

Dance/Movement Therapy and emotional well-being for adults with Intellectual Disabilities

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Abstract

The connection between mind and body is activated through Dance/Movement Therapy (D/MT). This connection promotes the integration of emotional, cognitive and physical dimensions of a person. This study focused on emotional well-being, understood as a dimension within the construct of quality of life. The improvement of emotional well-being was examined in adults with Intellectual Disabilities (ID) who participated in an intervention program of 26 sessions in D/MT.

The intervention group comprised 22 adults with ID ($n=22$; 47.27 ± 11.67 years) (12 male). The control group were 20 adults with ID ($n=20$; 48.15 ± 12.46 years)

test was applied to evaluate the emotional indicators before and after the program. The results indicated statistically significant improvements in the emotional well-being in the intervention group after the D/MT program ($p = 0.007$) in comparison to the control group ($p = 0.560$).

D/MT can be an appropriate approach when working with adults with ID to provide them with support, and to increase quality of life specifically emotional well-being.

Introduction

Dance has been present throughout our history, both in spiritual and religious practices as well as in recreational and social ones (González & Macciuci, 2013; Nanni, 2005). It is an instrument of expression and communication that can transmit emotions, feelings, thoughts and experiences (Ballesta, Vizcaino, & Mesas, 2011). When dance is applied to therapeutic objectives, the therapist is physically and emotionally present during the sessions, and establishes communication through sensorimotor channels and nonverbal expression (Wengrower & Chaiklin, 2008). For these reasons, dance is considered as a facilitating approach for the capacity of movement and expression, where creativity is present; and it also has the ability to represent or externalize individual's feelings (Martín, 2009). All these factors regarding dance promote wellness and health as well as the participation and involvement with others and the environment (Dunphy & Scott, 2003).

From Positive Psychology perspective, dance can provide benefits to people's Quality of Life (QoL) (Bermell, 2003; Hervás, 2009; Vera, 2006). In recent decades, the concept of QoL has evolved and spreaded with increasing interest within people

with Intellectual Disability (ID). It is a favorable environment to raise a new conceptual framework that allows for the evaluation and improvement of the individual welfare, and provides a common language for its standardization and integration (Schalock, Garder, & Bradley, 2006). QoL is a multidimensional concept composed by eight dimensions. It links with different individual areas and integrates a subjective perspective of the person based on individual life experiences (perceptions and values) and an objective perspective linked to common human experiences. The eight QoL dimensions are: emotional well-being, interpersonal relationships, material well-being, personal development, physical well-being, self-determination, social inclusion and rights. These dimensions represent the breadth and complexity of QoL construct and are considered as a set of factors that make up personal well-being (Schalock & Verdugo, 2003; Schalock et al., 2006). World report on disability (OMS, 2011) highlights the lack of empirical data and objective evidence in relation to existing programs for people with disabilities. Conclusions of the report (Recommendation 9: strengthen and support research on disability), stated the need of increasing research related to people with disabilities in order to facilitate general understanding, but, above all, to encourage QoL. This project aims to be a contribution to the welfare of people with ID, as the Decalogue of adapted sport established (Decálogo de actividad física, 2003). We must also take into account the social difficulties that may present the population with ID such as social stigma (Ditchman et al., 2013). These difficulties can influence the person's self-esteem (Paterson, McKenzie, & Lindsay, 2012), among others. Likewise, dance can contribute to the self-esteem improvement (Pérez-Testor, 2010). Specifically, in this study we have focused on how the Dance/Movement Therapy (D/MT) affects the emotional dimension of well-being in adults with ID. This dimension has been one of the most interesting research topics in the field of psychology as it focuses on the individual perceptions, in its globality, in itself. Within the emotional well-being dimension we can find elements such as the selfconcept (identity, self-worth, self-esteem), happiness, good humor, satisfaction, body awareness and safety (Schalock et al., 2006).

Dance/Movement therapy in people with intellectual disability

D/MT is defined as “a specialty in psychotherapy that uses the body and nonverbal expressions as a process to promote emotional, cognitive and physical integration of the individual” (Panhofer, 2005, p. 50). It gives a therapeutic use to movement, as a process that seeks the emotional integration of the individual influencing its emotional well-being (Frieder & Eckstein, 1981). Movement is a way of expression of conscious and unconscious thought that gives us information of internal emotional states (Fischman, 2001; Levy, 1988). It focuses on the mind-body connection encompassing the individual's whole health (González & Macciuci, 2013; Nanni, 2005; Vella & Torres, 2012). Body movement represents a reflection of internal emotions, and the registry of individual movement modifications is understood as changes related to a psychological dimension that promotes personal well-being (Fischman, 2001).

People with ID have difficulties in symbolic capacity, limitations of their own body and physical space limitations (González & Macciuci, 2013). Concretely, intellectual disability (ID) is diagnosed taking into account intellectual and adaptive functioning and is a disorder that appears during the developmental period, according to Diagnostic Statistical Manual of Mental Disorders (DSM- 5) (APA, 2013). People with ID can present a significant limitation in the following areas: intellectual development and adaptive behaviour including conceptual, social, and adaptive skills (APA, 2013; Schalock et al., 2006), besides body and movement limitations. Therefore, as highlighted by Levy (1988), it can be helpful to focus on improving their body image, coordination, motor skills, physical domain, emotions, confidence and awareness, and communication skills. In order to improve this communication, Borja and Solís (2012) proposed the development of a program for people with ID focused on music and dance, where one of the main elements would be the work on the body schema, apart from the body language exploration and expansion. In D/MT programs with groups of people with ID, we should consider the limitations on cognitive and communication skills of the group, as these limitations will determine the program characteristics and the type of assessment needed in order to assess their emotional status (Paredes, 2010). It is currently possible to find some studies using D/MT in adults with ID (Arthur, 2003; Barnet-López, Pérez-Testor, Arbonés-García, & Guerra-Balic, 2015a; Koch, Kunz, Lykou, & Cruz, 2014; Ritter & Low, 1996). These studies are mainly focused on the evaluation of cognitive functioning, academic learning, social inclusion or planning for social support networks services (Arthur, 2003), stressing then the need for further research within the emotional well-being dimension.

Contributions of dance and dance/movement therapy to emotional well-being

D/MT benefits one's emotions and own physical knowledge (Barnet-López et al., 2015b; Levy, 1988). Programs where body movement, music and nonverbal language are present, allow us to connect with our internal emotional world, knowledge and body image favouring individual or group physical and mental conditions (Blanco & Jiménez, 2005).

D/MT is based on physical and mental integration as a prerequisite to improve individual overall health (Stanton-Jones, 1992). In that sense, being in touch with our own feelings implies being also in touch with our body and mental images that are linked to these feelings. From those feelings, free movement emerges, creating a synergy between therapeutic and artistic work. (Hämäläinen, 2007). Indeed, in a study with teenagers with ID, particularly with Down syndrome, an improvement was observed after a single session of dance regarding their own bodies knowledge and their emotional development, especially in improving self-esteem and reducing anxiety (Pérez et al., 2009; Pérez-Testor, 2010).

Fischman (2005) found that programs where body work is present help to improve empathy and relational skills, as well as affect satisfaction and emotional well-being. Another study showed the improvement of self-concept, self-esteem

and social skills in people with ID who had been involved in sessions where music, theatre or dance were present (Lloret, 2009). Thus, we believe that body language work, considered as a way of expression and communication can facilitate the channelling of different emotions, helping to improve people's welfare (Ruano, 2003).

Mora, Salazar and Valverde (2001) worked with people with disabilities through a program focused on music and dance. These authors concluded that challenging behaviors were reduced, and stressed the need to expand research in this area. Other work studied adults with ID, who performed sessions of dance and movement and achieved significant results regarding increased self-esteem, joy, expression, security, body awareness and communication skills, as well as a decrease in depression (Hoban, 2000).

Bermell (2003) presented a program focused on the contributions of dance concerning emotional well-being dimension, believing that it provides personal security. In addition, he stated that self-image was related to a strengthened individual control, mainly through movement proposals, highlighting the coordination work of body schema and balance.

Barnet, Pérez-Testor and Guerra (2013) conducted a research with adults with ID, where participants underwent the Human Figure Drawing (HFD) test, before and after a D/MT session. The results obtained by comparing both drawings allowed quantifying body knowledge improvement, linked to self-concept improvement (Barnet et al., 2013), but unfortunately in this study emotional aspects were not evaluated.

Objectives

The main objective of this study is to assess the changes on emotional well-being of adults with ID through HFD, after 26 D/MT sessions. Intervention and Control groups are compared.

Method

Participants

Participants were adults with ID, including Down Syndrome, recruited from a Foundation in Girona (Spain) through convenience sampling. Participants were randomly distributed into the Intervention Group (IG) – 30 adults with ID, or the Control Group (CG).

– 30 adults with ID. Participants presented a moderate or severe degree of disability according to the national government’s classification (Boletín Oficial del Estado, 1999).

Inclusion criteria were as follows: presence of moderate to severe ID, older than 18 years old and not being taking part of any other psychological therapy. An exclusion criterion was to have not completed all the HFD.

In order to be part of the final analysis, the participants from the IG must have attended at least 75% of the D/MT sessions.

Eight participants from the IG were excluded. Six of them did not complete all the HFD tests and could not be considered for data analysis, and the other two participants did not attend the minimum of D/MT sessions required to take part in the study (75%) because of justified reasons (medical and family reasons), never due to lack of engagement. From the CG, 10 participants were excluded, as they did not complete all the HFD tests.

So, after inclusion and exclusion criteria were applied, there were 22 participants in the IG (12 males/10 females) with a mean age of 47.27 11.67 years old; and 20 adults with ID (12 males/8 females) in the CG with a mean age of 48.15 12.46 years old.

Due to the small sample size, a multiple treatments single-group design was implemented. Group assignation could not be completed randomly, as we only had one group, and were seeking equivalence, since there is nothing more similar to a group than the group itself (Thomas & Nelson, 2007).

Dance/Movement therapy program

D/MT program consisted of a 3 month program period, with two sessions per week, of 1 h each. In total, subjects participated at least in 75% of the 26 sessions. The sessions’ leader was a professional with a psychology degree, a master in Health Psychology, and a master in D/MT, with a high experience in population with ID.

Each of the sessions followed a similar structure based on Marian Chace (1953) guidelines, which was the D/MT pioneer, and proposed the following session phases: check-in, warm-up, transition-process and check out.

In the present study, and as a visual support, pictograms that expressed happiness, a neutral mood, or sadness were used. Participants were invited to point one pictogram of their choice in order to obtain their mood before and after each session (Schalock et al., 2006). Another visual support was a calendar, where researches marked the date, so that the participants could be aware of how many sessions had already taken place and how many were left.

The components and elements of the activities were: body scheme, rhythms, self-concept, relationship, identification of the different types of emotions, Laban effort, balance and coordination, grounding and free dance (Barnet-López et al., 2015b). With all these activities it is expected to obtain bio-psycho-social benefits (Borja & Solís, 2012; Fischman, 2001; Koch et al., 2014).

Instrument

To assess emotional well-being, the HFD test (Koppitz, 2000) was used. This is a non-verbal instrument, the same as dance, which allows expressing emotions (Maganto & Garaigordobil, 2009). The HFD was selected from others because it is a validated projective test for all kind of population, independently of age, conditions, disabilities (including population with ID), and to cognitive or communication limitations (Barnet-López et al., 2015b; Koppitz, 2000). When dealing with people with limited expressive communication capacities or limited introspection levels, drawing stands as a more reliable instrument than oral language (Maganto, Garaigordobil, & Etxerria, 2007).

In this test, HFD is assessed through 30 emotional indicators that illustrate worries and attitudes of the subjects, regardless of the age or maturity level of the person (Koppitz, 2000). Previous studies have stressed that emotional indicators provide information about elements tightly linked to emotional well-being, such as body image and body awareness, interpersonal relationships, self-esteem, self-confidence, anxiety and aggression (Barbosa, 2013; Barnet et al., 2013; De Felipe et al., 2011; Hammer, 1978; Koppitz, 1984, 2000; Pérez, Guerra, & Massó, 2007).

Test interpretation considers that the sole presence of a single emotional indicator is not conclusive. Two or more emotional indicators are necessary to consider rational or emotional difficulties. Koppitz (1984) emotional indicators allow the observation of emotional patterns or difficulties that the assessed person or group may present. Higher scores indicate higher numbers of emotional difficulties.

Procedure

This study committed to ethical principles that rule any research on human beings according to the Helsinki declaration, as revised in 1975. Participants, parents and/or legal tutors and the staff of the occupational day center, were previously informed about the assessment and programs protocols. An informed consent was obtained for all participants and their parents and/or legal tutors. The Institutional Review Board of University Ramon Llull approved this study.

To assess the CG, HFD test was completed twice, one at the beginning of the study and the second time three months after the program was held. IG was involved during three months in 26 D/MT sessions which were held twice a week and lasted 60 min each one. HFD test was completed in programs sessions, concretely in session 4 (D1) and session 24 (D2). The first three sessions familiarized the participants with the program and the staff.

For HFD test implementation (Koppitz, 1984, 2000), DIN-4 paper and HB2 pencil were given to the participants, along with the following instruction: draw a whole person. They needed to draw it within 15 min, and they were not allowed

to erase.

Statistical analysis

Statistical analyses were conducted using the Statistical Package for the Social Sciences (SPSS) 21.0 (IBM SPSS Statistics, Chicago, IL, USA), obtaining descriptive and inferential analysis of the assessed variables. Kolmogorov-Smirnov analyses were completed to explore whether sample variables were normally distributed. T- student tests were performed with emotional indicators variables for pre and post program, to analyze the changes triggered by D/MT program. We achieved a 95% confidence level throughout the entire study.

Results

In Table 1 the age and pre-post test values of the emotional indicators from the IG and CG are presented.

Table 2 also shows the differences between variables D1 (pre- test) and D2 (post-test) for IG and CG. Significant differences were observed between D1 and D2 for IG ($p = 0.007$), whereas between D1 and D2 for CG no differences were found ($p > 0.560$).

We analysed the data frequency of the emotional items of the IG, as this group was the only one showing significant improvement. For IG the following items were identified:

- We observed seven items that did not appear in any of the drawings (D1–D2), before or after D/MT program, these were: shading of the hand/neck, asymmetry, crossed eyes, teeth, big hands, legs together and clouds.

We identified four items that did not change after the D/MT program: transparencies, hands cut off, monster and 3+figures (see Table 3).

In addition, there were five items that increased its frequency after the D/MT program: poor integration, shading of the body/limb, slanting figure, big figure and genitals (see Table 3).

However, 14 items decreased its frequency after the D/MT program, showing an improvement, these were: shading of the face, tiny figure, tiny head, short arms, long arms, arms clinging, no eyes, no nose, no mouth, no body, no arms, no legs, no feet and no neck (see Table 3).

		N	Minimum	Maximum	Mean	SD
Intervention Group	Age	22	19	66	47,27	11,667
	D1 EI	22	0	12	5,55	3,648
	D2 EI	22	0	12	4,05	3,258
Control Group	Age	20	19	66	48.15	12.461
	D1 EI	20	0	12	4.30	0.669
	D2 EI	20	0	12	4.50	0.686

Note. EI = Emotional Indicators.

Table 2

Differences between the results of the beginning and the end of the session (D1–D2) in the IG and the CG.

Group	Pares	X/S	Sig.
IG	D1–D2	5.55 ± 3.648 vs 4.05 ± 3.258	0.007**
CG	D1–D2	4.30 ± 0.669 vs 4.50 ± 0.686	0.560

Note. * $p < 0.05$; ** $p < 0.01$.

Table 3

Percentage of the presence of emotional items in each of the DFHs in the IG.

No Item	EI%	D1	D2
1	Poor integration	54.5	59.1
2	Shading of the face	9.1	4.5
3	Shading of the body/limb	4.5	9.1
4	Shading of the hand/neck	0	0
5	Asymmetry	0	0
6	Slanting figure	0	9.1
7	Tiny figure	13.6	0
8	Big figure	18.2	31.8
9	Transparencies	4.5	4.5
10	Tiny head	18.2	0
11	Crossed eyes	0	0
12	Teeth	0	0
13	Short arms	40.9	31.8
14	Long arms	13.6	9.1
15	Arms clinging	4.5	0
16	Big hands	0	0
17	Hands cut off	54.5	54.5
18	Legs together	0	0
19	Genitals	0	4.5
20	Monster or grotesque figure	9.1	9.1
21	3+ figures	4.5	4.5
22	Clouds etc.	0	0
23	No (= omission) eyes	27.3	13.6
24	No nose	31.8	27.3
25	No mouth	50	13.6
26	No body	40.9	18.2
27	No arms	22.7	13.6
28	No legs	31.8	9.1
29	No feet	40.9	22.7
30	No neck	59.1	54.5

Table 4

Percentage of the decrease of the emotional indicators, after the D/MT program.

No. Item	Emotional Indicators	Intervention Group D1-D2
25	No mouth	36.4
26	No body	22.7
28	No legs	22.7
10	Tiny head	18.2
29	No feet	18.2
23	No eyes	13.7

7	Tiny figure	13.6
13	Short arms	9.1
27	No arms	9.1
2	Shading of the face	4.6
30	No neck	4.6
14	Long arms	4.5
15	Arms clining	4.5
24	No nose	4.5

Note. No = Omission.

In Table 4 we show the percentage of decrease of the mentioned 14 items regarding the emotional indicators after D/MT program (D2).

Finally, Table 5 allows us to observe in more detail the results related to the participants that have had an increment or decrease or no change on the emotional indicators at the end of the D/MT program (D2).

The emotional indicators are reduced in 13 participants from the IG. In nine cases the score decreases, and the lower score was equal or greater than 2; meanwhile the remaining four scores observed in the D2 were between 0 and 1 (see Table 5). In the CG the emotional indicators decreased in six participants, even though they scored more than 2 items in the D2.

In addition, we can observe that the scores of the IG increase in relation to D1-D2 in four participants, while eight participants from the CG increased their scores (see Table 5).

Discussion

The purpose of this study was to analyze the changes in emotional well-being in adults with ID before and after a D/MT program. Emotional indicators have been assessed with the HFD test (Koppitz, 1984), due to the appropriateness of the instrument when evaluating people with cognitive impairment or expressive language limitations (Maganto et al., 2007).

At the beginning of the D/MT program, the emotional indicators that were more representative for participants were: no neck (59.1%), poor integration (54.5%), no mouth (50%), short arms (40.9%), no body (40.9%) and no feet (40.9%) (see Table 1). In the HFD test, body parts omitted or distorted suggest emotional conflicts related to those specific body parts. Moreover, there were observed relationship and manipulation difficulties, directly linked to the omission and distortion of both hands and arms (De Felipe et al., 2011; Hammer, 1978; Koppitz, 1984).

Table 5

Scores D1–D2 of each of the participants (IG and CG).

	IG (n = 22)		CG (n = 20)	
Emotional Indicators	No of participants	Scores	No of participants	Scores
		D1–D2		D1–D2
Score remains 2 or more	3	2–2 3–3 9–9	4	2–2 2–2 4–4
Score remains 0–1	2	0–0 1–1	2	0–0 1–1
Score increases 0/1–2	1	1–2	3	0–2 1–2 1–2
Score decreases 2 or more	4	2–0 2–1 2–1	–	–
— 0/1		4–0		
Score increases	3	4–5 6–7 10–12	5	3–4 4–5 6–8 8–9 8–12
Score decreases	9	4–3 7–6 8–4 8–7 9–2 9–6 9–4 12–7 10–7	6	4–3 10–8 5–3 6–5 7–6 7–5

Note. Scores between 0 and 1: one emotional indicator is not conclusive.

Scores 2 or more emotional indicator are the thresholds to consider emotional difficulties.

Koppitz (1984) defines short arms emotional indicator as an item that stresses limitations within the person (“deficiency”). Poor integration item refers to “one or more body parts that are not attached to the rest, one of the parts is just attached by a line or barely touches the rest of the body” (Koppitz, 1984, p. 384). This item highlights body awareness difficulties, as well as important cognitive and emotional limitations. After the program was applied, Post-Test results (D2) under- lined changes at emotional level. Fourteen emotional indicators decreased, emphasizing an enhancement in:

interpersonal relationship, self-concept, anxiety, self-confidence and the capacity to identify emotions, as well as body self-awareness, which indicate an improvement in emotional well-being (see Table 2). First, items linked with omissions were rejected, as before the program participants may just not have integrated those body parts or did not draw them because of emotional conflicts related with those parts. However, after the program, those previously omitted parts did appear, increasing the occurrence percentage of occurrence and evidencing a higher integration of the body image. Those mentioned items were no mouth (36.4%), no body (22.7%), no legs (22.7%), no feet (18.2%), no eyes (13.7%), no arms (9.1%), no neck (4.6%), no nose (4.5%) (see Table 2).

Tiny figure item (13.6%) had also improved. The drawing size is related with self-confidence and self-concept (Barbosa, 2013; Barnet et al., 2013; Pérez et al., 2007). Another item that has shown improvement is the decrease on face shading (4.6%), which is related to anxiety and the lack of the own body acceptance (Barnet et al., 2013; Pérez et al., 2007).

Three items that were related to arms showed an improvement. Concretely, short arms, (9.1%), long arms (4.5%) and arms clinging (4.5%) indicates a contact between parts improvement, which is tightly related to a better relationship with the other participants and with the context surrounding (Koppitz, 2000). Fischman (2005) stated that programs that focused on body work foster interpersonal relationship abilities.

Participants of the IG that took part in the D/MT program improved their emotional well-being at the end of the program and no changes were observed for the CG (see Table 4). Our findings agree with other studies sustaining that D/MT practice triggers emotional and body awareness benefits (Barnet et al., 2013; Barnet-López et al., 2015b; Koch et al., 2014; Pérez et al., 2009; Pérez-Testor, 2010; Panhofer, 2005; Ritter & Low, 1996; Wengrower & Chaiklin, 2008). D/MT supports the person's emotional integration as Frieder and Ekstein (1981) stated.

D/MT program has allowed participants to explore new ways of communicating and expressing their own emotions, and has focused on tackling participants' health (Fischman, 2001; González & Macciuci, 2013). In concordance with the study by Vera (2006), the program has triggered QoL benefits for adults with ID, concretely within the emotional well-being dimension (Schalock et al., 2006).

This study aims to be a contribution towards evidence-based knowledge in relation to how D/MT may be an appropriate program for adults with ID, and it gives light to new lines of research highly needed in that field, as WHO (2011) stresses. Besides, recent researches highlight the need to broaden studies related to dance or D/MT programs (Barnet-López et al., 2015a; Koch et al., 2014).

Limitations and future researches

Using only one assessment instrument in this study is a limitation that needs to be taken into account. HFD test refers to the person's patterns or difficulties, so conclusions must be warningly considered and cannot be generalized. Future investigations may add another assessment instrument to its evaluation protocol. The elaboration and application of an observational instrument may allow researchers to enrich the information provided by the HFD test (Barnet-López et al., 2015a). This second instrument might strengthen and complement the results related to people with ID

emotional aspects.

With regards to future research, differences between gender might be studied, and the EG sample size might also be broadened. It would be also interesting to include the assessment of cognitive components and complementing the HFD test with another instrument that may allow researchers to get a deeper understanding of the emotional aspects of the participants attending D/MT sessions.

Conclusions

Participants who took part in the D/MT program group showed a significant improvement related to different emotional aspects such as interpersonal relationship, self-concept, anxiety, self-confidence, the level of emotions identification and the body self-awareness. D/MT program has incremented the emotional well-being of the participants. We definitely consider D/MT to be a program that empirically improves the emotional well-being of people with ID, directly impacting their QoL.

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