

## Assessment of Personality from a New Perspective: Characterix Personality Types Inventory

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### Abstract:

Even though it is taught and used in many countries all over the world there is a lack of empirical research and psychometric assessment on Eneagram classification system of personality. This study aimed to contribute to this literature and present some evidence as well as developing a valid and reliable inventory. Research sample consisted of 21140 young and adults and data were randomly divided into two groups with an aim of conducting principal component analysis and confirmatory factor analysis for each data set. As a result the inventory formed with 72 items and it can be said that it has high item-factor loadings, and each dimension measures the characteristics intended to measure while explaining the variance at an acceptable level. Many of the findings indicated a good fit. Sufficient internal consistency values were obtained in all dimensions. All these findings indicate that the inventory has sufficient reliability and validity values.

**Keywords:** Personality, Eneagram, Characterix

### 1. Introduction

Personality has been conceptualized from a variety of theoretical perspectives, and this conceptualisation is usually reported with an abstract or broad understanding (John, Hampson, & Goldberg, 1991; McAdams, 1995). However while assessing personality a taxonomy is needed. One of the main goals of personality taxonomies is the definition of included constructs within which large numbers of specific characteristics can be understood in a simplified way. Thus, in personality psychology, a taxonomy would permit researchers to study specified domains of personality characteristics, rather than examining separately the thousands of particular attributes that make human beings individual and unique (John & Srivastava, 1999).

Personality can be defined as the pattern of conscious and unconscious mental functions, processes and characteristics that give rise to the ways people respond to their environment. At first glance, the inclusion of behaviour in the concept of personality may seem strange. Yet it is essential if one is to have a deep understanding of human nature. Despite differences in terminology and emphasis, broad agreement can still be found among psychologists about what constitutes the self and personality. The self concept is the part of personality which gives the individual the sense of who she or he is. It integrates aspects of personality into an ongoing story of "who I am" (Sutton, 2007). Within this prospect Enneagram is one still emerging conceptual framework which is trying to define what self is.

### 2. Enneagram personality types

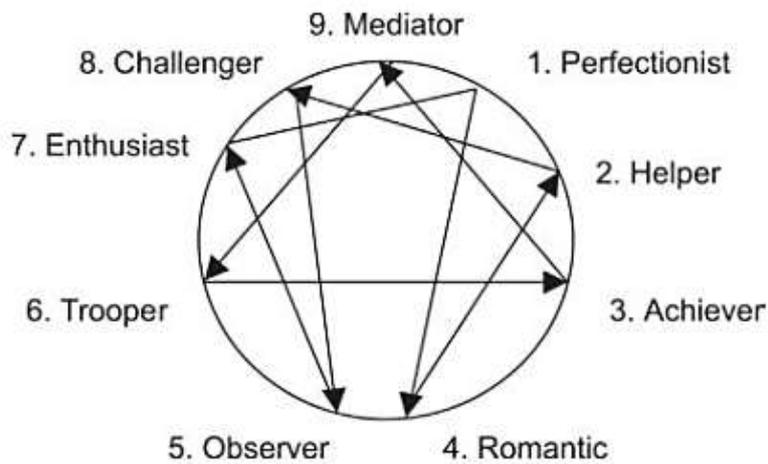
The enneagram has its roots in ancient spiritual practices of the East. The Enneagram dates back to 2000 years ago and is a combination of eastern teachings originated from Sufis in eastern region of Iran, the Middle Asia, today's findings and also psychological findings during the last 100 years (Foruzesh, Pashang, & Taqvaye, 2016; Kale & Shrivastava, 2003).

The enneagram was introduced to Western society from Eastern culture in 1915 at a French conference by George Ivanovitch Gurdjieff, a Russian entrepreneur, physician, multilingual, explorer,

psychologist, choreographer, writer, composer, spiritual teacher who was analogous to Sigmund Freud (Carpenter, 2010). Oscar Ichazo, a Chilean psychiatrist and student of Gurdjieff, in 1950 conceptualized that similar concepts exist between the symbol of the enneagram and pythagorean theories of mathematics (Bland, 2010). Ichazo overlaid personality onto the enneagram (Godin, 2010). More recently, scholarly works by Naranjo (1990) and Riso and Hudson (1996) have made some useful contributions to the enneagram theory.

The Enneagram (from the Greek ennea meaning "nine" and gramma meaning "written") is a personality typology which describes nine basic types of personality, or "nine distinct and fundamentally different patterns of thinking, feeling and acting". Individuals can be classified as possessing one of the nine personality types or fixations (Daniels and Price 2000; Kale & Shrivastava, 2003).

On the Enneagram diagram, each type is connected by the circle to two "wings", the types on either side. While types can share characteristics with those on either side, in contrast to other circumplex models types on opposite sides are not necessarily "opposite types" (Thrasher 1994). Each type is also connected to two others via lines with arrowheads on them (see Figure 1). Following the line in the direction of the arrow shows which direction the type moves in when under stress. This point is referred to as the stress point or the direction of disintegration (Riso and Hudson 1999). A person does not "become" the other type when under stress, but takes on some of the worst of that type's characteristics. In times of security or relaxation, a person takes on characteristics of the type they are connected to in the direction against the arrow, known as their security point (Riso and Hudson's direction of integration). Goldberg (1999) refers to this point as the "High Performance" point, which mobilises a person's true potential.



**Figure 1. The Enneagram types**

A person's instinctual variant (also known as a subtype) is their dominant way of expressing their emotional energy through the instincts. Each of the variants emphasises a basic instinct that all people have, namely survival, group relationship and one-to-one connection (Naranjo 1994). As the variants are each based on an instinct believed to be basic or crucial to human survival, everyone will use all three. But one variant is usually dominant and becomes the main conduit for a person's type, even to the extent of being used in the wrong arena (for example, using the self-preservation instinct in the social arena). The enneagram is also a system that represents the interactions of three fundamental human functions. These functions are referred to as "centers of intelligence," which all human beings and mammals can access (Killen, 2009).

The enneagram has been supported through neuroscience by demonstrating that all mammals respond to having all three centers of intelligence (Daniels & Price, 2009; Scott, 2011). Palmer (1991) calls the three centers of intelligence the head center, the heart center, and the body center, whereas Riso and Hudson (2000) call them the thinking triad, the emotional triad, and the instinctual triad. According to the theory of the enneagram, nine basic personalities are formed out of these three fundamental centers of human functioning. Personality is formed from having a central psychological orientation to one of these centers. Each of these three centers can be overdeveloped, underdeveloped, or be most disconnected. This three by three combination forms a total of nine personality types (Carpenter, 2010).

As it has already been told meaning of the word "Enneagram" represents nine personality types. According to Enneagram, people are divided into 9 major personality types. Each type has its own interests, needs, fears and emotions. We can predict by knowing one's personality type how he/she sees the world, how he/she acts when he/she is under stress, how she/he interacts with the others and what his/her strengths and weaknesses are (Foruzesh, Pashang, & Taqvaye, 2016).

Personality type is the particular "filter" that people use to understand themselves and the world, deal with the past and anticipate the future, and the way they learn (Riso and Hudson 1999). In Enneagram theory, filters are the "organising assumptions or core beliefs" (Wagner 1996) around which the rest of personality is arranged: a basic belief about what an individual needs in life for survival and satisfaction, and how it can best be achieved.

Riso and Hudson (2010) named the nine enneagram personality types as the following: reformer (type-one), helper (type-two), achiever (type-three), individualist (type-four), investigator (type-five), loyalist (type-six), enthusiast (type-seven), challenger (type-eight), and peacemaker (type-nine). The following is a brief summary for each type adapted from Daniels and O'Hanrahan 2004 (As cited by Sutton, Allinson & Williams, 2013).

- Type 1s (often called the Perfectionist) - perceive a world which is judgemental and punishes bad behaviour and impulses. People of this type believe they can only gain love through being good, correcting error and meeting their own high internal standards. Seeing others not adhering to those same standards leads to resentment and suppressed anger. Their attention is directed towards identifying error.
- Type 2s (the Giver)- believe that in order to get their own needs met, they must give. This type tries to gain love and get their personal needs met by giving others what they need and expecting others to give in return. Pride in being best able to give someone what they want develops. Attention is directed towards identifying others' needs.
- Type 3s (the Performer)- perceive that the world only rewards people for what they do, rather than who they are. People of this type believe they can only gain love through success and portray this successful image to others and themselves, identifying with the image. Attention naturally goes towards tasks and things to accomplish.
- Type 4s (the Romantic) - experience a world in which an idealised love is missing. They believe the real connection can be found in a unique, special love or situation and strive to make themselves as unique as possible. Envy develops from the perception that everyone else has this unique connection. Attention is directed towards what is missing rather than what is present.
- Type 5s (the Observer) -experience a world which is too demanding and gives too little in return. They therefore come to believe they can gain protection from intrusion by learning self-sufficiency, limiting their own needs, and gaining knowledge. Time, energy and knowledge are hoarded because of a fear of there not being enough to go round. Attention goes to detaching themselves from the world in order to observe it.
- Type 6s (the Loyal Skeptic) - perceive the world as a hazardous and unpredictable place. To gain security and certainty, people of this type attempt to mitigate harm through vigilance and questioning. Fear or doubt develops concerning their own safety and attention is directed towards worst case scenarios.
- Type 7s (the Epicure) -the world is perceived as frustrating, limiting or painful. They believe that frustration and pain can be escaped and a good life can be assured by going into opportunities and adventures. Gluttony for positive possibilities and pleasures develops and attention focuses on options and keeping life "up".
- Type 8s (the Protector) - the world is seen as a hard and unjust place where the powerful take advantage of the weak. People of this type try to assure protection and gain respect by becoming strong and powerful and hiding their vulnerability. Attention goes towards injustices and to what needs control or assertiveness.

- Type 9s (the Mediator) -perceive a world which considers them unimportant. They believe they can gain belonging by attending to and "merging" with others, that is, blending in with everyone else. This develops into self-forgetting, an inability to recognise or act on their own priorities or opinions. Attention is directed towards others' claims on them.

Enneagram is taught in more than 40 countries all over the world and it is a valid system from the viewpoint of many psychologists. (Foruzesh, Pashang, & Taqvaye, 2016). Yet, based upon a review of the literature, a lack of empirical research and psychometric assessment on Eneagram classification system of personality exist. This paucity in the literature may be due to the weaknesses in psychometric development and validation of the Eneagram clasifcation system of personality.

Most of the studies on the Eneagram system found suport for the usefulness of the interpretations from the Eneagram. However, this support was mostly anecdotal in nature (Newgent, Parr & Newman, 2002). It should be noted that much of the Enneagram knowledge has been built up through narrative methodologies and experience and remains to be subjected to rigorous scientific testing (Sutton, 2007). Then even though there is an increased rigor in the psychometric examination of assessment there still seems a vast necessity for evidence based research about the Eneagram typology.

Eneagram system has ben used in schols to ases carer strengths and obstacles for at-risk students. The Eneagram system is also being used in educational situations to ases self-awareenes in students, parents, teachers, and administrators (Newgent, Parr & Newman, 2002). It is an emerging typology in Turkey and usage of Eneagram typology in school and workplace settings are becoming much more common. But there is even much more limited research done on Eneagram typologies in Turkey, besides the number of measurement tools developed using this typology is extremely small. This study aimed to contribute the literature of Eneagram personality and present some evidence as well as developing a valid and reliable inventory.

## 2. Methods

In this research a personality inventorybased on Eneagram typology, namely Characterix, was developed. Heppner, Wambold, and Kivlighan (2008) suggested that one should follow the steps below in the scale development process;

- a. Establishing the structure and concept to be measured
- b. Literature review
- c. Forming the item pool and scaling
- d. Content analysis and pilot application
- e. Sampling and data collection
- f. Conducting factor analysis, clarifying the definitive items, testing the psychometric properties of the scale.

A similar path has been followed in this research and firstly the definitions of personality types in Eneagram typology have been established. Riso and Hudson's (1996, 199) about the personality types constructed the framework of the inventory. A total of 174 items were evaluated to represent each type in accordance with Enneagram typology and a pilot form was formed by taking opinions from three different experts who had studies on personality.

The pilot form was transposed to an online form. Firstly, it was given to a group of 106 participants and some items which were not sufficiently understood was omitted from the item pool or rearranged. Then the inventory was finalized with 163 items remaining. Likert-type quadruple scaling (I totally agree, I partly agree, I have no idea, I do not agree) were adopted in responding to the items.

The main research sample consisted of 21272 young and adults between 17-38 ages from various provinces in Turkey. Some of the participants were not included in the analysis because of incomplete filling or repetition. The remaining 21140 participants' data were randomly divided into two groups and principal component analysis (PCA) was applied on the first data set while confirmatory factor analysis (CFA) was applied on the second.

Two statistical package programs SPSS 20.0 (Statistical Package for the Social Sciences) and LISREL 8.80 (Linear Structural Relations) were used in the analysis of the data. All data were first examined for the presence of missing and extreme values. As suggested by Cokluk, Sekercioglu and Buyukozturk (2010), since the rate of these data in the entire data set is less than 5%, listwise deletion was applied before analysis. Descriptive statistics and analysis about the reliability and validity of the inventory were calculated in data analysis phase.

To determine the reliability of the inventory, Cronbach's alpha coefficients were calculated for the whole inventory and each sub-dimensions.

Regarding the validity, construct validity and face validity were examined. An exploratory principal component analysis and confirmatory factor analysis were used to determine the validity of the scale. The constructs were tried to be explored by principal component analysis and the determined structure was tested by confirmatory factor analysis. In principal component analysis, orthogonal rotation with promax was used. Orthogonal rotations produce uncorrelated factors while oblique rotation allows factors to be correlated (Osborne and Costello, 2005). For the enneagram typology, a correlation with the between the factors was not reported, at least for the Turkish population. This supposedly low correlation between the predicted factors is also found in the correlation matrix. Item-factor loading cut-off point is appointed .32 as suggested by Tabachnick and Fidel (2001). For the face validity, three experts were consulted before the pilot application. Item pool of the inventory was reformed in accordance with the agreements over the items.

### **3. Results and Discussion**

#### **3.1. 1st Data Set**

Principal component analysis was conducted for the 1st data set with a fixed number of nine factors. Fabrigar et.al. (1999) suggested that a researcher should always consider relevant theory and previous research when determining the appropriate number of factors to retain. Therefore this research adopted the same strategy to find out if the inventory being developed has the same theoretical nine personality types of Enneagram typology.

The analysis has continued until sufficient number of items and variance in each dimension are obtained in order to make the inventory from the best items, decrease the duration of the answering and the effect of fatigue, and make the results more understandable for the self-scoring individuals. Item number of the final inventory dropped to 108, then best eight of the items for each dimension were selected, resulting in a total of 72 items. In this phase, when items are extracted from inventory, the similarities of other items in the same factor and the increase rates of the variance of the item when the item is eliminated are taken into consideration.

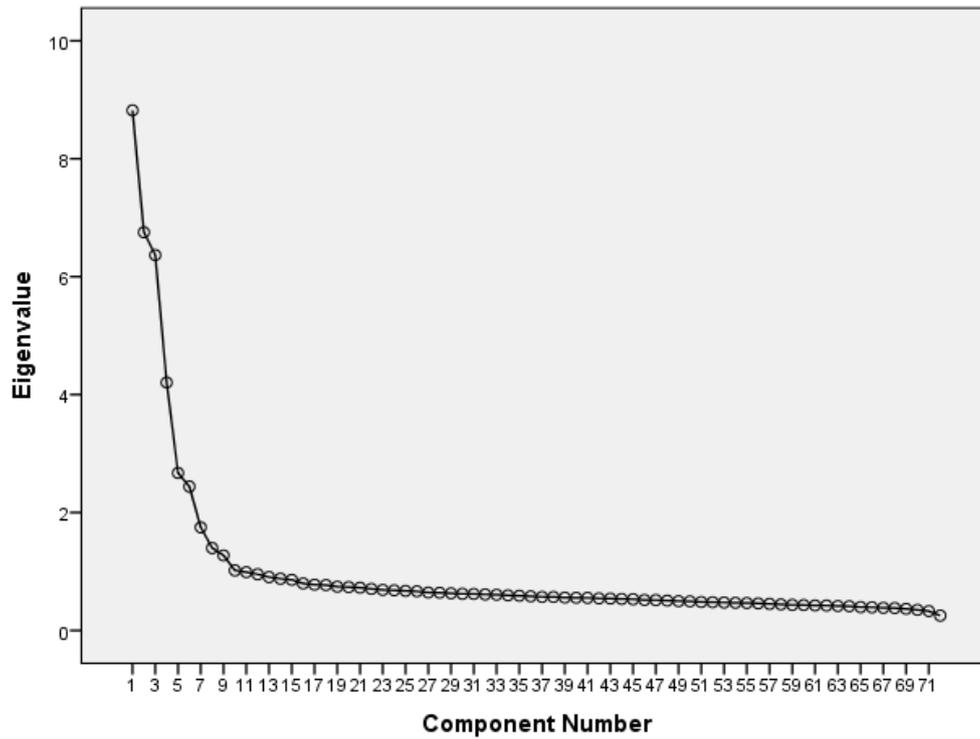
The Kaiser-Meyer-Olkin (KMO) value, which is used to assess the adequacy of the sample for factor analysis in terms of size, was found to be .942. Furthermore, when the Bartlett test results are examined, it is seen that the obtained chi-square value has a significance at .01 level. Tabachnick and Fidel (2001) stated that for a good factor analysis, the KMO value should be at least .60, and Sencan (2005) also suggested that the sample size over a KMO value of 0.90 is at an excellent level for data analysis. These findings show that the data structure can be evaluated as applicable for the factor analysis. Also communalities were inspected and found to be between .197 and .692.

**Table 1. Eigenvalues and variance explained**

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	8,820	12,251	12,251
2	6,753	9,379	21,629
3	6,366	8,842	30,471
4	4,205	5,840	36,311
5	2,671	3,710	40,022
6	2,441	3,390	43,412
7	1,749	2,429	45,841
8	1,399	1,942	47,783
9	1,273	1,768	49,552

With the principal component analysis, a stable structure with nine factors was obtained. The variance amounts and eigenvalues of the first nine factors are shown in Table 1. The eigenvalue for each factor was found to be larger than one as suggested by Kaiser (1960). When the table is examined, it can be seen that the total variance explained by nine factors is 49,552%. In multi-factorial designs, it is considered sufficient that variance explained should be between 40% and 60% (Cokluk, Sekercioğlu and Buyukozturk, 2010). In this sense, it can be said that the variance explained is above an acceptable level.

Scree plot graph as shown in Figure 2 has also been examined. The scree test involves examining the graph of the eigenvalues and looking for the natural bend or break point in the data where the curve flattens out (Osborne & Costello, 2005). As it can easily be seen the curve makes a sharp drop in the first nine components verifying a nine factor structure in the PCA.



**Figure 2. Scree plot graph**

As a result of PCA, a total of 72 items with eight items for each dimension formed a stable structure. The final item-factor loadings are presented in Table 2. While naming the factors, theoretical explanations about Eneagram typology are used. When the matrix is examined, the item-factor loadings summarized below are obtained;

- 1st Factor (Type 2); item-factor loadings between ,558 and ,821
- 2nd Factor (Type 5); item-factor loadings between ,548 and ,778
- 3rd Factor (Type 8); item-factor loadings between ,610 and ,751
- 4th Factor (Type 1); item-factor loadings between ,525 and ,728
- 5th Factor (Type 9); item-factor loadings between ,586 and ,730
- 6st Factor (Type 7); item-factor loadings between ,590 and ,735
- 7th Factor (Type 3); item-factor loadings between ,539 and ,809
- 8th Factor (Type 4); item-factor loadings between ,481 and ,658
- 9th Factor (Type 6); item-factor loadings between ,396 and ,639

**Table 2. Item-Factor loadings**

Items	Component								
	1	2	3	4	5	6	7	8	9
S0220s	,821					,303			
S0211s	,800								
S0256s	,771								
S0238s	,762								
S0202s	,729								
S0229s	,700	-,332							
S0247s	,587								

S0265s	,558	-,314						,333
S0523s		,778						
S0514s		,775	,313					
S0541s		,741						
S0505s		,716						
S0559s		,689						
S0550s		,685		,308				
S0532s	-,347	,631						
S0568s	-,504	,548						
S0871s			,751		-,319	,369		
S0862s			,723				,373	
S0826s			,708			,322	,318	
S0853s			,682				,370	
S0844s			,678			,381	,380	
S0808s			,677					
S0835s			,665		-,360	,345		
S0817s			,610		-,399			
S0110s				,728				
S0128s				,681				
S0119s				,671				
S0146s		,344		,639				,345
S0137s				,632				
S0155s				,612				
S0164s				,571				
S0101s				,525				
S0945s			-,332		,730			
S0972s					,665			,327
S0936s					,664			
S0909s					,620			
S0954s					,607			
S0918s					,604			

S0963s					,597			
S0927s					,586		-,338	
S0716s	,303					,735		
S0752s						,735		
S0725s						,703		
S0734s			,301			,686		
S0707s		,332				,661		
S0743s		,398	,363			,636		
S0770s						,602		
S0761s						,590		
S0339s			,325				,809	
S0357s							,802	
S0330s			,356	,319			,725	
S0366s							,703	
S0321s		,337	,458				,640	
S0348s							,580	
S0303s		,358	,428				,578	
S0312s			,323			,304	,539	
S0467s							,658	
S0431s		-,340					,639	,371
S0422s							,632	
S0449s							,621	
S0404s							,586	
S0413s							,561	
S0440s					,324		,504	,369
S0458s	,334						,481	
S0651s								,639
S0633s								,621
S0669s								,610
S0660s								,586
S0615s								,570

S0624s				,312					,567
S0642s									,473
S0606s									,396

Comrey and Lee (1992) reported that the item-factor loading value may be considered;

- perfect if it is 0.71
- very good if it is 0.63
- good if it is 0.55
- moderate if it is 0.45,
- weak if it is 0.32 (As cited by Tabachnick and Fidel, 2001).

According to these criteria, the item-factor loading values of 72 items in the inventory may be evaluated as;

- perfect for 18 items
- very good for 25 items
- good for 22 items
- moderate for 6 items
- weak for 1 item.

Understandably, items show a satisfactorily quantitative factor loadings. When the component correlation matrix obtained by PCA is examined, there is no significant relationship between the factors as mentioned above. It can be said that only the third component (Type 8) shows a relation with six and seventh components (Type 7 & Type 3).

**Table 3. Component Correlation Matrix**

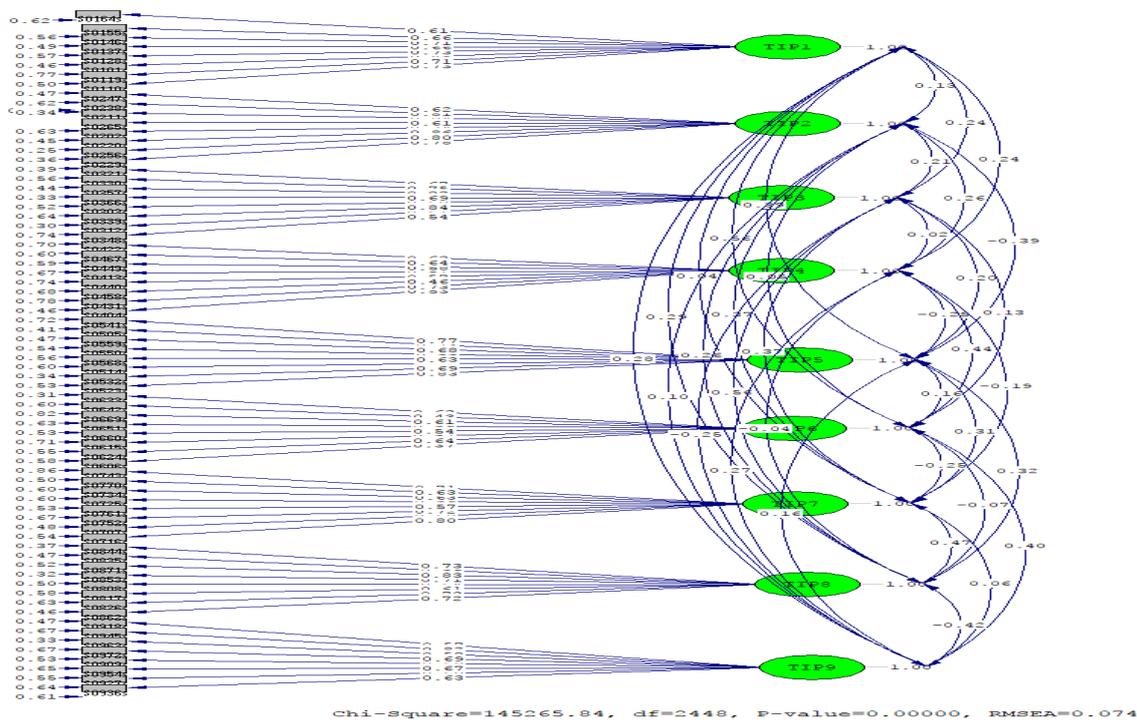
Component	1	2	3	4	5	6	7	8
2	-,279							
3	,153	,296						
4	,088	,322	,172					
5	,050	,111	-,271	,121				
6	,290	,297	,390	-,003	,038			
7	,198	,157	,403	,157	-,102	,267		
8	,106	-,256	-,036	,098	,161	-,130	-,004	
9	-,027	,050	-,056	,208	,291	-,213	,100	,328

### 3.2. 2nd Data Set

Once an instrument has been developed using EFA and other techniques, as Osborne and Costello (2005) suggest, it is time to move to confirmatory factor analysis to answer questions such as “does an instrument have the same structure across certain population subgroups?”. Confirmatory factor analysis, as well as other latent variable modeling techniques, can allow researchers to test hypotheses via inferential techniques, and can provide more informative analytic options.

If the sample size in a single study is sufficiently large as it is in this study, this could be accomplished by randomly splitting the sample in half. An EFA could then be conducted on one half of the

data providing the basis for specifying a CFA model that can be fit to the other half of the data (Fabrigar et.al., 1999). With this view in this phase of the research the model obtained from the PCA findings was tested with the LISREL 8.80 statistical package program using the second data set (n = 10570). Firstly, t-values are inspected from the "t-values" screen. It was observed that the t-values between the variables observed with all latent variables were significant and varied between acceptable levels.



**Figure 3. CFA Standardized solution graph**

Error variances were then checked from the standardized solution screen. It was determined that error variances had values between .25 and .86 and were acceptable. None of the standardized parameter values for the paths correctly defined for the variables observed in the latent variables were found to be greater than 1 and varied between .54 and .84. The screen output for these findings is presented in Figure 3. In addition, it was found that  $\chi^2$  value is 145265.84 and degree of freedom (df) value is 2448,  $\chi^2 / df$  ratio is 59,34 and  $\chi^2$  value is significant ( $p < 0.01$ ). These findings have shown that there is no major error in the model and that the items represent well the factors that are latent variables (Cokluk, Sekercioğlu & Buyukozturk, 2010; Simsek, 2007).

Examining the modification indices suggested for the items, it is seen that some observed variables are suggested to be associated with latent variables that are different from the proposed model. However, this change has not been realized because those were not theoretically meaningful and have extremely low effect on chi-square. For error variances, the modification indices suggested for the items 220-211, 321-303, 835-817, 348-312, 972-927 have been made.

When Goodness of Fit Statistics is examined on the screen output of confirmatory factor analysis below values are obtained.

- Root Mean Square Error of Approximation (RMSEA) = 0.074
- Goodness of Fit Index (GFI) = 0.77
- Adjusted Goodness of Fit Index (AGFI) = 0.79
- Root Mean Square Residual (RMR) = 1.15
- Standardized RMR = 0.082
- Comparative Fit Index (CFI) = 0.92
- Non-Normed Fit Index (NNFI) = 0.91

In relation to the goodness of fit statistics obtained from the output file of the confirmatory factor analysis, the researchers identified different cutoff points. Tabachnick and Fidel (2001) stated that there is no fit if CFI and NNFI are zero, that this value can be said to be good sign of fit when it is closer to one, and

a good fit can be seen when it is above 0.90. According to Fabrigar et.al. (1999), RMSEA is an estimate of the discrepancy between the model and the data per degree of freedom for the model. It has been suggested that values less than 0.05 constitute good fit, values in the 0.05 to 0.08 range acceptable fit, values in the 0.08 to 0.10 range marginal fit, and values greater than 0.10 poor fit. Schermelleh-Engell, Moosbrugger and Muller (2003) also stated that the acceptable value of RMSEA should be at most 0.08, RMR and SRMR at most 0.10, GFI at least 0.90 and AGFI at least 0.85.

Considering these explanations; especially GFI and AGFI values obtained may be indicating a relatively low fit, yet all the other indices (CFI, NNFI, RMSEA) indicate a good fit of observed variables over latent variables. Some researchers (Schermelleh-Engell, Moosbrugger and Müller, 2003; Steiger, 2007) stated that cutoff values for goodness of fit statistics might be differing depending on the complexity of the research model, the number of variables and sample structure. In particular, it is thought that low values of goodness of fit index (GFI) and adjusted goodness of fit index (AGFI) may be due to these reasons.

In brief, when all findings of the confirmatory factor analysis are evaluated, even though there are some mediocre or low indices obtained, the model in which the items and dimensions of the inventory are related showed a satisfactory fit in terms of explanation of relations between latent and observed variables, t-values and error variances.

### 3.3. Reliability Values

Internal consistency of the inventory is calculated for the whole inventory and for each dimension separately using the Cronbach  $\alpha$  coefficient. The internal consistency coefficients found in the first data set are in Table 4.

**Table 4. Internal consistency coefficients**

	Mean	Variance	Std. Deviation	N of Items	Cronbach's Alpha
Total Scale	164,03	1088,240	32,988	72	,877
Type 1	21,44	52,137	7,221	8	,816
Type 2	21,51	71,061	8,430	8	,879
Type 3	13,03	64,854	8,053	8	,839
Type 4	21,16	48,569	6,969	8	,753
Type 5	13,45	67,947	8,243	8	,862
Type 6	21,65	42,259	6,501	8	,727
Type 7	16,32	56,964	7,547	8	,832
Type 8	16,23	68,950	8,304	8	,854
Type 9	19,24	58,999	7,681	8	,806

(n=10570)

The Cronbach  $\alpha$  coefficient for the whole inventory, as seen in the table, is ,877. The internal consistency coefficients of the dimensions vary between ,727 (Type 6) and ,879 (Type 2). It has been stated by researchers that the value of a test's internal consistency coefficient should be between ,70 and ,80 (Kaplan and Saccuzzo, 1989; Ozguven, 2007; Seker & Gencdogan, 2006). When these values were taken into consideration and compared with the values of other interest inventories, it may be evaluated that the internal consistency coefficients of the Characterix personality inventory are sufficient.

#### 4. Conclusion

In this research, it is aimed to develop an inventory using Eneagram personality typology, which is commonly used in the World yet with a limited number of researches. The results of this research were evaluated with respect to the findings obtained from the reliability and validity studies.

As a result of the principal component analysis in the light of the enneagram personality typology, it can be said that the Characterix personality inventory has high item-factor loadings, and each dimension measures the characteristics intended to measure while explaining the variance at an acceptable level. In confirmatory factor analysis, many of the findings indicated a good fit. Sufficient internal consistency values were obtained in all dimensions regarding the reliability of the inventory. All these findings indicate that the inventory has sufficient reliability and validity values.

Even though there are some limitations in this study such as the structure of the sample and the online application of the inventory, there is a need for such measurement tools which will help to determine the personality traits and make appropriate occupational choices congruent with these. It is thought that, as it is aimed in this study, theoretical constructs such as the Eneagram which are popularly used but scarcely researched should be clarified with the evidence-based findings.

#### References

- [1.] Bland, A. M. (2010). The enneagram: A review of the empirical and transformational literature. *Journal of Humanistic Counseling, Education and Development*, 49(1), 16-31. doi: 10.1002/j.2161-1939.2010.tb00084.x
- [2.] Carpenter, D.G. (2010). *Resonating Personality Types for Couples: An Enneagram Application for Predicting Marital Satisfaction*. (Unpublished doctoral dissertation). Walden University College of Social and Behavioral Sciences.
- [3.] Cokluk, O., Sekercioglu, G., & Buyukozturk, S. (2010). *Sosyal Bilimler için Çok Değişkenli İstatistik: SPSS ve LISREL Uygulamaları*. Ankara: Pegem Akademi.
- [4.] Daniels, D., & Price, V. (2009). *Essential enneagram: The definitive personality test and selfdiscovery guide-revised & updated*: HarperOne.
- [5.] Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods*, 4(3), 272-299.
- [6.] Foruzesh, Z., Pashang, S., & Taqvaye, M.H. (2016). Comparison of nine personality types (Enneagram) in athletes and non-athletes. *Journal of Current Research Science* (2), 14-20.
- [7.] Godin, J. (2010). *The effect of the enneagram on psychological well-being and unconditional self-acceptance of young adults* (Unpublished Doctoral Dissertation), Iowa State University, USA.
- [8.] Goldberg, M. J. (1999). *The 9 ways of working: how to use the enneagram to discover your natural strenghts and work more effectively*. New York: Marlowe and Company.
- [9.] Heppner, P.P., Wambold, B.E., & Kivlighan, D.M. (2008). *Research Design in Counseling* (3rd ed.). Belmont: Thomson Brooks/Cole.
- [10.] John, O. P., Hampson, S. E., & Goldberg, L. R. (1991). Is there a basic level of personality description? *Journal of Personality and Social Psychology*, 60, 348-361.
- [11.] John, O. P., & Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. *Handbook of personality: Theory and research*, 2(1999), 102-138.
- [12.] Kale, S. H., & Shrivastava, S. (2003). The enneagram system for enhancing workplace spirituality. *Journal of Management Development*, 22(4), 308-328.
- [13.] Kaplan, R.M., & Saccuzzo, D.P. (1989). *Psychological testing; Principles, applications and issue* (2nd ed.). California: Brooks/Cole Publishing Company.

- [14.] Killen, J. (2009). Toward the neurobiology of the enneagram. *The Enneagram Journal*, 2(1), 40-61.
- [15.] McAdams, D. P. (1995). What do we know when we know a person? *Journal of Personality*, 63, 365-396.
- [16.] Newgent, R. A., Parr, P. E., & Newman, I. (2002). *The Enneagram: Trends in Validation*. 1-23. [Retrieved from: <https://files.eric.ed.gov/fulltext/ED468827.pdf>].
- [17.] Naranjo, C. (1990). *Ennea-type structures: Self-analysis for the seeker*, Nevada City: IDHHB, Inc.
- [18.] Naranjo, C. (1994). *Character and neurosis: an integrative view*. Nevada City: IDHHB, Inc.
- [19.] Osborne, J.W. & Costello, A.B. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis, *North Carolina State University Practical Assessment Research & Evaluation*, 10(7), 1-9.
- [20.] Ozguven, I.E. (2007). *Psikolojik Testler*. Ankara: PDREM Yayınları.
- [21.] Palmer, H. (1991). *The enneagram: Understanding yourself and the others in your life*. San Francisco: Harper One.
- [22.] Riso, D.R. & Hudson, R. (1996), *Personality types: Using the Enneagram for self-discovery*. Boston: Houghton Mifflin.
- [23.] Riso, D. R. & R. Hudson (1999). *The wisdom of the Enneagram*. New York: Bantam Books.
- [24.] Riso, D. R., & Hudson, R. (2000). *Understanding the enneagram: The practical guide to personality types*. New York: Houghton Mifflin Company.
- [25.] Riso, D. R., & Hudson, R. (2010). *The riso-hudson enneagram type indicator* (version 2.5). New York: The Enneagram Institute.
- [26.] Schermelleh-Engell, K., Moosbrugger, H., & Müller. H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of Psychological Research Online*, 8(2), 23-74. [Retrieved from: [http://user.uni-frankfurt.de/~kscherm/schermelleh/mpr\\_Schermelleh.pdf](http://user.uni-frankfurt.de/~kscherm/schermelleh/mpr_Schermelleh.pdf)].
- [27.] Scott, S. A. (2011). *An analysis of the validity of the enneagram*. (Unpublished Doctoral Dissertation), The College of William and Mary, Virginia.
- [28.] Sencan, H. (2005). *Sosyal ve Davranışsal Ölçümlerde Güvenilirlik ve Geçerlilik*. Ankara: Seçkin Yayıncılık.
- [29.] Seker, H. & Gencdogan, B. (2006). *Psikolojide ve Eğitimde Ölçme Aracı Geliştirme*. Ankara: Nobel Yayın Dağıtım.
- [30.] Steiger, J.H. (2007). Understanding the limitations of global fit assessment in structural equation modeling. *Personality and Individual Differences*, 42, 893–898.
- [31.] Sutton, A. (2007). *Implicit and explicit personality in work settings: an application of Enneagram theory* (Unpublished doctoral dissertation). The University of Leeds Leeds University Business School.
- [32.] Sutton, A., Allinson, C., & Williams, H. (2013). Personality type and work-related outcomes: An exploratory application of the Enneagram model. *European Management Journal*, 31(3), 234-249.
- [33.] Tabachnick, G.G., & Fidel, L.S. (2001). *Using Multivariate Statistics* (4th Ed.). MA: Allyn&Bacon Inc.
- [34.] Thrasher, P. (1994). *The enneagram: Movement between types, an inventory, and a criterion measure* (Unpublished Doctoral Dissertation), Loyola University of Chicago.
- [35.] Wagner, J. (1996). *The Enneagram Spectrum of Personality Styles*. Portland: Metamorphous Press.