

To cite this article: Aktürk Z, Taştan K. Frequency of personality types based on enneagram in a Turkish sample: A web-based cross-sectional study. Ortadogu Tip Derg 2020; 12(2): 211-218. https://doi.org/10.21601/ortadogutipdergisi.722751

Original Article \_\_\_\_\_

# Frequency of personality types based on enneagram in a Turkish sample: A web-based cross-sectional study

Türkçe bir örneklemde enneagrama dayalı kişilik tiplerinin sıklığı: Web tabanlı kesitsel bir çalışma

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Received: 4 March 2020 Accepted: 24 March 2020

# ABSTRACT

**Objectives**: Although the Enneagram is known for hundreds of years, research in this area is scarce. The purpose of this study was to analyze the frequency of personality types of a Turkish-speaking sample and compare the rates of different personalities with demographic data.

**Methods**: The Tastan Personality Types Inventory, an instrument based on Enneagram, was hosted at Google Forms and made available via the university's academic web page. Online responses were collected between 08.04.2015 and 22.8.2019. Participants of the study were Turkish speaking people aged adolescents and adults.

**Results**: Results for 1646 participants were analyzed. The mean ( $\pm$ SD) age was 29.48 $\pm$ 11.03 years. The most commonly encountered main personality type was number 2, "the helper," (n=335, 20.4%), while number 8, "the challenger" was the most frequently encountered personality wing (284, 17.3%). The frequency of type 8 personality was decreasing with increasing age, while the reverse was true for type 3 personality ( $\chi^2$ =130.623, p<0.001). While the type 1 personality was more common among males (n=51 (9.5%) vs. n=63 (5.7%)), the type 4 was almost twice common among females (n=48 (8.9% vs. n=183 (16.5%)) ( $\chi^2$ =28.835, p<0.001). Also, the probability of type 1 personality was increasing as the level of education increased ( $\chi^2$ =67.316, p<0.001).

**Conclusion**: There are differences in the personality types of the studied population concerning demographic variables. These findings imply that personality is not a lifelong constant entity, but it can change with age and education. Further studies should investigate the relationship of the Enneagram personality types with certain disease entities in defined populations.

Keywords: personality, personality assessment, psychometrics

# ÖΖ

**Amaç**: Enneagram yüzlerce yıldır bilinmesine rağmen, bu alandaki araştırmalar azdır. Bu çalışmanın amacı Türkçe konuşan bir örneklemin kişilik tiplerinin sıklığını analiz etmek ve farklı kişiliklerin oranlarını demografik verilerle karşılaştırmaktır.

**Yöntem**: Enneagram'a dayalı bir araç olan Taştan Kişilik Tipleri Envanteri Google Formlar'da barındırıldı ve üniversitenin akademik web sayfası üzerinden kullanıma sunuldu. Çevrimiçi yanıtlar 08.04.2015 ve 22.8.2019 tarihleri arasında toplanmıştır. Çalışmanın katılımcıları Türkçe konuşan ergenler ve yetişkinlerdir.

**Bulgular**: Bu araştırmada 1646 katılımcının verileri analiz edildi. Ortalama (± SD) yaş 29,48 ± 11,03 yıl idi. En sık karşılaşılan ana kişilik tipi 2 numaralı "yardımcı" (n = 335, %20,4), 8 numaralı "meydan okuyucu" ise en sık karşılaşılan kişilik kanadıdır (284, %17,3). Tip 8 kişilik sıklığı artan yaşla birlikte azalırken, tip 3 kişilik için tersi doğruydu ( $\chi^2$  = 130,623, p <0,001). Tip 1 kişilik erkeklerde daha yaygın iken (n = 51 (%9,5) ve n = 63 (%5,7)), tip 4 kadınlarda neredeyse iki kat fazlaydı (n = 48 (%8,9'a karşılık n = 183 (%16,5)) ( $\chi^2$  = 28,835, p <0,001) Ayrıca, eğitim düzeyi arttıkça tip 1 kişilik olasılığı da artmaktadır ( $\chi^2$  = 67,316, p <0,001).

**Sonuç**: İncelenen nüfusun kişilik tiplerinde demografik değişkenler açısından farklılıklar vardır. Bu bulgular kişilik tipinin beşikten mezara kadar aynı olmadığını, eğitim ve yaşla değişebileceğini düşündürmektedir. Enneagram kişilik tiplerinin tanımlanmış popülasyonlardaki belirli hastalıklarla ilişkisi araştırmalıdır.

Anahtar kelimeler: kişilik, kişilik değerlendirmesi, psikometri

# INTRODUCTION

# **Background and Rationale**

Knowing the personality traits has advantages for the person as well as the people in contact [1]. It will not only help to facilitate communication and establish a favorable dialogue between people, but can also aid professionals in psychology, medicine [2], arts, business, and education. Some have suggested the use of personality traits in personnel recruitment, sales, and marketing [3]. Personality traits have been hypothesized to be clinically useful for diagnosis, client conceptualization, treatment planning, as well as for predicting treatment outcomes, potential strengths, and barriers to treatment [4].

Standardized psychometric tests of adult personality and psychopathology such as the Minnesota Multiphasic Personality Inventory [5], the Five-Factor Model [6], Zuckerman-Kuhlman Personality Questionnaire [7], Temperament and Character Inventory [8], and Kupfer Detre Scale [9], were utilized by health professionals as part of their assessment procedures. Although the Enneagram principles are known in Europe since the 1920s [10], its use has not become widespread, partly due to missing appropriate measurement scales [11].

The Enneagram of Personality is a concept categorizing using nine interconnected personality types [12]. It was suggested that the Enneagram can serve as a tool for understanding the ideas and behaviors of others as well as improving relationships with family, friends, and co-workers [13]. The Enneagram proposes explanations of why a person acts in a certain way and recommends directions for individual growth [3].

Although the Enneagram is known since ancient times [14], the assessment of an individual requires experience and time. Hence, it was not widely employed as a psychometric measurement tool. However, there are recent efforts to develop scales measuring temperament based on the Enneagram [11,15].

# Objectives

The purpose of this study was to analyze the frequency of personality types of a Turkish-speaking sample and compare the frequencies of different personalities with demographic data.

# **METHODS**

# **Study Design**

The study was conducted in a descriptive, cross-sectional design between 08.04.2015 and 22.8.2019. Study reporting was done following the STROBE guidelines [16]. This study has been approved by the Ataturk University Faculty of Medicine Clinical Research Ethics Committee (No: B.30.2.ATA.0.01.00/168-Date:10.24.2016).

Component	Number of items	Cronbach's alpha					
1	5	0.631					
2	4	0.379					
3	6	0.811					
4	5	0.809					
5	5	0.676					
6	4	0.618					
7	4	0.835					
8	6	0.740					
9	5	0.810					
Total	44	0.866					

Table 1. Internal consistency of the inventory and its subscales

# Setting

The Tastan Personality Types Inventory (TPTI) [11] was hosted at Google Forms (https://docs.google.com/forms/ d/e/1FAIpQLSeN90dTISi43Bjh4GRX7zDc01cow4hcpTrn0Ao 2Eab7E4rm5g/viewform) and made available via the university's academic web page http://aile.atauni.edu.tr. Responses were collected online. A note on the purpose of data collection was included in the form.

#### Variables

The primary outcome variable of the study was the leading personality type, as defined by the TPTI [11]. Additionally, demographic questions included were age, sex, educational status, occupation, and city of residence.

The TPTI uses 44 questions to identify the leading personality and one personality wing based on the Enneagram theory [14]. Scoring of the TPTI is made by a 7-point Likert scale, ranging from 0 (Strongly No) to 6 (Strongly Yes). All items of the inventory are positively scored. The mean scores of the nine components and a total score by adding all component scores were calculated. The Cronbach's alpha internal consistency score for all 44 items, and the nine dimensions are given in **Table 1**.

#### Bias

Since the questionnaire was self-applied, one can assume an anonymous atmosphere. However, interference by third persons during data entry cannot be precluded. Nevertheless, we performed detailed post-hoc data checking and debugging to minimize bias.

# Participants

Participants of this study are Turkish speaking people who randomly or with some advice accessed the data collection tool on the World Wide Web. Responses for the years 2015, 2016, 2017, 2018, and 2019 were 699, 788, 136, 333, and 549, respectively (Total 2505 entries). Records with matching

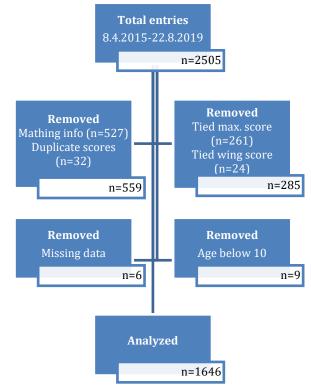


Figure 1. Study flow diagram

age, sex, and e-mails (n=526; 21.0%) were accepted as repeated entries, of which all except the last entry were deleted. Also, records with duplicating scores for all domains (n=32; 1.6%) were considered as entries by the same person and removed.

The automatic scoring algorithm could not decide on the primary personality type for 261 participants, who had tied maximum scores. These and additional 24 participants with tied wing scores could not be categorized by the computer and thus, removed. Lastly, 9 participants below 10 years and 7 participants with missing data (age, sex) were excluded, ending up with 1646 participants for analysis (**Figure 1**).

# **Study Size**

The sample size of the population was calculated based on the primary outcome "Main personality type." To compare the nine personality types between two groups using Chi-Square with an effect size of 0.14 (low), an alpha error of 0.05, and a power of 0.99, a total sample size of 1602 participants is required [17].

# **Statistical Methods**

The data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 25.0 software (SPSS Inc., Chicago, IL, USA). The results were presented as frequencies, percentages, means, and standard deviations (SD). The Kolmogorov-Smirnov test was performed to test if the

		n	%
Sex	Female	1107	67.3
Jex	Male	539	32.7
	White collar employee with bachelor degree	428	26.0
	Teacher	1107         67.3           539         32.7           th bachelor         428         26.0           225         13.7           th bachelor         225         13.7           ter         221         13.4           pusewives         187         11.4           553         33.6         32           pusewives         187         11.4           553         33.6         32           pusewives         187         11.4           60         195         11.8           pusewives         1022         62.1           179         10.9         90           90         5.5         90           129         11.9         11.9           177         16.3         184           163         184         16.9           220         20.3         59	
Occupation	Government officer		
	Blue collar worker and housewives		11.4
	Student	553	33.6
	Unemployed	32	1.9
	Primary school	46	2.8
Education -	Secondary school	114	6.9
	High school	195	11.8
Luucation	University	1022	62.1
	Masters	179	10.9
	PhD	90	5.5
	Mediterranean	90	8.3
	East Anatolia	Ile110Ile539pyee with bachelor ree428ther225ent officer221r and housewives187dent553oloyed32school46ry school114chool195ersity1022ters179D90ranean90natolia129ean177t Anatolia184nara220csea59	11.9
	Aegean	177	16.3
Geographical	South-East Anatolia	213	19.6
Area	Central Anatolia	184	16.9
	Marmara	220	20.3
	Black sea	59	5.4
	Outside Turkey	14	1.3

Table 2. Demographic characteristics of the participants

Table 3. Distributions of the primary personality types

			TPTI Score of the					
			primary personalit					
Personality type	Frequency	Percent	Mean SD					
1-The perfectionist	114	6.9	4.97	0.75				
2-The helper	335	20.4	5.17	0.69				
3-The achiever	204	12.4	5.21	0.66				
4-The romantic	231	14.0	5.30	0.65				
5-The observer	136	8.3	5.22	0.68				
6-The loyalist	47	2.9	5.19	0.66				
7-The adventurer	247	15.0	5.44	0.60				
8-The challenger	95	5.8	5.18	0.73				
9-The peacemaker	237	14.4	5.27	0.62				
Total	1646	100.0						

numerical variables were normally distributed. The independent samples t-test and one-way ANOVA with post hoc Tukey test were used to compare numerical data. The Chi-Square test was used to compare categorical variables. A p-value of <0.05 was considered statistically significant.

# RESULTS

# Participants

Results for 1646 participants were analyzed. The mean ( $\pm$ SD) age was 29.48 $\pm$ 11.03 years (min. 10, max. 72). More women took part in the study than men. Also, university students comprised a significant portion of the sample. Responses

Table 4. Distribution	of the	personality	/ winas
	ortific	personancy	, whings

			TPTI Score o persor	-				
	Frequency	Percent	Mean	SD				
1	289	17.6	3.96	0.89				
2	224	13.6	4.33	0.76				
3	289	17.6	4.30 0.89					
4	170	10.3	4.22	0.97				
5	182	11.1	4.20	0.93				
6	69	4.2	3.78	0.98				
7	79	4.8	4.06	1.07				
8	284	17.3	4.00 1.00					
9	60	3.6	3.99	0.98				
Total	1646	100.0						

came from all seven geographical regions of Turkey and even a few from outside Turkey (**Table 2**).

# **Descriptive Data**

The most commonly encountered primary personality type was number 2, "the helper," while number 8, "the challenger" was the most frequently encountered personality wing (**Tables 3** and **4**).

# **Outcome Data**

Frequencies of the primary personality types showed significant differences concerning different demographic features. As examples of some remarkable findings, the rate of type 8 personality was decreasing with increasing age, while the reverse was true for type 3 personality. The type 2 personality was predominantly stronger both among males and females. However, while the type 1 personality was more common among males, the type 4 was almost twice common among females. Also, the probability of type 1 personality was increasing as the level of education increased. On the other hand, the occupation was related to the type of personality too. While all participants had more type 2 personalities, this trait was highest among the unemployed (**Table 5**).

The mean TPTI scores concerning the main personality types were different. Participants with type 5 personality had significantly higher mean scores compared to the types 1 (Tukey p 0.010) and 6 (Tukey p 0.040). Participants with type 5 personality had the highest scores, while people with type 6 personality had the lowest scores (**Figure 2**).

# DISCUSSION

# **Key Results**

This study demonstrated that the most commonly encountered leading personality type in the studied

	Main Personality Type																			
	1 2 3		3	4 5				6			7		8	9						
	n	%	n	%	n	%	n	%	n	%	n	%	Ν	%	n	%	n	%	χ²	р
Age groups (years)																			130.623	<0.001
19 and below	22	7.2	72	23.7	17	5.6	52	17.1	19	6.3	9	3.0	55	18.1	30	9.9	28	9.2		
20-29	42	6.6	121	19.1	49	7.7	103	16.2	72	11.4	18	2.8	105	16.6	42	6.6	82	12.9		
30-39	25	6.9	74	20.4	65	17.9	44	12.1	24	6.6	15	4.1	42	11.6	13	3.6	61	16.8		
40-49	21	7.9	46	17.2	54	20.2	23	8.6	16	6.0	4	1.5	37	13.9	9	3.4	57	21.3		
50 and above	4	5.1	22	28.2	19	24.4	9	11.5	5	6.4	1	1.3	8	10.3	1	1.3	9	11.5		
Sex																			28.835	<0.001
Female	63	5.7	237	21.4	134	12.1	183	16.5	84	7.6	31	2.8	158	14.3	59	5.3	158	14.3		
Male	51	9.5	98	18.2	70	13.0	48	8.9	52	9.6	16	3.0	89	16.5	36	6.7	79	14.7		
Education																			67.316	<0.001
Secondary sch. or below	4	2.5	40	25.0	24	15.0	22	13.8	8	5.0	6	3.8	29	18.1	6	3.8	21	13.1		
High school	12	6.2	38	19.5	27	13.8	24	12.3	17	8.7	3	1.5	33	16.9	18	9.2	23	11.8		
University	68	6.7	210	20.5	97	9.5	161	15.8	91	8.9	32	3.1	153	15.0	59	5.8	151	14.8		
Masters	18	10.1	31	17.3	37	20.7	19	10.6	15	8.4	2	1.1	22	12.3	9	5.0	26	14.5		
PhD	12	13.3	16	17.8	19	21.1	5	5.6	5	5.6	4	4.4	10	11.1	3	3.3	16	17.8		
Occupation																			104.874	<0.001
White collar with	38	8.9	88	20.6	65	15.2	56	13.1	28	6.5	14	3.3	51	11.9	24	5.6	64	15.0		
bachelor	20	0.9	00	20.0	05	15.2	50	15.1	20	0.5	14	5.5	51	11.9	24	5.0	04	15.0		
Teacher	14	6.2	37	16.4	30	13.3	33	14.7	18	8.0	8	3.6	36	16.0	11	4.9	38	16.9		
Government officer	13	5.9	37	16.7	39	17.6	24	10.9	19	8.6	4	1.8	40	18.1	14	6.3	31	14.0		
Blue collar and housewives	10	5.3	34	18.2	34	18.2	24	12.8	14	7.5	4	2.1	19	10.2	1	0.5	47	25.1		
Student	37	6.7	129	23.3	35	6.3	85	15.4	55	9.9	17	3.1	97	17.5	43	7.8	55	9.9		
Unemployed	2	6.3	10	31.3	1	3.1	9	28.1	2	6.3	0	0.0	4	12.5	2	6.3	2	6.3		

# **Table 5.** Differences in the main personality types

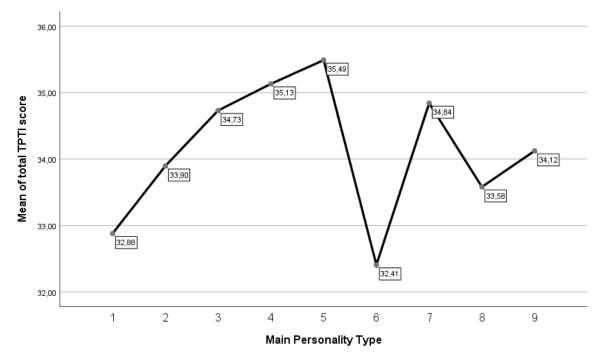


Figure 2. Mean TPTI scores of participants with different main personality types

population was number 2, "the helper," while number 8, "the challenger" was the most frequently encountered personality wing. On the other hand, the occupation was related to the type of personality too. Type 2 personality was strongest among the unemployed. The frequency of type 8 personality was decreasing with increasing age, while the

reverse was true for type 3 personality. On the other hand, while the type 1 personality was more common among males, the type 4 was almost twice common among females. Also, the probability of type 1 personality was increasing as the level of education increased.

#### Interpretation

The Enneagram assigns one primary temperament type and a wing personality to each individual. While number one "the perfectionist" personality type believes in the correctness of moral values, the number two "the helper" believes in his/her importance, number three "the achiever" strives for perfectness, number four "the romantic" gives importance to own freedom, number five "the observer" trusts in the power of knowledge, number six "the loyalist" emphasizes the trust provided by the people, number seven "the adventurer" gives importance to materiality, number eight "the challenger" counts for power, and number nine is called "the peacemaker" [3,14]. However, the personality of a person is a combination of all nine types [18].

The approach based on the personality type can be an advantage for healthcare providers, who recognize that each individual is different. Furthermore, the doctor's personality type preferences are often very different from those of the patients [19]. The Enneagram was used to predict healthy lifestyle changes. Researchers have investigated the relationship between Enneagram personality types and perceived risk of heart disease and readiness to lifestyle modification [20]. The achiever personality can have an increased willingness to lifestyle modification, while a reverse relationship was found between the challenger personality and readiness to lifestyle modification. It may be deducted that the Enneagram personality types may be used to check any kind of willingness to change.

In our study, the most commonly encountered primary personality type was number 2, "the helper," while number 8, "the challenger" was the most frequently encountered personality wing. As to the original study during the scale development, the most prevailing personality among the participants was found as personality number nine, the peacemaker [11]. Other researchers [12,21] consistently identified the number nine-personality type is the most frequent personality type. However, the populations studied in all the given studies consisted of university students, which make us postulate that there are transcountry similarities in the personality distributions but with variability between the different groups in the same country.

As remarkable findings, the frequency of type 8 personality in our study was decreasing with increasing age, while the reverse was true for type 3 personality. Although there is no available literature to interpret this finding, we considered it as an indicator that the personality traits are changing with age. The challenger side of a person may get rasped over time, while they may become more understandable and ready to help others as they get older, and, thus, wiser.

On the other hand, while the type 1 personality was more common among males, the type 4 was almost twice common among females. This finding might be related to the gender identities in the Turkish population [22]. Also, the probability of type 1 personality was increasing as the level of education increased. The type 1 personality was explained as "...are conscientious and ethical, with a strong sense of right and wrong. They are teachers, crusaders, and advocates for change: always striving to improve things, but afraid of making a mistake..." [23]. From this perspective, it might be expectable that education induces some change in the personality.

One study on medical students compared the Jefferson Scale of Empathy scores in different Enneagram personality groups [18]. It was revealed that type 2 and 6 students showed the two highest empathy scores, while the empathy score of type 3 students was the lowest. Also, it was demonstrated that an Enneagram group counseling program is effective in establishing positive selfidentification in nursing college students [12]. Although we found some differences in the personality types concerning the occupational groups with strikingly high proportions of type 2 personalities among the unemployed, this finding requires additional elaboration due to the relatively low number of participants in this group.

According to the Enneagram, the nine personality types can be further sub-categorized into different groups called the hornevian groups, and the harmonic groups [24]. In the current era of knowledge, increasingly, more responsibilities are transferred to the individuals concerning their own health. Thus, instruments such as the Enneagram scales may become reliable frameworks for understanding differences with patients, families, and co-workers [25].

# **Study Limitations**

A significant limitation of this study is the relatively illdefined study population. Turkish speaking participants from anywhere could participate in the study. However, we achieved a high sample size that could collect responses coming from all seven geographical regions of Turkey. Also, due to the nature of data collection, the participants must have a certain level of computer literacy. Thus, the study cannot claim generalizability to the Turkish population but can give a strong idea about the general distribution of the Enneagram personality types in Turkey. Also, the measurement tool used [11] had high sensitivity and specificity, which can be considered as a strength of the study.

# Conclusion

Our research indicates that the number 2 personality is the most frequent personality type among the studied Turkishspeaking population. Further studies should investigate the relationship of the Enneagram personality types with certain disease entities in specific communities using the main personality types, hornevian groups, and harmonic groups.

# DECLARATION OF CONFLICT OF INTEREST

The authors received no financial support for the research and/or authorship of this article. There is no conflict of interest.

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