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The effect of 12-Weeks-of-Zumba, Bosu and Pilates on the Positive Psychological States of Women

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ABSTRACT

The purpose of this study was to examine the effect of 12 weeks of Zumba, Bosu and Pilates exercises on proactive personality, subjective vitality, psychological well-being and subjective happiness levels of women. The research consisted of control and experimental group. The experimental group comprised of 54 women ($X_{age}=30.63\pm 4.47$ years) who performed one hour of 3-days-a-week Bosu, Zumba and Pilates exercises. The control group consisted of 39 women ($X_{age}=27.21\pm 5.74$ years) who didn't do any regular sportive activity. For measures, the abbreviated proactive personality scale, subjective happiness scale, the flourishing scale and the subjective vitality scale were used. In the analysis of the obtained data, descriptive statistics and dependent groups' t-test were used. Findings showed significant differences between pre-test and post-test values in experimental group ($p<0.05$). The results revealed that women who regularly performed Zumba, Bosu and Pilates for 12 weeks had higher proactive personality, subjective vitality, psychological well-being and subjective happiness traits than women those who weren't engaged in any sportive activity and accordingly feel better and happier.

Keywords: Positive psychology, zumba, bosu, pilates

12 Haftalık Zumba, Bosu ve Pilates'in Kadınların Olumlu Psikolojik Durumlarına Etkisi

Bu çalışmanın amacı, 12 haftalık Zumba, Bosu ve Pilates egzersizlerinin kadınların proaktif kişilik, öznel zindelik, psikolojik iyi oluş ve öznel mutluluk düzeylerine etkisini incelemektir. Araştırma, kontrol ve deney grubundan oluşmaktadır. Haftada 3 gün 1 saat Bosu, Zumba ve Pilates egzersizleri yapan 54 kadın ($X_{yaş}=30.63\pm 4.47$ yıl) deney grubunu oluşturmuştur. Kontrol grubu ise düzenli spor yapmayan 39 kadından ($X_{yaş}=27.21\pm 5.74$ yıl) oluşmuştur. Ölçümler için kısaltılmış proaktif kişilik ölçeği, öznel mutluluk ölçeği, iyilik hali ölçeği ve öznel zindelik ölçeği kullanılmıştır. Verilerin analizinde tanımlayıcı istatistikler ile bağımlı gruplar t-testi kullanılmıştır. Araştırmadan elde edilen bulgular, deney grubunda ön test ve son test değerleri arasında anlamlı farklılıklar göstermiştir ($p<0.05$). Araştırmanın sonucuna göre, 12 hafta boyunca düzenli olarak Zumba, Bosu ve Pilates yapan kadınların, herhangi bir sportif faaliyette bulunmayan kadınlara göre proaktif kişilik özelliklerinin daha yüksek olduğu ve buna bağlı olarak kendilerini daha iyi ve mutlu hissettikleri ortaya konmuştur.

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AnahtarKelimeler: Pozitif psikoloji, bosu, zumba, pilates.

1 Introduction

Koivula indicates the benefits of regular exercise in both physical and psychological aspects, emphasizing that regular participation in exercise ensures improvement in physical and mental health, decrease in mental stress and anxiety, as well as vigour and open-mindedness (Koivula, 1999; 360-380). In the light of such positive influences, it is important for creation of a healthier society to determine the reasons for which individuals participate in regular exercise and sport as well as the motives behind such behaviour.

On the other hand, in numerous research studies based on a traditional psychology approach, negative concepts such as stress and anxiety have been focused on the behavior of individuals and effects on personal relationships (Greenglass, 2006). It is evident that less attention has been paid to positive psychological concepts such as subjective happiness, hope and satisfaction in life. These concepts, with an important role in protecting the individual's mental health and being psychologically good, have been ignored (Seligman, 2002). At this point, positive psychology emerges as an alternative approach to these problems since it deals with situations and processes which contribute to the development and well-being of individuals, groups and societies (Gable, 2005). As a matter of fact, in positive psychology the positive characteristics of individuals such as subjective happiness, forgiveness, humility, gratitude, determination, optimism, self-sensitivity, empathy should be developed rather than dealing with negative things in life or focusing on psychopathology (Seligman, 2002).

In this context, some researchers focused on various positive psychological concepts such as subjective vitality, psychological well-being, proactive personality and subjective happiness (Cowen, 1994; Diener, 1984; Ryan 1997; Lyubomirsky etc. 1999; Diener etc.. 2002; Diener etc., 2002; Akin, 2011).

When examined in a variety of psychological theories, it is often indicated that participation in sport is a form of meditation for the individual, a time slot that distracts them from disturbing emotions and thoughts and allows for an increase in self-efficacy. In addition, it has been noted that social atmospheres have helped to alleviate or eliminate many psychological problems of individuals [Miner, 2003]. In this context, the concept of subjective vitality based on self-determination theory [Deci etc., 2000] is one of the key predictors of subjective happiness and well-being, which are crucial parts of positive psychology and one of the important characteristics that an individual should possess (Akin, 2011; Akin et al., 2018).

Subjective vitality, which represents a positive emotional structure, can be described as subjective experiences that emerges internally with energetic and vibrant emotions. Along with this, it is regarded as both physical well-being and an aspect of prosperity (Salama-Younes, 2011). As for being proactive, it helps to be eager and motivated to learn, to be more successful and to have a more successful career as a result. Individuals with proactive personality display positive behaviors not only

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for themselves but also for people around them. Positive moods increase intrinsic motivation, which is a fundamental precursor of proactive behaviors that contributes to individuals performing their activities more efficiently (Parker, 2010).

As for the relationship between the positive psychological concepts and physical exercises, it is known that many scientific studies have been carried especially on the positive effects of physical activity on psychological wellbeing and happiness. (Wicker, etc. 2015; Kavetsos, 2011; Hills etc., 1998). Particularly, it has been observed that individuals who regularly participate in physical activities have a gained sense of well-being due to their physical characteristics (Kavetsos, 2011).

In this context, Cruz-Ferreira et al. mention the importance of investigating the effects of pilates based exercise method on psychological structures related to life satisfaction and physical self-concept (Cruz-Ferreira et al., 2011). They state that Pilates-based exercises improve general health, psychological and physiological functions.

However, few longitudinal studies have been conducted in the related literature for evaluating the effects of these activities on psychological conditions in healthy adult populations despite the popularity and positive effects of Zumba, Bosu and Pilates-based exercises and this was criticized by some researches (Cruz-Ferreira, etc., 2011; Bernardo, 2007; Lange, 2000).

On the other hand, scientific studies carried out in the relevant literature have mainly been based on a study design that deals with a single sportive activity. Therefore, we consider that the present study will make significant contribution to the relevant literature in terms of including three different physical exercises as a longitudinal study design. In this context, the hypotheses of the research were presented below:

- There is no significant difference between proactive personality, subjective vitality, psychological well-being and subjective happiness pre-test and post-test scores of the women in the control group before and after a 12-weeks period.
- There is a significant difference between the proactive personality, subjective vitality, psychological well-being and subjective happiness pre-test and post-test scores of the women in the experimental group who perform regular Zumba, Bosu and Pilates exercises three times a week for 12 weeks.

In this context, the purpose of the study is to investigate the effect of 12-weeks-of-Zumba, Bosu and Pilates on the positive psychological states of women.

2 Research Methodology

2.1 Participants

A total of 93 women of 39 in control group ($X_{age}= 27.21\pm 5.74$ years) and 54 in the experimental group ($X_{age}=30.63\pm 4.47$ years) participated in the study voluntarily. For recruiting participants to experimental group, women who had 6 months or over membership to a private Pilates hall were selected. In the beginning of the study, we spoke to participants and asked them if they could participate in the study and then asked them to fill in the scales to measure the pre-test scores. The experimental group, consisted of women who regularly do physical exercises consisting of Zumba, Bosu and Pilates for one hour 3-days -a-week during 12 weeks. Participants in the control group

consisted of women who didn't do any sportive activity in their daily lives. The participants in the control group consisted of women who were the friends of some women in the experimental group. At the beginning and at the end of the study they reported that they didn't do any regular sportive activity. In the study, convenience sampling method was used for selecting participants in the study.

2.2 Measures

Abbreviated Proactive Personality Scale. The scale was developed by Bateman and Crant (Bateman et al., 1993). Abbreviated Proactive Personality Scale was adapted to Turkish by Akın and his colleagues (Akın et al., 2011). The scale contains 10 items and rising scores indicate that proactivity is increased. The scale is a type of 7 likert (1 = I absolutely do not agree and 7 = I absolutely agree). In the reliability analyzes of the abbreviated Proactive Personality Scale, internal consistency Cronbach α reliability coefficient is .86. In this study, the Cronbach alpha reliability coefficient is .87 for this scale.

Subjective Happiness Scale. The scale was developed by Lyubomirsky and Lepper [8]. The scale was adapted into Turkish by Akın (Akın, 2011). It is a 4-item scale designed to measure subjective happiness. Each of the items is completed by choosing one of 7 options that finish a given sentence fragment. Then it is evaluated over total score. As for Turkish validity and reliability, CFA was applied to validate the original structure of the scale for building validity. In the reliability analyzes of the Subjective Happiness Scale, internal consistency Cronbach α reliability coefficient was found as .86. In this study, the Cronbach alpha reliability coefficient is .77 for this scale.

Flourishing Scale. The scale was developed by Diener (Diener, 2009). In this study, the Turkish form of flourishing scale was used (Akın et al., 2012). This scale is a self-report measuring tool that evaluates participants' perceptions of well-being and gives information about the psychological well-being of an individual. It is a 7-item likert-type scale and its rating varies from "1-Strongly not agree" to "7-fully agree". A total score of flourishing score can be obtained by summing the scores of all the items in the scale. The highest score that can be obtained from the scale is 56 and the lowest score is 8. There is no reverse scoring item in the scale. High scores from the scale indicate that the level of well-being of the individual is high. The internal consistency coefficient of the scale is .83. In this study, the Cronbach alpha reliability coefficient is .88 for this scale.

Subjective Vitality Scale. The scale was developed by Ryan and Frederick [Ryan, etc., 1997]. In this study, the Turkish form of the scale was used (Akın et al., 2018). By summing up all scores of the items the total subjective vitality score of individuals is calculated. The second item of the scale is a reversed item. The minimum and maximum score to be obtained in the scale is between 7 and 49. The high scores on the scale indicate that the individual's level of subjective vitality is high. The Cronbach alpha value of the scale was .84. The corrected item-total correlations of the scale ranged from .48 to .74. In this study, the Cronbach alpha reliability coefficient is .72 for this scale.

2.3 Procedures

All required permissions were obtained before the study began. To investigate continuation, each participant was contacted and asked if she would continue doing the exercises during 12 weeks. The participants were informed about the 12 weeks of study process. Of all the participants in Pilates hall, 54 women accepted to follow the procedures of the study voluntarily and were included in the study. Zumba, Bosu and Pilates exercises were performed 3 days a week (1-day Zumba, 1-day Bosu and

1-day Pilates consecutively) and 12 weeks in total.

In the study, Zumba, Bosu and Pilates exercises were performed at a heart rate of 50-70%. Heart rate of each participant was determined by Karvonen method. Throughout the study, warm up (5-10 mins), Zumba/Bosu/Pilates activity (40 mins), cool down and stretching (5-10 mins) processes were followed in each session of Zumba, Bosu and Pilates. These exercises were conducted by professionally licensed Zumba, bosu and pilates instructors in a private Pilates hall. All participants were given pre-test and post-test scales to fill in before and after the 12 weeks of regular exercises. In the analysis of the obtained data, descriptive statistics and dependent groups' t-test were used.

3 Results

Table 1. Descriptive statistics and pre-test results

Age	N	Proactive personality	Subjective vitality	Psychological well-being	Subjective happiness
Control Group	39	56.18±7.23	36.18±7.18	45.13±8.68	19.95±3.76
Experimental Group	54	55.52±8.08	35.94±5.05	46.98±6.36	20.02±3.53
p		.685	.861	.238	.927

According to the Table 1, the mean age of participants in the control group was determined as 27.21 ± 5.74 ; and the average age of participants in the experimental group was 30.54 ± 4.57 . Moreover, no statistically significant difference was found between pre-test mean scores of the participants in the control group and pre-test mean scores of the participants in the experimental group ($p > 0.05$).

Table 2. Pre-test and post-test values for control group

Sub-dimension	Control Group	n	Mean	Std. Dev.	Std. Error	t	p
Proactive Personality	Pre-test	39	56.18	7.236	1.159	-1.818	.077
	Post-test		56.59	7.111	1.139		
Psychological well-being	Pre-test		45.13	8.688	1.391	.523	.604
	Post-test		44.90	8.287	1.327		
Subjective Vitality	Pre-test		36.18	7.185	1.151	-1.510	.139
	Post-test		36.92	6.678	1.069		
Subjective Happiness	Pre-test		19.95	3.769	.604	-.154	.878
	Post-test		19.97	3.667	.587		

According to the Table 2, no significant difference was found between the pre-test and post-test values of the proactive personality ($p = .077$), subjective vitality ($p = .604$), psychological well-being ($p = .139$) and subjective happiness ($p = .0878$) of the women in the control group.

According to the Table 3 is examined, a statistically significant difference was found between the pro-active personality ($p = .000$), subjective vitality ($p = .000$), psychological well-being ($p = .000$) and subjective happiness ($p = .000$), pre-test and post-test values of women in the experimental group.

Table 3. Pre-test and post-test values for experimental group

Sub-dimension	Experimental Group	n	Mean	Std. Dev.	Std. Error	t	p
Proactive Personality	Pre-test	54	55.52	8.082	1.100	-8.910	.000*
	Post-test		62.87	4.774	.650		
Psychological well-being	Pre-test		46.98	6.368	.867	-6.427	.000*
	Post-test		51.41	4.566	.621		
Subjective Vitality	Pre-test		35.94	5.056	.688	-8.316	.000*
	Post-test		41.15	4.350	.592		
Subjective Happiness	Pre-test		20.02	3.531	.481	-4.407	.000*
	Post-test		21.52	3.039	.414		

*p<0.05

4 Discussion and Conclusions

According to the findings of the research, there was no significant difference between the pre-test and post-test values of the proactive personality, subjective vitality, psychological well-being and subjective happiness of the women in the control group. On the other hand, significant differences were found between the proactive personality, subjective vitality, psychological well-being and subjective happiness pre-test and post-test values of the participants in the experimental group. These findings showed that the hypotheses of the study were supported by the obtained findings.

The experimental group showed significant differences regarding the positive effects of a 12 weeks Zumba, Bosu and Pilates exercises on the proactive personality, subjective vitality, psychological well-being and subjective happiness states of women. McAuley, for example, investigated both positive and negative effects of exercise on psychological health (McAuley, 1994). Supporting the findings of current study, he described a negative relationship between exercise and high level of anxiety, stress and depression, explaining that exercise had a positive relationship between exercise, self-efficacy, psychological well-being and cognitive functions. Similarly, Hills and Argyle found that recreational physical activity positively affects positive emotions such as happiness, fitness and psychological well-being (Hill et al., 1998).

The experimental group showed higher well-being scores than those in control group. Similarly, in a study by Stathi et al. with 28 retired individuals, participants noted that regular exercise had a significant effect on psychological well-being and strength of social relations (Stathi et al., 2002). Edwards found that 30 minutes of regular exercise for three days a week gave participants a sense of well-being and consistency in psychological terms in addition to reducing stress conditions in individuals (Edwards, 2006).

The experimental group showed higher proactive scores than those in control group. In terms of the

relationship between proactive personality and sport, Ratten noted the importance of proactive personality in the sport environment (Ratten, 2017). As a matter of fact, both the athletes and the coaches have spent a long time interacting with the sporting environments they are in, and this has led them to be innovative, entrepreneurial and exploratory. Ashford and Black found that proactive people have higher levels of performance and satisfaction at work (Ashford, 1996). Those studies clearly support the findings of current study since it also contains a social environment which creates an interaction during for 3 months.

When examined the studies related to Bosu, Zumba and Pilates, similar results supporting the findings of the present study were observed. For example, Çiçek et al. administered a moderately severe cardio bosu exercise program to women for 12 weeks, 3 days a week (Çiçek et al., 2017]. In the study, they concluded that cardio-bosu exercise reduced stress and depression levels of sedentary women and positively affects body image. Tolnai et al. found that a 10-week pilates exercise program positively improved the body awareness of young sedentary women and provided psychological benefits (Tolnai, et al., 2016). Similarly, Ko et al. reported that once-weekly Pilates exercise was effective in reducing negative psychological conditions and especially reducing depression symptoms (Ko, 2015). Caldwell et al. found that students attending Pilates classes during 15-week course period experienced significant improvements in their self-efficacy and positive mood levels (Caldwell et al., 2009). Cruz-Ferreira et al. found that the 6-month pilates-based exercise method was effective on positive psychological conditions such as life satisfaction and physical self-concept (Cruz-Ferreira et al., 2011). Those studies mentioned above, both show similar results and have similar study design of the current study for being a longitudinal study.

In their analytical review, Vendramin et al. found that the Zumba fitness interventions had psychological and social benefits on quality of life (Vendramin et al., 2016). Delextrat et al. found that 8-week Zumba exercises performed three times a week positively affected women's well-being. Those findings mentioned above clearly supports the findings of this study. In another study, Yorks et al. found positive significant effects of group fitness classes on stress and quality of life (Yorks, 2017). They indicated that group fitness classes after 12 weeks of intervention decreased the stress level and increased the quality of life in the experimental group although any significant differences weren't found in the control group. As given above, the relevant literature has supported the findings of the present study. Therefore, it is considered that the findings of the study will help to provide a more active, energetic, active and happy lifestyle for women who suffer from an unhappy, unenergetic and inactive lifestyle in their daily lives. From this point of view, it is considered that the research will make important contributions to the related literature. In the future studies, the researches might focus on examining the effects of Zumba, Bosu and Pilates separately.

As a result, 12-week Zumba, Bosu and Pilates exercises positively affected the positive psychological states of women. It was concluded that women who regularly did Zumba, Bosu and Pilates for 12 weeks displayed a higher proactive personality behavior than women who did not perform any sportive activity and thus feel themselves more psychologically better, happier and robust.

Contributions of Authors

Mustafa NARİN: To take responsibility for the planning of materials and methods, the regulation and reporting of data to reach the results, to rework the article not only in terms of spelling and grammar, but also in terms of intellectual content before submitting the article.

Hakan KOLAYIŞ: To create ideas or hypotheses for research and/or article, to plan materials and methods to achieve results, to conduct experiments, to take responsibility for the logical explanation and presentation of findings, to take responsibility for the creation of the entire article or the original section, to rework not only in terms of spelling and grammar, but also in terms of intellectual content before submitting the article.

Nurullah ÇELİK: To plan materials and methods to achieve the results, to take responsibility for the editing and reporting of the data, to take responsibility for the logical explanation and presentation of the findings, to take responsibility for the literature review during the research, to take responsibility for the creation of the entire article or the original section, to rework not only in terms of spelling and grammar, but also in terms of intellectual content before submitting the article, carry out analysis of data.

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