

Exercise Motivation and Social Physique Anxiety In Adults

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Abstract

This study investigated the relationship between basic psychological needs, motivational regulations in exercise, and social physique anxiety. The sample of the study was conducted 420 individuals, 193 males and 227 females (mean age 28.33±6.21), who regularly exercise (30 minutes, 3 days a week for at least 1 year) participated voluntarily. The Social Physique Anxiety Inventory, Behavioral Regulations in Exercise Scale, and Basic Psychological Needs in Exercise Scale were used as data collection tools. Pearson Correlation Analysis and Linear Regression Analysis were used to analyze the data. There was a negative relationship between basic psychological needs and intrinsic regulation and social physique anxiety; there was a positive relationship between introjected regulation, external regulation, amotivation, and social physique anxiety. While intrinsic regulation predicted social physique anxiety negatively, introjected regulation and external regulation positively predicted social physique anxiety. It was found that satisfaction of the need for competence and autonomy negatively predicted social physique anxiety. This research suggested that basic psychological needs and motivational regulations for exercise could play an important role in social physique anxiety.

Keywords: Exercise, Self-determination Theory, Social Physique Anxiety

Introduction

Over the last decades, an enormous amount of research has been done on regular physical activity and exercise participation. These studies have revealed the beneficial effects of physical activity and exercise on physiological and psychological health (Sicilia et al., 2014; Sisson and Katzmarzik, 2008; Teixeira et al., 2012; Thøgersen-Ntoumani and Ntoumanis, 2006; Wilson et al., 2003; World Health Organization, 2020). Although it was known that regular participation in physical activity and exercise was highly beneficial for health, physical and psychological well-being, very few adults in modern societies were reported to engage in physical activity or exercise regularly. Moreover, the findings suggested that many people do not have enough motivation to participate in exercise or physical activity (Sisson and Katzmarzik, 2008).

Studies on exercise and physical activity have used Self-determination theory to analyze the motivation and psychological processes underlying well-being. Self-determination theory is a macro theory of motivation and personality that can be applied to different contexts and cultures (Deci and Ryan, 2002). The theory assumes that people have a natural growth tendency to actively manage their environment and interactions and integrate new experiences into their sense of self. Therefore, fulfilling their needs and their motivation to engage or participate in different activities depends on the component of the characteristics of intrinsic, external, and non-motivation (amotivation). This classification can make it easier to understand both the reasons that drive people to exercise and the reasons that can reduce their social physique anxiety (Sicilia et al., 2016).

The lack of interest, and not seeing any reason to exercise were associated with amotivation. It is defined as the absence of any desire, neither intrinsic nor external, to perform a behavior (Vlachopoulos et al., 2000). On the other side, intrinsic motivation refers to the reflection that exercise is done for its own sake, fun, and enjoyment. When an individual is internally motivated, he or she experiences feelings of enjoyment, use of skills, personal achievement, and excitement. In contrast to intrinsic motivation, external motivation refers to performing an activity for instrumental reasons or achieving a different outcome from the activity (Honeybourne, 2005). External motivation is divided into four different (external, introjected, identified, and integrated) regulations that vary according to their levels of self-determination.

External regulation is the least desirable type of motivation and is typically used to contrast with intrinsic motivation. Individuals only participate in the exercise to achieve the desired outcome or avoid a negative outcome, such as punishment. Introjected regulation means that individuals operate not to maintain self-esteem and pride or avoid any obligation but to avoid guilt or shame. The identified regulation represents a relatively self-determined arrangement because the action is performed due to its value, importance, or benefit for the individual. When the action takes place willingly, and without a sense of pressure, the regulatory process is fully integrated into the individual's sense of self. This regulation is purely a product of self-determination defined as integrated regulation. Integrated regulation is similar to intrinsic motivation, representing self-determined regulation (Deci and Ryan, 2000; Cox, 2007). Studies have consistently shown that self-determination forms of motivation and controlling

forms of motivation were associated with initiating and maintaining an exercise behavior positively and negatively, respectively (Thøgersen-Ntoumani and Ntoumanis, 2006; Ersöz, 2016).

In the Basic Psychological Needs theory, it is mentioned that there are three innate psychological needs for autonomy, competence, and relationality. These needs are necessary for psychological, physical, and social health (Vansteenkiste et al., 2010). Basic psychological needs are defined as nutrients necessary for a person's growth, integrity, and well-being (Deci and Ryan, 2000). Autonomy refers to the internal focus of causality for what one does. The person's actions express the person himself, which are not affected by external factors (Ryan and Deci, 2002). The satisfaction of the need for autonomy reflects the sense of willpower and self-approval in one's behavior. When autonomy is satisfied, behavior is experienced authentically and appropriately, self-endorsing, conforming to interests and values (Vansteenkiste et al., 2010). Competence refers to the ability to perform tasks of varying complexity. When the need for competence is met, individuals feel that they interact effectively with their environment and experience opportunities to express or develop their capacities (Parfitt et al., 2009). Relatedness is the degree to which a person feels that he or she is safely part of a group or connected to others in his or her social context. (Deci and Ryan, 2002). This theory assumes that life satisfaction and subjective well-being increase significantly when individuals have the opportunity to feel autonomous, competent, and related in important areas of life (Deci and Ryan, 2000).

Sports, exercise, and physical activity environments are inherently social and evaluative (Sabiston et al., 2005). In these environments, more emphasis is made on the shape and function of the body; therefore, a range of positive and negative emotional experiences can be nurtured. With roots in social anxiety and self-presentation, social physique anxiety is a commonly studied emotion that emanates from, or motivates, physical activity behaviors (Sicilia et al., 2016). Although conceptually different, body image is associated with social physique anxiety. Individuals may be interested in how others see their physique because their bodies are objectively unattractive, or they perceive their physique unrealistically negative.

Social physique anxiety is defined as the anxiety experienced by an individual when he or she perceives that others may negatively evaluate his physique. (Sanlier et al., 2018). Crawford and Eklund (1994) also define social physique anxiety as self-presentation anxiety associated with the body (e.g., body fat, muscularity, body proportions) (Crawford and Eklund, 1994). The main negativities of social physique anxiety are body dissatisfaction, eating behavior disorders, depression, concerns about body weight, body shape, and eating (Linardon et al., 2017). Previous studies examining the relationships between exercise motivation and social physique anxiety have suggested that external motives for exercise, such as improving muscle tone and physical attractiveness, are associated with social physique anxiety (Crawford and Eklund, 1994; Frederick and Morrison, 1996). Furthermore, previous studies have shown that social physique anxiety is negatively associated with more self-determined forms of motivation (Gillison et al., 2006).

Some studies examined the relationship and difference between basic psychological needs, motivational arrangements for exercise, and social physique anxiety in various populations based on self-determination theory in the context of exercise (Sicilia et al., 2014; Thøgersen-Ntoumani and Ntoumanis'in, 2006; Thøgersen-Ntoumani and Ntoumanis, 2007; Vallerand,

2007). In exercise environments, it is thought that the satisfaction of basic psychological needs can affect the motivational regulations of the individual. Therefore, the aim of the study is to examine the relationship between basic psychological needs, motivational regulations for exercise, and social physique anxiety, based on the theory of self-determination of individuals between the ages of 25 and 45.

Method

Participants

The research population consisted of individuals between the ages of 25-45 who exercise regularly. In the current study, regular exercise was accepted as exercising a minimum of 30 minutes, three days a week for at least one year. Minimum sample size calculation with Gpower program; effect size was determined as 0.1, margin of error of 5%, power of 95% as 216 people. Accordingly, 420 participants (28.33 ± 6.21), including 193 men and 227 women, who exercise regularly, were included in the study. Participants in the sample group were reported that they did group (pilates, zumba, spinning) and individual exercises under the guidance of a trainer.

Measures

In the study, personal information forms, The Basic Psychological Needs in Exercise Scale, Behavioural Regulations in Exercise Questionnaire-2, and The Social Physique Anxiety Scale were used.

The Basic Psychological Needs in Exercise Scale (BPNES): The BPNES was developed by Vlachopoulos and Mchailidou (2006) to evaluate the three basic needs (autonomy, competence, and relatedness) of Exercise participants, specified within the scope of self-determination theory, in the exercise environment (Vlachopoulos and Michailidou, 2006). The BPNES consists of 12 items measuring each of the need constructs using four items. The participants were requested to indicate the degree of their agreement with each item on a 5-point Likert scale anchored by 1 (I don't agree at all) and 5 (I completely agree). The scale was adapted into Turkish by Vlachopoulos et al. (2013) in a cross-cultural study (Vlachopoulos et al., 2013). The factor loadings for the fit index ($\chi^2(42) = 284.57, p < .01$; CFI=.912; RMSEA=.074) of the BPNES and the 12-item scale ranged from .64 to .76. The Cronbach alpha internal consistency coefficient was between .73 (Efficacy) and .80 (Relatedness).

Behavioural Regulations in Exercise Questionnaire-2 (BREQ-2): The 19-item BREQ-2 contains five subscales that measured varying degrees of exercise motivations, namely external, introjected, identified, intrinsic regulations, and amotivation (Markland and Tobin, 2004). Former studies have supported the questionnaire's construct validity and internal

reliability (Wilson et al., 2002; Markland and Tobin, 2004). The validity and reliability study of the Turkish version was performed by Ersöz et al. (2012). The Turkish version of BREQ-2 includes four subscales, and each subscale contains four items except intrinsic regulation, which includes seven items (Ersöz et al., 2012). The internal consistency

coefficient of the current sample's subscales ranged between 0.73 (external regulation) and 0.84 (intrinsic regulation).

The Social Physique Anxiety Scale (SPAS): The SPAS self-report measure of social physique anxiety. The original SPAS is a 12-items rated on a 5-point Likert scale, from 1= not at all true to 5= extremely true, with total scores ranging from 12-60 (Hart et al., 1989). In this study, the 7-item Turkish version of SPAS was used. The composite reliability coefficient of the SPAS was 0.83 for the Turkish sample (Hagger et al., 2007). The internal consistency coefficient of subscales was found 0.74 in this study.

Data Collection / Processing Way

Participants were informed about filling out data collection tools by making the necessary explanations about the purpose of the research. Participants were voluntarily included in the study. Survey forms were collected by the researchers then were checked and completed; incomplete or incorrect forms were not included in the study's data set. Filling out the personal information form and the scales took approximately 15-20 minutes. Data were collected between September and November 2020.

Design

The data analysis was done with the SPSS package program, and the error level was taken as .05. Whether the data met the prerequisites of parametric tests were decided by examining the skewness and kurtosis test results (Büyüköztürk, 2012). For the analysis of the data, firstly analysis of descriptive statistics and bivariate correlation between all variables, followed by linear regression analysis to analyze motivational regulations and basic psychological needs that bore social physique anxiety.

Results

Table 1. Distributions of scale points

Scales	Sub-Dimensions	N	\bar{x}	Ss	Skewness	Kurtosis
BPNES	Competence	420	3,825	,813	-,617	,977
	Relatedness	420	3,869	,786	,047	,042
	Autonomy	420	3,565	,882	-,453	-,452
BREQ-2	Intrinsic Regulation	420	3,405	,685	,793	,873
	Introjected Regulation	420	2,699	,965	-,020	,487
	External Regulation	420	,597	,890	,556	,193
	Amotivation	420	,397	,811	-,097	,850
SPAS	-	420	2,698	,995	,370	-,693

When the normal distribution of the research data was examined (Table 1), it was observed that the skewness and kurtosis values of the scores obtained from the scales show a normal distribution of the data.

Table 2. Mean, standard deviation, and correlations between Social Physique Anxiety, Basic Psychological Needs, and Motivational Regulations

	$\bar{x} \pm Ss.$	1	2	3	4	5	6	7	8
1- SPAS	2,69±,99								
2- Competence	3,82±,81	-,486*							
3- Relatedness	3,56±,88	-,375*	,587*						
4- Autonomy	3,86±,78	-,234*	,834*	,575*					
5- Intrinsic Regulation	3,40±,68	-,321*	,498*	,392*	,470*				
6- Introjected Regulation	2,69±,96	,338*	,220*	,185*	,163*	,450*			
7- External Regulation	,59±,89	,345*	,266*	-,476*	-,202*	-,336*	,058		
8- Amotivation	,39±,81	,287*	-,354*	-,241*	-,273*	-,554*	,164	,629*	

*p<0.05

As a result of the correlation analysis (Table 2) performed to determine the descriptive statistics of the variables and the relationship between them, it was found that the scores meeting three basic psychological needs were similar to each other; the average score for relatedness was lower than competence and autonomy. Regarding the different types of motivation, the highest scores were obtained from intrinsic regulation ($\bar{x}=3.40$) and introjected regulation ($\bar{x}=2.69$); while the lowest scores were obtained from amotivation ($\bar{x}=.59$) and external regulation ($\bar{x}=.39$) forms. Pearson correlation analysis revealed that all variables in this study were associated with social physique anxiety. Specifically, the correlation was negative for the relationship between the three basic psychological needs [competence ($r = -.486$), relatedness ($r = -.234$), autonomy ($r = -.375$)] and intrinsic regulation sub-dimension ($r = -.321$) of social physique anxiety; while a positive correlation was found between the sub-dimensions introjected regulation ($r = .138$), external regulation ($r = .345$) and amotivation ($r = .287$).

Table 3. Linear Regression Analysis Predicting Social Physique Anxiety, Basic Psychological Needs, and Motivational Regulations

	B	t	p	VIF	F	p(Model)	R²
	4.076	13.058	.000				
Competence	-.182	-1.837	.010	2.158			
Relatedness	.262	2.603	.067	2.150			
Autonomy	-.330	-5.400	.000	1.391			
Intrinsic Regulation	-.316	-3.530	.000	1.780	20.663	.000	.320
Introjected Regulation	.249	2.912	.004	3.706			
External Regulation	.367	4.251	.000	3.704			
Amotivation	-.007	-.097	.923	1.743			

In the Multiple Linear Regression Analysis (Table 3) performed to determine the predictor between the variables in the research, it was found that the VIF values for all the variables included in the model are much lower than 10. In comparison, the corresponding tolerance

values are considerably larger than .10. The results showed no multi-linearity problem in the model (Neter et al., 1996). According to the results of multiple linear regression analysis, the introjected regulation ($\beta=.24$) and external regulation ($\beta=.36$) were predicted social physique

anxiety significantly and positively; on the contrary, efficacy ($\beta=-.18$), autonomy ($\beta=-.33$), and intrinsic regulation ($\beta=-.31$) predicted negatively. This result explains 32% of the total variance together ($F_{(7,412)}=26.663$; $p<.000$).

Discussion

This study aimed to examine the relationship between meeting basic psychological needs, motivational arrangements for exercise, and social physique anxiety, based on the self-determination theory of individuals.

It was observed that the satisfaction of psychological needs obtained from the exercise environment was positively correlated with intrinsic regulation and introjected motivational regulation. Studies conducted in the framework of exercise suggested that the need for competence for exercise and health-related behaviors offered stronger relationships with more self-determination motivation than the other two basic psychological needs (Edmunds et al., 2006; Wilson et al., 2003). In addition, the studies were shown a strong association between perceived competence and social physique anxiety (Crocker et al., 2000; Frederick and Morrison, 1996). These results may indicate that in the exercise environment, one's perception of skill development or improvement in physical condition may be more important than reducing anxiety about being negatively evaluated and being integrated into a group or feeling capable of participating in the decision-making process.

This study also showed that social physique anxiety was correlated positively with introjected regulation, external regulation, and amotivation while negatively correlated with intrinsic regulation. The findings are in line with Cox et al. (2011), in which students attended physical education classes and Sicilia et al. (2014) with adolescent exercise participants (Cox et al., 2011; Sicilia et al., 2014). The findings were consistent with studies that suggested a positive relationship between self-determined motivation and body image anxiety (Ingledeew and Markland, 2008; Ingledeew, Markland and Ferguson, 2009). The current study showed that appearance and weight control motives positively predict extrinsic and introjected regulation in exercise contexts.

While the satisfaction of the need for competence and autonomy predicted social physique anxiety negatively, the need for relatedness does not predict social physique anxiety. This finding is parallel to the results of Thøgersen-Ntoumanis and Ntoumanis (2007) working with aerobics instructors. Consistent with current findings, previous studies were reported that autonomy support was an important element in meeting all three psychological needs, not just autonomy (Gagne et al., 2003; Sheldon et al., 2003). The findings were suggested that the satisfaction of autonomy need may be more important than the satisfaction of competence and relatedness needs in predicting indicators of social physical anxiety.

It was observed that intrinsic regulation negatively predicted social physique anxiety. While this result was in line with the findings of Thøgersen-Ntoumani and Ntoumanis (2006), which showed that social physique anxiety was negatively predicted by internal regulation, contradicted with another study by Thøgersen-Ntoumani and Ntoumanis (2007) with aerobics trainers. Thøgersen-Ntoumani and Ntoumanis suggested that self-determination motivation can increase the pleasure of exercising, make social comparisons unimportant, and reduce concerns about body appearance. Self-determination may indicate that motivation was likely to increase pleasure from exercise, trivialize social assessments, and alleviate concerns about one's physique.

Introjected regulation positively predicts social physique anxiety. This finding showed that being motivated to exercise because of intrinsic pressure or guilt was linked to anxiety about the person's social physique. On the contrary, exercising because of enjoying a particular activity (i.e., intrinsic motivation) or valuing the benefits of exercise (i.e., defined regulation) may not be due to concerns about one's body appearance. The results of the study were also revealed that external regulation positively predicts social physique anxiety. Results of bivariate correlations showed that social physique anxiety was more strongly associated with non-self-determined motivation types (introjected, external regulation, and amotivation) than intrinsic motivation. These results were consistent with studies that have found a positive relationship between self-determination motivation and social physique anxiety (Ingledew and Markland, 2008; Ingledew et al., 2009; Homan and Tylka, 2014; Ersöz, 2016).

Amotivation is defined as representing a "situation in which there is no intention to engage in behavior" and constitutes a form of motivation that is not completely self-determined (Hausenblas and Fallon, 2002). Given that all participants in the current study were exercised and chosen measurement tool to examine motivation did not include it (there has been any such scale yet), amotivation was not specifically discussed in the study.

Conclusion and Suggestion

As a result, this research has shown that basic psychological needs and motivational regulations for exercise can play an important role in social physique anxiety. It was revealed that increasing basic psychological needs in the context of exercise could reduce social physique anxiety in adults by reducing external pressure on exercise and increasing the internalization process in which the value of exercise could be integrated with oneself. Increased intrinsic regulation in the context of exercise may reduce social physique anxiety in adults. Moreover, these results may conclude that basic psychological needs and intrinsic regulation may play an important role in adopting and maintaining healthy life-enhancing behaviors in adults. In addition, participation in the exercise process can be increased by reducing external pressure for exercise both directly and indirectly by increasing the internalization process in which the pleasure of exercise can be directed by the individual's own goals. Also, the study shows that the development of basic psychological needs in exercise can reduce social physique anxiety by helping individuals perceive the value of physical activity and find more self-determined reasons to exercise.

The study has some limitations for the interpretation of the findings. First, the sample consisted only of individuals aged 25-45 years, limiting the findings' generalization to older or younger individuals. In addition, future studies should be studied with larger sample groups that are more diverse in terms of demographics and structure. Second, this study was designed cross-sectionally. Longitude designs should be developed to examine social physique anxiety to determine the results of this study over time and examine whether these relationships are maintained at different life stages. Finally, experimental research designs can examine how environmental conditions can affect social physique anxiety and how such anxiety affects the satisfaction of basic psychological needs and exercise motivation.

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