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Article

An exploratory study of flow and enjoyment in a Dalcroze Eurhythmics-based intervention for seniors in Mexico

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ABSTRACT

In the past decade there has been an increasing demand for Dalcroze Eurhythmics sessions for seniors in Europe and the United States. However, in Latin America there is currently no established programme for this population. The effect of six sessions of a Dalcroze Eurhythmics-based intervention during three weeks was evaluated with a group of nine people (six women and three men), with a mean age of 69.8, using representative exercises of Dalcroze Eurhythmics to assess the 'state of flow', as described by Csikszentmihalyi using a Spanish version of the SFSS scale, and the level of enjoyment of the physical activity according to the PACES scale by Kendzierski and DeCarlo (abbreviated version). A single-group design assessed all variables following the first session and after the intervention. The results obtained from all the indicators of the PACES were identical after session 1 and at the end of the intervention. In contrast, the results of the measurement of three of the nine components of the SFSS vary slightly after session 1 compared to those post-intervention. The results of the remaining six components do not vary. Overall, the results suggest there is a need to review the effectiveness of the administration procedure of the scales.

KEYWORDS

flow, Dalcroze Eurhythmics, enjoyment, seniors, optimal experience, music, movement

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INTRODUCTION

One of the most popular leisure activities for the population of the third and fourth ages is music making in different settings such as choral singing (Clift & Hancox 2010; Särkämö et al. 2013) and playing instruments (Seinfeld et al. 2013; Sung et al. 2012). Through music making, people create musical social networks which have positive implications for physiological and psychological health (Smith & Christakis 2008). Moreover music making increases states of happiness (Litwin & Shiovitz-Ezra 2011). These musical groups serve as a support for social exchange in a secure context. Furthermore, such activities around music help seniors to recover energy, a sense of life and joy, hence improving their self-perception of wellbeing (Creech et al. 2013). A form of music making for seniors which has been broadly practised in Europe in the past decade, particularly in Switzerland, is Dalcroze Eurhythmics (Kressig, Allali & Beauchet 2005; Trombetti et al. 2011).

Émile Jaques-Dalcroze (1865-1950) designed an active music teaching method named Eurhythmics or Rhythmics, which is based on rhythmic training through body movements (Jaques-Dalcroze 1921). This method stands for a holistic approach and is divided into four areas: Rhythmics (Eurhythmics), Solfége Rhythmique, Improvisation and Plastique Animée (this area of study works on the body representations of the essence of a piece of music). During the sessions the participants listen, feel and express the music (either recorded or improvised by the teacher at the piano) with their body movements, developing their innate musicality. By feeling the body as a musical instrument, the person feels and transmits musicality through the stimulation of motor skills (Bachmann 1991).

After the selection of a subject or theme for the session, the practitioner designs the activities in a carefully sequenced manner. By using verbal and musical instructions, the practitioner directs the session from the piano while the participants respond to the aural stimulus or verbal commands with their bodies and voices (Thomsen 2011). A series of exercises, starting with an introductory phase, performed individually and in groups is executed by the participants in order to achieve proficiency in a specific skill (rhythmic, melodic, formal or expressive). Part of the session is devoted to free or directed improvisation of body movement sequences, vocal melodic lines, and the creation of plastiques animées, when – generally at the end of the session – the group 'performs' a musical piece of standard literature with bodies and voices (Nedelcut 2009). During the early stages of training, the four areas of the method are integrated in the same session as just described. However, professional training for those who aspire to become Eurhythmics teachers involves more specialised study in these four areas. Since performing live improvised music is a distinctive feature of Dalcroze Eurhythmics sessions, the teacher must love his instrument and be an expert improviser. Even though the piano remains the instrument used most frequently in Dalcroze Eurhythmics sessions, other instruments may also be included (Bachmann 1991).

The idea of considering the person as a single entity stands in opposition to Cartesian dualism, which separates mind and body. Jaques-Dalcroze proposed a new form of exteriorising and interpreting music through the entire body using the senses: kinaesthetic, auditory and visual (Juntunen & Westerlund 2011). The concept of flow in movement used by Jaques-Dalcroze is closely related to the Greek idea of rhythm. The Greek roots of the word rhythm mean *flow*, understood as the fluctuations of movement. Jaques-Dalcroze defined rhythm as the variations of flow in space (Jaques-Dalcroze 1921).

With the integration of body movements in music education, the perception of sensory information increases, thus creating musical perceptions. Once those perceptions are received, the mind organises them through reflection and analysis. This reflection-in-action process happens within seconds whilst the participants attempt to improve their performance according to the demands of the music and the instructions given by the practitioner (Greenhead, Habron & Mathieu 2016). This process requires the mind and body to be maintained in a state of attentiveness towards the interaction of musical elements (Schnebly-Black & Moore 1997). Jaques-Dalcroze developed an equation which describes the main components of rhythm according to his ideas. Good rhythm or flow in music occurs when such components in the equation are in balance; thus *Eurhythmia* emerges (Caldwell 1995: 21).

Since the early stages in the development of Eurhythmics, Dalcroze practitioners have used the method in various settings: educational (for children, young adult music students, adults in general), scenic arts and therapeutic (for people with special educational needs and seniors) (Habron 2014). Nowadays the therapeutic aspect of Eurhythmics in gerontology has been broadly practised throughout Europe and some places in the United States (Joviala, Butler & Rose 2015),

Australia (Dalcroze Australia 2016), and Canada (Université Laval 2016); however, Switzerland is the only country in the world where a programme for seniors is well-established. The Institut Jaques-Dalcroze in Geneva provides services to a population of almost one thousand elderly persons regularly attending Eurhythmics sessions in one of its three programmes (Whali-Delbos & Del Bianco 2010).

The elderly population has motivated academic research into Dalcroze Eurhythmics and its relation to the improvement of physical health and wellbeing. In the study of Kressig et al. (2005) stride time was chosen to be the main outcome of gait parameter being associated to falls. Based on the Wilcoxon rank-sum test, the stride-to-stride variability of stride time showed significant increase in the control group who did not perform any exercise routine in particular while performing the dual task of walking and counting backwards to 50. On the other hand, the Dalcroze group who had been taking weekly Eurhythmics classes for 40 years did not show a significant variability in the same dual task. Similarly Trombetti et al. (2011), after a six-month intervention programme of Dalcroze Eurhythmics, found that there was a reduction in stride length variability under dual task conditions (adjusted mean difference -1.4%; $P<.002$), fewer falls at an incidence rate ratio of 0.46, and a lower risk of falling (relative risk of 0.61) in the intervention group compared to the results of the delayed intervention group. In parallel, in this study group, the functional and independence capacities were maintained, their anxiety levels lowered and social relationships improved.

In 2014, Hars et al. published a study which continued that of Trombetti et al. (2011). This work was a longitudinal four-year study of a population of 52 older adults divided in two groups. The first group (n=23) attended Eurhythmics sessions regularly during four years whereas the other group (n=29) interrupted the sessions after the first year. The outcomes suggested that the first group had more ease at walking and balance. Likewise, this first group performed better than the second one in exercises where the subjects had to sit down and stand up five consecutive times. Nevertheless, to our knowledge there are no previous studies that address the psychological states of an elderly population when experiencing Dalcroze Eurhythmics. Therefore, the aim of this study was to assess (i) the 'state of flow', as described by Csikszentmihalyi, using a Spanish version of the SFSS scale, and (ii) the level of enjoyment of Dalcroze Eurhythmics in a population of seniors in Mexico.

Csikszentmihalyi (2014) defines the state of flow as a psychological state in which the person feels at the same time cognitively efficient and capable, motivated and happy; this implies that this optimal experience has positive connotations and is found mainly in artistic, learning and sports activities (Engeser 2012). Furthermore, the state of flow applies to daily activities. The state of flow is a dynamic equilibrium between the perceived action capacities and perceived action opportunities regardless of the context of the action (Csikszentmihalyi 2014). However, this state of happiness is *a posteriori,* because whilst individuals perform tasks they are completely immersed, only becoming aware of their feelings after the action is completed. This gratifying experience goes through consciousness, is stored in the memory and recovered later (Csikszentmihalyi 1988).

Jackson & Marsh (1996: 18-20) list nine components of the state of flow:

1. The self-perception of the individual of his own abilities is in agreement with the challenges of the activity
2. Union/fusion between the action and the consciousness of doing it (becoming one with the activity)
3. Clear and definite goal of the activity
4. Immediate and clear feedback
5. Concentration and focused attention
6. Sense of control over the activity
7. Loss of self-consciousness ignoring what others think about oneself
8. Distortion of time perception
9. Autotelic or gratifying experience

There are several aspects of Dalcroze Eurhythmics which offer a wide variety of opportunities to experience every dimension of the state of flow. Every session has a clear and definite goal; the instructions given by the practitioner are clear and addressed to execute a specific rhythmic, melodic or expressive exercise (Thomsen 2011). The physical responses (actions) around the musical signals are almost automatic and are preceded by an intelligent decision made instantly. The ability of a person to adapt may be refined and enriched to achieve maximum autonomy (Bachmann 1991).

During all the sessions there are several activities executed individually and simultaneously with other members of the group. Likewise there are group activities which divide the responsibility of the success of the exercise among all the members. Therefore, by comparing themselves to others, participants realise how well they are doing (Nedelcut 2009). Since the exercises require motor responses such as incitation and inhibition, together with vocal responses, the individual must be completely immersed in the activities (Anderson 2012). If that is the case and the person has a 'peak experience' of deep concentration and joy during the Eurhythmics session, then the person is in the state of flow, whether a child (Custodero 2005) or an adult (Habron, Jesuthasen & Bourne 2012; Parente 2013; Van Der Merwe 2015).

In addition, in Dalcroze Eurhythmics, the practitioner fosters an atmosphere of collaboration and self-expression, allowing participants to feel free without being judged by others (Sun 2012). The gratifying experience produced in the psychological state of flow is a joyful experience. Since Dalcroze Eurhythmics is an intellectual, psychological and physical experience, the enjoyment produced by moving the body with music can be measured using the Physical Activity Enjoyment Scale (PACES) (Kendzierski & DeCarlo 1991). Among the psychological states related to enjoyment in physical and sports activities, the optimal state is one of them, which drives the person to execute the activity with intrinsic motivation and for the joy of doing it. This scale is oriented to physical activity in general in different contexts and relates to the positive sensations produced by practising any physical activity in various areas (Fernández García, Sánchez Bañuelos & Salinero Martín 2008). This is the first study to use the PACES scale to assess the enjoyment of physical activity experienced by a population of Mexican older adults during Dalcroze Eurhythmics sessions. Even though Dalcroze Eurhythmics is a mind-body activity and it is considered a holistic experience (Bachmann 1991), the results obtained from the Short Flow State Scale (SFSS), which measures the state of flow as a single construct (Jackson & Eklund 2010), were enriched by those obtained from the PACES scale which specifically measured enjoyment in relation to the physical component of the intervention. The research questions of this study were (i) to what extent do older adults experience the state of flow in Dalcroze Eurhythmics sessions, and (ii) to what extent do they enjoy the physical activity involved in Dalcroze Eurhythmics in itself?

METHOD

This exploratory study has a single-group design with assessments after session one and after session six of the intervention.

Participants

The participants were recruited by the Association La Divina Providencia ABP, which is a private charity institution in Monterrey, Nuevo León, Mexico. A total of nine people (six women and three men) from a very low socioeconomic and educational background were recruited and attended the entire intervention programme. The inclusion criteria for the participants were that they had to be at least 60 years of age, that they were able to walk without an external aid, and that they were willing to participate in the study. The mean age of the group was (M=69.8) and the average number of years of education was (M=2.7).

Materials

During the intervention phase the following materials were used: a small electronic keyboard, a chair and a pair of wooden sticks for each participant, a plastic ball, a hand drum, live improvised vocal and piano music, traditional Mexican folk songs sung by the participants, recorded music such as songs by Francisco Gabilondo Soler, Big Band and orchestral suites by J.S. Bach.

Measures

The participants were administered a version of the SFSS (Short Flow State Scale) of nine items, each measuring one of the dimensions of the state of flow. The Spanish version of the scale was adapted by the first author (Treviño). The instructions of the questionnaire were written in a manner suitable for the participants to recall or remember their experience in their 'music and movement' sessions (Dalcroze Eurhythmics). Participants rated items on a Likert scale ranging from (1) Never, to (5) Always. In addition, a short Spanish version of six items of the Physical Activity Enjoyment Scale (PACES) scale was administered to participants in order to report their enjoyment in the sessions. Items 1 to 3 of the PACES correspond to the dimension 'primary motivation' of the enjoyment variable. The beginning of the statement of these three items was, "My music and movement session…". The indicator of item 1 is interest in the activity, which in this case could be related to curiosity since all of

the participants had never participated in a Dalcroze Eurhythmics session before. The indicator "I like" of item 2 refers to how well the subjects felt during the sessions. Furthermore, item 3 refers specifically to how enjoyable the experience was.

In contrast, items 4 to 6 correspond to the dimension 'positive affect'. In these three items the beginning of the statement was, "When I participate in my music and movement session…". Item 4 refers to either feeling physically well or unwell. Item 5 relates to how active or inactive the participant felt during the music and movement session. Finally, item 6 describes whether the participant felt self-fulfilled or not during the session. There are two factors extracted according to the semantic meaning of the items which explain the enjoyment: primary motivation (Factor 1) and enjoyment (Factor 2). Factor 1 comprises three items related to intrinsic motivation to execute the activity and Factor 2 comprises three items related to the enjoyment during the activity, hence incorporating an affective component. The items were presented as oppositions: number (1) presented positive statements related to interest, enjoyment, physical wellbeing and emotions of self-fulfilment in relation to the session; and number (2) presented the negative versions of (1).

Procedure

The intervention phase consisted of six one-hour sessions of Dalcroze Eurhythmics twice a week for three weeks. Consent forms were provided by the association according to its ethical and privacy standards and all participants gave their informed consent to participate.

Since the educational background of most of the participants was very low, the SFSS and PACES scales were administered orally. These scales were administered after the first and sixth sessions.

The structure of each session was as follows:

- Introduction (10 minutes): the participants stretched arms, legs, neck and back in a relaxed and free manner then repeated similar movements following a given pulse.
- Movement sequences (10 minutes) with a given pulse: the participants were seated and indicated groups of three, four, six or eight beats touching different parts of their bodies with variations of tempo. The practitioner demonstrated and the participants imitated; then one participant became the leader and the others imitated.

Photograph 1: Free movement improvisation

- Walking beat patterns (10 minutes): exercises varied from walking at different tempi and changing direction with phrases, to walking or standing simultaneously with a specific aural signal such as a sound or a rest.
- Auditive discrimination (10 minutes): whilst seated, the participants performed a specific body movement after listening to a precise aural stimulus. If the stimulus was a rhythmic pattern, they repeated it by clapping it their hands or using rhythm sticks.
- The activities for the remaining time of the session varied among the following:
  - Passing the ball in a circle: the participants were seated and passed a ball at the beginning of each measure (of three or four beats), or passed a ball following the pulse according to the tempo of the music. Furthermore, they were required to change the direction of the ball in the circle at the signal.
  - Free movement improvisation: the participants were standing and moved freely while they listened to a given musical excerpt (Photograph 1).
  - Dance: the participants created group-dance movements to display the form of a piece of music.
  - Hand games: the participants were seated in pairs and played with their hands following specific movement patterns given by the practitioner (Photograph 2).

- Song singing: the participants learned traditional Mexican folk songs. As they sang, they indicated the pulse or a specific rhythmic cell whilst touching a part of their bodies.

Photograph 2: Hand games

RESULTS

Variable: Enjoyment (PACES)

Figure 1 shows the results of the assessment of the PACES variables after session 1 compared to those after session 6. These results present no difference before and after the intervention. According to Figure 1, each item of the scale is presented as a pair to illustrate the results before the intervention (the first item of each pair) and after it (the second item of each pair). M=1 in all the indicators could be interpreted as an experience of primary motivation towards the music and movement sessions (items 1 to 3). In parallel, items 4 to 6 with M=1 suggest a positive affective component towards the Dalcroze Eurhythmics sessions both at the beginning and at the end of the intervention.

		Mean	N	S/D.	Standard error of the difference
Pair 1	My music and movement session…	1,0000[a]	9	0.00000	0.00000
	My music and movement session...	1,0000[a]	9	0.00000	0.00000
Pair 2	My music and movement session...	1,0000[a]	9	0.00000	0.00000
	My music and movement session...	1,0000[a]	9	0.00000	0.00000
Pair 3	My music and movement session...	1,0000[a]	9	0.00000	0.00000
	My music and movement session...	1,0000[a]	9	0.00000	0.00000
Pair 4	When I participate in my music and movement session…	1,0000[a]	9	0.00000	0.00000
	When I participate in my music and movement session…	1,0000[a]	9	0.00000	0.00000
Pair 5	My music and movement session...	1,0000[a]	9	0.00000	0.00000
	My music and movement session...	1,0000[a]	9	0.00000	0.00000
Pair 6	My music and movement session...	1,0000[a]	9	0.00000	0.00000
	My music and movement session...	1,0000[a]	9	0.00000	0.00000

The correlation and T value cannot be calculated because the typical error of the difference is 0.

Figure 1: Scores of the Physical Activity Enjoyment Scale (PACES) after sessions 1 and 6 of the intervention

Variable: State of Flow (SFSS)

As shown in Figure 2, the components of the state of flow are integrated in the items of the scale in the same order as the ones listed previously (one component per item). Similar to Figure 1, Figure 2 lists the items in pairs (both items read the same in each pair) in order to present the scores obtained before and after the intervention for each item. The following components rated the same after session 1 and after the intervention (M=5): concentration/total attention (item/component no. 5), loss of self-consciousness or ignoring what others think about you (item/component no.7), distortion of time perception (item/component no. 8), autotelic or gratifying experience (item/component no. 9). The component 'perception of the individual's own abilities is equal to the challenges of the activity' (no.1) rated (M=4.77) after session 1 and after the intervention. Likewise, the component 'union/fusion between the action and the consciousness of doing it: becoming one with the task' (no.2) rated (M=4.44) after session 1 and after the intervention.

On the contrary, the component 'the action has a clear and definite goal' (no. 3) rated (M=4.44) after session 1 and (M=4.66) after the intervention.

Similarly, the component 'immediate and clear feedback' (no. 4) showed a slight difference after the intervention. It rated (M=4.77) after session 1 and (M=4.66) at the end of the last session. Furthermore, the component 'sense of control over the activity' (no. 6) rated (M=4.77) after session 1 and (M=5.00) after the intervention.

		Mean	N	S/D	Standard error of the difference
Pair 1	I felt competent enough to fulfil the challenges of the class	4.7778[a]	9	.66667	.22222
	I felt competent enough to fulfil the challenges of the class	4.7778[a]	9	.66667	.22222
Pair 2	I did the activities spontaneously and automatically without thinking about them	4.4444[a]	9	.88192	.29397
	I did the activities spontaneously and automatically without thinking about them	4.4444[a]	9	.88192	.29397
Pair 3	I had a strong sense of what I wanted to do	4.4444	9	1.13039	.37680
	I had a strong sense of what I wanted to do	4.6667	9	1.00000	.33333
Pair 4	I had a clear idea of my performance when I did the class	4.7778	9	.44096	.14699
	I had a feeling of total control of what I did	5.0000	9	0.00000	0.00000
Pair 5	I was completely concentrated in class	5.0000[a]	9	0.00000	0.00000
	I was completely concentrated in class	5.0000[a]	9	0.00000	0.00000
Pair 6	I had a feeling of total control of what I did	4.7778	9	.66667	.22222
	I had a feeling of total control of what I did	5.0000	9	0.00000	0.00000
Pair 7	I did not worry about what others thought of me	5.0000[a]	9	0.00000	0.00000
	I did not worry about what others thought of me	5.0000[a]	9	0.00000	0.00000
Pair 8	The way time passed was different from usual	5.0000[a]	9	0.00000	0.00000
	The way time passed was different from usual	5.0000[a]	9	0.00000	0.00000
Pair 9	My experience was highly satisfying	5.0000[a]	9	0.00000	0.00000
	My experience was highly satisfying	5.0000[a]	9	0.00000	0.00000

a. Correlation and T value cannot be calculated because the typical error of the difference is 0

Figure 2: Mean scores of the Short Flow State Scale-2 (SFSS) assessment after sessions 1 and 6 of the intervention

DISCUSSION

Since the first session of the intervention, the behaviour of the participants suggested an attitude of excitement, enjoyment and positive expectation towards the intervention. These emotions were registered in the responses of the PACES. As mentioned earlier, the participants came from a very vulnerable sector of society and all but one had never participated in a structured musical activity in their lives. The purpose of this study was to register the level of enjoyment and state of flow the participants experienced during a musical-physical activity, in this case Dalcroze Eurhythmics, rather than recording accuracy or rhythmic precision. This purpose relates to the ideas of Jaques-Dalcroze himself who, through his teaching approach, invited participants to liberate feelings of freedom and joy in the form of innate responses to music (Habron 2014). Even though the manner in which the participants performed the activities during the sessions was not rigorous in musical terms, their positive emotions of joy and their focus on the activities themselves were evident throughout. In each of the six items of the PACES, all the participants answered positively to all of the questions both after the first session and after the last one. These results relate to those obtained by Lewis et al. (2014), who found that social dance sessions (a musical-physical experience) have beneficial effects on the mood of older adults, both healthy and with Parkinson's disease.

The results of the SFSS questionnaire provide some insight about the self-perception this group had in relation to the 'state of flow'. Item 1, which relates to the dimension of self-perception of competence to master the demands of the activities, rated M=4.77 both after session 1 and at the end of the intervention. This result suggests that the perception of the degree of difficulty or challenge of the exercises they performed was equal to their level of musical and physical skills at that time; therefore, the subjects felt competent enough to perform them.

Item 2 related to the dimension 'total union and fusion with the activity' rated M=4.44 before and after the intervention. This is the dimension that scored the lowest in comparison to the others. This result possibly indicates the fact that the experience in itself was completely novel to the participants and the types of activities to be performed were not familiar for the group in general. The scores of item 3 presented a slight variation at the end of the intervention (M=4.66) in relation to the beginning (M=4.44). This dimension describes the clarity or sense the subject has about the goals of the activity. This variation of the results was expected because the group had more experience with certain types of exercise towards the end of the intervention; therefore, the subjects understood better the purpose of the activities and had a more definite understanding of how to perform them. Regardless of the type of musical activity and type of music involved, the individual experiences a state of flow when his goals are clear during the performance (Cardosso de Araújo & Amaral 2011). Alongside this, there is an opportunity for the practitioner regarding the elucidation of the instructions to ensure that the subjects have a clearer idea of the actions to perform and their goals.

The dimension 'clear and immediate feedback' during the performance of the activity (item 4) was the only one which scored lower at the end of the intervention (M=4.66) in comparison to the score after session 1 (M=4.77). This result is possibly due to the increasing collective consciousness the subjects developed throughout the intervention and the rise in the self-consciousness each of them had in relation to how well they performed the exercises. The more sessions they had, the more self-awareness they developed about their own performance. Moreover, this result could also be understood by the fact that during the first three sessions more exercises were performed individually rather than in groups, which sheds light on future planning of the interventions. Nevertheless, the dimension 'sense of control over the activity' in item 6 scored M=4.77 after session 1 and M=5 at the end of the intervention. This fact is noteworthy because, similar to item 3, it suggests the participants felt more comfortable with the activities, had a clearer idea about the action itself towards the end of the intervention and felt more in control of the situation. This result is reinforced by the findings of Marin and Bhattacharya (2013) whose study showed that the state of flow is predicted by the amount of time of daily practice (of an instrument) and the emotional intelligence of the individual.

The dimensions 'total concentration' (item 5) and 'distortion of time perception' (item 8) scored M=5 after session 1 and at the end of the intervention. These results relate to those obtained in the PACES that are associated with primary motivation and positive affect towards the sessions. In fact the participants verbally expressed their disappointment once each session finished because they all wanted it to last longer. Likewise both the dimension 'loss of self-consciousness and ignoring what others think about oneself' (item 7) and the dimension 'autotelic or gratifying experience' (item 9) rated M=5 after session 1 and at the end of intervention. These results suggest the participants had a very positive experience throughout the intervention regardless of their real limitations of musical and physical abilities to perform the exercise. Furthermore, these results relate to the original concept of Csikszentmihalyi, which states that flow experiences happen in a positive context and contribute to the self-perception of wellbeing (Massimini & Carli 1988) However, even though they had no prior formal musical training, the participants seemed to have a sensitive musical ear during the auditory discrimination activities and showed tacit music knowledge, reflected in the songs they sang, which they knew in advance. Their overall self-perception was positive in both variables: enjoyment and flow.

LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

Since the results report very small or no variation in the scores of the assessment after session 1 compared to those after the intervention (session 6), it is important to analyse the manner in which these scales were administered and consider the possibility of changing this procedure for future studies. Among the changes, it is worth considering the administration of the scales before session 1 in order to provide more reliable results. Moreover, the use of a Likert scale with fewer options for answers – three instead of five – could make it easier for participants to express their experience.

Other limitations of the study comprise the small size of the population, the similarity in educational background and socioeconomic level of all the subjects, the absence of information regarding the cognitive decline of the participants (no measurement scales were administered here), the short time period of the intervention and the sole use of descriptive statistics.

Furthermore, more ease and spontaneity could be achieved in the sessions once the participants are exposed to Eurhythmics for longer periods of time and once they become more integrated as a group. For this reason, it is important to consider the incorporation of more group or partner activities from the first session onwards in similar future interventions. In this manner, the dynamics of the sessions would facilitate a natural and immediate feedback during the execution of the activities and nurture new social relationships among the members of the group. Furthermore, this goal would be achieved more easily if in future studies the intervention lasted for a longer period, thus potentially creating stronger affective bonds among the participants.

In addition to these specific considerations about the Eurhythmics sessions in themselves, it would be desirable to consider the meanings of healthy ageing that older adults have and their self-perception about their performance in cognitive and physical activities. Therefore, the music and movement sessions for older adults could be addressed to strengthen specific abilities in the cognitive and physical dimensions (Laditka et al. 2009).

CONCLUSIONS

To our knowledge there are no previous studies that address the psychological states of an elderly population when experiencing Dalcroze Eurhythmics. Therefore, this exploratory study set out to assess (i) the 'state of flow', and (ii) the level of enjoyment of Dalcroze Eurhythmics in a population of seniors in Mexico. Although no definite conclusions can be drawn after the outcomes of this study, it suggests that with music and movement, people experience high levels of the state of flow as described by Csikszentmihalyi. Furthermore, the overall positive results of this study encourage future research regarding the effects of Dalcroze Eurhythmics in this population including measurable variables in different domains such as cognition, or comparative studies considering, for example, two populations with different inclusion criteria. For these reasons, there is a considerable area of opportunity for future research in the work of Dalcroze Eurhythmics and older adults.

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