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Original Article

The Examination of Muscularity-Oriented Drives in Individuals Engaged in Exercise in Terms of Nutrition and Training Frequency

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Abstract

The idealization of a muscular physique in modern culture can directly influence individuals' preferences regarding both physical appearance and lifestyle. This phenomenon emerges as a significant source of motivation, shaping body image, dietary habits, and exercise routines. Accordingly, this study aimed to examine the relationship between the drive for muscularity and the dietary habits and training frequency of individuals who engage in regular exercise. This cross-sectional study, designed using a survey model, included 526 voluntary participants who exercise regularly. Data collection tools included a demographic information form and the "Drive for Muscularity Scale." The findings indicate that an increase in weekly exercise frequency enhances the drive for muscularity and related behaviors, such as dietary practices and supplement use. Similarly, an increase in the number of daily meals was found to influence nutrition and supplement habits. In conclusion, exercise and dietary habits play a crucial role in shaping the desire for muscularity, and these findings are deemed valuable for guiding the development of individuals' training and nutrition plans.

Keywords: Body perception, Fitness, Bodybuilding.

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Introduction

In contemporary society, technological and urban developments have led to significant changes and conveniences in lifestyle. However, these advancements have simultaneously contributed to the prevalence of a sedentary lifestyle (Ilbak et al., 2022). Given the numerous negative impacts of physical inactivity on human health, many individuals today are attempting to distance themselves from sedentary lifestyles by participating in various physical activities aimed at promoting and maintaining health (Kilincarslan et al., 2022). Numerous studies have demonstrated that regular physical activity fosters positive changes in individuals' physical appearances (Donaldson & Ronan, 2006; Teke & Karakuş, 2024), which in turn influences their body image (Ilbak et al., 2023).

The body serves as a mirror reflecting one's existence and acts as a medium for expressing oneself to the external world (Okumuş, 2009). In patriarchal and heteronormative cultures, women are often expected to have "slim and attractive" bodies, while men are expected to exhibit "strong and muscular" physiques (Murnen & Don, 2012). In Western societies, the ideal male body is typically described as muscular and fit (Hausenblas & Fallon, 2002). In modern culture, the "V-shaped" muscular male body is not only promoted as the ideal physique but is also perceived as a symbol of positive attributes such

as happiness, success, and attractiveness (McCabe & Ricciardelli, 2005; Tiggemann, 2011). Within this framework, exercise can be considered a powerful tool that influences both individuals' perceptions of their own bodies and others' perceptions of them (Karagöz & Karagün, 2015). Consequently, individuals often engage in fitness and bodybuilding activities to achieve this ideal physique and enhance their internalized body image positively (Hausenblas & Fallon, 2002). This pursuit is regarded as a significant factor driving the desire for muscularity in individuals.

Research conducted by Cho and Lee (2013) highlights the clear association between the conceptualization of the muscular male body as the ideal physique and the drive for muscularity. Similarly, Pope et al. (2000) emphasized that men perceive their ideal bodies as approximately 13 kilograms more muscular than their current physiques. The drive for muscularity, particularly prevalent among bodybuilders, has been shown to influence exercise habits and dietary patterns (Yarar et al., 2022). While the drive for muscularity is often viewed as an indicator of an active and healthy lifestyle, it has also been found to exert negative effects on both physical and psychological health (Selvi & Bozo Özen, 2019). Therefore, exploring the relationship between the drive for muscularity and variables such as exercise frequency and dietary habits is of great importance.

In modern culture, the idealization of a muscular physique directly impacts individuals' preferences regarding both physical appearance and lifestyle. This phenomenon emerges as a key motivational factor shaping body image, dietary routines, and exercise habits. Accordingly, the purpose of this study was to examine the relationship between the drive for muscularity and both the dietary habits and training frequency of individuals engaged in exercise.

Material and Methods

Population and Sample

The population of this study comprised individuals residing in Malatya who regularly engage in exercise at fitness centers. The sample consisted of 526 male individuals aged between 18 and 55 years who had been exercising consistently at fitness centers for at least one year. All participants voluntarily joined the study and provided informed consent by signing the volunteer consent form. The sample size was determined using the G*Power software (version 3.1.9.7; University of Düsseldorf, Düsseldorf, Germany). In this context, the ANOVA: fixed effects omnibus one-way test from the F-test family was employed, with parameters set as follows: α error probability = 0.05, effect size = 0.25, and power $(1-\beta) = 0.95$. Based on these settings, the minimum required sample size was calculated as 305 participants with a 95% confidence level.

Research Design

This study was designed as a cross-sectional investigation employing a quantitative research method using the survey model. Data were collected online via Google Forms after all participants who agreed to participate voluntarily had been provided with written information about the study. The collected data were analyzed and reported.

Data Collection Tools

Data for this study were gathered using a demographic information form that inquired about variables such as age, exercise frequency, and dietary habits, alongside the "Drive for Muscularity Scale" developed by McCreary and Sasse (2000). This scale was adapted into Turkish as the "Kaslı Olma Dürtüsü Ölçeği" (Drive for Muscularity Scale) by

Selvi and Bozo Özen (2019), with its validity and reliability established. The scale employs a six-point Likert format and comprises three subdimensions: attitudes toward muscularity (ATM), training behaviors related to muscularity (TB), and eating and supplementation behaviors related to muscularity (ESB).

Data Collection Procedure

The study's Google Forms link was disseminated to participants through their phone numbers via the WhatsApp Web application with the assistance of sports clubs. After participants consented to the volunteer form via the provided link, they completed the demographic information form followed by the questions from the Drive for Muscularity Scale, thereby concluding the process.

Statistical Analysis

Data analysis was conducted using IBM SPSS Statistics software (version 26.0, Armonk, NY). Skewness and kurtosis values were examined to evaluate the normality of data distribution; values within the range of −2 to +2 were considered indicative of normal distribution (Mishra et al., 2019; Tabachnick & Fidell, 2019). One-way ANOVA test was applied for comparisons involving multiple groups. Post hoc analyses were performed to identify specific group differences where significant variations were detected. A significance level of $p < 0.05$ was adopted for all statistical evaluations.

Results

The results of this research are presented in tables and graphs below.

Table 1. Frequency of exercise and nutrition of the participants.

Variables	Frequency	N	Mean±St. Deviation
Exercise Frequency	2-3 days/weak	145	3.618±1.158
	4-5 days/weak	217	3.819±1.154
	6-7 days/weak	164	3.642±1.051
Nutritional Frequency	≤ 2 meals/day	136	3.757±1.091
	3-4 meals/day	239	3.632±1.174
	≥5 meals/day	151	3.786±1.077

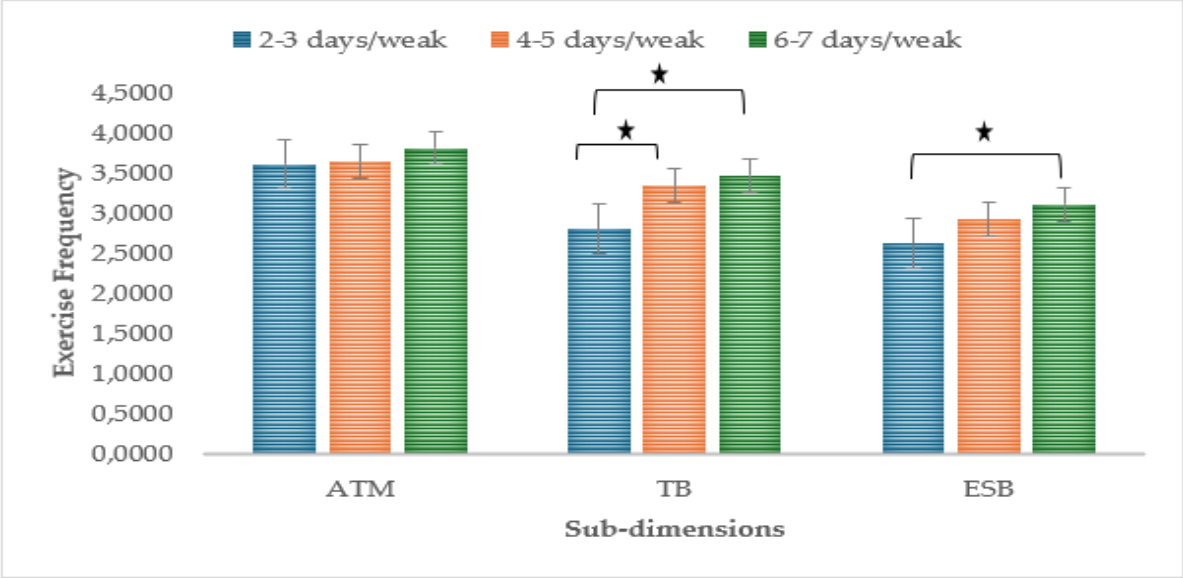
According to Table 1, the participant group predominantly consists of individuals who prefer exercising 4-5 days per week, followed by those who exercise 6-7 days and 2-3 days per week, respectively. Regarding meal frequency, the analysis reveals that the majority of participants consume 3-4 meals per day, followed by those consuming ≥5 meals and ≤2 meals per day, respectively.

Table 2. ANOVA test results.

Sub-dimension	Independent Variables	Type III Sum of Squares	df	Mean Square	F	p
ATM	Exercise Frequency	3.078	5	.616	.483	.789
TB	Exercise Frequency	22.723	5	4.545	4.004	.001*
ESB	Exercise Frequency	14.891	5	2.978	2.272	.046*
ATM	Nutritional Frequency	2.620	2	1.310	1.033	.357
TB	Nutritional Frequency	6.956	2	3.478	3.002	.051
ESB	Nutritional Frequency	14.376	2	7.188	5.512	.004*

*P<0.05; ATM: Attitudes toward muscularity; TB: Training behaviors related to muscularity; ESB: Eating and supplementation behaviors related to muscularity

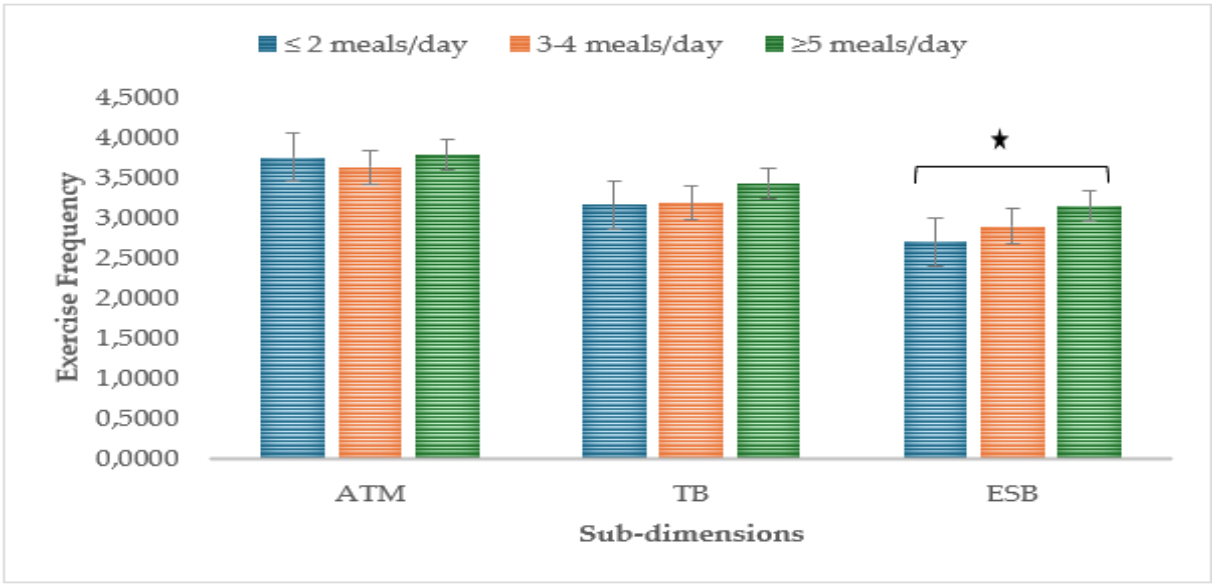
Examination of Table 2 indicates that variations exist among the sub-dimensions of the Drive for Muscularity Scale in terms of exercise frequency and meal frequency. In this context, exercise frequency significantly differs in the TB and ESB sub-dimensions. As for meal frequency, a significant difference is observed only in the ESB sub-dimension.



*P<0.05; ATM: Attitudes toward muscularity; TB: Training behaviors related to muscularity; ESB: Eating and supplementation behaviors related to muscularity.

Figure 1. Post-hoc results in terms of frequency of exercise.

Analysis of Figure 1 reveals that exercise frequency does not create a significant difference in the ATM sub-dimension of the Drive for Muscularity Scale. However, in the TB sub-dimension, individuals who exercise 2-3 days per week have lower mean scores compared to those who exercise 4-5 days and 6-7 days per week. In other words, as the weekly frequency of training increases, the drive for muscularity also increases. Additionally, the ESB sub-dimension indicates that weekly training frequency is another factor influencing the drive for muscularity. In this context, as individuals increase their weekly training frequency, their dietary and supplement use behaviors also rise.



*P<0.05; ATM: Attitudes toward muscularity; TB: Training behaviors related to muscularity; ESB: Eating and supplementation behaviors related to muscularity.

Figure 2. Post-hoc results in terms of frequency of nutrition.

Analysis of Figure 2 shows that daily meal frequency does not result in differences in the ATM and TB sub-dimensions of the Drive for Muscularity Scale. However, in the ESB sub-dimension, a statistically significant difference is observed between individuals consuming at least 2 meals per day and those consuming at least 5 meals per day. In this regard, as the daily number of meals increases, an associated increase in both food and supplement consumption is observed.

Discussion

The aim of this study was to examine the relationship between the drive for muscularity, dietary habits, and training frequency in individuals engaged in exercise. The findings of the study suggest that an increase in weekly exercise frequency is associated with a rise in drive for muscularity, along with related behaviors such as changes in dietary habits and supplement usage. Similarly, an increase in the number of daily meals was found to influence both dietary patterns and supplement use. These results align with several studies in the literature. A similar study conducted by Gönültaş et al. (2023) reported that as meal frequency increased, training behaviors aimed at achieving muscularity and supplement use also showed an upward trend. The drive for muscularity has been identified as a significant factor influencing increased protein consumption and frequency of weight training (Morrison et al., 2004). Men with a high drive for muscularity are reported to engage in resistance training more frequently and to have a higher prevalence of supplement use (Petosa et al., 2010). However, when this drive reaches excessive levels, it can lead to disorders such as muscle dysmorphia, excessive training routines, and muscle-focused eating disorders (Watters & Higgins, 2024).

Although a direct relationship between training frequency and muscle loss has not been definitively established, Çağlayan and Koz (2020) suggest that spending excessive time in the gym could be linked to muscle loss. In other words, men with a high drive for muscularity may exhibit uncontrolled training behaviors, excessive eating, supplement use, and exercise addiction (Cafri et al., 2002; Eik-Nes et al., 2018; Katra et al., 2022; McCreary & Sasse, 2000). A study has shown a positive correlation between increased exercise participation (r = 0.31) and exercise addiction (r = 0.43) (Tod & Edwards, 2015). Although exercise addiction is often perceived as a positive trait, it should be noted that an increase in dependency levels can lead to serious issues (İlbak & Altun, 2020). Therefore, further in-depth examination of this issue is recommended.

On the other hand, increased exercise frequency and intensity can also trigger unhealthy eating habits and eating disorders (Arellano-Pérez et al., 2019). Motivations focused on appearance have been found to lead to poorer eating habits, while health-focused motivations correlate with healthier dietary behaviors (Panão & Carraça, 2020). One of the findings in our study, the effect of increased daily meal frequency on the drive for muscularity, supports this notion.

When an increase in exercise frequency is combined with the desire to achieve an idealized body appearance, it can deepen the cycle of eating and exercise addiction behaviors. However, not all drives for muscularity are associated with negative outcomes; some individuals can achieve a balance in their training and dietary habits, thus improving their overall health and well-being. This suggests that the desire for muscularity does

not always result in eating disorders or unhealthy behaviors (Oberle et al., 2018). In this context, the relationship between the drive for muscularity, exercise behaviors, and dietary habits is complex. Further research is needed to gain a clearer understanding of these issues.

Conclusions

The findings of this study indicate that the frequency of exercise and dietary habits exert different effects on individuals' drive for muscularity. From the perspective of exercise frequency, individuals engaging in physical activity 4–5 days or 6–7 days per week demonstrated a higher drive for muscularity compared to those exercising 2–3 days per week. This suggests that as the weekly exercise frequency increases, the drive for muscularity also intensifies. Similarly, exercise frequency was found to produce significant differences in the subdimensions of TB and ESB. In this context, increased exercise frequency appears to influence not only the desire for a muscular appearance but also behaviors related to dietary practices and supplement usage.

Findings related to dietary frequency revealed that the number of daily meals caused a significant difference in the ESB subdimension but had no effect on the ATM and TB subdimensions. Individuals consuming at least five meals per day displayed a greater tendency toward nutrition and supplement use compared to those consuming two or fewer meals daily. This indicates that an increased meal frequency enhances nutrition and supplement habits supportive of the drive for muscularity.

In conclusion, both exercise and dietary frequency emerge as significant variables influencing individuals' drive for muscularity. These findings underscore the critical role of exercise and dietary habits in understanding the desire for muscularity and related behaviors. The results of this study are considered potentially valuable for guiding the development of individuals' training and nutrition plans.

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Data Availability Statement: Data supporting this study is available from the author upon reasonable request.

Conflicts of Interest: The author certify that there is no conflict of interest with any financial organization regarding the material discussed in the manuscript.

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