# **International Journal of Social Science And Human Research**

ISSN(print): 2644-0679, ISSN(online): 2644-0695

Volume 05 Issue 01 January 2022

DOI: 10.47191/ijsshr/v5-i1-06, Impact factor-5.586

Page No: 33-44

# The Effect of an Online Live Group Program with Greek Traditional Dances on State Anxiety and Self-Esteem



Eirini Argiriadou<sup>1</sup>, Polydoros Giannakis<sup>2</sup>, Argirios Mavrovouniotis<sup>3</sup>, Anastasia-Kassiani Praskidou<sup>4</sup>, Nikolaos Giannakis<sup>5</sup>, Fotios Mavrovouniotis<sup>6</sup>

<sup>1,2,4,5,6</sup>School of Physical Education and Sport Sciences, Aristotle University of Thessaloniki, Greece <sup>3</sup>School of Medicine, Faculty of Health Sciences, Aristotle University of Thessaloniki, Greece

ABSTRACT: The aim of the present study was to examine the effect of an online live group program with Greek traditional dances on the self-esteem and anxiety of the participants. The research involved 147 people, 43 men and 104 women, aged 49,73±8,141 years old, members of Cultural Clubs. The participants were randomly divided into the experimental group (N=75) and the control group (N=72). The experimental group participated in online live group lessons of Greek traditional dances, through the online platform ZOOM, twice a week. Each lesson had a 45-minute duration and the program lasted 12 weeks, during the quarantine imposed due to COVID-19. During the same period of 12 weeks, the control group continued its daily life in quarantine. The participants in both groups completed the Heatherton and Polivy (1991) State Self-Esteem Scale to measure performance self-esteem, social self-esteem and appearance self-esteem, as well as the State-Trait Anxiety Inventory-FORM X-1 by Spielberger et al. (1970) for the measurement of state anxiety, before and after the 12-week period. The processing of the data showed that after participating in the online live group program of Greek traditional dances, the participants in the experimental group significantly increased their performance self-esteem (t=-7,75, p<0,001), social self-esteem (t=-5,23, p<0,001), and appearance self-esteem (t=-5,67, p<0,001), but they significantly reduced their state anxiety (t=7,33, p<0,001). Regarding the participants in the control group, after the 12-week period, the studied variables moved in the undesirable direction, as evidenced by the reduction in self-esteem factors and the increase in state anxiety. The results show that participating in Greek traditional dance group programs, which are conducted live online, affects positively the self-esteem and state anxiety of the participants. Consequently, during these difficult health times that the whole world is experiencing, participating in online live group programs of Greek traditional dance may improve the participants' psychological state, offering at the same time the solution on the one hand to distance oneself from other people and on the other hand to come in contact with people.

**KEY WORDS:** Dance, alternative activity, psychological state, livestreaming sessions, Greek traditional dance.

# I. INTRODUCTION

Nowadays all humanity confronts a new reality concerning COVID-19 and its results, such as quarantine, physical risks, daily disruptions, uncertainty, social isolation, financial loss, etc. (Hwang et al., 2020). The COVID-19 pandemic has brought this fast-moving world to a standstill. The impact of this pandemic is massive, and the only strategy to curb the rapid spread of the disease is to follow social distancing. The imposed lockdowns, resulting in the closure of business activities, public places, fitness and activity centers, and overall social life, has hampered many aspects of the lives of people including routine fitness activities, which has resulted in various psychological issues, as well as in serious fitness and health concerns (Kaur et al., 2020). Due to this situation, all the people experience too much anxiety, stress, fear, loneliness and, in general, negative feelings, with many negative consequences on their psychological state.

However, it is not only the psychological state that is affected, but physical state, as well. Due to COVID-19, people changed all their habits and locked themselves in their homes in order to face the invisible but very dangerous "enemy", resulting in decrease of the participation in physical activities. However, the American College of Sports Medicine has recommended 150-300 min of aerobic exercise per week and two sessions per week of moderate-intensity muscle strength exercises for people to be physically active during the COVID-19 pandemic (Joy, 2020).

Furthermore, it is worth mentioning that for the improvement of people's psychological state the specialists recommend, among other, the participation in exercise, physical activity and physical-activity interventions/programs (Lollgen et al., 2009; McAuley et al., 2006; Minhyun et al., 2015; Penedo, & Dahn, 2005; Stewart et al., 2007; Zullig et al., 2005). In addition, recent outcomes suggest that practicing moderate physical activity during these types of situations caused by COVID-19 could eliminate its negative effects on psychological health and benefit a more positive mental state (Reigal et al., 2021).

A favorite mode of physical activity documented to improve psychological state is dancing. Dance constitutes an alternative form of physical activity of mild to moderate intensity (Mavrovouniotis et al., 2010; Wyon, & Redding, 2005), and, also, a very common leisure activity (McCord, & Patterson, 1989). More specifically, dancing is an excellent activity that could bring about physical, psychological and social benefits to children, young people, middle-aged and elderly people, as well (Argiriadou, 2018; Burkhardt, & Brennan, 2012; Malkogeorgos et al., 2011; Mavrovouniotis, & Argiriadou, 2008; Mavrovouniotis et al., 2013a; Mavrovouniotis et al., 2013b). The participants in dances experience a better overall health and an improved sense of well-being (Argiriadou et al., 2017; Costa et al., 2013; Hui et al., 2009; Keogh et al., 2009; Pilch et al., 2015). Moreover, dancing causes anxiety reduction and psychological and physical calm (Argiriadou et al., 2013a; Garnet, 1974; Keuttel, 1982; Leste, & Rust, 1984; Payne, 1992; Stanton-Jones, 1992; Steiner, 1992). In addition, the participation in dancing programs leads in improvements of psychological state, self-esteem, well-being and mood state (Berrol et al., 1997; Berryman-Miller, 1988).

Nevertheless, the recommendations for social distancing prevent people from participating in dance programs. A solution could be found through technology. Today the contemporary transmission of various programs is possible and feasible via the internet. As live participation is not allowed, participation in dance programs can be done remotely. However, on reviewing the literature, there is, evidently, a lack of research efforts noted regarding the effectiveness of livestreaming dance programs on psychological state parameters. Thus, the purpose of the present study was to examine the effects of the participation in an online live group dancing program with Greek traditional dances on the participants' psychological state parameters, such as self-esteem and anxiety.

#### II. METHODS

#### II.1 Sample

A hundred and fifty-five members of seven Cultural Clubs in Thessaloniki and Giannitsa, cities in Greece, ("Pigasos" Cultural Club of West Thessaloniki, "Minoites" Cultural Cretan Club of Giannitsa, "Anagennisi" Cultural Club of Pontus Sea of Saint Nektarios, "Erotokritos" Cultural Cretan and Friends Club of Oreokastro in Thessaloniki, Folklore Club Papafi of Thessaloniki, "Choromythes" Dancing Club of Ilioupoli in Thessaloniki, and Club of "Graduates of Physical Education Schools specializing in Greek traditional dances"), volunteered to participate in the study, after an online briefing about the research.

Subsequently, a second online briefing about the procedure, the online participation in the dancing program, the separation in control and experimental group, as well as about the inclusion criteria was held. After that, eight subjects withdrew their participation due to personal reasons. Finally, a hundred and forty-seven healthy adults, 104 women and 43 men, participated in the research. All the subjects didn't participate in any dance or exercise programs for approximately 18 months due to the COVID-19 pandemic. A written informed consent for the participation in the research was obtained from each subject. All the subjects, before the beginning of the program, underwent medical control so that it could be certified that they do not suffer from any cardiovascular or other diseases. Additionally, before the research, they answered a questionnaire about any health problems.

Then, the subjects were separated randomly to an experimental group (n=72) and a control group (n=75). The subjects who joined the experimental group participated in a 12-week online live group dancing program with Greek traditional dances, two times a week, each for 45 min, and in no other exercise, physical activity or dancing program for the duration of the experiment, and also continued the daily life they experienced under the COVID-19 conditions. The subjects who joined the control group didn't participate in any exercise, physical activity or dancing programs for a 12-week period, but they continued the daily life they experienced under the COVID-19 conditions.

#### **II.2 Procedure**

An approval for conducting the research was given from the committees of the Cultural Clubs, after the aim and the treaties of the research were described. The procedures were in agreement with the ethical standards of the Declaration of Helsinki of the World Medical Association (2000). In addition, through two online briefings to the volunteering participants, the description of research requirements and procedure were given, as well as information about the participation in the dancing program, the separation in control and experimental group, and the inclusion criteria.

The experimental group as well as the control group filled in the scales of measurements online through Google drive form, twice. More specifically, the participants in the experimental group filled in online the scales of measurements just before the first session of the 12-week program. Immediately after questionnaires' completion, began the online live group program of Greek traditional dances, through the online platform ZOOM, 2 times a week, lasting 45 minutes each session, for a period of 12 weeks. Each online live Greek traditional dance session included the warming up for 5-7 min which contained dances of low intensity, the main part for 30-35 min which contained dances of moderate to high intensity and the cool-down for 5-7 min which contained dances of low intensity for recovery. Concerning the main part, the dances' intensity ranged from 60% to 75% of the maximum HR, which corresponds to 40-60% of VO<sub>2</sub>max (moderate intensity) (Swain et al., 1994; Tanaka et al., 2001; Uth et al., 2004). There were frequent rhythm alternations so that the subjects could keep dancing continuously throughout each dance session. The

performed Greek traditional dances were from Crete and Pontus. The program contained a variety of dances, regarding the rhythm, the kinetic repertoire and the style. All participants attended at least 80% of the online live group Greek traditional dance sessions. Immediately after the end of the last session of the 12-week program, the participants in the experimental group filled in online the scales of measurements for the second time.

Concerning the participants in the control group, they filled in online the scales of measurements before the 12-week period and continued the daily life they experienced under the COVID-19 conditions, with no participation in exercise, physical activity or dance. After the 12-week period, the participants in the control group filled in online the scales of measurements for the second time.

#### II.3 Scales of measurements

The State Self-Esteem Scale (SSES), of Heatherton and Polivy (1991), is a self-rating scale designed to measure state-related changes in self-esteem. The scale's facility and brevity allow its fast and repeated use by the researchers even during exercise. The SSES is a 20-item scale that measures a person's self-esteem at a given point in time. The 20 items are subdivided into 3 components of self-esteem: 1) performance self-esteem, 2) social self-esteem and 3) appearance self-esteem. All items are answered using a 5-point scale (1=not at all, 2=a little bit, 3=somewhat, 4=very much, 5=extremely). SSES demonstrated high internal consistency (a= .92), and the three-factor structure was verified by factor analysis in men and women (Heatherton, & Polivy, 1991).

Moreover, the State-Trait Anxiety Inventory (SAI), of Spielberger, Gorsuch & Lushene (1970), was used, for the measurement of state anxiety. All subjects completed the 20-item state anxiety subscale, SAI-Y1, for state anxiety measurement, with score ranging from 20 to 80 degrees.

SSES and SAI were administered in a counterbalanced order, which was reversed at the post-test. SSES and SAI were translated in Greek following a standard procedure involving the discussion of multiple alternative wordings by a group of five bilingual experts.

# II.4 Statistical analysis

For the statistical analysis the statistic packet SPSS/PC Version 23.0 for windows was used. The collected data were analyzed by computing mean and standard deviation. All dependent variables, namely the anxiety and self-esteem were found to be normally distributed using the Kolmogorov-Smirnov tests of normality. Independent samples t-tests were used to determine if significant mean differences existed in baseline measurements between participants of the two groups. Paired t-tests were used to determine if significant pre- to post-test differences existed (before and after the Greek traditional dance program for the experimental group, and before and after the 24-week period for the control group). The level of significance was set to p < 0.05.

#### III. RESULTS

In Table 1 the anthropomorphological characteristics of the experimental group that attended the Greek traditional dance group program through livestreaming, and the control group are presented. The independent samples t-tests showed that there was no significant difference between the two groups, concerning the anthropomorphological characteristis.

<b>Table 1.</b> Anthropo	omorphological	l characteristics of	experimental	and control	l group.
--------------------------	----------------	----------------------	--------------	-------------	----------

Parameters	Experimental Group	Control Group
	Mean±SD	Mean±SD
Age (years)	51,17±6,85	48,58±9,48
Height (m)	1,67±0,08	1,69±0,08
Weight (kg)	76,16±13,4	76,14± 13,24

The descriptive statistics for the performance self-esteem assessed prior to and following the 12-week online live Greek traditional dance group program for the experimental group and prior to and following the 12-week period for the control group, as well as the significance of any demonstrated change are shown in Figure 1 and Table 2.

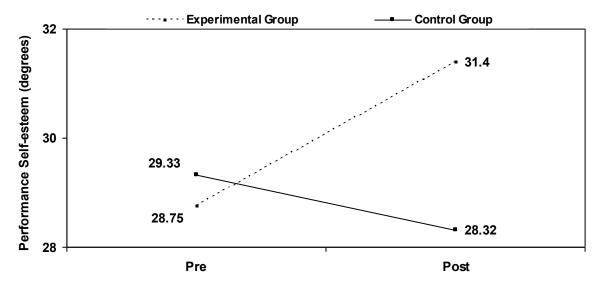


Figure 1. Performance self-esteem for experimental and control group before and after the 12-week period.

As it is observed, there was a significant increase in performance self-esteem (9,22%) for the experimental group after the participation in the 12-week online live Greek traditional dance group program. On the contrary, there was observed a significant decrease in performance self-esteem (3,44%) for the control group after the 12-week period (Figure 1, Table 2).

The descriptive statistics for the social self-esteem assessed prior to and following the 12-week online live Greek traditional dance group program for the experimental group and prior to and following the 12-week period for the control group, as well as the significance of any demonstrated change are shown in Figure 2 and Table 2.

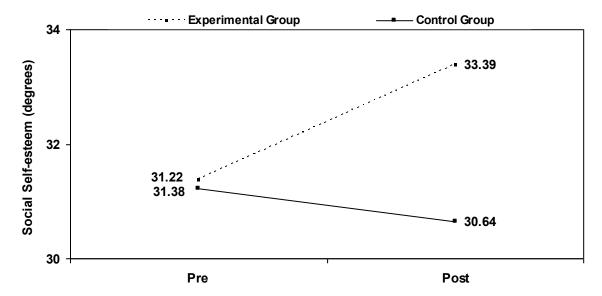


Figure 2. Social self-esteem for experimental and control group before and after the 12-week period.

As it is observed, there was a significant increase in social self-esteem (6,40%) for the experimental group after the participation in the 12-week online live Greek traditional dance group program. On the contrary, there was observed a decrease in social self-esteem (1,86%) with a tendency to significance (t=1,82 & p=0,07) for the control group after the 12-week period (Figure 2, Table 2).

The descriptive statistics for the appearance self-esteem assessed prior to and following the 12-week online live Greek traditional dance group program for the experimental group and prior to and following the 12-week period for the control group, as well as the significance of any demonstrated change are shown in Figure 3 and Table 2.

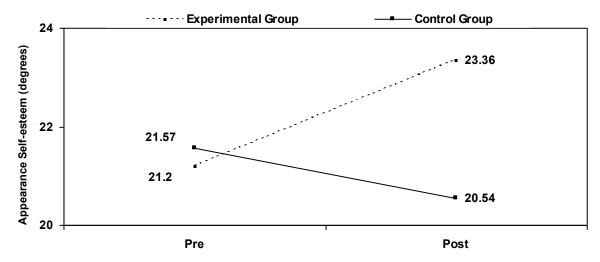


Figure 3. Appearance self-esteem for experimental and control group before and after the 12-week period.

As it is observed, there was a significant increase in appearance self-esteem (10,19%) for the experimental group after the participation in the 12-week online live Greek traditional dance group program. On the contrary, there was observed a significant decrease in appearance self-esteem (4,77%) for the control group after the 12-week period (Figure 3, Table 2).

The descriptive statistics for the state anxiety assessed prior to and following the 12-week online live Greek traditional dance group program for the experimental group and prior to and following the 12-week period for the control group, as well as the significance of any demonstrated change are shown in Figure 4 and Table 2.

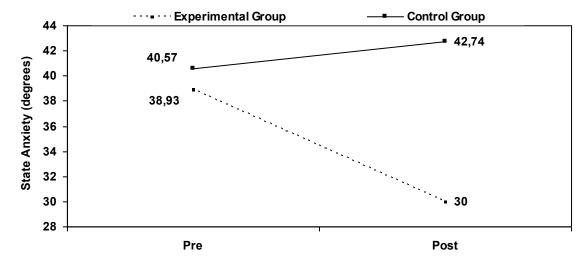


Figure 4. State anxiety for experimental and control group before and after the 12-week period.

As it is observed, there was a significant decrease in state anxiety (22,94%) for the experimental group after the participation in the 12-week online live Greek traditional dance group program. On the contrary, there was observed a small increase in state anxiety (5,35%) for the control group after the 12-week period (Figure 4, Table 2).

**Table 2.** Descriptive data, and degree of change of self-esteem components and state anxiety of experimental and control group

	Group	Pre 12 weeks M±SD	Post 12 weeks M±SD	t & p	Change
Performance Self-esteem (degrees)	Experimental	28,75±3,52	31,40±2,78	t=-7,75 p<0,001	↑ 9,22%
	Control	29,33±3,61	28,32±4,52	t=3,15 p<0,01	↓ 3,44%
	t & p (between groups)	NS	t=-4,99 p<0,001		

The Effect of an Online Live Group Program with Greek Traditional Dances on State Anxiety and Self-Esteem

Social	Experimental	31,38±3,38	33,39±2,18	t=-5,23 p<0,001	↑ 6,40%
Self-esteem (degrees)	Control	31,22±4,58	30,64±4,19	NS (p=0,07)	↓ 1,86%
	t & p	NS	t=-5,07 p<0,001		
	(between				
	groups)				
Appearance	Experimental	21,20±4,34	23,36±4,18	t=-5,67 p<0,001	10,19%
Self-esteem (degrees)	Control	21,57±4,29	20,54±4,28	t=3,01 p<0,01	↓ 4,77%
	t & p	NS	t=-4,04 p<0,001		
	(between				
	groups)				
State anxiety	Experimental	38,93±10,38	30,00±8,45	t=7,33 p<0,001	↓ 22,94%
(degrees)	Control	40,57±11,24	42,74±12,32	NS	↑ 5,35%
	t & p	NS	t=7,33 & p<0,001		
	(between				
	groups)				

The results of the independent samples t-tests showed that at the baseline there was no significant difference between the two groups neither for self-esteem components, nor for state anxiety, showing that the two groups are similar. However, after the 12-week online live Greek traditional dance group program for the experimental group and the 12-week period for the control group, the results of the independent samples t-tests showed significant differences between the two groups concerning the three self-esteem components and state anxiety, highlighting the significant effects of the online live group program with Greek traditional dances. In addition, the results of the paired t-tests demonstrated significant negative differences for the control group between the two measures, pre- and post-the 12-week period, of the self-esteem components, and an upward trend of the state anxiety. However, concerning the Greek traditional dance group, the results of the paired t-tests demonstrated significant positive differences between the two measures, pre- and post-the 12-week online live Greek traditional dance group program, for self-esteem components and state anxiety as well. Finally, these results show that after the participation in the 12-week online live Greek traditional dance group program, the measured variables changed to the desirable direction, as there were observed significant increases in performance self-esteem, social self-esteem as well as in appearance self-esteem, and a significant decrease in state anxiety. However, as for the control group, the measured variables changed to the undesirable direction, as there were observed decreases in self-esteem components, and an increase in state anxiety (Table 2).

# IV. DISCUSSION

The results of the present research showed that the participants in the experimental group after their participation in the online live Greek traditional dance group program increased significantly the three self-esteem components, and, also, decreased significantly their state anxiety. These correspond to increases from 6,40% to 10,19%, for the three self-esteem components, and to decreases up to 22,94%, for the state anxiety. On the contrary, the participants in the control group, who didn't participate in any exercise, physical activity or dancing programs for a 12-week period, but continued the daily life they experienced under the COVID-19 conditions, experienced decreases in performance self-esteem, social self-esteem and appearance self-esteem, but an increase in state anxiety. These correspond to decreases from 1,86% to 4,77%, for the three self-esteem components, and to increases up to 5,35%, for the state anxiety. It can, therefore, be said that the participation in online live group program with Greek traditional dances improves self-esteem and state anxiety.

In agreement, other researchers have shown that the participation in physical activity, such as various types of exercise (Brown et al., 1995; Koyuncu et al., 2010; McDonald, & Hodgdon, 1991), hatha yoga and progressive relaxation (Cusumano, & Robinson, 1993), as well as the participation in exercise programs such as walking (Palmer, 1995), weight training and running (Trujillo, 1983), and aerobic exercise programs (Alfermann, & Stoll, 2000; McAuley et al., 1997; Misra et al., 1996), improve self-esteem. It should be noted that the participation in exercise enhances self-esteem more than non-participation in any form of exercise (Elavsky, 2010; Opdenacker et al., 2009; Koyuncu et al., 2010). Additionally, physical activity contributes to the

improvement of state anxiety and its corresponding disorders (Strohle, 2009; Wipfli et al., 2008), and is generally associated with desirable changes in state anxiety and, in particular, its reduction (Berger, & McInman, 1993; Kim, & Kim, 2007; King et al., 1993; Morgan, & Goldston, 1987; Pierce et al., 1993).

Physical activities with dance elements, such as aerobic dance exercise (Mastura et al., 2012; Rokka et al., 2010), hip-hop dancing (Kim, & Kim, 2007), as well as dance movement therapy programs (Brauninger, 2012), can lead to great reductions in anxiety. Moreover, other researchers have shown that the participation in dance programs improved self-esteem, state anxiety, well-being and mental state, while the participants assessed more positively their personal value, their competence and their relationships with others, compared to the control group that lived a sedentary lifestyle (Berrol et al., 1997; Berryman-Miller, 1988; Kim, & Kim, 2007). It is worth mentioning that aerobic dance, and similarly other types of dance, such as tango, appear to improve self-esteem and, also, state anxiety more than other types of exercise (Hos, 2005; Kim, & Kim, 2007; McKinley et al., 2008; Murcia et al., 2009). Thus, dance is one of the best forms of physical activity, through which self-esteem and state anxiety, as well, are improved.

Concerning traditional dances, similar results with the present study regarding self-esteem, were found for Tai Chi, a Chinese traditional form of dance that can be performed in pairs or in a line (Judge, 2003; Li et al., 2001). More specifically, Li et al. (2002) found that older adults who participated in a 6-month Tai Chi program showed increased levels of global self-esteem, domain-specific physical self-worth, and subdomain-specific esteem of attractive body, physical strength, and physical condition. The researchers concluded that Tai Chi is a simple, low-cost form of physical activity that has the potential to alter favorably specific facets of physical self-esteem in the participants, which may in turn enhance important aspects of their quality of life (Li et al., 2002).

Moreover, Kim et al. (2002) observed improvement of self-confidence, moral satisfaction, and psychological state in old women participants in a program of practice with movements of traditional Korean dances. In addition, Eyigor et al. (2009) found that Turkish traditional dance reduced the proportion of participating older women experiencing depression and, also, improved their mental health compared to older women who did not participate in any exercise, proving that traditional dance can have beneficial effects on mental health. It is worth mentioning that the participants in Turkish traditional dance reported that they felt happier after performing the dancing program than they did before (Eyigor et al., 2009).

Concerning Greek traditional dances, Argiriadou et al. (2018) found similar effects on self-esteem. More specifically, after a single bout of Greek traditional dances, the researchers found significant increases in performance self-esteem, social self-esteem, as well as appearance self-esteem in the participants aged 65-88 years. Likewise, no significant difference was observed in the control group. In addition, the findings of the present study confirm the findings of Bougiesi (2015), who found that young and older participants in Greek traditional dance programs had a higher level of self-esteem compared to young and older participants or non-participants in exercise programs.

As for state anxiety, other researchers have, also, found similar results (Argiriadou et al., 2013b; Kornaraki, 2016; Mavrovouniotis et al., 2010; Mavrovouniotis et al., 2016; Papaioannou et al., 2009; Paschos, 2018). More specifically, they have found that the participation in a Greek traditional dance bout may induce state anxiety decrease in young people of 19-33 years old (Kornaraki, 2016), in people of 19->64 years old (Argiriadou et al., 2013b; Mavrovouniotis et al., 2016; Paschos, 2018), and in elderly people of 60-91 years old (Mavrovouniotis et al., 2010; Papaioannou et al., 2009).

Consequently, it can be said that Greek traditional dances, as a form of physical activity, is an effective factor for the improvement of participants' self-esteem and state anxiety, either they are implemented closely, or online and from distance. However, are the effects the same when a program with Greek traditional dances is implemented online and from distance? Indeed, Baez et al. (2016), who implemented an eight-week training program to a control group, representing the traditional individual home-based training program, and to an experimental group, representing the online group exercising, found a significant improvement in subjective well-being and in the enjoyment of the physical activity for the participants from both groups.

In addition, Kaur et al. (2020) indicated that during the COVID-19 period people found social media to be an effective medium to keep themselves up to date about the pandemic situation and to overcome the monotony of home confinement. People use social media to get connected to other people as well as to witness their regular activities, which they were missing otherwise. It is worth mentioning that, even before the COVID-19 period, social support boosts motivation for training and can increase up to 35% more adherence to a physical exercise program (Rhodes et al., 2001). Moreover, social support can be an additional strategy to make exercise events more interactive, resulting in more positive training experience (Kravitz, & Furst, 1991; Pridgeon, & Grogan, 2012). Besides, social media was also used as a platform to learn about virtual fitness techniques and opportunities for online training for physical exercise. During the COVID-19 period, a significantly higher use of information and communications technology has been demonstrated, a fact that indicates higher use of social media and app use for home-based fitness activities (Ammar et al., 2020; Tate et al., 2015). It is worth mentioning that technology-based interventions have also proven to be effective in increasing and maintaining physical activity (Aalbers et al., 2011; Baez et al., 2016; Müller, & Khoo, 2014).

Moreover, the results of the present study are very significant, since the effects of the online live group program with Greek traditional dances on the participants' psychological state are obvious, at a time when due to the COVID-19 pandemic there is an increase in emotional stress and uncertainty regarding many issues, including family, financial, and medical practices. It is worth mentioning that many people are using food to manage the stress of the pandemic, instead of exercise. However, overeating and binge-eating can lead to regret, physical discomfort, and weight gain. Nevertheless, wellness is paramount during the COVID-19 pandemic. Thus, people must address their own wellness through the participation in physical and exercise activities (Nyenhuis et al., 2020). The results of the present research showed that Greek traditional dance is one of the best choices.

Thus, online live Greek traditional group dance may be a modern way of physical activity during this time of social distancing and stay-at-home period. Since Greek traditional dance is an effective form of physical exercise that helps to improve aerobic capacity (Argiriadou, 2018; Argiriadou et al., 2013a; Denazi et al., 2013; Malkogeorgos et al., 2020; Mavrovouniotis et al., 2018; Tsimaras et al., 2010), the participation in online live group programs with Greek traditional dances may broaden the ability to reach the recommended physical activity standards.

Furthermore, online live group dance may be the perfect at-home activity helping the participants stay active and healthy. Moreover, as a fun outlet may offer a note of joy and help mental health during the COVID-19 pandemic, as stay-at-home orders and social distancing is a very difficult situation. It could be said that the online live group dance makes the participants "feel seen and heard during a time when many people feel a little invisible to the outside world!". In addition, through the online live group dance, the participants may get the chance to "let go, be creative, and just dance it out", something that everybody needs at such situations (https://www.districtdanceco.com).

In addition, it is worth noting that new habits of leisure time physical activity, such as Greek traditional dance, may continue once shelter in place orders are lifted. Consequently, Greek traditional dance constitutes an alternative effective form of physical activity that may help in improving the participants' psychological state, even though implemented in online and distance programs.

tinct from the absence of a negative emotional disposition. Wellbeing represents individual dispositions to experience positive emotions, and is an important marker of the higher order Positive Emotionality dimension. The scale includes 12 items requiring a true / false response, with the total scoring ranging from 0 to 12. People who score higher in this scale tend to describe themselves as cheerful, optimistic, hopeful, having interesting experiences and engaging in enjoyable activities [Tellegen & Waller, 2008, p. 274].

# V. CONCLUSION

The participation in Greek traditional group dance programs, which are conducted online live, may, indeed, have positive effects on the self-esteem and state anxiety of the participants. During these difficult health times that the whole world is experiencing due to COVID-19, participating in online live group programs of Greek traditional dances can help the participants, offering at the same time the solution on the one hand to distance oneself from other people and on the other hand to come in contact with people, through a very beneficial, alternative form of physical activity, like Greek traditional dance. Consequently, Greek traditional dance constitutes an alternative effective form of physical activity that may help in improving the participants' psychological state, even if is implemented in online and distance group programs.

# REFERENCES

- 1) Aalbers, T., Baars, M. A. E., & Rikkert, M. O. (2011). Characteristics of effective internet-mediated interventions to change lifestyle in people aged 50 and older: A systematic review. Ageing Research Reviews, 10(4): 487-497.
- 2) Alfermann, D., Stoll, O. (2000). Effects of physical exercise on self-concept and well-being. International Journal of Sport Psychology, 30: 47–65.
- 3) Ammar, A., Brach, M., Trabelsi, K., Chtourou, H., Boukhris, O., Masmoudi, L. (2020). Effects of COVID-19 home confinement on eating behaviour and physical activity: Results of the ECLB-COVID19 International Online Survey. Nutrients, 12: 1583. Doi: 10.3390/Nu12061583.
- 4) Argiriadou, Eir. (2018). Greek traditional dances and health effects for middle-aged and elderly people- A review approach. World Journal of Research and Review, 6(6): 16-21.
- 5) Argiriadou, Eir., Mavrovouniotis, F., Mavrovouniotis, A., Mavrovounioti, Ch., Nikitaras, N., Mountakis, C. (2017). Greek traditional dances program and self-evaluated effects and changes in life. World Journal of Research and Review, 5(6): 19-24.
- 6) Argiriadou, Eir., Mavrovouniotis, F., Mavrovounioti, Ch., Konstadinakos, P., Mavrovouniotis A., Mountakis C. (2018). The acute effects of Greek dances on old people's self-esteem. European Journal of Physical Education and Sport, 6(1): 3-13. DOI: 10.13187/Ejpe.2018.1.3.

- 7) Argiriadou, Eir., Mountakis, C., Konstadinakos, P., Zakas, A., Mavrovouniotis, F., Mavrovounioti, Ch. (2013a). The physiological effects of Greek traditional dances on mood states of middle-aged people. Sport- und Präventivmedizin, 43(2): 4-6.
- 8) Argiriadou, Eir., Mountakis, C., Konstadinakos, P., Zakas, A., Mavrovouniotis, F., Mavrovounioti, Chr. (2013b). The effect of a single bout of Greek dances on subjective health of middle-aged people. Journal Of Physical Education And Sport (JPES), 13(2), Art 30: 177-183.
- 9) Baez, M., Khaghani, F.I., Ibarra, F., Ferron, M., Didino, D., Casati, F. (2016). Effects of online group exercises for older adults on physical, psychological and social wellbeing: A pilot trial. PeerJ, 5: e3150. Doi: 10.7717/Peerj.3150.
- 10) Berger, B.G., McInman, A. (1993). Exercise and the quality of life. In R.N. Singer, M. Murphey, & L.K. Tennant (Eds.), Handbook of Research on Sport Psychology (pp.729-760). New York: Macmillan.
- 11) Berrol, F.C., Wee, L.O., Katz, S.S. (1997). Dance/Movement Therapy with older adult who have sustained neurological insult: A demonstration project. American Journal of Dance Therapy, 19(2): 135-160.
- 12) Berryman-Miller, S.D.E. (1988). Dance/Movement: Effects on elderly self-concept. In R.K. Beal & S. Berryman-Miller (Eds.), Dance for the Older Adult (Pp. 80-87). Reston, Va.: American Alliance of Health, Physical Education Recreation And Dance.
- 13) Bougiesi, M. (2015). Mental health and emotional intelligence differences among participants in dance and other type of exercise in young and older adults. Doctoral Dissertation, University of Thessaly.
- 14) Brauninger, I. (2012). Dance movement therapy group intervention in stress treatment: a randomized controlled trial (RCT). The Art in Psychotherapy, 39: 443-450.
- 15) Brown, D.R., Wang, Y., Ward, A., Ebbeling, C.B., Fortlage, L., Puleo, E., Benson, H., Rippe, J.M. (1995). Chronic psychological effects of exercise and exercise plus cognitive strategies. Medicine and Science in Sports and Exercise, 27: 765-775. Doi:10.1249/00005768-199505000-00021.
- 16) Burkhardt, J., Brennan, C. (2012). The effects of recreational dance interventions on the health and well-being of children and young people: A systematic review. Arts and Health, 4(2): 148-161.
- 17) Costa, M.S., Ferreira, A.D.S., & Felicio, L.R. (2013). Static and dynamic balance in ballet dancers: A literature review. Fisioterapia e Pesquisa, 20(3): 299-305.
- 18) Cusumano, J.A., Robinson, S.E. (1993). The short-term psychological effects of hatha yoga and progressive relaxation on female Japanese students. Journal of Applied Psychology: An International Review, 42: 77-90. Doi: 10.1111/J.1464-0597.1993.Tb00725.X.
- 19) Denazi, E., Mavrovouniotis, F., Kouidi, E., Deligiannis, A., Argiriadou, Eir. (2013). The effect of a Greek traditional dances program on functional capacity in elderly women. Sport- Und Präventivmedizin, 43(1): 6-11.
- 20) Elavsky, S. (2010). Longitudinal examination of the exercise and self-esteem model in middle-aged women. Journal of Sport & Exercise Psychology, 32: 862-880.
- 21) Eyigor, S., Karapolat, H., Durmaz, B., Ibisoglu, U., Cakir, S. (2009). A randomized controlled trial of turkish folklore dance on the physical performance, balance, depression and quality of life in older women. Archives of Gerontology and Geriatrics, 48(1): 84-88.
- 22) Garnet, E.D. (1974). A movement therapy for older people. In K. Mason (Eds.), Dance Therapy: Focus Dance VII, (Pp. 59-61). Washington D.C.: American Association for Health, Physical Education and Recreation Publication.
- 23) Heatherton, T.F., Polivy, J. (1991). Development and validation of a scale for measuring state self-esteem. Journal of Personality and Social Psychology, 60(6): 895-910.
- 24) Hos, A.T. (2005). The effects of guided systematic aerobic dance programme on the self-esteem of adults. Kinesiology, 37: 141-150.
- 25) https://www.districtdanceco.com. Digital dancing: 3 benefits of virtual dance classes. Dance Studio in Gaithersburg, MD.
- 26) Hui, E., Chui, B.T.K., Woo, J. (2009). Effects of dance on physical and psychological well-being in older persons. Archives of Gerontology and Geriatrics, 49(1): E45-E50.
- 27) Hwang, T.J., Rabheru, K., Peisah, C., Reichman, W., Ikeda, M. (2020). Loneliness and social isolation during the COVID-19 pandemic. Int Psychogeriatr, 32(10): 1217-1220. Doi: 10.1017/S1041610220000988.
- 28) Joy, L. (2020). Staying active during COVID-19. Available Online At: https://www.exerciseismedicine.org/support\_page.php/stories/?B=892, March 17, 2020.
- 29) Judge, J.A. (2003). Balance training to maintain mobility and prevent disability. American Journal of Preventive Medicine, 25: 150-156.
- 30) Kaur, H., Singh, T., Arya, Y.K., Mittal, S. (2020). Physical fitness and exercise during the COVID-19 pandemic: A qualitative enquiry. Front Psychol, 11: 590172. Doi: 10.3389/Fpsyg.2020.590172.
- 31) Keogh, J W., Kilding, A., Pidgeon, P., Ashley, L., Gillis, D. (2009). Physical benefits of dancing for healthy older adults: A review. Journal of Aging & Physical Activity, 17(4): 479-500.

- 32) Keuttel, T.J. (1982). Affective change in dance therapy. American Journal of Dance Therapy, 5: 55-64.
- 33) Kim, C.G., June, K.J., Rhayun, S. (2002). Effects of health promotion program on cardiovascular risk factors, health behaviors and life satisfaction in institutionalized elderly women. Journal of Korea Gerontology Society, 19(3): 51-64.
- 34) Kim, S., Kim, J. (2007). Mood after various brief exercise and sport modes: aerobics, hip-hop dancing, ice skating, and body conditioning. Perceptual and Motor Skills, 104: 1265-1270.
- 35) King, A.C., Taylor, C.B., Haskell, W.L. (1993). Effects of differing intensities and formats of 12 months of exercise training on psychological outcomes in older adults. Health Psychology, 12(4): 292-300. Doi: 10.1037/0278-6133.12.4.292.
- 36) Kornaraki, (2016). State, trait and competition (performance) anxiety in Greek traditional dance. Thesis, School of Physical Education and Sport Science, National and Kapodistrian University Of Athens (In Greek).
- 37) Koyuncu, M., Serdar, T., Canpolat, A.M., Catikkas, F. (2010). Body image satisfaction and dissatisfaction, social physique anxiety, self-esteem, and body fat ratio in female exercisers and non-exercisers. Social Behavior and Personality, 38: 561-570.
- 38) Kravitz, L., Furst, D. (1991). Influence of reward and social support on exercise adherence in aerobic dance classes. Psychol Rep, 8: 423-426. Doi: 10.2466/Pr0.69.6.423-426.
- 39) Leste, A., Rust J. (1984). Effect of dance on anxiety. Perceptual and Motor Skills, 58: 767-772.
- 40) Li, F., Harmer, P., Chaumeton, N.R., Duncan, T.E., Duncan, S.C. (2002). Tai Chi as a means to enhance self-esteem: A randomized controlled trial. Journal of Applied Gerontology, 21: 70-89. Doi: 10.1177/073346480202100105.
- 41) Li, F., Harmer, P., Mcauley, E., Duncan, T.E., Duncan, S.C., Chaumeton, N., Fisher, K.J. (2001). An evaluation of the effect of tai chi exercise on physical function among older persons: A randomised controlled trial. Annals of Behavioral Medicine, 23(2): 139-146.
- 42) Lollgen, H., Bockenhoff, A., Knapp, G. (2009). Physical activity and all-cause mortality: An updated meta-analysis with different intensity categories. International Journal of Sports Medicine, 30: 213-224.
- 43) Malkogeorgos, A., Malkogeorgou, S., Argiriadou, Eir., Mavrovouniotis, A., Mavrovouniotis. F. (2020). The effect of a 24-week Greek traditional dances program on the cardiorespiratory fitness of adult people. European Journal of Physical Education and Sport Science, 6(3): 60-77. Doi: 10.5281/Zenodo.3733824.
- 44) Malkogeorgos, A., Zaggelidou, E., Georgescu, L. (2011). The effect of dance practice on health. Asian Journal of Exercise & Sports Science, 8(1): 100-112.
- 45) Mastura, J., Fauzee, O., Bahama, A.S., Rashid, S., Somchit, M.N. (2012). Effect of low impact aerobic dance exercise on psychological health (stress) among sedentary women in Malaysia. Biology of Sport, 29: 63-69. Doi: 10.5604/20831862.984944.
- 46) Mavrovouniotis, F., Argiriadou, Eir. (2008). Dance, old people and psychosomatic health. Inquiries in Sport & Physical Education, 6(2): 222-231 (in Greek).
- 47) Mavrovouniotis, F.H., Argiriadou, E.A., Papaioannou, C.S. (2010). Greek Traditional Dances and quality of old people's life. Journal of Bodywork and Movement Therapies, 14(3): 209-218.
- 48) Mavrovouniotis, A., Argiriadou, Eir., Mavrovouniotis, F., Mavrovounioti, Chr., Mountakis, C., Nikitaras, N., Deligiannis, A. (2016). the evaluation of physical health of elderly participants or non-participants in a Greek dances program. Journal of Physical Education and Sport (JPES), 16 Supplement Issue (1), Art 116: 713-719.
- 49) Mavrovouniotis, F., Kontaxi, E., Argiriadou, Eir., & Deligiannis, A. (2018). The effectiveness of 12-week Greek traditional dances training for improving postmenopausal women cardiorespiratory fitness. Journal of Social Science Research, 12(2): 2661-2679.
- 50) Mavrovouniotis, F., Malkogeorgos, A., Argiriadou, Eir. (2013a). Greek Folk Dances. Dance Didactics, The Social & Psychological Role of Dance, Dance and Health Dance Therapy. Thessaloniki: University Studio Press (in Greek).
- 51) Mavrovouniotis, F., Proios, M., Argiriadou, Eir., & Soidou, Andr. (2013b). Dynamic balance in girls practicing recreation rythmic gymnastics and Greek Traditional Dances. Science of Gymnastics Journal, 5(1): 61-70.
- 52) McAuley, E., Konopack, J.F., Motl, R.W., Morris, K.S., Doerksen, S.E., Rosengren, K.R. (2006). Physical activity and quality of life in older adults: influence of health status and self-efficacy. Annals of Behavioral Medicine, 31: 99-103.
- 53) McAuley, E., Mihalko, S.L., Bane, S. M. (1997). Exercise and self-esteem in middle-aged adults: Multidimensional relationships and physical fitness and self-efficacy influences. Journal of Behavioral Medicine, 20: 67-83. Doi: 10.1023/A:1025591214100.
- 54) McCord, P., Patterson, N.P. (1989). The effect of low impact dance training on aerobic capacity, submaximal heart rates and body composition of college-aged females. J Sports Med Phys Fitness, 29(2): 184-188.
- 55) McDonald, D.G., Hodgdon, J.A., (1991). Psychological effects of aerobic fitness training. New York: Springer.

- 56) McKinley, P., Jacobson, A., Leroux, A., Bednarczyk, V., Rossignol, M., Fung, J. (2008). Effect of a community-based argentine tango dance program on functional balance and confidence in older adults. Journal of Aging and Physical Activity, 16: 435-453.
- 57) Minhyun, K., Kibum, Ch., Heesu, L., Ilsuk, S. (2015). The relationship between physical activity and mental satisfaction in american college students. American Journal of Sports Science. <a href="http://www.sciencepublishinggroup.com/J/Ajss">http://www.sciencepublishinggroup.com/J/Ajss</a>. Doi: 10.11648/J.Ajss.20150305.11
- 58) Misra, R., Alexy, B., Panigrahi, B. (1996). The relationships among self-esteem, exercise, and self-rated health in older women. Journal of Women and Aging, 8: 81-94. Doi: 10.1300/J074v08n01\_09.
- 59) Morgan, W., Goldston, S.E. (1987). Exercise and Mental Health. Washington: Hemisphere.
- 60) Müller, A.M., Khoo, S. (2014). Non-face-to-face physical activity interventions in older adults: A systematic review. Int J Behav Nutr Phys Act,11(1): 35.
- 61) Murcia, C.Q., Bongard, S., Kreutz, G. (2009). Emotional and neurohumoral responses to dancing tango Argentine: the effect of music and partner. Music and Medicine, 1: 14-21.
- 62) Nyenhuis, S.M., Greiwe, J., Zeiger, J.S., Nanda, A., Cooke, A. (2020). Exercise and fitness in the age of social distancing during the COVID-19 pandemic. The Journal of Allergy and Clinical Immunology in Practice, 8(7): 2152-2155. https://Doi.Org/10.1016/J.Jaip.2020.04.039.
- 63) Opdenacker, J., Delecluse, C., Boen, F. (2009). The longitudinal effects of a lifestyle physical activity intervention and a structured exercise intervention on physical self-perceptions and self-esteem in older adults. Journal of Sport & Exercise Psychology, 31: 743-60. Doi: 10.1123/Jsep.31.6.743.
- 64) Palmer, L.K. (1995). Effects of a walking program on attributional style, depression, and self-esteem in women. Perceptual and Motor Skills, 81: 891-898. Doi: 10.2466/Pms.1995.81.3.891.
- 65) Papaioannou, C., Argiriadou, Eir., Mavrovouniotis, F. (2009). The effect of Greek traditional dances on elderly women's well-being. Woman and Sports, 7: 25-38 (in Greek).
- 66) Paschos, A. (2018). The acute effect of a greek traditional dance lesson in state anxiety. Thesis, School of Physical Education and Sport Science, National and Kapodistrian University of Athens (in Greek).
- 67) Payne, H. (1992). Dance Movement Therapy: Theory and Practice. London: Tavistock/ Routledge.
- 68) Penedo, F.J., Dahn, J.R. (2005). Exercise and well-being: A review of mental and physical health benefits associated with physical activity. Curr Opin Psychiatry, 18(2): 189-193.
- 69) Pierce, T.W., Madden, D.J., Siegel, W.C., Blumenthal, J.A. (1993). Effect of aerobic exercise on cognitive and psychosocial functioning in patients with mild hypertension. Health Psychology, 12: 286-291.
- 70) Pilch, W.B., Mucha, D.M., Pałka, T.A., Suder, A.E., Piotrowska, A.M., Tyka, A.K., Tota, Ł.M., Ambroży, T. (2015). The influence of a 12-week program of physical activity on changes in body composition and lipid and carbohydrate status in postmenopausal women. Menopause Review, 14(4): 231-237.
- 71) Pridgeon, L., Grogan, S. (2012). Understanding exercise adherence and dropout: an interpretative phenomenological analysis of men and women's accounts of gym attendance and non-attendance. Qual Res Sport Exerc Heal, 4: 382-399. Doi: 10.1080/2159676x.2012.712984.
- 72) Reigal, R.E., Páez-Maldonado, J.A, Pastrana-Brincones, J.L., Morillo-Baro, J.P., Hernández-Mendo, A., Morales-Sánchez, V. (2021). Physical activity is related to mood states, anxiety state and self-rated health in COVID-19 lockdown. Sustainability, 13: 5444. Doi: 10.3390/Su13105444.
- 73) Rhodes, R.E., Martin, A.D., Taunton, J.E. (2001). Temporal relationships of self-efficacy and social support as predictors of adherence in a 6-month strength-training program for older women. Perc Mot Skills, 93: 693-703. Doi: 10.2466/Pms.2001.93.3.693.
- 74) Rokka, S., Mavridis, G., Kouli, O. (2010). The impact of exercise intensity on mood state of participants in dance aerobics programs. Studies in Physical Culture and Tourism, 17: 241-245.
- 75) Spielberger, C.D., Gorsuch, R., Lushere, R. Manual for the State-Trait Anxiety Inventory. Palo Alto, CA., Consulting Psychologists, 1970.
- 76) Stanton-Jones, K. (1992). An introduction to dance movement therapy in psychiatry. London: Tavistock /Routledge.
- 77) Steiner, M. (1992). Alternatives In Psychiatry Dance Movement Therapy in The Community. In H.Payne (Eds.), Dance Movement Therapy: Theory and Practice (pp. 141-162). London: Tavistock /Routledge.
- 78) Stewart, L.K., Flynn, M.G., Campbell, W.W., Craig, B.A., Robinson, J.P., Timmerman, K.L., Mcfarlin, B.K., Coen, P.M., Talbert, E. (2007). The influence of exercise training on inflammatory cytokines and C-reactive protein. Medicine and Science in Sports and Exercise, 39: 1714-1719.
- 79) Strohle, A. (2009). Physical activity, exercise, depression and anxiety disorders. Journal of Neural Transmission, 116: 777-784.

- 80) Swain, D.P., Abernathy, K.S., Smith, C.S., Lee, S.J., Bunn, S.A. (1994). Target Heart Rates for the development of cardiorespiratory fitness. Medicine and Science in Sports and Exercise, 26(1): 112-116.
- 81) Tanaka, H., Monahan, K.D., Seals, D.R. (2001). Age-predicted Maximal Heart Rate revisited. Journal of the American College of Cardiology, 37: 153-156.
- 82) Tate, D.F., Lyons, E.J., Valle, C.G. (2015). High-tech tools for exercise motivation: Use and role of technologies such as the internet, mobile applications, social media, and video games. Diabetes Spectr, 28: 45-54. Doi: 10.2337/Diaspect.28.1.45.
- 83) Trujillo, C.M. (1983). The effect of weight training and running exercise intervention programs on the self-esteem of college women. International Journal of Sport Psychology, 14: 162-173.
- 84) Tsimaras, V.K., Kyriazis, D.A., Christoulas, K.I., Fotiadou, E.G., Kokaridas, D.G., Angelopoulou, N.A. (2010). The effect of a traditional dance training program on the physical fitness of adults with hearing loss. The Journal of Strength & Conditioning Research, 24(4): 1052-1058.
- 85) Uth, N., Sørensen, H., Overgaard, K., Pedersen, P.K. (2004). Estimation of VO<sub>2</sub>max from the ratio between HR max and HR rest–The Heart Rate ratio method. European Journal of Applied Physiology, 91(1): 111-115.
- 86) Wipfli, B.M., Rethorst, C.D., Landers, D.M. (2008). The anxiolytic effects of exercise: a meta-analysis of randomized trials and dose-response analysis. Journal of Sport & Exercise Psychology, 30: 392-410.
- 87) Wyon, M.A., Redding, E. (2005). Physiological monitoring of cardiorespiratory adaptations during rehearsal and performance of contemporary dance. Journal of Strength and Conditioning Research, 19(3): 611-614.
- 88) Zullig K.J., Valois, R.F., Huebner, E.S., Drane, J.W. (2005). Adolescent health-related quality of life and perceived satisfaction with life. Quality of Life Research, 14: 1573-1584.