

Biodanza e Azione Sociale

Biodanza and Social Action

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Abstract

During childhood and adolescence it is very important to develop social skills; by creating moments and spaces in which to live positive emotions and create social relationships, motor and sports activities and dance play a significant role in the development of the person's Overall Well-being (understood in its cognitive, emotional, physical-motor, socio-relational, and spiritual multidimensionality) and in the improvement of the Quality of Life. The aim of this paper is to highlight the psycho-physical, affective-emotional and socio-relational effects of the Biodanza RTS experience on the development of emotional competences linked to the learning of social skills, and the contribution of the latter to the improvement of children and adolescents' quality of life. The transformative, educational and didactic potential of Biodanza RTS is based on bodily-mediated training processes, capable of triggering an existential change that is closely linked to the enhancement of social skills, such as the ability to express one's own emotions, reading those of others, cooperate and feel empathy, and which contribute to get to a personal evolution, to the development of social relationships and to the improvement of the quality of life.

Keywords

Biodanza SRT, competenze emotive, abilità sociali, qualità della vita
Biodanza RTS, emotional competencies, social skills, quality of life

Introduction

The World Health Organization defines quality of life as “*individuals’ perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns.*” (WHOQUOL, 1993).

Quality of life is a multidimensional psychological structure that describes the physical, emotional, social and functional aspects of well-being ((Ravens, Sieber, Torsheim, Hetland, et al. 2009; Baptista, Santos, Silva, et al. 2012; Sardinha, Santos Vale, et al. 2011; Erhart, Otova, Gaspar, et al. 2009; Tountas, Tsiantis, Dimitrakaki, Petanidou, Tzavara, Diamere, et al. 2006).

Well-being is a dynamic and constantly changing condition of balance between the person with his/her own needs and resources, and the environment in which he/she lives, and depends on individual, relational and environmental factors. Our well-being concerns every aspect of our being in the world, i.e. all the spheres of our life: that physical, psychic and social. Therefore, it affects our general health.

Persons in good physical and mental health conditions and with satisfactory interpersonal relationships are much more aware of their potentialities and limits, so they are able to appreciate life more and to face any difficulties with greater serenity.

The interpersonal relational problems arise from the poor management of one’s own cross competencies, are one of the main sources of chronic tension in society as they generate conflicts between people (family, friends, partners, colleagues,...), and can also raise their exposure to the risk of suffering from a mental health disorder (Brown, Harris, 1989).

The social changes of the last few years have made it possible to stress an increasingly important public health problem (Artazcoz, Escribá-Argüir, Cortes, 2006). People define themselves as rational beings, believing that reason can be separated from emotion and forgetting that, as Damasio said (2001), emotions are also responsible for the decisions made (López, Fierro-Suero, Fernández-Ozcorta, Sáenz-López Buñuel, 2018).

The development of social skills plays an important role in the growth process, and if well stimulated, positive results on pro-social behavior can be achieved (Hay, Payne, Chadwick, 2004). The opposite case can lead to other types of consequences: their lack of or reduced stimulation during childhood and adolescence can cause not only behavioral effects, but also psychological health problems (Lugnegard, Hallerback, Gillberg, 2011; Mahan, Matson, 2011; Matson, Wilkins, 2009; Worley, Matson, 2011).

In addition to positively acting on the psychological aspect and on physical condition (Gentiles, Goulimaris, Yfantidou, 2009; Goulimaris, Mavridis, Gentiles, Rokka, 2014; Bebetos, Goulimaris, 2014), recreational, motor and sports activities play a very important role on personal well-being; they grant spaces of aggregation in which the creation of many social relationships facilitates the development of positive emotions, and the consequent development of greater knowledge and emotional competence (Brajsa-Zganec, Merkas, Sverko, 2011).

Motor and sports activities promote *empowerment*, change, opportunities, learning, orientation, *problem-solving*, sharing, participation, dialogue, exchange, comparison, rediscovery of oneself and of one’s own life project (Rosa, Madonna, 2019), playing an important role in providing positive experiences useful to improve one’s own quality of life (Mikihiro, Jordan, Funk, 2013) and to its promotion (Lloyd, Little, 2010; Maher, Doerksen, Elavsky, Hyde, Pincus, Ram, Conroy, 2013; Walker, Halpenny, Spires, Deng, 2011). Moreover, since dance is induced by the action of music, it is capable of directly influencing the emotional sphere, and therefore contributes significantly to increase people’s vitality, to develop their ability of setting social relationships (Bebetos, Goulimaris, 2014; Goulimaris, Filippou, Koupani, 2016; Voutsina, Goulimaris, 2016) by improving their behavior.

Biodanza RTS (Rolando Toro System) is a body-mediated Social Pedagogy capable of stimulating human potentialities and enhancing talents. By acting on the person’s healthy side, it emphasizes the skills possessed by each person, offering a place and a space in which to change

and highlight everything that cannot be said through simple words; by stimulating the creative process, it promotes and facilitates self-expression, personal growth and change.

Proposing Biodanza, especially for children and adolescents, contributes to developing the ability to manage one's own emotions, developing better social relationships and experiences, and improving one's own social skills. Through acquired experiences, Biodanza RTS offers psycho-physical, emotional, affective and socio-relational benefits that facilitate cooperation skills, positive social behavior and personal and social evolution, by improving the quality of life.

1. Dance in the Emotional Regulation Processes

Dance is universal in all human cultures, and throughout history (Hanna, 1979; Mithen, 2005), it has played a fundamental role in cultural (Lienard, Boyer, 2006) and social (Grammer, Oberzaucher, Holzleitner, et al. 2011) practices, becoming a form of art and entertainment.

Dance can be defined as the expression of one or more bodies that, in an improvised or choreographed way, move in space with or without a soundtrack; moreover, being it considered a fundamental form of human emotional expression (Krantz et al. 2006), it can also play the important role of "emotional regulator".

The link between dance and emotions has been focused in numerous studies (Koch, Fuchs, 2011; McGarry, Russo, 2011); dancing includes motor, emotional, visual, sensory and intellectual processes that facilitate the differentiation of emotions (Bojner Horwitz, 2004).

The multiple aspects of the *embodied cognition* through dance (involving both the performance and perception processes) can help us understand how the creative aspects of cognition can influence the emotional competence (Bojner Horwitz E., Lennartsson A.K., Töres P. G. Theorell T.P.G., Iullén F., 2015) and how they contribute to the development of the way we understand social cognition and human behavior (Brown, Parsons, 2008; Reynolds et al. 2011; Sevdalis, Keller, 2011; Bläsing et al. 2012).

Studies involving brain imaging techniques indicate that both cognitive and sensory-motor regions are involved in dance performance (Calvo-Merino et al. 2005; Cross et al. 2006; Brown, Parsons, 2008; Koch, Fuchs, 2011)). Therefore, observing a person dancing or other person's actions can trigger brain activity both in the motor and in the emotional system (Rizzolatti, Fogassi, Gallese, 2001; Rizzolatti, Craighero, 2004; McGarry, Russo, 2011), thus also highlighting different aspects concerning various types of empathic behavior (McGarry, Russo, 2011).

Motor activity and dance seem to be involved in our emotional regulation system, in which both the performance and perception processes are linked to the mirror neuron activation system (Rizzolatti, Fogassi, Gallese, 2001; Rizzolatti, Craighero, 2004). When we make a movement we activate neural areas connected with the limbic system (Umiltà et al. 2001). This type of emotional movement feedback system can help us understand other people's feelings when they are moving. This can also improve our empathy for others (Bojner Horwitz, Lennartsson, Theorell, Ullén, 2015).

Scientific evidence in studies on the potential mechanisms underlying the improvement of empathy shows that mirroring (the imitation of movements, emotions or intentions implicit in another person's movement) improves the understanding of others' emotional intentions through a better use of mirror neuron circuits. (McGarry, Russo, 2011) The research on the mirror neuron system (MNS) suggests that the brain areas involved in the perception and production of movement are overlapping, and that these brain areas are also involved in the understanding of the intentions of the movement (Rizzolatti, Craighero, 2004). After a dance session, the activation in the MSN increases, and if mimetic behavior and empathy are interrelated, it can be deduced that empathy has improved thanks also to the mirroring. (McGarry, Russian, 2011).

Studies on dance observation through neuroimaging suggest that long-term and short-term dance training changes the structure of the grey and white matter, influencing brain activity in the action observation and simulation networks (Karpati F.J., Giacosa C., Foster N.E.V., Pen-

hune V.B., Hyde K.L., 2015), offering valuable insights into brain plasticity and its interaction with behavior.

2. Dance in the development of Social Skills and Quality of Life

Commitment to dance is associated with the emotional competence stimulated by the interaction with others (Bojner Horwitz et al. 2015) and “... *the experience acquired by young people during their participation in organized recreational activities contributes to their personal and social development* (Sevdalis, Keller, 2011; Temple, Crane, Brown, Williams, Bell, 2016)...”.

Psychologists have shown that body coordination movements performed in pairs produce feelings of sympathy and belonging (Chartrand, Bargh, 1999; Marsh, Richardson, Schmidt, 2009; Oullier, de Guzman, Jantzen, Lagarde, Kelso, 2008; Schmidt, Richardson, 2008), and there is emerging evidence that even when the number of people is greater, by moving together, the group becomes pro-social (Codrons, Bernardi, Vandoni, Bernardi, 2014; Reddish, Fischer, Bulbulia, 2013; Tarr, Launay, Cohen, Dunbar, 2015). It has been found out that similar actions are also analogous in time and style, improving cooperation and social relationships (Fischer, Callander, Reddish, Bulbulia, 2013; Lumsden, Miles, Macrae, 2014).

Coordinated physical action can act as “social glue” by uniting people (Valdesolo, Ouyang, De Steno, 2010), increasing pleasure (Hove, Risen, 2009; Launay, Dean, Bailes, 2014), the perceived and felt feeling of being together and being similar to each other (Lakens, 2010; Lumsden et al. 2014), and the cooperation (Wiltermuth, Heath, 2009) and consistency between partners’ interaction (Dong, Dai, Wyer, 2015).

“*The synchronization of verbal or non-verbal actions over time is a common feature of musical performances and dance* (D’Ausilio, Badino, Li, Tokay, Craighero, Canto, et al. 2012; Sevdalis, Keller, 2011). Social pedagogy researches have shown that when people interact with each other, they become more similar...” (Vicary, Sperling, Von Zimmermann, Richardson, Orgs, 2017). When two people move in synchrony, they become more social (Von Zimmermann, Vicary, Sperling, Orgs, Richardson, 2018) .

Dance provides an integrative way of educating children and adolescents (with or without special educational needs), by improving not only their physical condition, but also by influencing their social, psychological and educational spheres (Munsell, Bryant, Kimberly, 2016; Reinders, Bryden, Fletcher, 2015).

The experience gained by young people during their participation in organized recreational activities contributes to their personal and social development (Sevdalis, Keller, 2011; Temple, Crane, Brown, Williams, Bell, 2016), with higher levels of psychosocial maturity and quality of life.

Scientific evidence also confirms the importance of social skills in contributing to improving the quality of life.

It is considered that social skills help people adapt to and negotiate effectively with others, depending on the needs and challenges of their daily life. Having good social skills means being able to have collaborative and empathetic behaviors.

If lacking or insufficient social skills can be related to developmental and behavioral problems, as well as to psychological health problems (Lugnegard, Hallerback, Gillberg, 2011; Mahan, Matson, 2011; Matson, Wilkins, 2009; Worley, Matson, 2011), strengthening them leads to desirable social outcomes (Hay, Payne, Chadwick, 2004).

Significant information is also provided by studies focusing on the role of dance activities (understood as activities facilitating relationships and social skills) related to improving adolescents’ quality of life.

Dance activities, being of recreational nature, are perceived as a social event, a form of entertainment and a means to develop relationships (Doulias, Kosmidou, Pavlogiannis, Patsiaouras, 2007). Those who take part in dance activities establish relationships, communicate,

are integrated in small or large groups, and express their opinions and ideas (Darginidou, Goulmaris, Georgios, 2017).

Conveying social skills to children and adolescents through the experience gained during dance activities contributes to their personal and social development, and also influences their behavior, cooperation skills and empathy (Junttila, Voeten, Kaukiainen, Vauras, 2006). Dance is an activity that contributes to increasing the vitality of a person able to manage his/her emotions, to develop social relationships (Darginidou L., Goulmaris D, Mavridis G., Gentiles M.,2017) and a better quality of life.

3. Biodanza RTS: Emotional Competencies, Social Skills and Quality of Life

The Biodanza system was developed by Rolando Toro Araneda in the 1960s, and is a body-mediated pedagogy centered on the spontaneous manifestation of emotions, enabling a new way of living one's own life through intense experiences induced by dance, singing and group meetings in situations in which music is the mediator between emotion and movement (Toro, 2007)

The word Biodanza is composed of the prefix "bio" (which derives from the term "bios" and means "life") and the word "dance", which in French means "integrated movement that is full of meaning". In a semantic sense, therefore, it refers to the dance of life, where dance is understood as an integrated movement full of life (Fernández, 2012).

Biodanza RTS is a system of human potentialities integration and development that employs dance/movement, music and group meeting situations as methodological resources to induce integral experiences (Merlo, 2015) called *vivencia*: "the experience lived by an individual with great intensity, in the present moment (...)". (Toro Araneda, 2000); its purpose is to allow people entering into contact with themselves and their emotions, feeling their own body, developing their potentialities and expressing their identity.

Biodanza RTS helps people reach a good level of self-esteem, personal affirmation and awareness of their abilities, in order to work on problems and find solutions.

It promotes the expression of moods and emotions experienced in a facilitating, non-judgmental and creative environment, with the aim of stimulating people to use their resources and to develop their *empowerment*.

The English word "empowerment" derives from the verb "*to empower*", and represents the result of learning experiences that lead the person to reach a "know-how" and a "self-management", a condition of self-confidence and an ability to experience and deal with the surrounding reality.

By means of the moving body, Biodanza RTS offers the opportunity to express the emotions encompassed in this reality, promoting the possibility of accessing one of the most powerful experiences of human integration (mind-body-relationship) and emotional re-learning at the basis of a good quality of life.

Studies have shown that practicing Biodanza produces positive effects on stress reduction, on the change of the way of thinking and feeling; in addition, it increases the sense of competence and effectiveness, improves mood and mental health, and enriches emotional intelligence (Abad, Castillo, Orizia, 2014; Castañeda, 2004, 2009; Fernández, 2012; Mueller, 2012; Villegas, Stuck, 1999).

Research activities carried out by Bonetti, Cantos, Tavares, Edinéia (2010) and Cantos, Da Silva, Da Silva, Waltrick and Hermes (2005) show that this psychological improvement also brings cardiovascular benefits to people with particular pathologies (López, Fierro-Suero, Fernández-Ozcorta, Sáenz-López Buñuel, 2018).

According to the outcomes of a research on the effects of Biodanza RTS generated at psychological and physical level in school-age children, although the main objective of biodanza is not the improvement of physical qualities, even if they occur moderately (aerobic power and agility), significant improvements have been achieved in the study on psychological variables

proving that Biodanza RTS is a good method to clearly improve the emotional intelligence and self-esteem of students, with sufficient repercussions on life satisfaction (López, Fierro-Suero, Fernández-Ozcorta, Sáenz-López Buñuel, 2018). This method is also useful to have a greater impact on their future professional and personal success. Research on the effects of continuous biodanza activity in school age is gradually increasing.

Other research works on continuous Biodanza activities in school age (7-10 years) have shown that the levels of cortisol in the body decrease, resulting in a reduction in stress useful to implement the recognition of emotions, concentration and enhancement of social skills. (Stueck, Villegas, Lahn, Bauer, Tofts, Sack, 2016; Stueck, 2010; Stueck, Villegas, 2008; Stueck, Villegas, 2012; Stueck, Villegas, 2009; Stueck, Villegas, Terren, Toro, Mazzarella, Schroeder, 2008; Stueck, Villegas, Schoenichen, Bauer, Tofts, Sack, 2013).

In Italy, a study specifically focused on the interventions of Biodanza RTS proposed to minors under restriction in the juvenile penitentiary institute “Fornelli” of Bari; these interventions were aimed at the prevention of the health state of the detainees, the learning of individual strategies (life skills), the acquisition of permanent behaviors to promote new personal competences (at emotional, cognitive and relational level), and the increased awareness of One’s own Well-Being Perception.

Through the administration of the Questionnaire on the Optimal Experience (Goldwurm, 2015) we wanted to investigate which emotions, thoughts and motivations had characterized the experience lived in the Biodanza RTS laboratories, and to simultaneously analyze: Perceived commitment, Perceived abilities, Emotional Well-being, and Motivation (Rosa, Madonna, 2019; Rosa, 2019).

The results obtained highlighted the qualitative significance of the experience lived by the participants in all aspects (cognitive-behavioral, emotional, motivational and relational), and facilitated the adoption of socially-accepted behaviors that underpin their reintegration into civil society.

Conclusions

Many studies have established a positive connection between quality of life and recreational, motor and sports activities (Spengler, Woll 2013; Baldwin, Tinsley, 1988) or with sports in general (Wankel, Berger, 1990).

It is important to develop emotional competencies and social skills in children and adolescents by providing them with positive experiences that develop physical, psychological and socio-relational benefits for a better quality of life (Darginidou, Goulimaris, Mavridis, 2017; Darginidou, Goulimaris, Mavridis, Genti M., 2017).

Biodanza RTS (Rolando Toro System) finds its educational and rehabilitative value through a *metacognitive* learning process. Considered as a bodily-mediated Social Pedagogy, it is able to promote global health and well-being for the subject, and to favor the learning of individual strategies (life skills), useful for orienting oneself in life by adopting positive attitudes and contributing to collective well-being (Rosa, Madonna, 2019).

A place for Biodanza RTS aimed at children and adolescents should be encouraged and proposed especially in schools, since it allows increasing affectivity and empathy, facilitating the management of their own and others’ emotions, highlighting the importance of sharing and ecological communication, and stimulating pro-social behavior.

Being Biodanza RTS an activity suitable for men and women of all ages, regardless of their different-ability (with or without Special Educational Needs), and having it the lack of knowledge about how to dance as its main requirement, it is an excellent strategy to reach populations that, otherwise, could not be interested or involved in other motor, kinesthetic or game activities. Moreover, the improvement of emotional, relational and social skills potentially represents a further possibility of intervention to lead young people to experiment with new ways of relat-

ing to others and with new openings towards others and the world. It also represents a chance to make them become protagonists of their existence, by promoting the development of their social skills and by constantly orienting them towards a better quality of life.

References

- Abad M. T., Castillo E., Orizia A. C. (2014). “*Los efectos de un programa motor basado en la biodanza en relación con parámetros de inteligencia emocional en mujeres*”. Cuadernos de Psicología del Deporte, 14(1), 13-21.
- Artazcoz L., Escribà-Aguir V., Cortes I. (2006). “*El estrés en una sociedad instalada en el cambio*”. Gaceta Sanitaria, 20, 71-78.
- Baldwin K., Tinsley H. (1988). “*An investigation of the validity of Tinsley and Tinsley’s (1986) theory of leisure experience*”. Journal of Counseling Psychology, 35, 263–267
- Baptista F, Santos D.A., Silva A.M., et al. (2012). “*Prevalence of the Portuguese population attaining sufficient physical activity*”. Medicine & Science in Sports & Exercise, 44, 466 -73.
- Bebetsos E., Goulimaris D. (2014). Personal outcome and leadership as defining factors of satisfaction in the context of the course “Arts II: Overview of Greek Music and Dance” of the Hellenic Open University. Turkish Online Journal of Distant Education, 15, 2, 1, 12-23.
- Bläsing B., Calvo-Merino B., Cross E.S., Jola C., Honisch J., Stevens C.J. (2012). “*Neuro-cognitive control in dance perception and performance*”. Acta Psychol. 139, 300–308. doi:10.1016/j.actpsy.2011.12.005
- Bojner Horwitz E. (2004). “*Dance/movement Therapy in fibromyalgia patients– Aspects and Consequences of verbal, visual and hormonal analyses*”. Doctoral dissertation from the faculty of Medicine, Department of Public Health and Caring Sciences, Uppsala University, Uppsala.
- Bojner Horwitz E., Lennartsson A.K., Töres P.G. Theorell T.P.G., Ullén F. (2015). “*Engagement in dance is associated with emotional competence in interplay with others*”. Frontiers in Psychology |Volume6|Article1096
- Bonetti A., Cantos G. M., Tavares J., Edinéia M. (2010). “*Actividades interdisciplinares e multiprofissionais: Relatos de experiencia com participantes do programa de prevenção para doenças cardiovasculares*”. Extensio: Revista eletrônica de extensão, 7(10), 70-89.
- Brajsa-Zganec A., Merkas M., Sverko I. (2011). “*Quality of Life and Leisure Activities: How Do Leisure Activities Contribute to Subjective Well-Being?*” Social Indicators Research, 102(1), 81-91.
- Brown GW, Harris TO. (1989). “*Life events and illness*”. New York: Guilford Press
- Brown S., Parsons L.M. (2008). “*The neuroscience of dance*”. Sci. Am. 299, 78–83. doi:10.1038/scientificamerican0708-78
- Calvo-Merino B., Glaser D.E., Grezes J., Passingham R.E., Haggard P. (2005). “*Action observation and acquires motor skills: an FMRI study with expert dancers*”. Cereb. Cortex 15, 1243 1249. doi:10.1093/cercor/bhi007
- Cantos G. M., Da Silva E., Da Silva C. S., Waltrick C. D., Hermes E. M. (2005). “*Biodanza como nova abordagem terapêutica para pacientes com problemas cardiovasculares*”. Revista Pensamento Biocêntrico, 2, 5-10.
- Chartrand T. L., & Bargh J. A. (1999). “*The chameleon effect: The perception-behavior link and social Interaction*”. Journal of Personality and Social Psychology, 76, 893–910. <https://doi.org/10.1037/0022-3514.76.6.893>
- Castañeda G. M. (2004). “*Cuerpo y vivencia: un encuentro consigo mismo. Un acercamiento desde la biodanza*”. Educación Física y Deporte, 23(2), 61-77.
- Castañeda G. M. (2009). “*La biodanza como práctica corporal. En relación con la promoción de la salud*”. Educación Física y Deporte, 28(2), 81-90.
- Codrons E., Bernardi N. F., Vandoni M., Bernardi L. (2014). “*Spontaneous group synchroniza-*

- tion of movements and respiratory rhythms*". PLoS ONE, 9, 1–10. <https://doi.org/10.1371/journal.pone.0107538>
- Cross E.S., Hamilton A.F., Grafton S.T. (2006). "Building a motor simulation de novo: observation of dance by dancers". *Neuroimage* 31, 1257–1267. doi: 10.1016/j.neuroimage.2006.01.033
- D'Ausilio A., Badino L., Li Y., Tokay S., Craighero L., Canto R., et al. (2012). "Leadership in orchestra emerges from the causal relationships of movement kinematics". Sirigu A, editor. PLoS ONE. 7(5):e35757. <https://doi.org/10.1371/journal.pone.0035757> PMID: 22590511
- Damasio A. R. (2001). "El error de Descartes". Barcelona: Crítica.
- Darginidou L., Goulimaris D., Mavridis G. (2017) "Social skills and prediction of the quality of life of adolescents .The case of dance and physical activities". *Journal of Physical Education and Sport R (JPES)*, 17 Supplement issue 2, Art 76
- Darginidou L., Goulimaris D, Mavridis G., Genti M. (2017). "Physical activities, recreational activities and social skills of adolescents". *Sport Science* 10 (2017) Suppl 1: 76-82
- Dong P., Dai X., Wyer R. S., Jr (2015). "Actors conform, observers react: The effects of behavioral synchrony on conformity". *Journal of Personality and Social Psychology*, 108, 60–75. <https://doi.org/10.1037/pspi0000001>
- Doulias E., Cosmidou E., Paulogiannis C., Patsiaouras A. (2007). "Investigation of Incentive to Participate in Junior Folk Dance Groups (in Greek)". *Inquiries in sport & Physical Education*, 3 (2), 107-112.
- Erhart M., Ottova V., Gaspar T., et al. (2009). "Measuring mental health and well -being of school-children in 15 European countries using the KIDSCREEN-10 Index". *International Journal of Public Health*, 54, 160- 166.
- Fernández F. M. (2012). "Vivencia de despedida y duelo con biodanza". Maracaibo, República Bolivariana de Venezuela: Monografía Biodanza.
- Fischer R., Callander R., Reddish P., Bulbulia J. (2013). "How do rituals affect cooperation? An experimental field study comparing nine ritual types". *Human Nature*, 24, 115–125. <https://doi.org/10.1007/s12110-013-9167-y>
- Genti M., Goulimaris D., Yfantidou G., (2009). "The Psychological Mood of Adult Participants in Aerobics, Greek Traditional Dancing and Muscle Strengthening Programs". *International Journal of Sport Management, Recreation & Tourism*, 4, 40-51.
- Goldwurm G. F. (2015). "Esperienza ottimale e selezione psicologica". In: *Psicologia Positiva. Applicazioni per il benessere*. Trento: Erickson SpA, pp. 129-147.
- Goulimaris D., Mavridis G., Genti M., Rokka S. (2014). "Relationships between basic psychological needs and psychological well-being in recreational dance activities". *Journal of Physical Education and Sport*, 14, 2, 277-284.
- Goulimaris D. Filippou D.A., Koupani A. (2016). "How does the motivational climate differ among adult dancers within an educational context?" *Journal of Physical Education and Sport*, 16, 1, 252 - 257. DOI:10.7752/jpes.2016.01040.
- Grammer K., Oberzaucher E., Holzleitner I., et al. (2011). "Dance: the human body as a dynamic motion system" In *The Implications of Embodiment: Cognition and Communication*. W. Tschacher & C. Bergomi, Eds.: 173–192. Exeter: Imprint Academic
- Hanna J.L. (1979). "To Dance Is Human: A Theory of Nonverbal Communication". Austin: University of Texas Press.
- Hay D. F., Payne A., Chadwick, A. (2004). "Peer relations in childhood". *Journal of Child Psychology and Psychiatry*, 45, 84-108.
- Hove M. J., Risen, J. L. (2009). "It's all in the timing: Interpersonal synchrony increases affiliation". *Social Cognition*, 27, 949–960. <https://doi.org/10.1521/soco.2009.27.6.949>
- Junttila N., Voeten M., Kaukiainen A., Vauras M. (2006). "Multisource assessment of children's social Competence". *Educational and Psychological Measurement*, 66, 876-895.
- Koch S.C., Fuchs T. (2011). "Embodied art therapies". *Arts Psychother.* 38, 276–280.

doi:10.1016/j.aip.2011.08.007

- Karpati F.J., Giacosa C., Foster N.E.V., Penhune V.B., Hyde K.L. (2015). “*Dance and the brain: a review*”. ANNALS OF THE NEW YORK ACADEMY OF SCIENCES. Issue: The Neurosciences and Music V. New York Academy of Sciences.
- Krantz G., Madison G., Merker B. (2006). “*Melodic intervals as reflected in body movements*”. Ann. N.Y. Acad. Sci. 999, 374–376.
- Lakens D. (2010). “*Movement synchrony and perceived entitativity*”. Journal of Experimental Social Psychology, 46, 701–708. <https://doi.org/10.3389/fphys.2012.00405>
- Launay J., Dean, R. T., Bailes F. (2014). “*Synchronising movements with the sounds of a virtual partner enhances partner likeability*”. Cognitive Processes, 15, 491–501. <https://doi.org/10.1007/s10339-014-0618-0>
- Lienard P., Boyer P. (2006). “*Whence collective rituals? A cultural selection model of ritualized behavior*”. Am. Anthropol. 108: 814–827.
- Lloyd K., Little D.E. (2010). “*Self-determination theory as a framework for understanding women’s psychological well-being outcomes from leisure-time physical activity*”. Leisure Sciences, 32, 369–385.
- López J.R.H., Fierro-Suero S., Fernández-Ozcorta E.J., Sáenz-López Buñuel P. (2018). “*Efectos de un programa de biodanza en relación a parámetros físicos y psicológicos en Educación Primaria*”. Revista de Ciencias del Deporte, V. 14 (1)
- Lugnegard T., Hallerback M.U., Gillberg, C. (2011). “*Psychiatric comorbidity in young adults with a clinical diagnosis of Asperger’s syndrome*”. Research in developmental Disabilities, 1910-191
- Lumsden J., Miles L. K., Macrae C. N. (2014). “*Sync or sink? Interpersonal synchrony impacts self-esteem*”. Frontiers in Psychology, 5, 1–10. <https://doi.org/10.3389/fpsyg.2014.01064>
- Mahan S., Matson J. (2011). “*Children and adolescents with autism spectrum disorders compared to typically developing controls on the Behavioral Assessment system for children, Second Edition (BASC-2)*”. Research in Autism Spectrum Disorders, 5, 230–236.
- Maher J.P., Doerksen S.E., Elavsky S., Hyde A.L., Pincus A.L., Ram N., Conroy D.E. (2013). “*A daily analysis of physical activity and satisfaction with life in emerging adults*”. Health Psychology, 32, 647–656.
- Marsh K. L., Richardson M. J., Schmidt R. C. (2009). “*Social connection through joint action and interpersonal coordination*”. Topics in Cognitive Science, 1, 320–339. <https://doi.org/10.1111/j.1756-8765.2009.01022.x>
- Matson J., Wilkins C. (2009). “*Psychometric testing methods for children’s social skills*”. Research in Developmental. Research in Developmental Disabilities 30, 249-274.
- McGarry L.M., Russo F.A. (2011). “*Mirroring in Dance/Movement Therapy: Potential mechanisms behind empathy enhancement*”. The Arts in Psychotherapy Volume 38, Issue 3, July 2011, Elsevier DOI: 10.1016 / j.aip.2011.04.005
- Merlo E. (2015). “*Biodanza: Abordaje terapéutico. “Música, movimiento y emoción*”. En I. Cecilia, A. Pereira, M. Valles y T. Matías (Eds.), “*La experiencia musical: Cuerpo, tiempo y sonido en el escenario de nuestra mente*” (pp. 165-169). Buenos Aires: SACCoM.
- Mikihiro S., Jordan J.S., Funk D.C. (2014). “*The Role of Physically Active Leisure for Enhancing Quality of Life*”. Journal of Leisure Sciences, 36(3).
- Mithen S.J. (2005). “*The Singing Neanderthals: The Origins of Music, Language, Mind and Body*”. London: Weidenfeld & Nicolson.
- Mueller, U. (2012). “*Efectos de la biodanza en la salud mental del diabético*”. (Tesis doctoral). Universidad Rafael Landívar, Guatemala.
- Munsell S. E., Bryant D., Kimberly E. (2016). “*Dance and Special Education*”. Preventing School Failure, 59 (3) 129-133.
- Oullier O., de Guzman G. C., Jantzen K. J., Lagarde J., Kelso, J. A. S. (2008). “*Social coordination dynamics: Measuring human bonding*”. Social Neuroscience, 3, 178–192. <https://doi.org/10.1080/17470910701563392>

- Ravens-Sieberer U., Torsheim T., Hetland J., et al. (2009). “*Subjective health, symptom load and quality of life of children and adolescents in Europe*”. *International Journal Public Health*, 54, 151-159.
- Reddish P., Fischer R., Bulbulia J. (2013). “*Let’s dance together: Synchrony, shared intentionality and cooperation*”. *PLoS ONE*, 8, 1–13. <https://doi.org/10.1371/journal.pone.0071182>
- Reinders N., Bryden P.J., Fletcher P.C. (2015). “*Dancing with Down syndrome: a phenomenological case study*”. *Research in Dance Education*, 16(3), 1-17.
- Reynolds D., Jola C., Pollick F.E. (2011). “*Dance research electronic– introduction dance and neuroscience–new partnerships*”. *Dance Res.* 29, 260–269. doi:10.3366/drs.2011.0019
- Rizzolatti G., Fogassi L., Gallese V. (2001). “*Neurophysiological mechanisms underlying the understanding and imitation of action*”. *Nat. Rev. Neurosci.* 2, 661–670. doi:10.1038/35090060
- Rizzolatti G., Craighero L. (2004). “*The mirror-neuron system*”. *Annu. Rev. Neurosci.* 27, 169–192. doi:10.1146/annurev.neuro.27.070203.144230
- Rosa R. (2019). “*Corporeità e Ri-Educabilità nel Sistema Penitenziario*”, in *Inclusive Didactics, Methodology and Sports*, 16 - Filo Refe, January 2019
- Rosa R., Madonna G. (2019). “*Biodanza RTS, approccio motorio innovativo nella rieducazione dei Giovani Detenuti*” in: *Lo Sport in chiave Psico-Pedagogica. Sport in a Psycho-Pedagogical Key.* Year 3 n. 1 – January-march 2019. *Giornale Italiano di Educazione alla Salute, Sport e Didattica Inclusiva.* Universitarie Romane Editions. Rome, printed on april 2019, pp. 77-90
- Sardinha L. B., Santos R., Vale S., et al. (2011). “*Prevalence of overweight and obesity among Portuguese youth: a study in a representative sample of 10–18 year-old children and adolescents*”. *International Journal of Pediatric Obesity* 6, 124-128.
- Schmidt R. C., Richardson M. J. (2008). “*Dynamics of interpersonal coordination*”. In A. Fuchs & V. K. Jirsa (Eds.), *Coordination: Neural, behavioral and social dynamics* (pp. 281–308). Berlin, Heidelberg: Springer-Verlag. https://doi.org/10.1007/978-3-540-74479-5_14
- Sevdalis V., Keller P.E. (2011) “*Captured by motion: dance, action understanding, and social cognition*”. *Brain and Cognition*, Volume 77, issue 2.
- Spengler S., Woll, A. (2013). “*The more physically active the healthier? The relationship between physical activity and health-related quality of life in adolescents: the MoMo study*”. *Journal of Physical Activity and Health*, 10, 708-715.
- Stueck M., Villegas A., Lahn F., Bauer K., Tofts P., Sack U., (2016). “*Biodanza for kindergarten children (TANZPRO-Biodanza): reporting on changes of cortisol levels and emotion recognition*”. *Body, Movement and Dance in Psychotherapy. An International Journal for Theory, Research and Practice* Volume 11 – Issue 1
- Stueck M. (2010). “*Water based self-regulation with Biodanza for children as a preventive intervention for reduction of trauma and increasing of attachment behavior*”. In Evelin Witruk (Ed.), *Contribution to educational and rehabilitative psychology. Learning, adjustment and stress disorders* (pp. 359–366). Frankfurt: Peter Lang.
- Stueck M., Villegas A. (2008). “*Dance towards health? Empirical research to Biodanza- Biodanza mirrored in the science*” (Vol. 1). Strasburg: Schibri-Verlag (published in 4 languages: German, Italian, Spanish, English).
- Stueck M., Villegas A. (2012). “*Overview on biodanza research – An 8-point masterplan*”. *Biopsychological Basics of Life*, 1, 7–15.
- Stueck M., Villegas A. (2009). “*Dance oriented programme with elements of Biodanza for children (TANZPRO-Biodanza for children)*”. Leipzig: Publisher Healthy Education.
- Stueck M., Villegas A., Terren R., Toro V., Mazzarella L., Schroeder H. (2008). “*Dance the stress? Biodanza as a new body oriented psychological method of intervention for reduction of stress for teachers*”. *Ergomed*, 2, 34–43.
- Stueck M., Villegas A., Schoenichen C., Bauer K., Tofts P., Sack U. (2013). “*Effects of an evidence based dance program (Tanzpro-Biodanza) for kindergarten children aged four to six on immunoglobuline a, testosterone, and heart rate*”. *Problems of Education in the 21st*

- century, 56, 128-143.
- Tarr B., Launay J., Cohen E., Dunbar R. (2015). “*Synchrony and exertion during dance independently raise pain threshold and encourage social bonding*”. *Biology Letters*, 11, 1–4. <https://doi.org/10.1098/rsbl.2015.0767>
- Temple V. A., Crane J. R., Brown A., Williams B.-L., Bell R. (2016). “*Recreational Activities and Motor Skills of Children in Kindergarten*”. *Physical Education and Sport Pedagogy*, 21(3).
- Toro Araneda, R. (2007). “*Biodanza*”. Chile: Editorial Cuarto Propio.
- Toro Araneda, R. (2000). “*Biodanza. Musica, movimiento, comunicacione espressiva per lo sviluppo armonico della personalita*”. Red: Cornaredo (Mi).
- Toundas C., Tsiantis I., Dimitrakaki Ch., Petanidou D., Tzavaras Ch., Diareme S., Et al. (2006). “*Study Kidscreen: Assessment of quality of life related to the health of children and adolescents (in greek)*”. Date of recovery: 15-12-2016, http://www.neaygeia.gr/UserFiles/File/MELETH_KIDSCREEN.pdf.
- Umilta M., Kohler E., Gallese V., Fogassi L., Fadiga L., Keysers C., et al. (2001). “*I know what you are doing: a neurophysiological study*”. *Neuron* 31, 155–165.
- Valdesolo P., Ouyang J., De Steno D. (2010). “*The rhythm of joint action: Synchrony promotes cooperative ability*”. *Journal of Experimental Social Psychology*, 46, 693–695. <https://doi.org/10.1016/j.jesp.2010.03.004>
- Vicary S. Sperling M., Von Zimmermann J., Richardson D.C., Orgs G (2017) “*Joint action aesthetics*”. *PLoS ONE* 12(7) <https://doi.org/10.1371/journal.pone.0180101>
- Villegas A., Stuck M. (1999). “*Efectos Psicofisiológicos de un método basado en la música, el movimiento y el encuentro grupal (Biodanza)*”. Buenos Aires: Universidad Abierta Interamericana.
- von Zimmermann J., Vicary S., Sperling M., Orgs G., Richardson D.C. (2018) “*The Choreography of Group Affiliation*”. *Topics in Cognitive Science*, volume 10, issue 1, Wiley Periodicals. P80-94 DOI: [10.1111/tops.12320](https://doi.org/10.1111/tops.12320) in “*Coordination and Context in Cognitive Science*,” Christopher T. Kello (Topic Editor).
- Voutsina M., Goulimaris D. (2016). “*Motivation and job satisfaction of people working in recreational dance activities*”. *Sport Science*, 9, 1, 28-36.
- Walker G. J., Halpenny E., Spiers A., Deng, J. (2011). “*A prospective panel study of Chinese-Canadian immigrants’ leisure participation and leisure satisfaction*”. *Leisure Sciences*, 33, 349–365.
- Wankel L., Berger B. (1990). “*The psychological and social benefits of sport and physical activity*”. *Journal of Leisure Research* 22, pp. 167–182.
- WHOQOL group (1993). “*Study protocol for the World Health Organization project to develop a quality of life assessment instrument (WHOQUOL)*”. *Quality of life research* 2. 153-159.
- Wiltermuth S. S., Heath C. (2009). “*Synchrony and cooperation*”. *Psychological Science*, 20, 1–5. <https://doi.org/10.1111/j.1467-9280.2008.02253.x>
- Worley J., Matson J. (2011). “*Psychiatric symptoms in children diagnosed with an autism spectrum disorder: An examination of gender differences*”. *Research in Autism Disorders* 3, 1086-1091.