

**ORIGINAL
ARTICLE**

Kenan Tastan¹

¹Department of Family Medicine,
Atatürk University Medical Faculty,
25240 Erzurum, Turkey

Yazışma Adresi:

Kenan Tastan
Department of Family Medicine,
Atatürk University Medical
Faculty, 25240 Erzurum, Turkey
Tel: +90 5545409798
Email: ktastan2002@yahoo.com

Geliş Tarihi: 20.09.2018
Kabul Tarihi: 25.01.2019
DOI: 10.18521/kt.462049

Konuralp Tıp Dergisi
e-ISSN1309-3878
konuralptipdergi@duzce.edu.tr
konuralptipdergisi@gmail.com
www.konuralptipdergi.duzce.edu.tr

Development and Validation of a Personality Type Inventory Based on Enneagram

ABSTRACT

Objective: The Enneagram of Personality is an ancient model of human personality, principally understood and taught as a typology of nine interconnected personality types. The aim of this study was to develop a Turkish inventory based on the Enneagram principles.

Methods: The authors developed an instrument based on expert opinion and the Delphic method. The final questionnaire consisting of 44 questions was applied to a sample of 156 Turkish-speaking participants using a Likert scale ranging from 0 to 6. Expert validation, factor analysis, and internal consistency were applied. The categorization done by the inventory was validated against the personality type classification made by an expert. Data analysis was done with the SPSS version 20.

Results: Of the participants, 89 were females (57.4%) and 66 were males (42.6%). Mean age of the participants was 30.52±10.0 years. Most of the participants were university graduates/students (n=113; 72.4%). Cronbach alpha value for the total items was 0.839 with a split half value of 0.817 for part 1 and 0.757 for part 2. Guttman Split-Half Coefficient was calculated as 0.520. Confirmatory factor analysis showed that the nine components explained more than 60% of the total variance. In the confirmatory factor analysis, all items, except item 22, had factor loadings ranging from 0.411 to 0.829. Mean sensitivity and specificity of the instrument for detecting different personality types were high (82.8% and 97.8% respectively). While specificity was above 94% for all domains, sensitivity for type 4 personality was 66.7%.

Conclusion: We have concluded that the Taştan Personality Type Inventory is a useful tool in identifying personality types according to the Enneagram principles in Turkish citizens.

Keywords: Personality Inventory, Enneagram, Validation Study

Enneagram'a Dayalı Bir Kişilik Tipleri Ölçeği Geliştirilmesi

ÖZET

Amaç: Enneagram Kişilik Tipleri, birbiriyle bağlantılı dokuz kişilik tipini esas alan çok eski bir modeldir. Bu araştırmanın amacı, Enneagram prensiplerine dayalı Türkçe bir kişilik tipleri ölçeği geliştirmektir.

Gereç ve Yöntem: Uzman görüşlerine dayanarak ve Delphi yöntemi kullanılarak bir araç geliştirildi. Kırk dört maddeden oluşan son ölçek 156 kişilik Türkçe konuşan bir örnekleme 0-6 arası Likert tipi bir dereceleme kullanılarak uygulandı. Oluşturulan araca uzman doğrulaması, faktör analizi ve iç güvenilirlik analizleri uygulandı. Ölçeğin sonucu uzman görüşmesi sonucunda belirlenen kişilik tipleri ile karşılaştırıldı. Veri analizi SPSS 20 sürümü ile yapıldı.

Bulgular: Katılımcıların 89'u (%57,4) kadın, 66'sı ise (%42,6) erkekti. Katılımcıların ortalama yaşı 30,52±10,0 yıl idi ve çoğunluğu (n=113; %72,4) üniversite mezunu veya öğrencisi idi. Maddelerin Cronbach alfa katsayısı 0,839, Split-Half değeri ise birinci bölüm için 0,817, ikinci bölüm için ise 0,757 olarak hesaplandı. Guttman Split-Half katsayısı 0,520 bulundu. Doğrulamalı faktör analizi dokuz bileşenin toplam varyansın %60'dan fazlasını açıkladığını gösterdi. Faktör analizinde 22. Madde hariç bütün maddelerin faktör yüklerinin 0,411-0,829 arasında olduğu görüldü. Ölçeğin çeşitli kişilik tiplerini belirlemedeki ortalama duyarlılık ve özgüllük değerleri sırasıyla %82,8 ve %97,8 olarak hesaplandı. Özgüllük değeri bütün boyutlar için %94'ün üzerinde bulunurken, tip 4 kişiliğin duyarlılık değeri %66,7 bulundu.

Sonuç: Taştan Kişilik Tipleri Ölçeği Türklerde Enneagram prensiplerine göre kişilik tiplerini belirlemek amacıyla kullanılabilir.

Anahtar Kelimeler: Kişilik Ölçeği, Enneagram, Geçerlilik Çalışması

INTRODUCTION

The Enneagram of Personality (or simply the Enneagram, from the Greek words ἐννέα [ennea, meaning "nine"] and γράμμα [gramma, meaning something "written" or "drawn"]) is a model of human personality, which is principally understood and taught as a typology of nine interconnected personality types (1). One of the main problems with the Enneagram is perhaps that where the origin of enneagram is precisely based on. It is not known by whom the enneagram was first time discovered and from where it comes out. However, some clues show that the Enneagram has been taught orally in Muslim Sufi brotherhoods in the Middle East (2). The philosophy behind the Enneagram probably contains components from mystical Judaism, Christianity, Islam, Taoism, Buddhism, and ancient Greek Philosophy; all traditions that stretch back into antiquity. The Russian mystical teacher G.I. Gurdjieff introduced enneagram to Europe in the 1920s (3). Gurdjieff's teachings, which were passed on primarily by oral tradition in the circles of initiates, consist of a unique system for man's understanding of the universe (4).

The Enneagram, which is an important tool for improving relationships with family, friends, and co-workers, is the study of the nine basic types of people. It explains why we act like the way we do, and it points to specific directions for individual growth. On the other hand, the number 9 has particular significance in the Turkish regions and Islamic culture from which Sufism derives (5).

If we shortly express the personality types, we can say that there is a configuration consisting of nine personality types, each one demonstrated by a number. One of the primary rules of the Enneagram is that the personality types are universal, not gender specific. Another characteristic is that not all the features of a personality type may be seen in a person because the personality types contain a wide range (healthy-unhealthy-normal). Another essential rule about the Enneagram is that none of the personality types is better or worse than others. Each personality type can be classified in itself as better and worse (4).

Each personality type will take on some fundamental impulses to defend himself against the worries of existence. In general, the number one "the perfectionist" personality type believes in the correctness of moral values. Number two "the helper" personality type believes his/her importance, and number three "the achiever" personality type believes his/her perfectness. While the number four "the romantic" personality type gives importance to own freedom, number five "the observer" personality type believes in the power of knowledge. For the number six "the loyalist" personality type, the trust provided by the people is important; for number seven "the adventurer" personality type, the materiality is important. The power is important for the number eight "the

challenger" personality type. For the nine personality type what truly counts is peace (6,7).

Knowing the type of personality is a significant advantage, both for the person and for the people in contact with him/her. The person first ought to know oneself, should know what kind of things he/she likes or dislikes, and should be able to cope better with stressors that put stress on him/her. The person will be able to make professional choices according to his own features and take precautions to prevent psychological disorders waiting for him. Knowing the type of person may facilitate communication and may lead to a favorable dialogue between people.

The Enneagram education is fitted into Stanford MBA syllabus and applied in the court plea training at the Harvard Law School. The Enneagram is taught at the universities in the USA, mainly at the departments of psychology, medicine, arts, business, and education. Companies use the Enneagram methods in the personnel recruitment, sales, and marketing (7).

Standardized psychometric tests of adult personality and psychopathology such as the Minnesota Multiphasic Personality Inventory are commonly utilized by health professionals as part of the therapeutic assessment procedure. It is even demonstrated that personality type may be an independent predictor of quality of life in old age (8). Also, correlative relationships between personality, posture, and pain have been demonstrated (9). However, despite the extensive research on personality types concerning psychiatric illnesses, there is limited literature on personality traits of healthy individuals.

Aim: The purpose of this study was to develop an inventory measuring personality types based on the Enneagram principles and test its validity and reliability among a Turkish speaking community.

MATERIAL AND METHODS

Study design and setting: We carried out a validation study using specially designed self-administered questionnaires for a mixt group of Turkish speaking population.

Item generation: A panel of 15 experts was generated to prepare a pool of questions. The collected questions were revised by the authors, including questions from a literature search. Using this method, we created a list of 123 items.

Instrument validation: The initial panel of 15 experts was contacted. Each expert assessed the suitability of each question by scoring them on a scale from 1 to 5 (1: the item does not measure personality types at all, 5: the item excellently measures personality types). Questions with a high level of consensus were selected and compacted in a single list. The final list of 123 questions was refined in four consecutive meetings, using a

qualitative method with a focus group composed of the researchers and three external experts, and decreased to 53 items.

Face validity and item refinement were made by interviews with a sample of 10 patients that showed differing arrangements in wording. The process ended when all major wording problems were detected and addressed. Participants could fill-in the questionnaire in 10–15 minutes.

Internal consistency and construct structure: Sample administration of the 53 questions was done to professionals in the hospital and patients (n=60) applying to the family practice center. Internal consistency was determined using Cronbach's alpha and a split half test. Test-retest reliability could not be conducted at this time. Nine other questions were removed after checking for internal consistency.

Sampling and application: The final questionnaire with 44 questions was applied to a convenience sample of 156 consecutive patients coming to the family practice on the university campus during March-April 2017. All applicants >18 years of age were invited to join the study. 156 patients out of 215 invited (72.5%) accepted to join. Responses were collected using a Likert scale ranging from 0 (Strongly No) to 6 (Strongly Yes) (Appendix 1 and 2). Hence, the mean minimum and maximum scores for each personality dimension may range from 0 to 6. The questionnaire was self-applied in a convenient and silent room.

The principal author interviewed all participants using a structured method lasting 60 minutes. At the end of the interview, the author classified participants into one of the nine traditional Enneagram personality types. Concurrent validity was checked by comparing classification by the questionnaire with the authors' rating. Study flow is shown in Figure 1.

Analysis: The intraclass correlation coefficient (ICC) with a two-way mixed model was used to check for consistency or agreement of values within cases. The reliability of the general items was calculated using Cronbach's alpha, which was considered acceptable if the value was >0.8. Besides, a split half test was performed to detect any incongruence.

The structure and subscales of the instrument were analyzed using confirmatory factor analysis followed by the varimax rotation. As the extraction method, fixed number of nine factors was used. A minimum factor loading of 0.40 was used as the criterion for each retained item. One item not matching this rule was assigned to a factor with the most theoretical sense. Scoring of the scale was done by taking the mean values of the items in each dimension. The dimension with the highest mean score was regarded as the main personality type. Data from socio-demographic variables were presented as n (%) or mean \pm standard deviation (SD). All analyses were conducted using the SPSS

v20.0 software. Ethical approval of the study was obtained from the Atatürk University Medical Faculty local ethics committee (Date: 26.12.2013 #: 11).

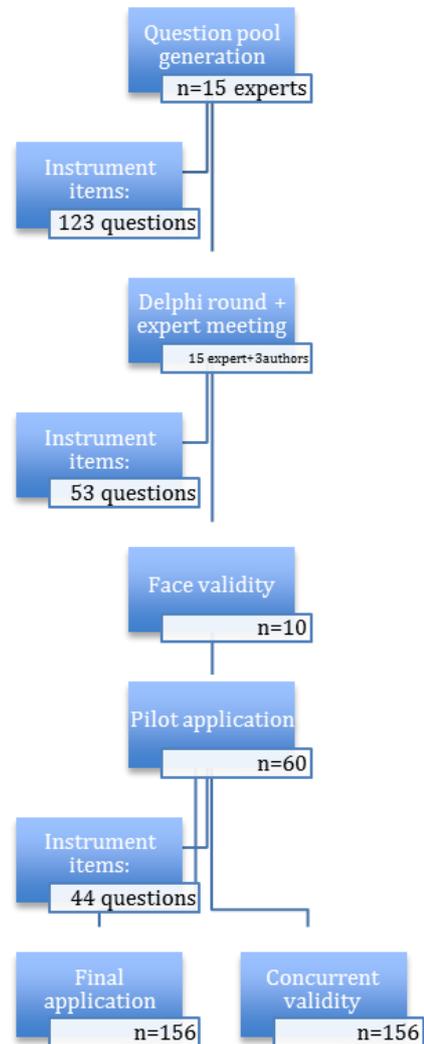


Figure 1: Study flow diagram.

RESULTS

Total 156 participants joined the final study with a sex distribution of 89 females (57.4%) and 66 males (42.6%). One participant did not disclose his/her sex. Mean age of the participants was 30.52 ± 10.0 years. Participants were from different occupational groups, namely university students (n=74; 47.4%), state employees (n=56; 35.9%), private employees (n=14; 8.9%), and housewives (n=12; 7.7%). Educational status of the participants was mainly university degree (n=113; 72.4%). Remaining 43 participants (27.6%) were high school graduates.

Cronbach alpha value for the total items was 0.839 with a split half value of 0.817 for part 1 and 0.757 for part 2. Guttman Split-Half Coefficient was calculated as 0.520.

Confirmatory factor analysis showed that the nine components explained more than 60% of the total variance (Table 1, Figure 2).

Appendix 1. Items of the Taştan Personality Types Instrument.

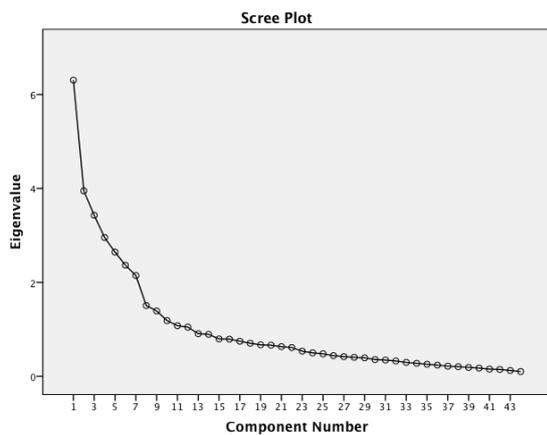
No	Kenan Taştan Personality Types Instrument The following questions are designed to help defining your personality type. Considering your general daily life, please mark one box for each question with an (X). Age..... Sex:1-Female () 2-Male () Occupation:..... Education:.....	0-Certainly no	1-No	2-Partially no	3-Neither yes or no	4-Partially yes	5-Yes	6-Certainly yes
1	Because I consider all possibilities, I have difficulty in getting into action							
2	I am sensitive to the details.							
3	I have a critical view.							
4	I immediately recognize what is dangerous.							
5	What I do, I think over first, up to the most details.							
6	I am a humble person.							
7	I cannot withhold boredom.							
8	I prefer people talking to me straightforward without quibbling.							
9	Being appreciated is important to me.							
10	If a worker acts sluggish in finishing my orders, I do the work myself.							
11	I am a very determined person.							
12	I am a very hardworking person.							
13	I can almost complete any job I take over.							
14	I always have a target goal to meet.							
15	I always have something to do.							
16	I am quite brittle.							
17	I am very susceptible.							
18	I experience quite intense feelings.							
19	My understanding of art is quite developed.							
20	I frequently get sad.							
21	I am an exploring person.							
22	I pay attention to details.							
23	My ability to observe is excellent.							
24	My world of imagination is highly developed.							
25	I have an artistic soul.							
26	I have to constantly be alert to feel safe.							
27	I do not like to take risks.							
28	My skepticism hinders me from taking risks.							
29	I feel uncomfortable about being in managerial positions.							
30	I am an active and social person.							
31	I have endless energy.							
32	I am usually a cheerful person.							
33	I spread joy to my environment.							
34	I may not win every war I take, but my enemies cannot quickly forget me.							
35	I can accomplish all kind of work.							
36	I always prefer to be on my own initiative.							
37	I feel different from everybody else.							
38	It's important to me to be extraordinary.							
39	I do not easily back off in arguments.							
40	It is difficult for me to be angry with someone.							
41	What I avoid most is conflict.							
42	My most important feature is to be peaceful and harmonious.							
43	I do everything I can to protect peace and tranquility.							
44	I am patient.							

Appendix 2. Items of the Taştan Personality Types Instrument. (Turkish version)

No	KENAN TAŞTAN KİŞİLİK TİPİ ÖLÇEĞİ Aşağıdaki sorular kişilik tipinizi belirlememize yardımcı olacaktır. Lütfen genel yaşantınızı dikkate alarak her bir soru için size en uygun kutucuğa işaret koyunuz. Yaşınız:..... Cinsiyet:1-K () 2-E () Mesleğiniz:.....Eğitiminiz:.....	0-Kesimlikle hayır	1-Hayır	2-Kısmen Hayır	3-Ne evet ne hayır	4-Kısmen evet	5-Evet	6-Kesimlikle evet
1	Bütün seçenekleri değerlendirdiğim için eyleme geçmekte zorlanırım.							
2	Detaylar konusunda çok hassasım.							
3	Eleştirel bir bakış açısına sahibim.							
4	Neyin tehlikeli ya da zararlı olacağını hemen tespit ederim.							
5	Yaptığım işi en ince ayrıntısına kadar düşünür, öyle yaparım.							
6	Alçakgönüllü biriyim.							
7	Can sıkıntısına hiç tahammül edemem.							
8	İnsanların benimle, lafi evirip çevirmeden dosdoğru konuşmalarını isterim.							
9	Takdir edilmek benim için çok önemlidir.							
10	Bir iş verdiğim insan çok yavaş çalışırsa, işi ondan alıp kendim tamamlarım.							
11	Çok azimli biriyim.							
12	Çok çalışkan biriyim.							
13	Elimi attığım hemen her işin altından kalkarım.							
14	Her zaman ulaşmak istediğim bir hedefim vardır.							
15	Her zaman yapacak işim vardır.							
16	Çabuk kırılabilirim.							
17	Çok hassas bir insanım.							
18	Çok yoğun duygular yaşarım.							
19	Estetik anlayışım çok gelişmiştir.							
20	Sık sık hüzünlenirim.							
21	Araştırmacı biriyim.							
22	Ayrıntılara çok dikkat ederim.							
23	Gözlem yeteneğim çok iyidir.							
24	Hayal dünyam çok gelişmiştir.							
25	Sanatçı ruhluym.							
26	Kendimi emniyette hissetmek için sürekli tetikte olmam gerekir.							
27	Riske girmekten hoşlanmam.							
28	Şüpheliğim risk almama engel olur.							
29	Yönetici pozisyonunda olmaktan rahatsızlık duyarım.							
30	Aktif ve sosyal bir insanım.							
31	Bitmek tükenmek bilmeyen bir enerjiye sahibim.							
32	Genelde neşeli biriyim.							
33	Girdiğim ortama neşe saçarım.							
34	Girdiğim her savaşı kazanamayabilirim ama düşmanlarımı beni kolay kolay unutamazlar.							
35	Her işi başarabilirim.							
36	Her zaman kendi başıma buyruk olmayı tercih ederim.							
37	Herkesten farklı olduğumu düşünürüm.							
38	Sıra dışı olmak benim için önemlidir.							
39	Tartışmalarda kolay kolay geri adım atmam.							
40	Birine açıkça öfkelenmekte zorlanırım.							
41	En çok kaçındığım şey çatışmadır.							
42	En önemli özelliğim barışçı ve uyumlu olmaktır.							
43	Huzur ve sükûneti korumak için elimden gelen her şeyi yaparım.							
44	Sabırlı biriyim.							

Table 1. Cumulative Eigenvalues and total variances explained.

Comp.	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.305	14.330	14.330	3.879	8.816	8.816
2	3.950	8.976	23.306	3.288	7.472	16.288
3	3.428	7.791	31.097	3.122	7.095	23.383
4	2.955	6.715	37.812	3.119	7.088	30.471
5	2.645	6.011	43.822	3.033	6.893	37.364
6	2.365	5.375	49.197	2.999	6.815	44.180
7	2.147	4.879	54.076	2.791	6.343	50.523
8	1.507	3.424	57.500	2.459	5.589	56.112
9	1.392	3.163	60.663	2.003	4.552	60.663

**Figure 2.** Scree plot showing cumulative Eigenvalues of the different components.

In the confirmatory factor analysis, all items except item 22 had factor loadings ranging from 0.411 to 0.829 (Table 2). Item 22 was assigned to component 6 (personality type 4) by the authors in a theoretical sense. The number of items in different components ranged from 4 to 6.

According to the TPI categorization, proportions of the different personality types (1 thru 9) in the study population were 11.9% (n=16), 14.2% (n=19), 10.4% (n=14), 11.2% (n=15), 8.9% (n=12), 12.7% (n=17), 7.5% (n=10), 8.9% (n=12), and 14.2% (n=19), respectively. Similar but slightly different results were found with the author's (gold-standard) rating (type 1 thru 9, 12.2% (n=19), 10.3% (n=16), 12.8% (n=20), 11.5% (n=18), 9.6% (n=15), 9.6% (n=15), 7.7% (n=12), 10.3% (n=16), and 16.0% (n=25), respectively).

Mean sensitivity and specificity of the instrument for detecting different personality types were high (82.8% and 97.8% respectively). While specificity was above 94% for all domains, sensitivity for type 4 personality was 66.7% (Table 3).

The instrument could not classify 22 of the participants (14.1%) into any personality category.

The reasons for classification problem were missing information in one or more items (10 cases 45.5%) or equal scores in different components.

The highest scores were obtained from the personality type number 2, followed by number 9. Scores of the different personality types are given in Table 4.

DISCUSSION

The TPI proved to be reliable and valid in identifying the personality types based on Enneagram. The population under study had a relatively higher educational level compared to the average Turkish community. According to national data, 31.1% of the young Turkish population are high school graduates while 7.5% are university graduates (10). Hence, this instrument is advised for Turkish speaking people with relatively higher education.

The cumulative Eigenvalue of the instrument was considered enough. Explanation of the cumulative variance above 50% is considered acceptable (11). There are studies looking for psychometric properties of tools with cumulative Eigenvalues ranging from 48.5 to 73.6 (12–14). Factor loadings of 0.7 and higher are considered as the rule of thumb. However, this standard is a high one, and real-life data may well not meet this criterion, which is why some researchers, particularly for exploratory purposes, will use a lower level such as 0.4 for the central factor and 0.25 for other factors (11). Most of the factor loadings in this study were above 0.7. There was only one factor with a loading below 0.4.

Similar studies have reported sensitivity and specificity values ranging from 68.0-95.1% and 59.0-78.5% respectively (15–17). Enneagram Personality Types Inventory (Korean version) has 100% sensitivity and specificity for number one personality type (18). Therefore, we can claim that our mean sensitivity value of 82.8 and specificity of 97.8 are high compared to similar literature.

Table 2. Factor loading of each item.

	C1(P3)	C2(P1)	C3(P9)	C4(P8)	C5(P7)	C6(P4)	C7(P5)	C8(P6)	C9 (P2)
1		0.646							
2		0.827							
3		0.754							
4		0.701							
5		0.755							
6									0.649
7									0.411
8									0.573
9									0.658
10	0.683								
11	0.760								
12	0.768								
13	0.572								
14	0.591								
15	0.693								
16						0.829			
17						0.783			
18						0.737			
19						0.239			
20						0.691			
21							0.580		
22							0.468		
23							0.628		
24							0.750		
25							0.562		
26								0.668	
27								0.775	
28								0.757	
29								0.591	
30					0.654				
31					0.656				
32					0.757				
33					0.761				
34				0.563					
35				0.430					
36				0.666					
37				0.761					
38				0.792					
39				0.595					
40			0.729						
41			0.772						
42			0.760						
43			0.631						
44			0.727						

C=Component; P=Personality type.

Table 3. Sensitivity and specificity of the Taştan Personality Inventory for detecting different personality types.

Personality type	Author+ TPI+	Author- TPI+	Author+ TPI-	Author- TPI-	Sensitivity	Specificity
1	16	0	0	118	100	100
2	12	7	4	111	75.0	94.1
3	13	1	5	115	72.2	99.1
4	10	5	5	114	66.7	95.8
5	10	2	3	119	76.9	98.3
6	10	7	2	115	83.3	94.3
7	9	1	0	124	100	99.2
8	12	0	2	120	85.7	100
9	18	1	3	112	85.7	99.1

Table 4. Mean scores of the different personality types.

Personality Type	Mean ± SD KTO Score
1	3,68±1,19
2	4,06±0,91
3	3,84±0,94
4	3,72±0,94
5	3,80±0,89
6	3,42±1,22
7	3,64±1,04
8	3,36±1,04
9	3,88±1,08

Despite the long history, the literature is scarce regarding the scientific studies of Enneagram. Based on the traditional Enneagram, Yilmaz et al. proposed the Nine Types Temperament Model as a candidate for being a comprehensive and integrating model that can explain the reasons of human behavior and can be used in clinical studies as well as in practice in the fields of psychiatry, psychology, and education (19). The authors developed a theoretical model to explain the temperaments with the interpretation of the Enneagram System. The study of Yilmaz et al. is similar to ours in its aims and academic context. However, although they introduced a reliable and valid scale with high psychometric indices (20), it is relatively long (91-items) and utilized a 3-point Likert scale, which are some drawbacks of this work. Also, we do not agree with these authors in using the term temperament instead of personality.

According to our study, the most common and dominant personality among the participants was personality number nine (the peacemaker). Also Lee et al. have found that the number nine-

personality type is the most frequent personality type (13.4%); the second most frequently seen personality type was the number one personality type (11.9%) (18). Another study (2) found Enneagram type 9 to be 32.9% among Korean college students, which makes us postulate that personality distributions are similar in different populations, however with variability in their dominance.

As health care continues to increase in complexity, patients gain in sophistication and effective cross-discipline interaction becomes even more demanding, a straightforward, reliable framework for understanding differences with patients, families, and co-workers is indispensable (10). The approach based on the personality type can be an advantage for today's healthcare provider, who recognizes that each patient is different. Furthermore, the doctor's personality type preferences are often very different from those of the patients', which makes self-awareness more relevant and encourages health professionals to consider their own type preferences (21).

Study Limitations: One limitation of this study is the demographic features of the study participants. The inventory should be tested in a broader spectrum of the population concerning age and educational status.

We conclude that the Taştan Personality Type Inventory (TPI) is a powerful tool in identifying personality types according to the Enneagram principles in Turkish citizens. Health care providers may utilize the TPI for making their patient counseling more effective. Knowing his/her personality type may enhance the persons' confidence in dealing with daily life conditions through a deeper understanding and acceptance of themselves.

KAYNAKLAR

1. Enneagram of Personality [Internet]. Wikipedia The Free Encyclopedia. [cited 2018 Feb 2]. Available from: http://en.wikipedia.org/wiki/Enneagram_of_Personality
2. Lee JS, Yoon JA, J DK. [Effectiveness of enneagram group counseling for self-identification and depression in nursing college students]. J Korean Acad Nurs. 2013;43(5):649–57.

3. Ginsburg SB. Gurdjieff unveiled: an overview and introduction to Gurdjieff's teaching. London: Lighthouse Workbooks; 2005. 138 p.
4. Bernier N. The Enneagram Symbol of All & Everything. Brasília: Gilgamesh; 2003. 11 p.
5. Eckstein D. The Couple's Enneagram Questionnaire (CEQ). *Fam J.* 2002;10(1):101–8.
6. Baron R, Wagele E. The Enneagram Made Easy: Discover the 9 Types of People. New York: Harper Collins Publishers; 1994.
7. Tastan K. [Combating Stress According to Personality Types]. Elazig: Grafikkent Dijital Baski Merkezi; 2012.
8. Educational Statistics [Internet]. Turkish Statistics Institute. 2014 [cited 2018 Feb 2]. Available from: <http://www.tuik.gov.tr/PreHaberBultenleri.do?id=16055>
9. Guimond S, Massrieh W. Intricate correlation between body posture, personality trait and incidence of body pain: A cross-referential study report. *PLoS One.* 2012;7(5).
10. Allen J, Brock SA. Health Care Communication Using Personality Type: Patients are Different! Philadelphia: Taylor & Francis; 2000.
11. Factor analysis [Internet]. Wikipedia The Free Encyclopedia. [cited 2018 Feb 2]. Available from: http://en.wikipedia.org/wiki/Factor_analysis
12. Hermans M, Korrelboom K, Visser S. A Dutch version of the Overall Anxiety Severity and Impairment Scale (OASIS): Psychometric properties and validation. *J Affect Disord.* 2015;172:127–32.
13. Broen MPG, Moonen AJH, Kuijf ML, Dujardin K, Marsh L, Richard IH, et al. Factor analysis of the Hamilton Depression Rating Scale in Parkinson's disease. *Parkinsonism Relat Disord.* 2015;21(2):142–6.
14. Iffland JR, Lockhofen D, Gruppe H, Gallhofer B, Sammer G, Hanewald B. Validation of the German version of the Social Functioning Scale (SFS) for schizophrenia. *PLoS One.* 2015;10(4).
15. Politi PL, Piccinelli M, Wilkinson G. Reliability, validity and factor structure of the 12-item General Health Questionnaire among young males in Italy. *Acta Psychiatr Scand.* 1994;90(6):432–7.
16. Irastorza LJ, Rojano P, Gonzalez-Salvador T, Cotobal J, Leira M, Rojas C, et al. Psychometric properties of the Spanish version of the diagnostic interview for depressive personality. *Eur Psychiatry.* 2012;27(8):582–90.
17. Hickling FW, Martin J, Walcott G, Paisley V, Hutchinson N, Clarke T, et al. The creation and validation of the Jamaica Personality Disorder Inventory. *West Indian Med J.* 2013;62(5):389–96.
18. Hur Y, Lee KH. Analysis of Medical Students' Enneagram Personality Types, Stress, and Developmental Level. *Korean J Med Educ.* 2011;23(3):175–84.
19. Yilmaz ED, Gencer AG, Unal O, Aydemir O. From Enneagram to Nine Types Temperament Model: A Proposal. *Egit ve Bilim.* 2014;39(173):393–415.
20. Yilmaz ED, Gencer AG, Aydemir O, Yilmaz A, Keskibir S, Unal O, et al. Validity and reliability of nine types temperament scale. *Egit ve Bilim.* 2014;39(171):115–37.
21. Allen J, Brock SA, Ford S. Health care communication using personality type: patients are different! *Heal Expect.* 2002;5(2):182–3.