

Relationships between basic psychological needs and psychological well-being in recreational dance activities

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Abstract:

The aim of this research was to investigate the relation between the psychological well-being and psychological needs of people who participated in recreational dance activities. The sample of the research consisted of 290 adults, aged from 40 to 70 ($M = 55.6$; $SD = \pm 9.68$), who had been taught Greek dances in cultural societies, for an average of 4.5 years ($SD = \pm 1.2$). In order to conduct the study the following instruments were used: a) the Basic Psychological Needs in Exercise Scale (BPNES - Vlachopoulos & Michailidou, 2006), consisted of 12 items grouped into three subscales: Autonomy, Competence and Relatedness, and b) the Subjective Exercise Experiences Scale (SEES - McAuley & Courneya, 1994), adjusted to the Greek population (Mavrovouniotis, Argiriadou & Papaioannou, 2010), with 12 items concerning the subscales Positive Well-being, Psychological Stress and Fatigue. The reliability analysis showed that indicators of internal cohesion of subscales in both instruments were at satisfactory levels (Cronbach's α from .72 to .89). The analyses revealed that the participants presented high means of satisfaction of their basic psychological needs, with relatedness being the highest. Positive well-being was also highly rated, while there was almost complete lack of stress and a low percentage of fatigue. The correlation analysis showed that positive well-being was related to the satisfaction of the three basic needs. There were no differences between men and women concerning the two scales. There were differences between younger and older participants (61+), concerning positive well-being, fatigue and relatedness. In recreational dance activities, it is good to consider the satisfaction of the basic psychological needs, as they are connected to the highest levels of psychological well-being.

Key-words: dance, psychological health, psychological satisfaction.

Introduction

The modern way of living, with its exhaustingly fast pace and its increasing demands, has made participating in exercise and recreational activities indispensable (Hogan, Mata & Carstensen, 2013; Netz, Wu, Becker & Tenenbaum, 2005). Nowadays, it is widely accepted that leading an active life is an important element for the physical and psychological health (Matsouka, Harahousou, Kabitsis & Trigonis, 2003; Matsouka, Kabitsis, Harahousou & Trigonis 2003a, 2003b). In addition, participating in physical activity programs can delay chronic health problems (Katsavouni, Bebetos, Antoniou, Malliou, & Beneka, 2014; Hogan, 2005; American College of Sports Medicine, 1998) and prolong the life of the participants, by improving their quality of living and their health (Matsouka, Bebetos, Trigonis & Simakis, 2010).

Dance is directly connected to the society and history of every place, at the same time, it serves a person's need for relaxation, entertainment, escape from the daily routine and change of the way of living (Manos, 2002). The absence of competition, the improvement of the physical condition and functional abilities, the development of relatedness and the amelioration of the psychological mood constitute the reasons why dance is a recreational activity (Genti, 2008).

The dissemination of dance is greatly owed to the existence and increase of a number of dance societies, which safeguard the participation of a big number of both young and middle-aged people, leading thus, to the creation of a significant amount of job posts, where a increasing number of professionals is occupied (Goulimaris & Genti, 2010; Manos, 2005). There is a big number of researches, trying to explain the psychological procedures which promote the participation of people in free time dancing activities, since the most important challenge for the executives of such societies is the preservation of a customer list (Kyle, Absher, Hammitt & Cavin, 2006; Iwasaki & Havitz, 2004).

Self Determination Theory, which is important for the understanding of the decisive psychological factors which lead to the participation of people in free time recreational activities, also refers to the degree of involvement of a person in a certain activity, depending on the internal natural pleasure and satisfaction of the participant and also

depending on reasons which are irrelevant to this satisfaction (Ryan & Deci, 2000; Vallerand, 2001). In addition, Self Determination Theory (Deci & Ryan 2000), requires three basic psychological needs, which are central for the development of the self determined function, the self determined behavior and the psychological well-being. These three psychological needs are autonomy, competence and need for relatedness. The need for autonomy expresses the necessity of a person to feel that the activity in which he is involved is freely chosen by him and expresses him absolutely. The need for competence reflects the need of a person to feel effective while performing an activity and while interacting with the environment. Finally, the need for relatedness reflects the necessity of a person to feel that there is a reciprocal relation of confidence and respect with the others, during the performance of an activity and a sense of belonging in a group of interacting people.

Participating in health and exercise recreational programs has a positive effect on both the cognitive functions and the reinforcement of the psychological well-being. Scientific research has highlighted the connection of psychological well-being to subjective welfare and happiness, optimistic thinking, positive mood, satisfactory living (Diener, Suh, Lucas & Smith, 1999), autonomy, creative relations with the others, as well as more components such as self acceptance, self respect and a meaning in life (Sin & Lyubomirsky, 2009; Seligman, 2008; Ryan & Deci, 2001).

Willis and Campbell (1992) supported that psychological health is “a positive condition of spiritual well-being, in which people feel basically satisfied by themselves, their roles in life and their relationships with the others”. According to McAuley and Courneya (1994), psychological and spiritual health consists of negative and positive feelings or emotional situations, which can be separated in psychological stress (anxiety, depression, worry, stressful feelings) and psychological or positive well-being (positive feelings, happy mood, optimistic thinking, and subjective welfare).

In their research, Li, et al. (2009), having analyzed a sample of 23 men and 75 women who participated in Tai Chi programs for 6 months, using the Subjective Exercise Experiences Scale (SEES), supported that after their participation in the program, there was an increase in positive well-being and a statistically important decrease in psychological stress. Positive well-being allows maximum effectiveness and happiness, ability to retain a constant positive attitude, spiritual awareness, socially discrete behavior and a pleasant mood. The results showed that the benefits from the psychological well-being of people are visible in longevity, decrease in the cost of service for psychological health and better prognostics for psychological disturbances (Fredrickson, 2008; Seligman, Rashid & Parks, 2006).

The more people satisfy the three psychological needs, the more self determined their behavior will be, to participate in the activity (Edmunds, et al., 2006a; Vlachopoulos, 2007; Gange, Ryan & Bargam, 2003), since people will choose activities and experiences, in order to satisfy these needs. If an activity satisfies the personal need for competence, autonomy and relatedness, the activity will be lived as pleasant and amusing. On the contrary, if participating in an activity does not satisfy the above needs, the involvement in it will not occur for internal reasons.

Many researches have revealed that the satisfaction of the basic psychological needs leads to a greater psychological well-being and has positive effects on different levels of behavior such as education (Reis, Sheldon, Gable, Roscoe & Ryan, 2000; Sheldon, Ryan & Reis, 1996), sports (Gagne, et al., 2003; Kouli, Bebetos, Kamperis & Papaioannou, 2010; Reinboth, Duda & Ntoumanis, 2004) and exercise in general (Edmunds, Ntoumanis & Duda, 2006a, 2006b; Markland, 1999; Vlachopoulos & Michailidou, 2006).

Gagne, et al. (2003), studied the supportive influence of autonomy and basic psychological needs on the physical and psychological well-being of female athletes in gymnastics. The results showed that the satisfaction of psychological needs led the young athletes to higher levels of psychological well-being. Reinboth, et al. (2004), investigated the relation among the aspects of training, satisfaction of psychological needs and well-being in young British athletes. The results supported that the satisfaction of the three psychological needs leads to greater well-being and promotes the achievement of the goals of the young athletes.

Murcia, Gimeno and Camacho (2007), studying on a sample of 561 people, ascertained that the more the participants of this group exercise program satisfied the three basic needs, the more frequently they participated, developed their relatedness and became more persistent on achieving their goals and involvement in the activity. Vlachopoulos and Triantafyllidou (2008) studied the relation of the three basic needs with the emotions deriving from exercise (rejuvenation, tranquility, physical exhaustion, positive commitment) on a sample of 432 participants (aged 18-64) in organized exercise programs of private and state gyms. The researchers supported that there is a strong positive prediction between the basic psychological needs and exercise, provoking emotions such as tranquility, rejuvenation and commitment. On the contrary, there is a negative prediction, concerning physical exhaustion.

Mavridou, Goulimaris, Filippou, Rokka and Bebetos (2013), studying a sample of 236 participants in cultural society activities, investigated the extent in which the satisfaction of the three basic needs (autonomy, competence and relatedness) can predict the levels of subjective vitality of adults participating in Greek dance programs. The researchers supported that the autonomy and relatedness in Greek dance contribute to the increase of subjective vitality, regardless of sex and age and they proposed that the satisfaction of the basic psychological

needs should be considered in Greek dance programs, since the participants tend to internalize the activities they are interested in, which leads to higher levels of vitality and well-being.

Nowadays, Greek dances is one of the most popular recreational activities in Greece, as more and more adults seeking physical exercise choose this kind of dance programs, in order to improve their physical condition, develop social relationships and escape from their daily routine. Cultural societies offer such activities/services to their members and aim at the concentration of a greater number of participants (Goulimaris, 1998). Nevertheless, the investigation of the basic psychological needs and their relation with the psychological well-being in dance learning programs has attracted only a limited number of researchers.

The aim of this study was to investigate the relation between the satisfaction of the basic psychological needs and the psychological well-being in healthy adults, who participated in recreational dance learning programs and to explore possible differences, concerning the sex and the age of the participants.

Method

Participants

The sample of the research consisted of 290 adults (94 men & 196 women), aged from 40 to 70 ($M = 55.6$; $SD = \pm 9.68$) with an average participation in organized Greek dance programs 4.5 years ($SD = \pm 1.2$), carried out by cultural societies of non profitable nature. The participants attended one hour dance learning classes, twice a week, under the guidance of either experienced dance teachers or physical education teachers.

Instruments

For the needs of the study was used, the Basic Psychological Needs in Exercise Scale (BPNES) and the Subjective Exercise Experiences Scale (SEES).

The Basic Psychological Needs in Exercise Scale (BPNES) was developed by Vlachopoulos and Michailidou, (2006) for the Greek population. Is a self-report measure designed to assess the extent to which the psychological needs for autonomy, competence and relatedness were satisfied at the situational level. It comprises 12 items, divided into three subscales with four items per subscale. a. Autonomy (4 questions e.g. “the way I dance absolutely agrees with my choices and interests”), b. Competence (4 questions e.g. “I feel I have a great progress in dance, in relation to what I want to achieve”) and c. Relatedness (4 questions e.g. “My relationships with the other dancers are very friendly”). The answers of the participants were added after the sentence “in the Greek dance classroom of the society...” and on a five degree Likert type scale, from 1= “I do not agree” to 5= “I very much agree”.

The Subjective Exercise Experiences Scale (SEES) (McAuley & Courneya, 1994), was modified for the Greek population (Mavrovouniotis, Argiriadou & Papaioannou, 2010). The scale constitutes a measurement of global psychological responses, to the stimulus properties of physical activity, also was used. The scale facility and brevity allows its fast and repeated use by the researches even during the physical activity. The scale is composed of 12 items that represent three subscales. Two of these factors, positive well-being and psychological stress correspond to the positive and negative poles associated with psychological health, whereas the third factor represents subjective indicants of fatigue. a. Positive Well-being (4 questions e.g. “positive or great”), b. Psychological Stress (4 questions e.g. “discouraged”) and c. Fatigue (4 questions e.g. “weakened or tired”). The answers of the participants were added after the sentence “how do you feel at this moment, after participating in the Greek dance class...” and on a seven degree Likert type scale, from 1= “not at all”, 4= “so and so” and 7= “very much”.

Procedure

The data collection was carried out with the method of personally filled in anonymous questionnaires. The questionnaires were filled in by the participants in place, after the end of the class, after being given explanations that: a. the participation in the research was optional, b. they had to give truthful answers, c. there were not right or wrong answers and d. the research data would be exclusively used for the needs of the research.

Statistical analysis

For the statistical treatment of the data, the method used was the exploratory factor analysis, reliability analysis, Pearson correlations analysis and descriptive analysis. The multidimensional analysis of variance (MANOVA), was also used in order to determine whether any of the factors were related to gender (male-female) and age (a. 40 until 50yrs, b. 51 until 60yrs, c. 61 until 70yrs). The level of statistical significance was set at $p < .05$.

Results

The analysis showed that women constituted a greater percentage (67.5%) of the overall sample, while men 32.5% (Table 1). As for age, the participants presented the same percentages in all three age groups. In relation to education, the biggest percentage was presented by secondary education graduates (51.4%) and university graduates (48.6%).

Table 1. Participants' descriptive characteristics

	Age						Education			
	40 - 50		51 -60		61 - 70		Secondary		University	
	A	%	A	%	A	%	A	%	A	%
Men	24	8.3	28	9.7	42	14.5	40	13.8	54	18.6
Women	87	30.0	48	16.5	61	21.0	109	37.6	87	30.0
Total	111	38.3	76	26.2	103	35.5	149	51.4	141	48.6

Note: A= absolute values and % = percentage

The scale for basic psychological needs has already been validated in Greece (BPNES) (Vlachopoulos & Michailidou, 2006). The exploratory factor analysis of the responses of the sample on the 12 items of BPNES resulted in 3 subscales with eigenvalues greater than 1 and accounting for 68.89% of the variance. The results suggest the 3 subscales: autonomy (.68 - .81), competence (.66 - .91), and relatedness (.81 - .89). The exploratory factor analysis of the SEES instrument resulted in 3 subscales with eigenvalues greater than 1 and accounting for 69.19% of the variance. The results suggest 3 subscales: positive well-being (.74 - .82), psychological distress (.64 - .76), and fatigue (.68 - .88). The internal consistency of the two scales measured with Cronbach's alpha. The results showed that in the present study factor and reliability analyses supported the psychometric properties of these instruments and results indicated that all scales showed acceptable internal consistency since Cronbach's α was higher than .70 (Table 2).

To examine the relation between the subscales of satisfaction of basic psychological needs and psychological well-being in participants, the research estimated the coefficient Pearson (r) (Table 2). From the correlation, it was found that positive well-being has a highly positive relation to autonomy, competence and relatedness. In addition, psychological stress does not have an important statistical relation to any of the subscales of the basic psychological needs scale and it has a highly positive relation only to fatigue. From the descriptive analysis, it was found that the participants presented high values in the satisfaction of basic needs, the highest being the factor "Relatedness" (M=4.59; SD=.67), on a five degree answer scale. What is more, there were high means in the subscale "positive well-being" (M=6.15; SD=.72), almost absence of the factor "psychological stress" (M=1.42; SD=.56) and low means in the subscale "fatigue" (M=2.12; SD=.81) on a seven degree answer scale.

Table 2. Pearson correlation coefficients, alpha reliabilities, means(M) & st. deviation (SD) for each subscale.

Factors	1.	2.	3.	4.	5.	6.	M	SD.	alpha
1. Autonomy	1.00						4.25	.67	.87
2. Competence	.566**	1.00					4.22	.65	.82
3. Relatedness	.437**	.134*	1.00				4.59	.67	.89
4. Posit. Well-Being	.285**	.146*	.386**	1.00			6.15	.72	.79
5. Psych. stress	-.012	-.019	-.051	-.219**	1.00		1.42	.56	.72
6. Fatigue	-.014	-.073	.020	-.086	.304**	1.00	2.12	.81	.78

Note: ** Correlation is significant at the .01 level and * Correlation is significant at the .05

The multidimensional analysis of variance (MANOVA) was used to testify if there were statistically important differences between the variables sex and age and the subscales of the two measurement instruments. The statistical treatment of the results showed that there was no statistically important interaction between sex and age, though there was a main influence of the age Wilks' $L=$.689, $F_{(6,279)}=9,67$; $p<.05$. The separate analyses of variance that followed, showed statistically important differences, concerning age and positive well-being $F_{(2,287)} = 8, 67$; $p<.001$, fatigue $F_{(2, 287)} = 27, 39$; $p<.001$ and relatedness $F_{(2,287)} = 17, 72$; $p<.001$. More specifically, in relation to positive well-being, there were high means in all three age groups, with the over 61 group presenting statistically higher means (table 3) than the other two. In fatigue, the same age group had a relatively higher means and a statistically important difference than the other two. As for relatedness, the over 61 group presented statistically higher means and differing from both the up to 50 group and the 51-60 group (table 3).

Table 3. Means(M) & standard deviation (SD) of subscales in relation to gender and age.

Factors	Men		Women		Up to 50 years		51 to 60		61 & more	
	M	SD	M	SD	M	SD	M	SD	M	SD
1. Autonomy	4.24	.51	4.26	.49	4.26	.79	4.22	.82	4.31	.65
2. Competence	4.21	.70	4.23	.49	4.29	.75	4.19	.79	4.23	.66
3. Relatedness	4.59	.67	4.62	.46	4.32	.71	4.43	.76	4.76***	.63
4. Pos. Well-Being	6.17	.74	6.14	.55	5.91	.78	6.16	.81	6.39***	.68
5. Psych. stress	1.44	.61	1.42	.42	1.52	.60	1.41	.67	1.38	.56
6. Fatigue	2.14	.89	2.11	.64	1.82	.99	1.97	.97	2.62***	.86

Note: *** $p<.001$ and ** $p<.01$

Discussion

The aim of the present research was to examine the relation between the satisfaction of the three basic psychological needs and positive well-being, psychological stress and fatigue, in adults participating in recreational dance programs and to investigate possible differences concerning sex and age. The reliability analysis results supported the psychometric qualities of the factors of the two scales.

The results of the present research showed that the participants in recreational Greek dance programs presented high means in the satisfaction of the basic psychological needs, the highest being the relatedness with the others. Furthermore, as concerns psychological well-being, it was found that after participating in the program, the dancers presented high means in positive well-being, almost absolute absence of psychological stress and a low means in fatigue.

From the factor correlation of the two scales, it was found that positive well-being has a statistically important positive correlation with the satisfaction of the three basic psychological needs. Similar results were found in previous research (Ntoumanis, 2001; Reinboth & Duda, 2006; Wilson, Longley, Moun, Rodgers & Murray, 2006). On the contrary, psychological stress and fatigue were not related with any factor of the basic psychological needs scale. A greater satisfaction of these needs is expected to lead not only to a bigger internalization of behavior but also to higher levels of psychological well-being, as supported by Ryan and Deci, (2002). Likewise, Sibel, Karapolat, Durmaz, Ibisglu and Cakir (2009) recorded that after participating in traditional dance programs in Turkey, aged women reduced their depression and improved their psychological mood. The results of this research are in accordance with previous researches (Wilson, Mack, Blanchard & Grey, 2009; Deci & Ryan, 2008), which supported that participating in an autonomous activity and satisfying the basic psychological need with it leads to the increase of well-being and positive emotions and the high indicators of psychological well-being are generalized in all ages and in different cultures. Similar researches with people of the third age supported that participating in dance programs causes reduction of anxiety and tension and increase of self-confidence and body image, as well as improvement of psychological situation (Berrol, Wee & Katz, 1997; Kim, June & Rhayun, 2002, Mavrovouniotis et al., 2010). Also, there was a reduction of occasional anxiety and an improvement of mood, in an exercise group of both adults and aged people, practicing Greek dances for 45 minutes (Konstantinidou, Harahousou & Kabitsis, 2000). Similarly, Papaioannou, Argiriadou and Mavrovouniotis (2010) investigated the effect of Greek dances on the improvement of well-being, in a group of 78 women aged 65 and older, who were members of the Old People Open Protection Centre. The researchers supported that participating in the dance program caused a statistically significant decrease in the women's psychological stress, increased their positive well-being and kept their fatigue steady. The satisfaction of the basic psychological needs through participation in dance programs, results in improving positive well-being and generally psychological health. Recreational dance improves not only physical condition, but is also important for the psychological well-being of the participants. Researches which examined the relation between dance and psychological mood, using the "Mood Situation Profile" scale, highlight that dancing helps improve psychological mood, because it reduces anxiety, depression and tension and increases energy and vitality (Serbezis, Kouli & Vasiliou, 2007). As concerns sex, according to the results of the present research, there were no differences between men and women, related to the satisfaction of the three basic psychological needs and the psychological well-being. Previous researches indicated the differences between the two sexes, in relation to sports (Fortier, Vallerand, Briere & Provencher, 1995), age (Vallerand & O'Connor, 1989) and exercise in general (Mullan & Markland, 1997; Rose, Markland & Parfitt, 2001; Rose, Parfitt & Williams, 2005). More specifically, Mullan and Markland (1997) recorded that among participants in an exercise program, men had higher levels of autonomy, compared to women. On the contrary, Rose, et al., (2005) ascertained that women participating in their research presented higher levels of autonomy than men. The results of the research of Vlachopoulos (2008), with a sample of 716 men and 1,147 women participating in exercises in private and state gyms, showed that there were no differences in the satisfaction of autonomy, competence and relatedness between the two sexes and supported the strong relation between the satisfaction of basic psychological needs and improved psychological health. Such contradictory results are probably due to various reasons, which may include the use of different measurement instruments or exercise programs among groups.

The results of the present research showed that there were differences, concerning age, with the older than 61 enjoying higher levels of positive well-being and presenting higher means in the satisfaction of relatedness. As supported by Ryan and Deci (2002), the need for competence, autonomy and relatedness are universal and consequently, their relation with psychological well-being applies to all ages, sexes and cultures although the percentage of satisfaction of these needs may vary, depending on age, sex and culture. It seems that participating in recreational dance activities is a means for older people to improve their social relationships and reduce the danger of living on the social margin which often comes with old age. At the same time, it is observed that these people draw great positive well-being from participating in a kind of physical activity, which is not self-evident for such age groups, although this experience causes, as expected, high levels of fatigue.

Conclusion

In recreational dance programs, one should take into consideration the satisfaction of basic psychological needs, since people tend to internalize the activities they are interested in, which leads to higher levels of psychological

well-being. Greek dances, as a form of free time recreational physical activity, lead to important improvements in the psychological health of adults. So, it is suggested that aged people should participate in such activities, in order to ameliorate both their psychological health and well-being and the quality of their lives.

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