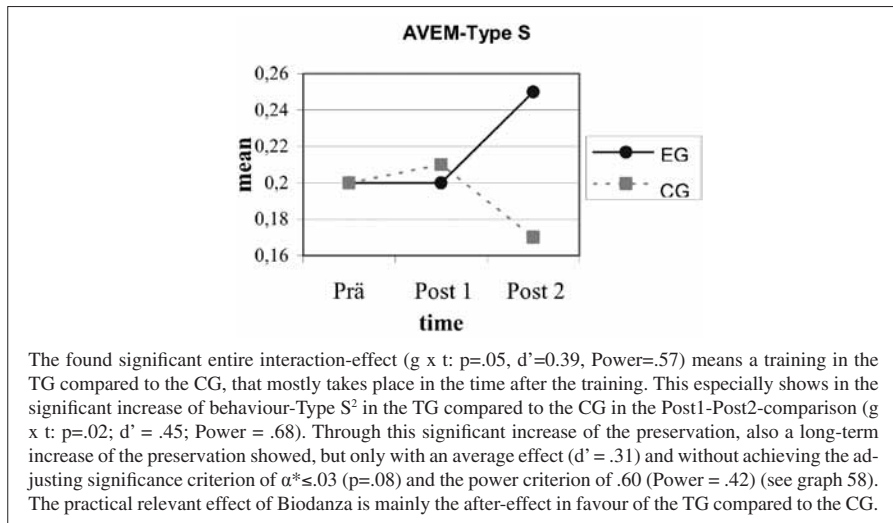
Regarding the variables of the stress-handling in the daily working routine a significant increase of the type “preservation” showed in one of the four complex work-related experiences and behaviour patterns.

##### - *Short-term and long-term decrease of impatience:*

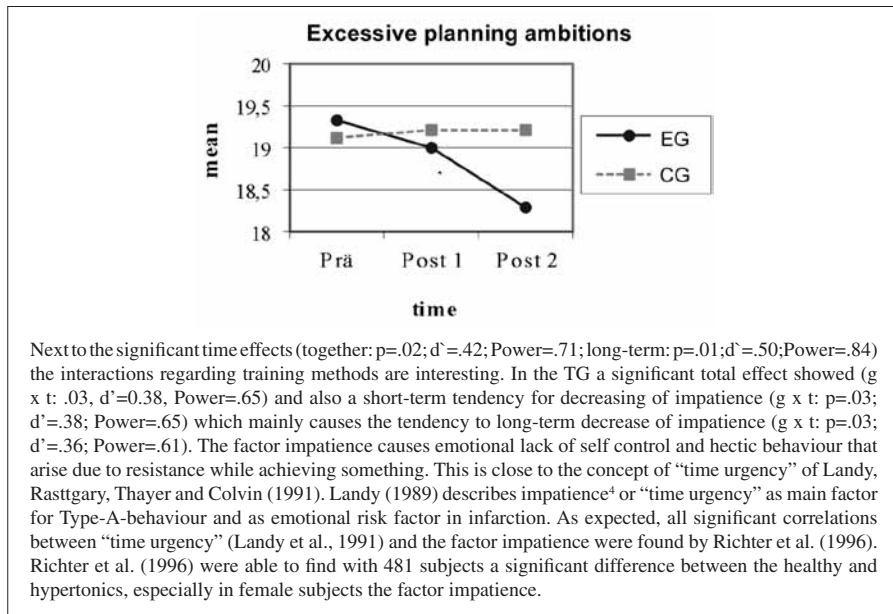
- Regarding stress relevant coping with demands (FABA) in one of four characteristics relevant changes shown<sup>2</sup> regarding the short-term and long-term decrease of impatience and the tendency for changes regarding excessive planning ambitions due to Biodanza.

This result was also found in the study of Villegas (2006). Impatience is the emotional component of a self-made time pressure and therefore a reason for the Type-A-behaviour.

2 Regarding definition of practically relevant effects due to interventions we use the following three test-criteria: (a) the conventional (adjusting)  $\alpha$ -barrier of 5% (b) the effect size ( $d'=0.30$ ; averaged effects, see Bortz and Döring, 2002) and (c) Power ( $1-\beta=0.60$ ; averaged power). Those criteria were arranged due to the results of meta-analyses to stress-reduction-training (among others Bamberg & Busch, 1996). If 2 or 3 criteria were reached, we decided to confirm the hypothesis.



Panel 2: The type “preservation”



Panel 3: Results about short and long-term decrease of impatience

3

4 = feeling that there is not enough time to reach own goals (Landy, 1989)

### **The underlying mechanism of action could be the following:**

Due to the rapid, lasting<sup>5</sup> effect on the variable, impatience is an important causing and aggravating factor for the Type-A-behaviour (Richter et al., 1996) influenced by Biodanza. The mode of action behind those changes, whereby the trance happens in the regressive part of the Biodanza-session and the sum of those experiences causes a relativization of the time concept, could be the mode of action responsible for this effect. By these resistances in the carrying out of an act with less emotional uncontrollability and rushed behaviour (FABA-Factor impatience) also faces us in daily life. That means, that through body-experience in Biodanza changes in acting-regulations would arise (decrease of control-ambitions and impatience<sup>6</sup>). In reality, there is a decrease of the excessive planning-ambitions. The tendency was shown, that the teachers showed a decreased need to control in both, school and daily life, they planned less and showed a higher flexibility in reaching goals.

### **- Short-term and long-term cutback of impatience and excessive planning ambition:**

Regarding this factor it showed a long-term positive change with an average effect and power ( $\eta^2$ :  $p = .05$ ;  $d' = .32$ ; Power = .52) in the sense of a decrease of the excessive planning ambitions in the TG in difference to the CG (see graph 61). Since only the effect-size-criteria ( $d' = .30$ ) was reached and the adjusted significance limit failed ( $\alpha^* = .02$ ) and the power criteria of .60 sharply failed the hypothesis has to be neglected. Like shown in Graph 61, the long-term changes can be interpreted as positive due to the effect size of  $d' = .32$  and the found power.

#### *Panel 4: Excessive planning ambitions*

This decrease of excessive control ambitions is a very important contribution to stress reduction in the job of a teacher. Teachers have high, stress-causing, control ambitions (Stueck & Sonntag, 2005) and Biodanza is one interventive possibility to decrease it. The loss of control experienced in Biodanza has an impact on the acting-regulations and organisation experienced in daily life, especially regarding the decrease of compulsions to control (Richter et al., 1996). A lasting decrease of excessive control ambition can be seen in figure xx) This can carefully be interpreted as proof of an increasing competence with additional developing boost. In this study that the effect is only seen as a change, that can be seen positive, because it missed the needed criteria, might be caused by 10 Biodanza-sessions not being enough to change those automated, stress-induced settings. Here, longer studies with a longer intervention time (for example 20 weeks) should take place and be researched. It shows that a body- and experience-oriented intervention is able to dissolve cognitive regulation barriers in the organization of actions.

<sup>5</sup> This effect stays for six months after

<sup>6</sup> emotional uncontrollability and hectic behaviour as result of barriers while acting

Due to stimulation of autoregulation<sup>7</sup> and the experience of the meaning of body barriers in relaxation and activation and also the setting of barriers<sup>8</sup> through emotional expression of discontentment, unhappiness, anger in the dance<sup>9</sup> the possibility to belong to risk-type-A is being reduced (See Chapter 4.5.1.4).

*Panel 5: More modes of action of Biodanza regarding impatience and planning ambitions*

**- Changes towards calmness**

Through the significant changes towards calmness (VEV, Post 1 and Post2) the self-regulating effects of Biodanza are proved. The variable “Changes in experiencing and behavior” was found with the changing-questionnaire of experiencing and behaviour (VEV) from Zielke and Kopf-Mehnert (1978) (See table 6):

VEV	Experimental group (Biodanza)		Control group		Comparison T1, T2				
	T1	T2	T1	T2	F	p	d'	Power	
Relaxation, calmness, optimism									
Mean	201.08	199.96	172.9	171.4	Group Time	15.99	0.0**	0.70	.97
SD	34.15	39.85	15.66	14.58	g x t	0.15	0.70	-0.10	.02
						0.003	0.95	-0.26	.00

*Table 6: Results of the VEV*

**- Changes in anger regulation**

In this study, changes in anger regulation (measured with STAXI<sup>10</sup>) could be found (short-term and long-term significant decrease of willing of anger and long-term significant changes in expressive anger-expression). That way the results of Villegas (ref) were proved.

**b) Qualitative results**

**- Reported effect of Biodanza:**

During the interviews improvements were reported in internal coping, in the ability to reduce stress using diverse abilities (especially non-verbal communication behaviour and interpersonal skills) and in a successful transfer of stress-handling into daily life were reported.

7 works against Type-A-criteria-factors self-excessive-demands and excessive exhaustion  
 8 set goals – loose goals, affects the Type-A-criteria-factor setting goals and learning to say no (e.g. through dance of the tiger, dance of opposition)  
 9 though this change of Type-A-criteria-factor discontentment  
 10 State-Trait-Anger Expression Inventory (STAXI) by SCHENKMEZGER, HODAPP and SPIELBERGER(ref) The inventory consists of 4 scales (34 items) with the following example-items: Trait-anger (“I get angry fast”); Anger-In (“I am introverted”); Anger-Out (“I explode”) and Anger-control (“I keep calm”). Put this in methods

<b>Did you note any changes regarding you and your life due to Biodanza?</b>			
<b>Categories</b>	<b>Post1-naming (P%)</b>	<b>Post2-naming (P%)</b>	<b>P</b>
Improved interpersonal skills: ability of empathy, open attitude, eye- and body contact, communication	15 (71.42%)	9 (42.85%)	.03**
Improved self-reflection: self-awareness, thinking about oneself, active perception of oneself	8 (38.09%)	2 (9.52%)	.01**
Higher calmness and relaxation ability: less hectic, calm appearance	7 (33.33%)	4 (19.04%)	.27
Better quality of life	7 (33.33%)	0 (0%)	.01**
High willingness to change things: new relationship	6 (28.57%)	0 (0%)	.02**
Expression and perception of needs	5 (23.80%)	2 (9.52%)	.27
Ability to love and enjoy	5 (23.80%)	2 (9.52%)	.19
Improved regulation of emotions and perception of feelings	4 (19.04%)	2 (9.52%)	.33
Improved perception of the body and its condition: well-being; body language	0 (0%)	5 (23.80%)	.03**
Positive changes in the relationship	0 (0%)	3 (14.28%)	.10*
Confrontation with unpleasant things	0 (0%)	2 (9.52%)	.18
Self-assurance/self-esteem	0 (0%)	1 (4.76%)	.34

*Note:* Statistically significant results with or beneath the 5%-Level where marked with “\*\*\*”. Exceeding possibilities with or beneath the 10%-Niveau were interpreted as tendency. The absolute frequency should not have a value beneath 5. In those cases p was still calculated. This is commonly not allowed and should be interpreted with care. If a category reaches the value 0 or 1 for all subjects, the category is set on 0.

*Table 7: Changes in life due to Biodanza*

#### - **Transferring the effects into daily life:**

The response profiles showed that methods of contact and contact-oriented behaviour (eye-contact, physical contact) were used in daily life by 52% (Post1) and 29% (Post2) of the subjects. Thus an important goal of the Biodanza intervention had been reached. Also the use of the Biodanza-exercises / training/ on self- and emotion- regulation processes had positive results. On the second position of the ranking, the use of certain Biodanza-exercises in daily life was shown (Post1: 43% and Post2: 29%). Because of those results the hypothesis that xxxxx is proved.

## 4. Discussion

The increase of the AVEM-type S (type “preservation”) is connected to an increasing sympatheticotonic excitation as per research of Stueck et al., 2005 (ref). Possibly, those increased abilities regarding an increasing body perception due to the body-oriented Biodanza method activate this protection-mechanism. The increased preservation-behaviour lead to a positive attitude to life and a relatively good life-satisfaction (Schaarschmidt, 2001), but its origin is mainly found outside employment (family, friends ...). The growing stand-off ability towards work shows that the subjects have a more positive attitude to life and better quality of life after the Biodanza-interventions. In this coping pattern motivational aspects, which are e.g. connected to bad working conditions and work-coordination, are most important. It shows that behaviour-preventive actions serve the preservation if no relation-preventive interventions are taking place at the same time. Hereto belong e.g. changing of the organization structure school. Here also the limits of behaviour-preventing interventions show if there is no parallel behaviour prevention taking place.<sup>11</sup>

Do you still use some experiences of Biodanza in daily life? If yes, which?			
Category	Post1- namings (P%)	Post2- namings (P%)	P
<b>Open social ability:</b> Contacting, eye- and physical contact	11 (52.38 %)	6 (28.57 %)	0.14
<b>Exercises from Biodanza in daily life:</b> intensive listening to music, moving after music, use exercises in school	9 (42.85%) <sup>13</sup>	6 (28.57 %)	0.33
<b>Disconnect:</b> Take time for yourself; relaxation phases	5 (23.80 %)	2 (9.52 %)	0.19
<b>Trying to be more calm in situations of stress or problems</b>	5 (23.80 %)	0 (0 %)	.03**
<b>Aware experiencing and recognizing</b>	4 (19.04 %)	0 (0 %)	.06*
<b>Expression of feelings:</b> detect, show, tell own feelings	3 (14.28 %)	6 (28.57 %)	0.27
<b>With humor and happiness into the day:</b> happy, content, more smiles, optimistic	2 (9.52 %)	7 (33.33 %)	0.02**
<b>Authenticity and openness:</b> No prejudice, tolerance	0 (0 %)	4 (19.04 %)	.06*

*Note:* Statistically significant results with  $p \leq 5\%$ -are marked „\*\*\*“. Greater p-values  $\leq 10\%$  were interpreted as a trend (\*). The absolute frequency should not have a value beneath 5. In those cases p was still calculated. This is commonly not allowed and should be interpreted with care. If a category reaches the value 0 or 1 for all subjects, the category is set on 0.

Table 8: Transfer into daily life<sup>12</sup>

11 Behavioural Type S (“Preservation”) is characterized through a low professional engagement, a high contentment and a low psychosomatic stress-level

12 Also used in lessons, Post2 not anymore.

### Session parameter

Regarding the psychological process variables (10 sessions) significant improvements ( $p \leq .05$ ) showed in the EG after all 10 sessions: mood, activity and relaxation. That means Biodanza is mood-supporting, vitalizing and relaxation-supporting method and can be rightly described as “Dance of life” in the definition (Toro, 1998).

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## Historical Page

### Rolando Toro

Professor Rolando Toro Araneda is the founder of BIODANZA.

He was born on 19 April 1924 in Concepción/Chile.

He taught psychology at the University Of Santiago De Chile and conducted research at the medical faculty with advanced states of consciousness in the 60s.

In his work with mentally ill people, he examined and tested, the effects of music and movement, and made discoveries, that led him to develop a system of specific exercises to selected musical pieces – that was the basis of today’s highly complex system of BIODANZA.



He summarized his findings in a complex theoretical model. Following research and insights of Freud and Jung, he coined the term “Vital Unconscious”.

Among other things, due to the political situation in Chile, Rolando Toro lived a long time in Argentina, Brazil and Italy. A few years ago, he received an honorary doctorate from the Inter American University in Buenos Aires/Argentina.

Rolando Toro Araneda was a professor of psychology, an anthropologist and artist. He drew, wrote poetry and published several books about Biodanza and psychotherapy.

As founder and leader, he called the institution IBF (International Biocentric Foundation), he established an organization that coordinates the system Biodanza worldwide.

Rolando Toro taught “his” system Biodanza until his death at the age of nearly 85 years. He lived his last years in Santiago de Chile, where he died on 17 February 2010 at his family.

He left us a legacy of the wonderful system Biodanza. It is now that Rolando, continued what he called now “dancing with the stars” in his sense of the IBF, led by Raoul Terren.



# News and Announcements

## International Conference 26.10–28.10.2012, Latvia (Lettland) The biopsychological basics of life in education and health

### Research Symposia of the International IBF-Research Network BIONet

This Conference is a contribution towards all scientific disciplines and researchers, which are investigating and improving IBF-Processes, e. g. Regenerative Medicine, Biodanza-Research, Positive Psychology, Health Psychology & Early Education worldwide. This BIONet conference will be held every three years.

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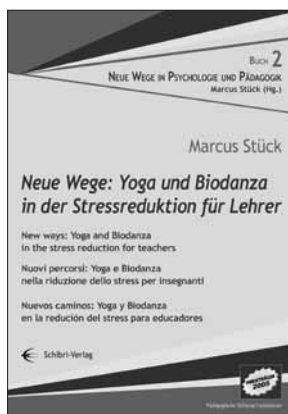
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# Publications about Biodanza



Stück, M., Bauer, K., Villegas, A., Terren, R., Toro, V., Mazzarella, L., Pauw, A. & Sack, U. (2004). *Can we dance towards stress reduction and health? Effects of a new psychological intervention method of Biodanza on subjective feeling of relaxation and Immunoglobulin A*. Journal of Meditation and Meditation-Research, Vol. 94, Nr. 2. (reviewed).

*Can we dance to health? This research question, the editors and authors of this world's first summary of research findings on body-oriented method of Biodanza since 1998 worked in Buenos Aires and Germany as part of the Leipzig research concept. It is a pioneering work of the many scientists and assistants in Argentina and Germany. Representatives of these are the co-authors. Never before experimental studies were conducted to Biodanza with psychological, biochemical and physiological issues, that attempt to prove the theoretical model of Biodanza. The research was crowned in 2006 with the first thesis of Alejandra Villegas and habilitation of Marcus piece on the life sciences, University of Leipzig. This exciting science book gives a first look at the results in different languages. The aim is that the findings will be made available worldwide.*

M. Stück, A. Villegas, F. Perche, H.-U. Balzer (2007). *New ways for psycho-vegetativ stress reduction in teachers under the use of Biodanza and Yoga*. In: Ergo-Med, 03/2007, 68–75.

*This award-winning habilitation is new ground in the intervention of stress loads. It is all about the first successful science-based introduction of body-oriented methods of yoga and Biodanza directly into the heavily loaded school context. The Application of this new way was needed, because alarming health problems of teachers are not considered, especially in terms of increase in psychosomatic disorders and diseases of the musculoskeletal system, in the body inclusion intervention programs evaluated to date. Biodanza is new motion-based method from South America for the autoregulatory integration and particularly for improved emphatic communication behavior in a social context, e. g., in teacher-student communication.*

*The changes can be achieved through experiences in dance. The second intervention approach presented here is the stress reduction training with yoga elements. Here are proven behavioral methods combined with Eastern yoga techniques. This program is now one of the recognized evaluated stress reduction training in Germany, which was listed in 2006 in the Journal of Health Psychology. Together with Biodanza, in the present study originated an innovative new model of understanding and access to the load address, which was evaluated by the author based on psychological, physiological and immunological variables directly with 245 subjects in the school system. This pioneer work, as it was honored in a eulogy of the Prize Committee, received the 2005 Award of the Science Education Foundation Cassianum and was defended in 2007 at the University of Leipzig as bioscience successful habilitation. Now it is finally available as a book and was published by the author in an acclaimed reading at the Leipzig Book Fair for the first time presented to a wide audience.*

Stueck, M.; Villegas, A.; Schroeder, H.; Sack, U.; Terren R.; Toro V.; Toro R. (2004). *Biodanza as Mirrored in the sciences: Research concerning the psychological, physiological and immunological effects of Biodanza*. Arts in Psychotherapy, 31 (3), 204 abstract, (reviewed, IF: 0.205).

*Biodanza, a form of intervention intended to further health and well-being, originated in South America by Rolando Toro and encourages self-expression and self-management through music, dance and interaction. Since 1998, we have been investigating the influence of a 10-session Biodanza program on 150 subjects on various psychological (regulation of emotion, Health, Personal psychology) physiological (skin response, blood pressure) endocrinological (e. g. adrenalin, noradrenalin, cortisol) and immunological (e. g. Immunglobulin A, NK-cells, T-cells) variables. Initial results from the experimental-control group study in Argentina and Germany reveal significant changes in psychological health and personality variables after 3 Months (Post 1). After a further 3 months without Biodanza, the effect could be seen to have stabilized. It could be shown that regular, long-term participation in Biodanza had positive effects on subjects' experience and behaviour. Concerning the immunological variables, the subjects showed a significant increase in Immunglobulin A (IgA) after 6 of 10 sessions compared to the IgA-Level before the session. A increase of the Pre-IgA-level (measured before the sessions) between the 1st and 8th-10th session was documented. These effects of sessions went along with significant psychological improvements during each session (improvement of relaxation, activity, mood) compared to the control group (Aerobic). It could be shown, that regular, long-term participation in Biodanza had positive effects on the experience, behaviour and biological regulation parameters of the subjects.*

Villegas, A.; Stück, M.; Terren, R.; Toro, V.; Schröder, H.; Balzer, H.-U.; Hecht, K.; Mazzarella, L. (1999). *Psychologische und Physiologische Wirkungen von Biodanza*. In: Conexión Abierta UAI B. Aires No: 2, S. 15–18

Villegas, A.; Stück, M.; Terren, R.; Toro, V.; Schröder, H.; Balzer, H.-U.; Hecht, K.; Mazzarella, L. (2000). *Untersuchungen zu psychologischen und physiologischen Effekten von Biodanza*. In: Biodanza: Jährliche Zeitschrift Jahr 2000 AEIB, S. 37–42.

Stück, M. (2004a). *Integrative Belastungsbewältigung in der Schule. Das IBiS-Konzept*. Prävention. Zeitschrift für Gesundheitsförderung. 4/2003. S. 115–118

Stück, M. (2004b). *Stress management in Schools: an empirical investigation of a stress management system*. Social Work Practitioner-Researcher, 16 (2), 216–230  
*Existing analysis about teachers' and students' experiences of stress, related health risk factors, and consequences for the profession represent the basis of this integrated stress-management concept designed for schools. It has been developed by the author of this article between 1994 and 2004. The ISiS-concept (Integrative Stress-Management in School) follows three methods of stress management, which are used in integrative manner with both teachers and students. First, it offers strategies for stress preventive work with students (e. g. development and evaluation of a training of relaxation with elements of yoga for children). Second, courses for stress-management for teachers were developed and evaluated (e. g. stress-management training with elements of yoga; dance and motion oriented psychological intervention method for stress-management "Biodanza"). Finally, seminars for the broadening of teachers' pedagogic-psychological competences were carried out (e. g. employment of relaxation methods in class; method-training seminars for the reduction of exam anxieties and for a better handling of behavioural disorders and discipline problems). Within the framework of accompanying evaluations we examined 576 subjects with regard to the short and long term effects of the measures taken concerning personnel development and intervention on certain psychological, psychosocial, and immunological parameters. We were able to prove stress reducing effects of the training methods for both students and teachers as well as the improvement of the teachers' pedagogical-psychological competences, caused by participating in the training seminars. Until now we are successfully working with 1000 teachers and pupils applying the components of the ISiS-Concept. This article further explains the ISiS-concept and presents the partial results of the accompanying evaluation.*

Stück, M.; Meyer, K.; Rigotti, Th.; Bauer, K.; Villegas, A.; Terren, R.; Toro, V.; Mazzarella, L.; Pauw, A.; Toro, R.; Sack, U. (2004) *Immune defence and autoregulation – effects of a new psychological intervention method Biodanza on segregation of Immunoglobulin A*; Journal Art in psychotherapy  
*Biodanza is a form of intervention intended to further health and well-being by encouraging self-expression and autoregulation through music, dance and interaction. It originates from South America and was developed by Rolando Toro. To date, no studies exist which consider the effects of dance-oriented psychological autoregulation methods on IgA in the saliva. This study is a response to this lack and examines the effects of Biodanza on the secretion of Immunoglobulin A in saliva and the subjective feeling of relaxation before and after Biodanza sessions. The design of this study is the same as the one used in the study published in this journal concerning IgA and Yoga (Stück et al., 2003). In this former publication, which was a process-evaluation study of a Yoga-based stress management training for teachers involving 11 subjects (mean age 41.6 years), the subjective feeling of relaxation and Immunoglobulin A (IgA in saliva) were measured before and after ten training sessions. We conclude that Biodanza-sessions have similar positive effects as Yoga-sessions on the subjective feeling of relaxation as well as on secreted IgA and thereby on the immune response.*

Stück, M., Rigotti, Th.; Zeyß, A.; Villegas, A.; Schröder, H.; Terren, R.; Toro, V.; Mazzarella, L. (2004) *Die Belastung tanzen? Biodanza für Lehrer als neue psychologische Interventionemethode der Belastungsbewältigung*. Journal für Musik-Tanz- und Kunsttherapie.

Stueck, M., Villegas, A., Terren, R., Toro, V., Mazzarella, L. & Schroeder, H. (2008). *Die Belastung tanzen? Biodanza als neue körperorientierte psychologische Interventionsmethode der Belastungsbewältigung für Lehrer*. Ergomed. 02/2008, 34–43.

Stück, M. & Villegas A. (2008) *Empirische Befunde zu Biodanza-Marathon*. Leipzig, Granada: Verlag für Bildungsgesundheit.  
*In Leipzig also marathons were examined. The results are presented here for the first time.*

Stück, M. & Villegas A. (2008) *Es ist wie eine Geburt: Empirische Befunde zu einjährigen Biodanza-Gruppen*. Leipzig, Granada: Verlag für Bildungsgesundheit.  
*Here 1-year courses and visible complex behavioral changes are studied.*

Fidora., Mader, G. & Stück, M. (2008) *Befunde zu Biodanza mit älteren Menschen*. Leipzig, Granada: Verlag für Bildungsgesundheit  
*This research presents Biodanza with older people in depth.*

Carbonell-Baeza, A., Aparicio, V., Martins-Pereira, C., Gatto-Cardia, C., Ortega, F., Huertas, F., Tercedor, P., Ruiz, J., & Delgado-Fernandez, M. (2010). *Efficacy of Biodanza for Treating Women with Fibromyalgia*. In: J Altern Complement Med. 16/2010, 1191-200.

*The objective of this study was to determine the effects of a 3-month Biodanza intervention in women with fibromyalgia (FM). This was a controlled trial. The study was conducted at a university research laboratory and social center. The study comprised 59 women with FM recruited from a local association of patients with FM. Participants were allocated to the Biodanza intervention group (n = 27) or usual-care group (n = 32).*

*The Biodanza intervention was carried out once a week for 3 months. The outcome measures included the following: Pain threshold, body composition (body-mass index and estimated body fat percentage), physical fitness (30-second chair stand, handgrip strength, chair sit and reach, back scratch, blind flamingo, 8 feet up and go, and 6-minute walk test) and psychological outcomes (Fibromyalgia Impact Questionnaire [FIQ], Short-Form Health Survey 36, Vanderbilt Pain Management Inventory, Hospital Anxiety and Depression Scale, General Self-Efficacy Scale, and Rosenberg Self-Esteem Scale).*

# Guidelines for Authors

Articles will be published in a peer-reviewed conference book (additional fee: 60 Euro for 4 pages, 15 Euro each additional page).

After publication the manuscript is not returned to the author.

## Call for papers and contributions

Manuscripts are requested to be sent in no later than 1st October via e-mail:

stueck@dpfa-hs.de

gunasvence@rpiva.lv

## Final product

Manuscripts submitted until deadline will be handed in to the Editorial Board for reviewing and consideration for publication in the current No of Journal. When Members of Editorial Board are handing in the manuscript, they do not make decisions concerning the publication of the particular manuscript.

## Structure of the manuscript

**At the beginning of the manuscript the following should be mentioned:** author's name, surname (12 pt, Bold, All Caps), institution that submits the manuscript, country (12 pt Normal), title of the manuscript (14 pt Bold, All Caps).

**Short summary:** 1500 characters (12 pt, Italic). Structure: Introduction, Aim of the Study, Materials and Methods of the work, main Results, Conclusions and Key words.

**Body of the manuscript:** Introduction, Aim of the Study, Materials and Methods, Results, Conclusions (12 pt, Normal) and References (the list of literature) (10 pt, Normal).

**At the end of the manuscript the following should be mentioned:** author's academic position, scientific degree, name, surname, institution, personal address, telephone and fax numbers, e-mail address (10 pt, Normal).

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The manuscript should be typewritten in A4 format, set in one column according to the following parameters: margins – 2.5 cm, text editor – Word, Times New Roman, font number 12, spaces between lines – 1. Each paragraph should start with a 1.5 cm indentation. Pages, tables and pictures should be numbered. Tables and pictures should be in black and white (if this does not interfere with the possibility to perceive the content) with captions. Tables and pictures must be cited in the text, e. g., (see Table 1); Arabic numbering should be used. The size of tables and pictures should not exceed A4 format page.

**References** should be indicated in the typescript by giving the author's name, with the year of publication in parentheses (Bamberger, 1991).

The list of **References** should be listed in full at the end of the manuscript in the order of Latin alphabet, followed by literature in Cyrillic alphabet. The list of literature should precisely follow the form depicted in the sample:

1. Garaigordobil, M. (2006) Intervention in Creativity with Children Aged 10 and 11 Years: Impact of a Play Program on Verbal and Graphic-Figural Creativity. *Creativity Research Journal*, Vol. 18, No. 3, p. 329–345.
2. Hahele, R. (2006) *Pašvērtējums mācību procesā* [Self-Assessment in Study Process]. Rīga: RaKa, 189.–190. lpp. (in Latvian).
3. Kieseritzky, H., Schwabe, M. (2005) Gruppenimprovisation als musikalische Basisarbeit [Group Improvisation as Musical Base Work]. In: *Ensemblespiel und Klassenmusizieren in Schule und Musikschule: ein Handbuch für die Praxis* [Playing Music in a Group and Class at School and Music School: Handbook for Practice]. Rudolf-Dieter Kraemer, Wolfgang Rudiger (Hrg.), 2. unveränderte Auflage. Augsburg: Wißner, S. 155–175 (in German).
4. Kočāne, I. (2001, 23. aprīlis) Psiholoģija vecākiem [Psychology for Parents]. *Diena*, 1., 3. lpp. (in Latvian).
5. Mollenhauer, K. (2003) *Vergessene Zusammenhänge*. Über Kultur und Erziehung [Forgotten Backgrounds. About Culture and Upbringing]. Weinheim und München: Juventa Verlag, S. 114–154 (in German).
6. Pētersons, E. (1931) *Višpārīgā didaktika* [General Didactics]. Rīga: A. Gulbis Publishing house, 125 lpp. (in Latvian).
7. Petty, G. (2004) *Teaching Today*, 3rd edition. UK: Nelson Thornes Ltd, 562 p.
8. Wells, G. (2002) *Learning and Teaching for Understanding: the Key Role of Collaborative Knowledge Building*. <http://people.ucsc.edu/~gwells/> (01.11.2007.)
9. Крайг, Г. (2000) *Психология развития* [Psychology of Development]. Санкт-Петербург: Питер, с. 552–560 (in Russian).

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