

Teaching Young Adults with Down Syndrome (DS) and Mild Mental Retardation the Traditional Greek Dance

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Abstract: The aim of this study was to present the experiences of teaching Greek traditional dance to young adults with DS and moderate mental retardation as well as to evaluate the learning of the kinetic form of the dances by the participants. A total of 22 individuals aged 20 to 30 years old who had been diagnosed with DS and mild mental retardation participated in the survey. The programme lasted 12 weeks with a frequency of 3 times per week. The duration of each lesson was 60 minutes. The kinetic form of nine Greek traditional dances was taught. The teaching approach was carried out taking into account the specificities of the participants. The evaluation of the learning was carried out by three Physical Education teachers with specialization in Greek Traditional Dance and long experience in teaching people with special abilities. The Graded Criteria Scale for the Evaluation of Greek Traditional Dance by Pitsi, Diggelidis, & Filippou (2013), as adapted for populations with disabilities by Kamilaki (2021), was used to assess learning. From the analysis of the data obtained from the evaluations of the three judges, the following results emerge: (a) people with DS and moderate mental retardation have the ability to participate and learn Greek traditional dances as long as the teaching approach is adapted to their abilities; (b) dances should be simple and without much complexity; (c) the instrument that gives the rhythm should be clearly audible; (d) people with DS enjoy and express themselves by participating in dance activities.

Keywords: dance, rhythm, teaching, disabilities.

1. Introduction

When Dance, of any kind, enables all people, regardless of their gender, age, origin or abilities, to participate in an activity that will allow them to discover and learn to express themselves kinetically and creatively, to improve their technique, to promote their physical and mental health and to express their personal feelings. All this in a positive environment. According to Snyder (2018), participation in dance activities enables participants to improve their physical, mental and spiritual health as well as their socialization.

Bräuninger (2012) writes that Dance movement therapy (DMT) is a proposal which, by using movement and dance as non-verbal communication, helps the people involved to relax, become closer and more energetic. Essentially, what Bräuninger (2012) argues is that DMT works as a creative psychotherapy which is centred on the human body.

DS is one of the most common, if not the most common, chromosomal conditions with an incidence of 1 in 700 births. The probability of occurrence is associated with the age of the mother since as the age of the mother increases, the chances of having a child with DS increase [7]. There are many problems that the child with DS will encounter when the time comes to enter the adult world. Memory problems/ decreased short term memory, decreased auditory memory, decreased and gradual loss of vision, obesity due to a sedentary lifestyle and lack of physical activity can lead the person to depression [7]. Finally, chromosomal abnormality is the reason why individuals with DS have not only developmental but also cognitive delays. As a result of these delays, they have reduced abilities to learn new concepts, skills and activities [1].

Research has found that participation in physical activities helps to reduce the risks of chronic diseases such as cardiovascular, obesity or respiratory diseases [21]. According to Clark (2011), people with DS are at greater risk of cardiovascular and respiratory diseases, obesity than typically developing individuals. In addition, due to delayed development, individuals with DS have low muscle tone, ligaments in joints are loose resulting in instability and decreased balance. As mentioned above, dance is a physical activity that provides participants with the opportunity for self-expression, exploration of their individuality [13], socialization [8], becoming addicted to cooperation, developing creativity and discipline.

Reinders, Bryden and Fletcher (2015) in their case study, conducted with a 21-year-old male sample who was diagnosed with DS, explored his experience of participating in community dance classes. The participant's parents and dance teacher also participated in the study. From the data, collected through questionnaires, interviews and observations during the classes, the authors concluded that participation in the dance classes produced very positive results. The participant, through the dance classes, improved their levels of self-esteem and self-confidence, got to know their body better and widened their social circle.

Barnet-Lopez, Pérez-Testor, Cabedo-Sanroma, Oviedo and Guerra-Balic (2016) investigated the effects of participation in activities such as DMT on improving the emotional well-being and quality of life of people with cognitive impairment, including people with DS. Their ultimate aim was to demonstrate the suitability of DMT for improving emotional wellbeing as well as quality of life for people with mental retardation. They conducted 26 sessions that included activities such as emotion recognition, balance, coordination, rhythmic exercises and free dance. From the results of the study, the authors concluded that a DMT program can improve emotional well-being as well as quality of life for people with mental retardation.

The aim of Snyder's (2018) research was to investigate the risks to the health of people with DS and whether participation in dance movement therapy (DMT) sessions could reduce their impact. In addition, her aim was to raise awareness among professionals such as dance teachers, physiotherapists and occupational therapists to include dance and DMT classes in their programmes. The results of her research support her view since the results of her research were positive from the implementation of dance and DMT programs.

And while the benefits of participation in Greek traditional dance activities have been investigated in either typically developing populations [12]-[20] or in patients with chronic diseases [14]-[15]-[19], the learning of dance by participants as well as the development of dance teaching programs has not been investigated.

So, the aim of the study was to present the experiences of teaching Greek traditional dance to young adults with Down syndrome and to evaluate the learning of the kinetic form of the dances by the participants.

2. Methodology

Participants

A total of 22 individuals aged 20 to 30 years old who had been diagnosed with Down's syndrome participated in the survey. The sample included 13 males and 9 females. The participants came from the Vlach Association of Efkarpia "The Holy Spirit", which is located in Thessaloniki. All participants were found to have a diagnosis of type T21 (Typical Trisomy 21), which is characterized by mild intellectual disability.

Procedure

For the participation of the 22 individuals in the research, permission was requested and obtained from their parents, after they had been given the assurance that the data collected would be used exclusively for scientific purposes. Furthermore, they were given the assurance that if a participant asked to leave the project because it was not what they were informed about or did not like it there would be no problem. Finally, the Ethics Committee of the Democritus University of Thrace was asked and permission was obtained to conduct the research.

Programme

The programme lasted 12 weeks with a frequency of 3 times a week. The duration of each lesson was 60 minutes. A total of 36 lessons were held. There were three parts to each lesson. The duration of the first part was 5-10 minutes and the aim was to prepare the body for the load that would follow in the main part. It included rhythmic movements to introduce participants to the rhythms that would follow. Furthermore, the analysis and execution of the movement patterns that were part of the dances that would follow were carried out. The second part was 40 - 45 minutes long and in this part the execution of the dances was carried out. Finally, the third part lasted 5-10 minutes and in it the body was restored to its normal levels through the performance of low-impact rhythmic and stretching movements. The dances were taught on the first day of the week. The analysis of the new dances into the kinetic patterns of which they consisted and then their reconstruction into complete dance forms was carried out. In the other two classes of the week the performance of the dances in their entirety was carried out.

The selection of the dances of the programme was made taking into account the following:

- a) α) People with Down syndrome like rhythm and music [25].
- b) These individuals have non-smooth movement development so that when they walk, run, jump or dance this is done awkwardly and there is a risk of falls [9]-[16]. Furthermore, they show impaired spatio-temporal orientation according to Dewey and Wilson (2001).
- c) People with Down syndrome are distinguished by low muscle tone which affects their speech and motor skills.

- d) When they encounter difficulties in the learning process they make various excuses to avoid participation [26].
- e) They are largely unable to assimilate new knowledge [26].
- f) People with Down syndrome are not able to pay attention to the details of information. Instead, they notice/ perceive the main points of the information [26].
- g) The short-term memory of these individuals is limited, as is their auditory memory [26].

As previously mentioned, a variety of factors contribute to the complexity and, at times, ineffectiveness of the learning process for individuals with Down syndrome. However, one of the most significant and challenging issues for educators to address is the short-term memory of these individuals. Individuals with Down's syndrome exhibit an inability to recall instructions due to their impaired memory. According to Darais (2002), short-term memory is not only associated with the storage of information but also with other cognitive functions. While typically developing individuals possess a memorization capacity ranging from five to nine segments of information, individuals with Down syndrome demonstrate a capacity of only three segments.

These difficulties are compounded by the limited auditory memory that people with Down's syndrome have. That is, people with Down's syndrome have limited abilities to hear and process the sound stimuli they receive from their environment compared to typically developing people. In contrast, their long-term memory as well as their visual memory function better and contribute to the improvement of the learning process [4].

Considering the above, the attention, in order for the teaching process to be effective, it should be given:

- (a) The improvement of gross and fine motor skills
- (b) The development of balance and coordination
- (c) The strengthening of muscular strength and endurance
- (d) The design of each activity taking into account the level of each participant

Finally, the principles that should be taken into account and applied in teaching are:

- (a) The principle of continuous repetition since this will help to enhance the acquisition of both motor and dance skills [17]-[30].
- (b) The principle of visual guidance since visual is the dominant memory and will be more effective than verbal [27]-[32].
- (c) The principle of gradual increase in difficulty. Our instruction should follow a gradual increase in difficulty [17]-[27].
- (d) The principle of individualized instruction: each student, like those with typical development, has different learning rates so instruction should be individualized [5]-[32].

The dances taught were: Syrtos sta tria (Kontoula Lemonia), Hassapia (Tonight on the beaches), Zonaradikos, Syrtos sta dyo (On the Parga's hill), Berati, Syrtos nisiotikos (island), Milo mou kokkino (My red apple), Tasia, Podaraki.

The evaluation of the learning of the kinetic form of the dances was carried out by three Physical Education teachers with specialization in Greek Traditional Dance and long experience in teaching people with special abilities. The Graded Criteria Scale for the Evaluation of Greek Traditional Dance [23] as adapted for populations with disabilities by Kamilaki (2021) was used to assess learning.

The Scale of Graded Criteria for the Evaluation of Greek Traditional Dance [23] is comprised of eight criteria. These criteria encompass dance recognition, responsiveness to the rhythmic pattern, temporal accuracy, step sequence, direction-shape and grip of the dance, position and posture, qualitative elements of movement, and expressiveness. The assessment of performance is conducted at five levels, which are as follows: unacceptable performance, defined as performance that falls below the minimum base level; marginally acceptable performance, defined as performance that is marginally at or slightly above the base level; moderately acceptable performance, defined as performance that is acceptable but cannot be described as good, very good, and excellent.

The scale is considered reliable since during its construction the values obtained for the indicators "relative agreement" (100%), ICC single (0.964 - 0.994), ICC average (0.982 - 0.997), Spearman's r (0.956 - 0.994) and Cronbach's a (0.981 - 0.998) are considered acceptable. Furthermore, the scale was successfully used in the researches of Arapitsa (2015), Papaioannidou (2016), Kamilaki (2021) and Topatsi (2022) according to which the scale is an easy to use and reliable instrument to evaluate the dance performance of both primary and three grades of high school students.

In this study, the response to the rhythmic pattern, timing, step sequence, direction- shape and grip of the dance as well as the position and posture of the body will be evaluated [18].

3. Results

Syrtos sta tria

As can be seen in Table 1, there is unanimity among the three judges/evaluators regarding the performance of the participants in the dance "Syrtos in three". More specifically, and according to the assessment of the three raters, all participants learned the dance even with a marginally acceptable performance. 50% of the participants had a marginally and moderately acceptable performance. Finally, 11 participants (50%) had very good to excellent performance.

Hassapia

In "Hassapia," the judges/evaluators reached a consensus regarding the performance of the participants in the dance. A total of 12 participants (54.55%) demonstrated a performance that was marginally to moderately acceptable. Conversely, 10 participants (45.45%) demonstrated performances that were considered to be of a very good to excellent caliber (Table 1).

Zonaradikos

The unanimity of the judges continued in the dance "Zonaradikos" where all participants had at least a marginally acceptable performance. 54.55% had a marginally to moderately acceptable performance while 45.45% of the participants managed to achieve a very good to excellent performance (Table 1).

Syrtos sta dyo

According to the evaluators, 1 participant, 4.55%, failed to learn the dance and therefore had an unacceptable performance. On the other hand, 63.64% had marginal to moderate acceptable performance and 36.36% had very good to excellent performance (Table 2).

Berati

9.09% failed to have even a marginally acceptable performance as they failed to learn the kinetic form of the dance while 59.09% of the participants managed to have a marginally to moderately acceptable performance. Finally, 31.82% had a very good to excellent performance, a performance that allows us to say that the participants learned and performed the dance without any particular errors (Table 2).

Syrtos nisiotikos

From the judges' evaluation it is found that the dance made it quite difficult for the participants as 18.18% of the participants failed to learn the kinetic form of the dances. The same is also observed in the participants who had marginal to moderate acceptable performance since the percentage reached 68.18% while only 13.64% had very good to excellent performance (Table 2).

Milo mou kokkino

Unanimity of the judges is also observed in the dance "Milo mou kokkino" a dance that has as a kinetic model the kinetic pattern "in two". The percentage of participants who did not manage to have even a marginally acceptable performance increases a lot and reaches 31.82%. 45.45% managed to learn the dance having a marginally to moderately acceptable performance and only 22.73% had a very good to excellent performance (Table 3).

Tasia

36.36% of the participants did not manage to have even a marginally acceptable performance since during the dance they made mistakes either in the execution of the kinetic form of the dance or in their synchronization with the music. 50% had marginally to moderately acceptable performance while 13.64% performed the dance almost without errors (Table 3).

Podaraki

40.91% made so many mistakes during the performance of the dance that the three judges judged their performance as unacceptable in contrast to 45.45% whose performance was judged marginally to moderately acceptable. Finally 13.64% danced the dance almost without errors and therefore their performance was judged very good to excellent (Table 3).

Table 1. Performance's evaluation of Syrtos at three, Hassapia & Zonaradikos

Performance characterisation	Syrtos sta tria			Hassapia			Zonaradikos		
	1 st judge	2 nd judge	3 rd judge	1 st judge	2 nd judge	3 rd judge	1 st judge	2 nd judge	3 rd judge
Unacceptable	0	0	0	0	0	0	0	0	0
Marginally acceptable	4	4	5	5	6	5	4	4	5
Moderately acceptable	7	6	7	7	6	7	8	7	8
Very good	6	7	6	6	7	6	6	7	6
Excellent	5	5	4	4	3	4	4	4	3

Table 2. Performance's evaluation of Syrtos sta dyo, Berati & Syrtos nisiotikos

Performance characterisation	Syrtos sta dyo			Berati			Syrtos nisiotikos (island)		
	1 st judge	2 nd judge	3 rd judge	1 st judge	2 nd judge	3 rd judge	1 st judge	2 nd judge	3 rd judge
Unacceptable	1	1	0	2	2	1	4	4	5
Marginally acceptable	8	8	7	8	8	10	11	12	11
Moderately acceptable	5	6	7	5	5	4	3	3	3
Very good	4	4	4	4	4	4	3	2	2
Excellent	4	3	4	3	3	3	1	1	1

Table 3. Performance's evaluation of Milo mou kokkino, Tasia & Podaraki

Performance characterisation	Milo mou kokkino			Tasia			Podaraki		
	1 st judge	2 nd judge	3 rd judge	1 st judge	2 nd judge	3 rd judge	1 st judge	2 nd judge	3 rd judge
Unacceptable	7	6	7	8	8	7	9	9	10
Marginally acceptable	6	7	6	8	7	9	9	8	7
Moderately acceptable	4	3	4	3	3	3	2	2	2
Very good	3	3	3	2	3	2	1	2	2
Excellent	2	3	2	1	1	1	1	1	1

4. Discussion – Conclusions

The aim of the study was to present the experiences of teaching Greek traditional dance to young adults with Down syndrome and to evaluate the learning of the kinetic form of the dances by the participants. The reason that prompted the researchers to address this issue was the fact that there is no research on the teaching of dance and especially Greek traditional dance and the evaluation of the learning of adults diagnosed with DS. The reason that makes the need for such research more pressing is that while Greek traditional dance has been the subject of research in typically developing individuals [12]-[20] and in patients with chronic conditions [14]-[15]-[19] in none of them was a detailed account of the teaching approaches as well as the assessment of learning provided.

22 adults took part in the survey, of which 13 were men and 9 were women. The programme was 12 weeks long and 36 sessions of Greek traditional dance lasting 60 minutes each were conducted; a total of nine dances were taught.

The degree and complexity of the dances being taught was chosen to be of increasing instructional intensity and to help address/resolve problems such as impaired spatio-temporal orientation [11], their clumsy motor condition [9]-[16] and their inability to focus on the detail of information. One of the most important issues that required an immediate solution and at the same time the bet that had to be won was the consolidation of a climate of trust between the two parties i.e. the instructor and the 22 participants.

All participants engaged in Greek traditional dance classes for the first time. This signified a lack of prior experience with dance, although individuals with DS have been shown to possess a natural aptitude for rhythm and music [25]. In response to this lack of prior experience, the researchers developed an instructional program

with two primary objectives: first, to introduce the participants to the realm of Greek traditional music and dance, and second, to facilitate their engagement with rhythmic exercises, spatial movement, and movement patterns. This pedagogical approach was designed to allow for a gradual adjustment period, during which the participants could become acclimated to the environment and feel at ease. The participants' trust in the instructor was reciprocated, allowing the instructor to focus on the lesson rather than on observing the students with suspicion. The presence of this mutual trust had an additional consequence. When confronted with challenges during the lesson, they did not resort to various justifications to evade participation [26], but instead endeavored to communicate their difficulties to the instructor, thereby enabling the teacher to adjust the teaching method accordingly.

In consideration of their inability to respond to verbal communication, efforts were made to minimize this and allow demonstration and modeling to predominate [27]-[32]. Another consideration was weak short-term memory, i.e. memory that lasts less than 20 minutes or even some days in case the activity is repeated for a long period of time [31]. This was taken into account for the structure of the project. Short-term memory is the initial step in the transformation of new information into long-term memory, following its acquisition of meaning for the individual. The principle of continuous repetition [17]-[30] and individualised instruction [5]-[32] were enlisted to successfully crown instruction.

The results of the evaluations conducted by the three evaluators are as follows:

- (a) The participants displayed a capacity for and aptitude in acquiring the kinetic form of dances that were elementary, such as "Syrtos in three", "Hassapia", and "Zonaradikos", through consistent repetition and individualised instruction. The acquisition of these dances was further facilitated by the incorporation of songs, which served as an auditory aid in the learning process. It is noteworthy that in these three dances, some participants demonstrated notably proficient performances, with others exhibiting commendable abilities. It is noteworthy that the "expression" criterion was removed from the evaluation rubric at this stage [23]. This decision ultimately proved to be an erroneous one, as all participants, without explicit instruction, managed to articulate their emotions and ideas through their dance movements. This may have been facilitated by the incorporation of singing, which provided participants with an opportunity to vocalise.
- (b) In the second set of dances, which had the pattern in two as the movement pattern, some of the participants started to have some difficulties in learning the movement form although the majority of them did. There were still some, albeit fewer than the previous trio of dances, who were rated as near perfect. The dance that the participants encountered the greatest difficulty with - a greater number were rated as unacceptable performance and only three with very good and excellent performance - was the "Island Syrtos". It should be noted that all participants learned the movement form of the dance and the point where they encountered great to insurmountable difficulties was when they were asked to dance to the music and song. Perhaps this was due to the speed of the music which was relatively fast (approximately 135 beats per minute) since during the learning of the dance and when song was used instead of music the participants did not encounter any particular problems with synchronization.
- (c) The third set of three dances included dances of greater difficulty since the slide with the song "Milo mou kokkino/My red apple" consisted of 12 movements in total and these were divided into two movement groups of six movements each. The point where they encountered the greatest difficulties was the second movement pattern, that is, the pattern performed on the spot, i.e. the participants had to remember that they had to change direction. The second dance was the "Tasia", a free/no hold dance and which is composed of two compound 2/4 steps. Although many rhythmic exercises were performed without grip and moving around the space without gripping each other, when asked to dance to music the majority encountered difficulties moving around the space. The majority also encountered difficulties in performing the two compound steps hence the large number who failed to achieve even a marginally acceptable performance. It turned out that the compound step is a movement of increased difficulty. The situation worsened in the last dance of the program "Podaraki" and which includes changes in direction. The dance requires the participants to change direction and from moving to the right (in the direction of the circle) to changing front and moving to the left (opposite to the direction of the circle). Finally, they would have to perform a number of dance movements on the spot. That is, this dance exhibited a complexity and an organization high enough that it often proved to be high even for participants of typical development. Although it was known from the beginning that this dance would create problems for the participants, it was chosen both to investigate their performance in a dance that presents difficulties in moving the dancers around the space and to explore the dancers' patience and perseverance in difficult conditions. That is, the researchers wanted to see whether participants would find excuses or

excuses not to participate in the dance given its difficulty. However, no participant expressed a desire to leave.

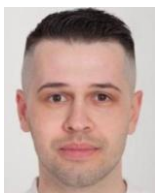
The following conclusions were drawn from the analysis of the data obtained from the evaluations of the three judges: (a) individuals with Down's syndrome and moderate intellectual disability possess the capacity to participate and learn Greek traditional dances, provided that the teaching approach is adapted to their abilities; (b) dances should be straightforward and devoid of complexity; (c) the instrument that provides the rhythm should be clearly audible; (d) individuals with Down's syndrome derive enjoyment from, express themselves through, and find pleasure in participating in dance activities.

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