

The Role of Personality Traits in the Eating Habits of Trabzon University Athletic Students

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Abstract

People's personality is one of the key factors determining food choice and consequently eating habits and patterns. Although there is still disagreement about the basic structure of personality traits, most researchers now accept the five-factor of NEO personality model. The aim of this study was to investigate the role of personality traits in the eating habits of athletic students of Trabzon University by descriptive and correlational methods.

The statistical population includes all student-athletes of the University of Trabzon, which are equal to 320 people. To determine the sample size, Cochran's sample size estimation formula was used and the number of samples was 175 people who were selected by a simple random sampling method. The NEO personality traits questionnaire and Golestan Bagh et al. (2016) eating habits questionnaire were used to collect information.

Results show that among personality traits, neuroticism and openness predict respectively -0.35 and -0.25 of significant changes in eating habits. However, agreeableness and conscientiousness respectively predict 0.30 and 0.29 changes in eating habits significantly. Therefore, it can be concluded that neuroticism and openness have a negative effect, and agreeableness and conscientiousness have a significant positive effect on the eating habits of student-athletes.

Therefore, appropriate nutritional training based on the personality traits of athletic students is recommended in order to improve dietary patterns and prevent chronic diseases.

Keywords: Personality traits, eating habits, student-athletes, University of Trabzon

Introduction

Nutrition is defined as a conscious behavior that uses the right nutrients to maintain an excellent quality of life and maintain and improve health. However, nutrition for athletes means that athletes,

in accordance with their gender, age, and daily physical activity, consume nutrients in a proper and balanced way, by performing conscious behaviors during training sessions and competing based on their sports fields (Tutkun, 2020).

Eating habits refer to the set of choices or decisions that are made about the foods we eat. They include what to eat, when to eat, how much to eat, and where to eat (MacNicol et al., 2003). These are influenced by taste preferences, variety in selected foods, frequency of meals, meal size, consuming snacks, and skipping basic meals (Intiful et al., 2019)

Research confirms that proper nutrient intake is associated with peak physical function, and nutrient deficiencies may lead to decreased athletic performance. In the past, only elite athletes were involved in the role of nutrition in athletic performance, but today most athletes understand that proper fueling through optimal nutrition is an important and integral part of a training program. However, most college athletes are poor at healthy eating habits and do not have the skills to choose the right eating habits (Hornstrom, 2011). An athlete with his own knowledge and methods will try to meet his nutritional needs outside the camps. Therefore, the information habits he develops about nutrition should be based on appropriate nutritional information (Sarioğlu et al., 2011).

Athletes do not show enough knowledge about nutritional needs, despite their keen interest in nutrition reports. In general, athletes tend to get nutritional information from magazines, grocery store staff, coaches, gym owners, teammates, parents, supplement manufacturers, and other athletes. Given that athletes know they have unparalleled nutritional needs, they often seek guidance or accept prescribed diets. They tend to turn to resources other than health professionals, which may lead to inappropriate nutrition education. Unfortunately, many of these sources are inappropriate, and sometimes the information provided is unreliable and may adversely affect athletes' diets (Jessri et al., 2010).

Although individual physiological and psychological factors, educational status, nutritional status, health, environmental factors, and specific sports characteristics all play a role in achieving high-level athletic performance, it is difficult to say which factor is effective in maximal performance. However, it is an undeniable fact that an athlete who does not have a proper and qualified diet does not have high athletic performance (Yarar et al., 2011).

The level of personality traits of individuals is associated with numerous health consequences such as cardiovascular disease, diabetes, metabolic syndrome, or inflammation (Deary et al., 2010). On the other hand, personality is one of the key factors determining food choice and consequently eating habits and patterns (Babicz, 2006). Although there are still differences of opinion about the basic structure of personality traits, most researchers now accept the five-factor of the NEO personality model (Smith & Williams, 1992). The five main personality factors

include neuroticism, extraversion, openness, agreeableness, and conscientiousness (Costa et al., 1992).

Proper nutrition, in addition to allowing for optimal growth and development, is an important part of athletic performance for young athletes. Nutrients, micronutrients, and fluids are needed in adequate amounts to provide energy for growth and activity. To optimize performance, athletes need to learn when and how to eat and drink before, during, and after exercise (Purcell et al., 2013; Wang et al., 1993).

Personality traits are consistently associated with health behaviors, but little research has examined the role of personality in eating habits in middle-aged and adults (Weston et al., 2020). Different results have been published regarding the relationship between each of the five main personality factors and eating habits and patterns. In the most important of these studies, Intiful et al. (2019) in a study entitled *The Study of the Relationship between the Five Great Personality Traits and Eating Habits in Students at a University of Ghana*, concluded that with the exception of neuroticism, all personality traits were significantly associated with at least one of the examined dietary habits. Totcon (2020) in his research showed that there is a significant relationship between stress and eating habits of athletic students. LEE et al. (2019) in their study showed that there is a significant positive relationship between personal characteristics and eating habits. Cho et al. (2014) in a study on South Korean students found that high scores on extraversion, agreeableness, conscientiousness, and openness were significantly associated with healthy eating habits. Also, in a study conducted by Mottus et al. (2012) on the Estonian population aged 18 to 89 years, it was found that following a healthy eating pattern has a positive relationship with extraversion, openness, and conscientiousness, and a negative relationship with neuroticism. Brumment et al. (2008) concluded in a study that the characteristic of openness is related to the quality of each individual's diet. On the other hand, neuroticism, extraversion, agreeableness, and conscientiousness have nothing to do with the quality of the diet.

Given that there are few studies on the relationship between personality traits and eating habits and have reported different results, and given that student-athletes are the future makers and effective people in sports and nutrition and improving family eating habits, The present study is conducted for the first time with the aim of investigating the role of personality traits in the eating habits of athletic students of Trabzon University.

Methodology

The method of this research is descriptive and correlational. The statistical population includes all student-athletes of the University of Trabzon, which are equal to 320 people. To determine the sample size, Cochran's sample size estimation formula was used and the number of sample was 175 people who were selected by a simple random sampling method.

Data collection tools included the following:

NEO Personality Traits Questionnaire (short form)

To measure the five personality traits, the short form of the Big Five Personality Factors Questionnaire was used. This questionnaire has 60 questions that identify and measure the five main personality traits of individuals including neuroticism (N), extraversion (E), openness (O), agreeableness (A), and conscientiousness (C) (each with 12 questions). These five main aspects that are examined in the five test indicators; provide a comprehensive review of the personality of adults. The NEO questionnaire was designed in 1985 by McCrae and Costa. The NEO-FFI personality questionnaire was administered by McCreery and Costa to 208 American students three months apart with a validity coefficient of 0.83 to 0.75. The long-term validity of this questionnaire has also been evaluated. A long 6-year study on the scales of neuroticism, extraversion, and openness to experience has shown validity coefficients of 0.68 to 0.83 in personal reports as well as in couples' reports. The coefficients of the validity of the two factors of agreeableness and conscientiousness at two-year intervals were 0.79 and 0.63, respectively.

Eating habits questionnaire

This questionnaire was designed by Golestan Bagh et al. (2016) and includes 20 questions related to measuring people's eating habits. In order to check the content validity, the questionnaire was approved by 5 professors of nutrition sciences. Its reliability was evaluated by conducting a pilot test on a sample of 23 female university students and was confirmed by Cronbach's alpha coefficient of 0.75. The questions of the questionnaire were answered on the basis of a five-point scale (always = 5, often = 4, sometimes = 3, rarely = 2 and not at all = 1) and the subject had to choose one of them in each question. In total, the minimum score obtained in test 20 indicates the worst eating habits and the maximum score of 100 indicates the best eating habits.

Data were analyzed using SPSS software version 22. Descriptive statistics were presented for quantitative variables as mean and standard deviation and for qualitative variables as frequency and relative frequency percentage. The regression coefficient was used to determine the role of personality traits in predicting eating habits. The study was conducted in accordance with the latest version of the Declaration of Helsinki. Ethical approval was obtained from the local ethical committee.

Results

Table 1 - Demographic information

var	Age	Height	Weight
mean	22.98	173.11	69.08
Standard deviation	1.35	3.91	7.12

According to the results of the table above, the average age of student-athletes is 22.98, their average height is 173.11 and the average weight of student-athletes is 69.08.

Table 2 -Average and standard deviation of athletes' Personality characteristics

Characteristics	mean	Standard deviation
Neuroticism	22.14	7.48
Extraversion	25.06	6.12
Openness	26.92	7.39
Agreeableness	30.14	7.94
Conscientiousness	31.77	8.06
dietary habits	72.60	9.17

According to the results of the above table, the average of neuroticism is 22.14, extraversion is 25.06, openness is 26.92, agreeableness is 30.14 and conscientiousness is 31.77. Also, the average eating habits is 72.60.

**Table 3 - Summary of regression model The effect of
on dietary habits Personality characteristics**

Model Summary

Model	R	R Square	Adjusted R Square	F	Sig
1	0.619	0.383	0.380	24.11	0.000

According to the results of Table (3), the correlation coefficient between personality traits and normal eating habits of student-athletes is 0.61 and the coefficient of determination is 0.38. In other words, it can be said that 0.38 changes in the eating habits of athletic students are determined by personality traits and 0.62 are determined by other variables. Also, considering the value of $f = 24.11$ and considering that the significance level of test error is less than 0.05, so it can be said that personality traits have a significant effect on the eating habits of student-athletes.

Table 4 - The results of the simple regression equation effect of Personality characteristics on dietary habits

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.669	0.290		14.637	0.000
Neuroticism	-0.293	0.038	-0.353	-6.765	0.000
Extraversion	0.105	0.041	0.138	1.323	0.071
Openness	-0.173	0.040	-0.251	-3.825	0.039
Agreeableness	0.246	0.047	0.307	5.969	0.000
conscientiousness	0.238	0.070	0.295	5.232	0.000

According to the results of the above table and considering the beta coefficients, it can be said that among the personality traits, neuroticism predicts -0.35 and openness predicts -0.25 of significant changes in eating habits. However, agreeableness and conscientiousness predict 0.30 and 0.29 of changes in eating habits respectively. Therefore, it can be said that neuroticism and openness have a negative effect and agreeableness and conscientiousness have a significant positive effect on the eating habits of athlete students.

Conclusion

The results of this study showed that a high score in neuroticism is inversely correlated with eating habits. This result was consistent with most previous studies. Tiainin et al. Found that neuroticism in women was associated with decreased consumption of fish, vegetables, and increased consumption of sugary drinks. Mottus et al. Also found that neuroticism was negatively correlated with following a healthy eating pattern and positively correlated with increased consumption of processed foods. In another study by Provencher et al. (2008), they found that high neuroticism was associated with an inability to control food intake and a greater sensitivity to hunger. Also, Kikuchi and Watanbe (2000) in some of their studies showed that there is a significant negative relationship between neuroticism and acceptance of nutritional recommendations in male students. MacNicol et al. Also found in the study that neuroticism has a significant negative relationship with healthy eating and health behaviors. Of course, there are few studies that do not address the relationship between neuroticism characteristics and dietary patterns, including research by Brummert et al. on North Carolina couples showed that there was no significant relationship between neuroticism and the quality of each individual or each couple's diet. Intiful

et al. (2019) in a study concluded that neuroticism has no significant relationship with any of the diet habits that were studied.

In the above explanation, it can be said that one of the characteristics of neurotic people is haste, which is related to the inability to control desires and cravings, including food consumption. In people who score high on neuroticism, the cravings are so strong that one cannot resist them. Therefore, such people are incapable of controlling bad eating behaviors and habits. Other features of neuroticism are depression and vulnerability to stress, and subsequently, some people in negative moods such as stress and depression turn to unhealthy foods or poor eating habits (Martin et al., 2009).

On the other hand, in the present study, it was observed that there is no statistically significant correlation between high extraversion and the score of eating habits. The results of studies in this field are also different. The results of the present study are consistent with the results of research by Intiful et al. (2019). They concluded that, with the exception of neuroticism, all personality traits were significantly associated with at least one of the diet habits studied.

Brummertt et al. In their study, found that there was no significant relationship between the characteristics of extroversion and the quality of the diet of each individual or each couple. Goldberg and Strycker also concluded that extraversion had no statistically significant relationship with the overall score of healthy eating habits. On the other hand, the results of some studies showed that extraversion has a positive relationship with healthy eating patterns (Möttus et al., 2012) controlling food.

intake, low sensitivity to hunger (Provencher et al., 2008), regular breakfast and increased consumption of fruits and vegetables (Tiainen et al., 2013) and a significant negative relationship with the consumption of prepared foods (Möttus et al., 2013) has been observed.

On the other hand, in the present study, the high score in openness showed an inverse correlation with the score of eating habits. This finding was consistent with some results of the Kikuchi and Watanbe study; Because they found that there was a significant negative relationship between resilience and avoidance of burnt fish or meat. On the other hand, the results of some studies have shown a positive relationship between openness with eating habits (Goldberg, Strycker, 2002) and a healthy diet and a negative relationship with the traditional diet (Möttus et al., 2013). Other researchers have also found that openness is associated with increased consumption of fruits and vegetables and decreased consumption of sweets and chocolate (Provencher et al., 2008).

In the present study, a significant positive correlation was seen between agreeableness and eating habits score. The research results are consistent with the research findings of Cho et al. Their study on high school students showed a positive correlation between agreeableness and healthy eating habits. However, this finding was not consistent with the findings of Goldberg and Strycker; Because they found that the characteristic of agreeableness with healthy eating habits was not statistically significant. In the study of Brummett et al., There was no significant relationship between agreeableness with dietary quality of individuals, which is not consistent with the findings of the present study.

In the present study, a direct correlation was observed between a high score on conscientiousness and a high score on eating habits. The latest finding is consistent with most existing studies in this field. In some of them, being conscientious was associated with following healthy eating patterns and habits. In other studies, conscientiousness was significantly associated with conscious control of food intake, low sensitivity to hunger, regular breakfast, avoidance of cholesterol-rich foods, animal fats, and dietary balance (Kikuchi & Watanabe, 2000). Conscientious people due to their characteristics such as conscientiousness, striving for success, being cautious in making targeted decisions; They are determined and work hard to achieve success (Costa & McCrae, 1992). In fact, the characteristic of responsibility in them leads to the acceptance of nutritional education, the development of healthy eating behaviors and habits, and finally to Successfully succeed. In addition, such people, due to reflection and caution in doing things, consider the consequences of following unhealthy eating habits and patterns, and try to avoid such unhealthy habits.

In interpreting the results of a regression of personality traits on the score of eating habits, it can be said that among the personality traits, five factors; Neuroticism has the highest correlation with the score of eating habits, which is the inverse correlation. In other words, high neuroticism is the strongest predictor of unhealthy eating habits. Furthermore, agreeableness is the most important predictor of high scores of eating habits or healthy eating habits, conscientiousness is the third predictor of scores of eating habits, which has a direct correlation; This means that the higher the score of the conscientiousness, the higher the score of eating habits. Finally, the characteristic of openness, in the fourth place, predicts the low score of eating habits or unhealthy eating habits.

In the present study, the lack of a significant correlation between extraversion and dietary score and the inconsistency of openness with dietary score compared to previous studies may be due to differences in sample size, age of individuals, differences in dietary assessment method, Differences in the use of short or long form of NEO personality questionnaire, cultural differences and demographic characteristics of the studied populations.

According to the results of this study, personality traits of neuroticism and openness are correlated with unhealthy eating habits and agreeableness and conscientiousness with healthy eating habits.

Therefore, appropriate nutritional training based on the personality traits of athletic students is recommended in order to improve dietary patterns and prevent chronic diseases. It also seems necessary to conduct prospective studies in different age groups in both sexes in this field.

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