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Adaptation of the Gamification User Types Hexad Scale into Turkish

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Abstract: The aim of this study is to adapt the Gamification User Types Hexad Scale (GUTHS) created based on Marczewski's (2015) user type hexad framework and validated by Tondello et al. (2016) into the Turkish context. The original scale consists of six dimensions, each of which has four items. The dimensions — and the user types that they refer to — are "Free spirit," "Socializer," "Achiever," "Philanthropist," "Player," and "Disruptor." It is the motive of this study that identifying and studying these user types may prove useful for understanding the effects of gamification dynamics and mechanics and assist in designing specific gamification techniques corresponding to each user type. The adaptation of the instrument began with translation, continued with an examination of the linguistic equivalence, and finalized with analyses of validity and reliability. The scale items were initially translated by the researchers. The translation was examined by seven experts with good English proficiency to finalize the Turkish version. To verify the linguistic equivalence, both the Turkish and English versions were then administered to 30 English Language Education (ELE) students. The correlation findings showed a high degree of correlation between the Turkish and English versions. Next, the Turkish version was administered to 452 university students studying at the Faculty of Education, Sakarya University, to check its validity and reliability. The results obtained from a confirmatory factor analysis and the reliability analysis indicate that the Turkish version of the scale is valid and reliable. It is recommended to use the translated scale in research especially on determining the effects of factors related to user types and on designing more affective gamification strategies.

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1. INTRODUCTION

Employment of new digital strategies might be effective in using present technologies in education, provided that such strategies determine how to use software and technology to develop in-class and out-of-class teaching and learning (Johnson et al., 2014). Gamification, widely used in bussiness and marketing, is considered among new digital strategies and a new method leading to active and continuous student engagement (Johnson et al., 2014). Gamification is mainly considered as a strategy to create interest in instruction, rather than as a strategy for efficiency and effectiveness (Reigeluth, 2013). Even so, it still carries a potential

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to directly impact the "individual performance of the learner." Therefore, gamification may significantly contribute to the effectiveness of instruction, because it is considered an interesting and effective strategy to motivate students during instruction by some researchers (Lee & Hammer, 2011).

Although the use of games in education is an old practice, the concept of gamification (or gameful design) was first introduced by Nick Pelling in 2002 (Marczewski, 2013). Gamification term was first mentioned in the literature in 2008, and it became popular in the second half of 2010 through conferences and applications (Deterding et al., 2011). Gamification can simply be defined as the use of thought processes, mechanics and dynamics to ensure the engagement of users and to solve problems (Zichermann & Cunningham, 2011). Another definition of gamification is the use of computer game mechanics, dynamics and structures to achieve the targeted learning and it is believed to become a million-dollar industry in the fields of politics, health and marketing (Macmillan, 2011; Wu, 2012). According to Bunchball (2010), it is a strategy used to motivate individuals - such as customers, employees and patients, as well as students - and influence their behaviors. In short, the target audience of gamification is any group of people; and the aim of gamification is to sustain the engagement of the target group to achieve a desired behavior (Bunchball, 2010).

Gamification in education aims to help integrate and use gaming elements that make computer games fun in learning and teaching processes, thereby increasing the participation of students in learning and teaching activities, leading to a more entertaining instruction (Simoes, Redondo & Vilas, 2013). The "fun" factor mentioned here allows users or students to focus on solving the real problems in life using the motivational potential of computer games (Lee & Hammer, 2011) because computer games can help individuals use their problem-solving skills voluntarily for several hours in the game environment (Gee, 2008). Gamification is designed by integrating game mechanics and dynamics into non-gaming related situations. Game mechanics are different activities, desired behaviors and control mechanisms in processes that are used for gamifying tasks. Game dynamics are associated with the individual desire and motivation that arises as a result of a gamified process (Bunchball, 2010).

It can be argued that learning and teaching processes already contain certain gamification elements. For example, a student who completes his or her homework properly earns points as a reward, and each of these points is called a "grade" (good, very good, etc.), instead of a "badge," and if a student fulfills the desired achievement, she or he moves to a higher level at the end of the academic year by passing to a higher grade. As seen in the example above, the school system includes certain basic gamification experiences (Lee & Hammer, 2011). However, schools may not be capable of helping students achieve the desired engagement (Lee & Hammer, 2011). In such situations, gamification is considered as an interesting and effective strategy to motivate students in instructional settings. However, adaptation of gamification into educational settings as a strategy requires the scrutiny of educational scientists as well as the identification and use of appropriate instructional methods. Simply using points and rewards and attempting to gamify without comprehension of the real reasons behind the educational problems might fail to motivate learners and might impede efficient learning (Lee & Hammer, 2011). Moreover, gamification is more than just adding game dynamics and mechanics such as badges and leaderboards to a learning material and waiting for users to utilize these elements (Yılmaz, 2015). That is, arbitrarily adding gamification elements to an educational environment does not mean that the said environment has been gamified.

Gamification experts claim that gamification designs should include a self-sustaining game cycle, as in digital game designs (Werbach & Hunter, 2012; Chou, 2015). It is important to have knowledge of user types and characteristics to be able to design an efficient game cycle. It is necessary to identify and adequately use appropriate gaming elements. To do that, the

gaming elements should target the needs and characteristics of learners, as the target audience. Gamification may not motivate people in educational settings without knowing the actual causes behind the educational problems. Moreover, gamification focuses on engagement and motivation. If the educational problem cannot be eliminated by improving learner engagement and motivation, gamification will not be a useful method, either. Another important point here is that it is necessary to know what motivates people. Recent research on gamification shows that a poor implementation may lead to a failure of students to achieve goals (Hamari, Koivisto & Sarsa, 2014; Nacke & Detering, 2017). Personalized gamification applications targeting user motivation provide better results than the one-size-fits-all approaches (Tondello et al., 2016). Moreover, recent studies suggest that personalized gamification applications show better results on motivation (Foucault et al., 2018), emotional engagement (Mora et al., 2018), and perceived persuasiveness (Tondello, Orji & Nacke, 2017; Orji, Tondello & Nacke, 2018; Orji, Nacke & Marco, 2017). To this end, the Gamification User Types Hexad Scale (GUTHS) created based on Marczewski's (2015) user type hexad framework and validated by Tondello et al. (2016) aims to determine user types. The scale not only provides identification of user profiles, but also recommendations on motivational factors and appropriateness of gamification elements for any given user profile. Based on the said properties of the scale, the present study was conducted to adapt the scale to the Turkish language and culture to provide contribution to the literature in Turkish.

2. METHOD

The adaptation of the scale began with an initial translation. The initial translation was carried out by the authors. Next, seven experts reviewed the initial translation. Two of these experts had Ph.D. degrees in English language, one in measurement and evaluation, one in Turkish language, one in educational psychology, and two in educational technology. Based on the experts' opinions, 10 items were accepted without modification, and 14 items were rewritten. A consensus was established among the experts, and a pilot questionnaire form was designed.

2.1. Sample

The scale created based on Marczewski's (2015) user type hexad framework and validated by Tondello et al. (2016) based on the data obtained from the graduate and undergraduate students at the University of Waterloo, Canada. To mimic the conditions, we used the convenience sampling method in the present study. There were no specific criteria for selecting participants in the convenience sampling. We tried to reach all freshmen students and invited them to voluntarily participate in the study. To test the linguistic equivalence, the sample included 30 junior and senior students attending the English Language Education (ELE) program of Sakarya University in Turkey. To carry out validity and reliability analyses, we collected data from a total of 452 freshmen students who were attending courses at Sakarya University, Faculty of Education, in fall 2016. These students were from the following departments: 65 students from Computer Education and Instructional Technology, 52 from Science Education, 31 from Mathematics Education, 46 from Pre-School Education, 43 from Special Education, 57 from Psychological Services in Education Department, 55 from Elementary Education, 49 from Social Studies Education, and 54 from Turkish Language Education.

2.2. The Original Scale

GUTHS validated based on Marczewski's (2015) user type hexad framework of Marczewski (2015). Tondello et al. (2016) was developed GUTHS to create and validate a

survey to assess an individual's Hexad user type and verify the association between the Hexad user types and the game design elements that suggested by Marczewski's (2015) research. Because of GUTHS (Tondello et al., 2016) has a validaty and reliability our research focus on adaptation of this assesment tool. The aim of the scale is to match commonly used and popular gaming elements with certain user profiles suggested on the research of Marczewski's (2015). Thus, the scale aims to select appropriate gamification elements based on the characteristics of a target audience and individualize the design of gamification when designing gamification systems. GUTHS has focused on six user types — and six elements that motivate these user types — while creating the scale. The first type, "Philanthropists," is the type of users who are humanitarian and like to help others. "Socializers" tend to prefer being social. "Free Spirits" prioritize their freedom. "Achievers" like to overcome obstacles and difficulties. "Players" like to play games that motivate using rewards. The sixth and the final type of users, "Disruptors," like to obstruct, interfere and sabotage things. The scale includes 24 items, with four items in each factor. In the Turkish version, the factors of the scale were translated to have the same meanings as those of the original scale. The Cronbach's alpha internal consistency coefficients of the factors in the original scale were as follows: Philanthropist: .89, Socializer: .83, Free Spirit: .72, Achiever: .75, Player: .69, and Disruptor: .73. Tondello et al. also utilized the test-retest reliability method to measure the reliability of the instrument.

Tondello et al. (2016) preferred expert opinions to check the content validity of the scale. They designed a workshop at the Austrian Institute of Technology to determine the item pool of GUTHS by a group discussion based on the research of Marczewski (2015). The preliminary form created earlier by Tondello et al. (2016) was modified and finalized based on the views of six experts who were specialists in scale development and game mechanics.

In order to check the criterion validity, Tondello et al. (2016) selected three different instruments, each as a criterion. The first one of these instruments had game elements and was frequently used in the field of gaming and gamification (see Table 1). They chose this as a criterion because personalization could be used in game/gameful designs to tailor users' game or interaction mechanics (Tondello et al., 2016). The correlation between the scores obtained for each 7-point Likert-type item in the instrument that included the 32 game elements and the user types that suggested by the research of Marczewski (2015) was examined. The distribution of game elements based on the obtained correlation values is given in Table 1.

Previous studies have shown that there is a relationship between personality and player behavior in video games (Johnson & Gardner, 2010; Yee et al., 2011). Starting from this fact, the second instrument Tondello et al. (2016) selected as a criterion was the Five Factor Personality Scale developed by Rammstedt and John (2007). This scale had five factors: extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. The factors of the scale were matched with the factors of GUTHS (Tondello et al., 2016) that created based on Marczewski's (2015) user type hexad framework. The correlations between the factors of the two scales are presented in Figure 1.

The "Balanced Inventory of Desirable Responding (BIDR)", developed by Winker, Kroh, and Martin (2006) was selected as the third criterion to also check the criterion validity by Tondello et al. (2016). This was the short version of an earlier instrument developed by Paulhus (1994). It has been reported in the literature that the scale is used to verify and assess the objectivity of individuals' self-declarations (Winker, Kroh & Martin, 2006). The scale has two dimensions. One dimension measures the positive exaggeration of honest response tendencies (increase in self-deception), while the other measures the tendency of individuals to construct themselves in a premeditated manner for their audiences (Tondello et al., 2016).

Correlation analyses were conducted on the data obtained from all the abovementioned scales (on each dimension of all scales) and Tondello et al. (2016) stated that the analysis results supported the hypothesized theories.

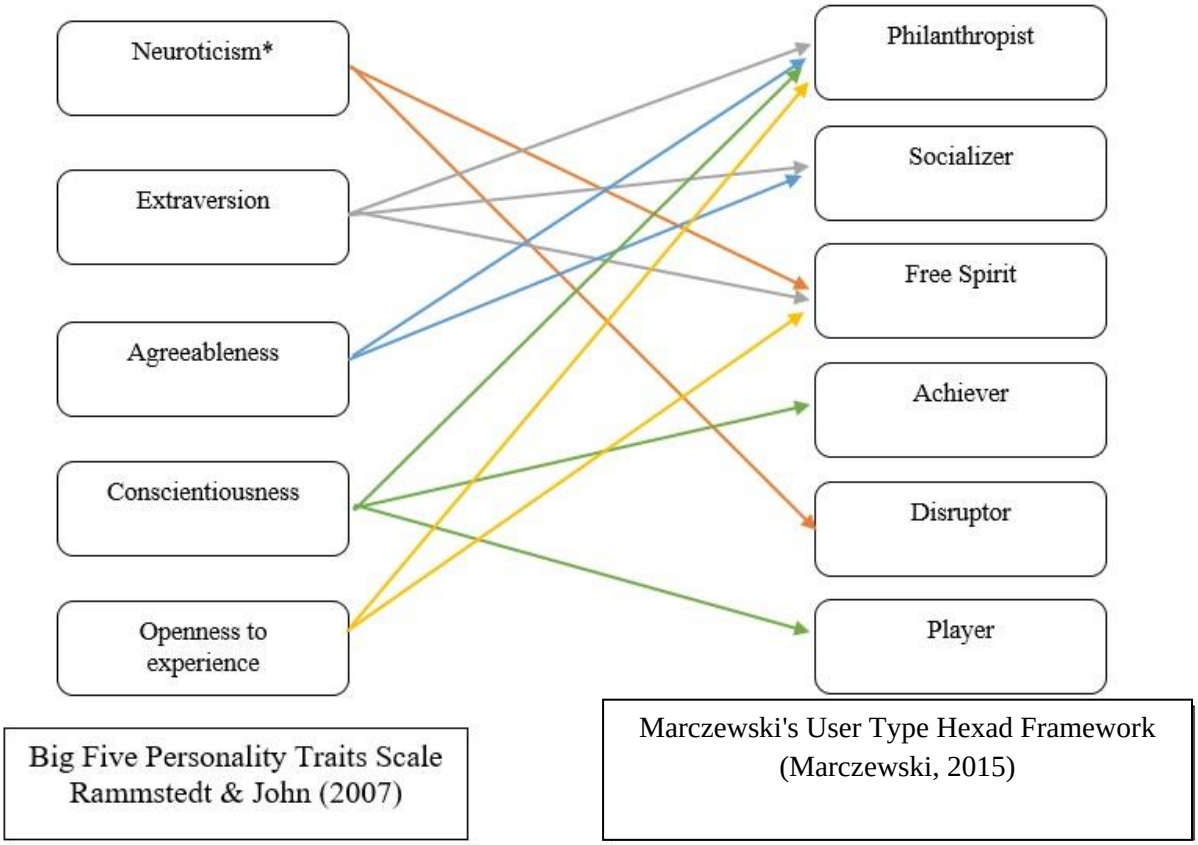

Figure 1. Relationships between factors of Big Five Personality Traits Scale (Rammstedt & John, 2007) and Marczewski's (2015) user types.

*Correlations with neuroticism are negative, other correlations are positive. All correlations indicated weak relationships (values ranging from .14 to .29) and were significant at .05 level.

2.3. Factors of the scale and sample items

Table 1 summarizes the factors and the corresponding scale items, game elements and factor definitions included in GUTHS, which was created based on Marczewski's (2015) user type hexad framework and validated by Tondello et al. (2016).

Table 1. Factors, scale items, related game elements and factor definitions of GUTHS created based on Marczewski's (2015) user type hexad framework

Factor/User Type	Scale items	Suggested game elements	Definition
Philanthropist (4 items)	1. I like helping others to orient themselves in new situations. 3. The well-being of others is important to me.	- Collection and Trading - Gifting - Knowledge sharing	- Philanthropists are motivated by purpose. They are altruistic and willing to give without expecting a reward.

Factor/User Type	Scale items	Suggested game elements	Definition
	13. It makes me happy if I am able to help others. 22. I like sharing my knowledge.	- Administrative roles	
Socializer (4 items)	5. It is important to me to feel like I am part of a community. 10. I enjoy group activities. 18. I like being part of a team. 20. Interacting with others is important to me.	- Guilds or Teams - Social networks - Social comparison or pressure - Social competition - Social discovery	- Socializers are motivated by relatedness. They want to interact with others and create social connections.
Free Spirit (4 items)	2. I like to try new things. 6. Being independent is important to me. 9. It is important to me to follow my own path. 11. I often let my curiosity guide me.	- Exploratory tasks - Nonlinear gameplay - Easter eggs - Unlockable or rare content - Creativity tools - Customization	- Free Spirits are motivated by autonomy, meaning freedom to express themselves and act without external control. They like to create and explore within a system.
Achiever (4 items)	12. I like overcoming obstacles. 16. It is difficult for me to let go of a problem before I have found a solution. 17. It is important to me to always carry out my tasks completely. 23. I like mastering difficult tasks.	- Challenges - Certificates - Learning - Quests - Levels or Progression - Boss battles	- Achievers are motivated by competence. They seek to progress within a system by completing tasks, or prove themselves by tackling difficult challenges.
Disruptor (3 items)	14. I like to question the status quo. 15. I dislike following rules. 19. I see myself as a rebel.	- Innovation platforms - Voting mechanisms - Development tools - Anonymity - Anarchic gameplay	- Disruptors are motivated by the triggering of change. They tend to disrupt the system either directly or through others to force negative or positive changes. They like to test the system's boundaries and try to push further.
Player (3 items)	4. I like competitions where a prize can be won. 7. Return of investment is important to me.	- Points - Rewards or Prizes - Leaderboards - Badges or Achievements	- Players are motivated by extrinsic rewards. They will do whatever to earn a reward within a system, independently of the type of the activity.

Factor/User Type	Scale items	Suggested game elements	Definition
	24. Rewards are a great way to motivate me.	- Virtual economy - Lotteries or Games of chance	

* This table was prepared using the study of Tondello et al. (2016: pp. 231–243).

2.4. Interpretation of the data collected using the scale

Once factor scores are calculated using the data obtained through GUTHS, the factor with the highest score shows the dominant user type of an individual (Tondello et al., 2016). Two items were excluded from the adapted scale. The obtained scores were converted into percentages with the following formula to determine each individual's dominant user type:

$$Dominant\ User\ Type\ Score = \frac{Score\ of\ the\ Factor}{The\ Highest\ Possible\ Score\ of\ the\ Factor} \times 100$$

2.5. Data Collection and Analysis

Data were collected from the participants through paper-and-pencil form after they were given information about the purpose of the study. Each participant filled a scale application form during the data collection. The filled forms were reviewed to eliminate the forms with items that were not marked or had multiple marks per item. Such forms were excluded from the study. The subsequent analyses were conducted on the dataset that included the remaining 417 forms.

A confirmatory factor analysis (CFA) was conducted to determine the construct validity of the instrument. The convergent and discriminant validities were examined. In order to determine the reliability of the scale, the Cronbach's alpha coefficient was calculated.

3. FINDINGS

This section presents the results on the linguistic equivalence, CFA, convergent validity, discriminant validity and Cronbach's alpha reliability of the Turkish version of the scale.

3.1. Linguistic Equivalence

In order to examine the linguistic equivalence of the GUTHS, the English original and the translated version of the scale were administered to 30 junior and senior students in the ELE program. The resultant Pearson correlation coefficients between each of the items of the scales are presented in Table 2.

All the correlations between the Turkish and English items presented in Table 2 were significant ($p<.05$), positive and with coefficients greater than .30. It was found that the correlation coefficient between the total scores of the Turkish and English versions was .94. The above mentioned findings demonstrated that the responses given by the participants in the Turkish and English versions of the scale were equivalent.

Table 2. Correlation coefficients for comparing the linguistic equivalence of GUTHS versions

Item number	r	Item number	r
1	.85	13	.90
2	.60	14	.71
3	.89	15	.73
4	.60	16	.64
5	.65	17	.66
6	.66	18	.84
7	.69	19	.80
8	.82	20	.61
9	.83	21	.71
10	.82	22	.67
11	.81	23	.93
12	.83	24	.79
Dimensions		Dimensions	
Philanthropist	.81	Achiever	.89
Socializer	.85	Player	.86
Free Spirit	.88	Disruptor	.79

3.2. Confirmatory Factor Analysis

As mentioned earlier, the six-factor structure of the Turkish version of the scale, as in the original scale, was confirmed by expert opinions. A CFA was also conducted using the data collected from the 417 undergraduate students to further verify this six-factor structure. During the analysis, two items (items 7 and 21) were found to load weakly on their relevant latent variables (the factors) and have high error rates. These items were removed, and the analysis was replicated after these items were removed from the model. The resultant goodness of fit values are shown in Table 3 along with perfect and acceptable fit values from the literature for comparison.

Table 3. CFA results of GUTHS

Fit Index	Perfect Fit Values	Acceptable Fit Values	Values from CFA
χ^2/SD	$0 \leq \chi^2/df \leq 2$	$2 \leq \chi^2/df \leq 3$	2.742
GFI	$.95 \leq GFI \leq 1.00$	$.90 \leq GFI \leq .95$	.90
AGFI	$.90 \leq AGFI \leq 1.00$	$.85 \leq AGFI \leq .90$	.86
CFI	$.95 \leq CFI \leq 1.00$	$.90 \leq CFI \leq .95$	.97
NFI	$.95 \leq NFI \leq 1.00$	$.90 \leq NFI \leq .95$	.95
RMSEA	$.00 \leq RMSEA \leq .05$	$.05 \leq RMSEA \leq .08$	.06
SRMR	$.00 \leq SRMR \leq .05$	$.05 \leq SRMR \leq .10$	.05

The minimum Chi-square value based on the CFA was χ^2=531.97, *SD*=194, p<0.01, and the ratio of the Chi-square to the degree of freedom was 2.742, indicating a significant deviation from an acceptable fit. We believe that the deviation was due to the sample size. A review of the other goodness of fit values demonstrated that the AGFI, GFI, CFI, NFI, and RMSEA values were in the acceptable fit range, and the SRMR value was in the perfect fit range (Bentler & Bonett, 1980; Marsh et al., 2006; Schermelleh-Engel & Moosbrugger, 2003; Byrne & Campbell, 1999). These values based on the CFA indicated that the data fit the six-factor structure as specified in the model These values indicated that the observed construct of the scale was compatible with the expected construct, thus the scale had an acceptable construct validity. However, the 2 items mentioned above that were included in the original

scale were excluded from the Turkish version. Factor loadings of the six-factor model are presented in Figure 2.

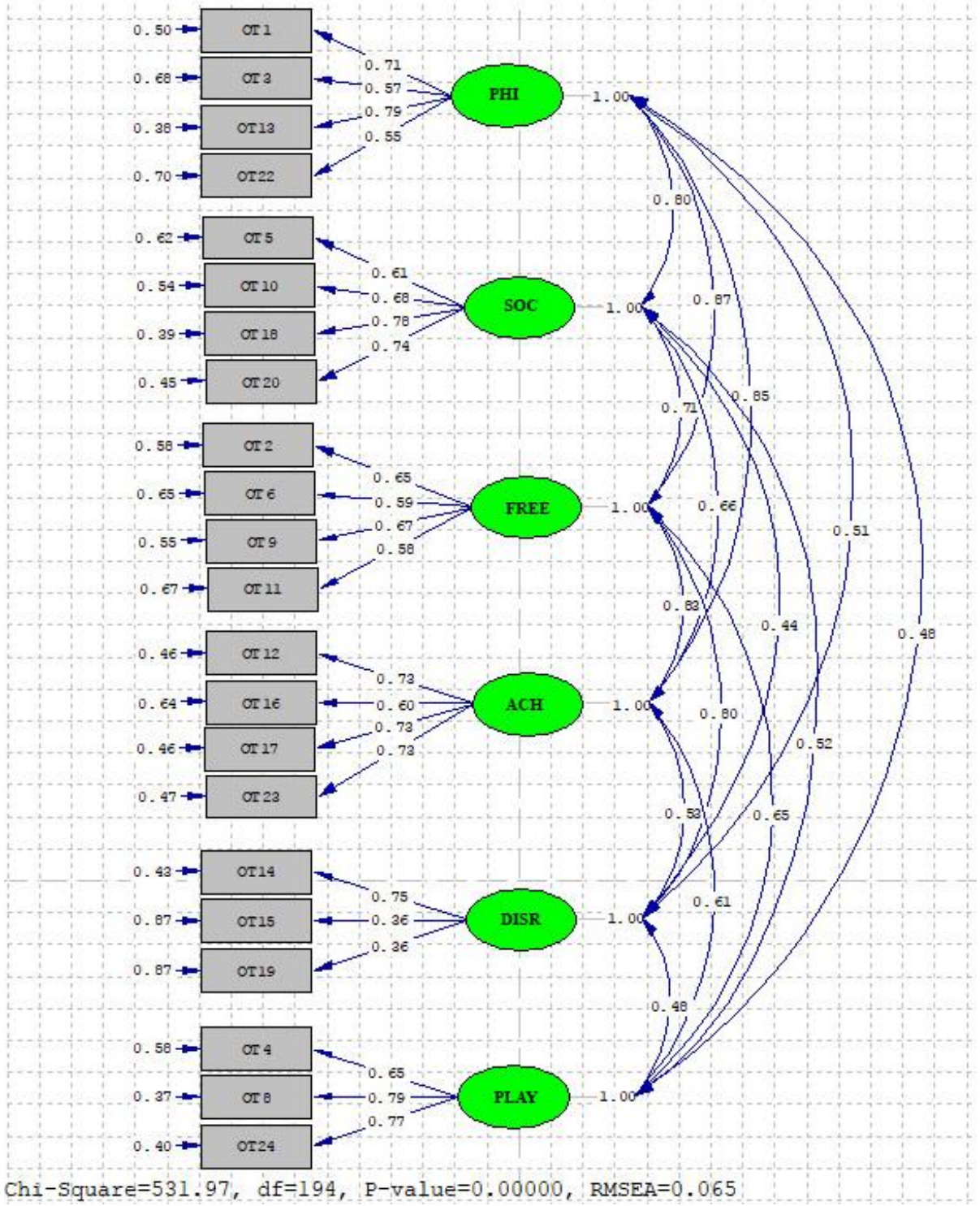

Figure 2. CFA results and Path Diagram of the Turkish version of GUTHS (Phi=Philantropsist, Soc=Socialiser, Free=Free Spirit, Ach=Achiever, Disr=Disruptor, Play=Player)

3.3. Convergent and Discriminant Validities

The scale was tested for convergent validity and discriminant validity. For the convergent validity, the average variance extracted (AVE) values were as follows: Philantropist: .57, Socializer: .61, Free Spirit: .53, Achiever: .61, Disruptor: .51, and Player: .69. Since the values were greater than .50, the findings indicated an acceptable level of convergent validity (Fornel & Larcker, 1981).

For the discriminant validity, square roots of the AVE values were calculated (see the diagonal values in bold in Table 4). Fornel & Larcker (1981) stated that square root values higher than .50 and higher than the correlations between the other factors in the same column of each factor may be an evidence for discriminant validity. Table 4 shows the correlations between the factors, in addition to the square roots of the AVE values. As can be seen in the table, the square root values are the greatest values in their respective columns. These findings indicated that the discriminant validity of the instrument was acceptable.

Table 4. Correlation between the square roots of AVE values of the GUTHS factors

	Philantropist	Socializer	Free Spirit	Achiever	Disruptor	Player
Philantropist	**.75**					
Socializer	.63	**.78**				
Free Spirit	.63	.54	**.72**			
Achiever	.64	.51	.61	**.78**		
Disruptor	.21	.23	.28	.28	**.71**	
Player	.36	.42	.47	.47	.28	**.83**

3.4. Scale Reliability

The reliability of the gamification user types scale was examined by calculating the Cronbach's alpha internal consistency coefficient. The Cronbach's alpha coefficient calculated for the whole scale was .89. The coefficients for the factors were as follows: Philanthropist: .76, Socializer: .79, Free Spirit: .72, Achiever: .80, Disrupter: .71, and Player: .78. All these values were greater than .71. There is not a certain rule of thumb for judging the Cronbach'a alpha coefficients (Cho & Kim, 2015). It can be said that the higher the α coefficient, the more the items have shared covariance and probably measure the same construct. These coefficients varied between .70 and .89 in the original study (Tondello et al., 2016). The coefficients of the Turkish version vary between .71 and .79, and are very similar to the values found in Tondello et al. (2016). A value of .70 and higher is considered a cut-off point commonly accepted in social sciences (Büyüköztürk, 2012). Thus, it can be claimed that the instrument was reliable at an acceptable level.

4. DISCUSSION AND CONCLUSION

The use of digital game features that promote game playing in different fields has introduced the concept of gamification (Bunchball, 2010). Learning and teaching processes have also been influenced by gamification as a new strategy, especially in terms of engagement and motivation. GUTHS created based on Marczewski's (2015) user type hexad framework and validated by Tondello et al. (2016) has been used to determine what motivates six different user types and the appropriate gamification elements that can be used for these user types. The scale has the potential to become a key instrument for individuals who aim to develop gamification-assisted processes and/or products. It can also offer principles for designing facilities in the future. Thus, the present study aimed to adapt GUTHS to the Turkish language and culture.

GUTHS that created based on Marczewski's (2015) user type hexad framework and validated by Tondello et al. (2016) is a fairly new instrument contributed to the literature, so it is hard to find extensive studies discussing the relationship between gamification and user types based on GUTHS. This adaptation study was completed not long after GUTHS was published in the proceedings of the 2016 Annual Symposium on Computer-Human Interaction in Play. This study may contribute e-learning studies to enrich it with gamification strategies in Turkish.

This adaptation study has some limitations with its sample size, predictive validity, and test-retest reliability. It does not yet have prooven and effective suggestions for user types and gamification. Nevertheless, the international literature also suffers from similar issues. This attempt to offer a scale on user types — even just for the sake of initiating discussions — is important for future studies to improve the scale and user-type models as well as investigating gamification dynamics and mechanics.

The participants of the study were assumed to be bilingual individuals. Their answers to the Turkish and English items with a one-week interval were positively and significantly correlated, with correlation coefficients ranging from medium to high. The overall correlation between the two versions of the scale was .94. These significant, positive and high levels of correlations between the answers of participants constitute an evidence for the equivalence of the English and Turkish versions. In the original study, the authors examined the validity of the scale with workshops and through a predictive validity study. In this study, we conducted a CFA to confirm that the expected model of the scale has a good fit with the observed model based on the data from 417 participants. With this result, this study also shows that the Gamification User Types Hexad Scale Turkish version has construct, convergent and discriminant validities. These results may constitute comparable examples for studies in other languages. In this study, the reliability of the scale was examined only through the Cronbach's alpha internal consistency coefficients, relying on one-time data collection. The alpha coefficients that were obtained in this study were at acceptable levels as stated in the literature and were similar to the coefficients of the original study.

The validity and reliability analyses demonstrated that the six-factor structure of the Turkish version was compatible with the factor structure in the original form with 22 items.

In conclusion, the Gamification User Types Scale Turkish version has 22 items and 6 factors, and it is a reliable and valid measurement instrument that can be used to determine gamification user types of undergraduate students. It is recommended that the scale be used in correlational or comparative research on user profiles as well as gamification mechanics and dynamics. We believe that the scale will contribute to the efficiency of gamification and provide ideas for appropriate gamification designs.

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Appendix. Turkish Version of The Gamification User Type Hexad Scale

Oyunlaştırma için Oyuncu Tipleri Ölçeği

Maddeler		Kesinlikle katılmıyorum	Katılmıyorum	Kısmen Katılmıyorum	Karasızım	Kısmen Katılıyorum	Katılıyorum	Tamamen Katılıyorum
1.	Başkalarına yeni durumlara uyum sağlamaları için yardım etmeyi severim.							
2.	Yeni şeyler denemekten hoşlanırım.							
3.	Başkalarının maddi-manevi iyi olması benim için önemlidir.							
4.	Karşılığında kazanılacak bir ödül olduğunda rekabetten hoşlanırım.							
5.	Bir topluluğun parçası olduğumu hissetmek benim için önemlidir.							
6.	Bağımsız olmak benim için önemlidir.							
8.	Ödül beni tatmin ediyorsa çaba gösteririm.							
9.	Kendi yolumu izlemek benim için önemlidir.							
10.	Grup aktivitelerinden hoşlanırım.							
11.	Çoğunlukla merakımın beni yönlendirmesine izin veririm.							
12.	Zorlukların üstesinden gelmekten hoşlanırım.							
13.	Başkalarına yardım edebilirsem bu beni mutlu eder.							
14.	Hayatımdaki mevcut durumumu sorgulamaktan hoşlanırım.							
15.	Kurallara uymaktan hoşlanmam.							
16.	Bir problemi çözmeden bırakmak beni rahatsız eder.							
17.	Görevlerimi eksiksiz bir şekilde yerine getirmek benim için önemlidir.							
18.	Bir takımın parçası olmaktan hoşlanırım.							
19.	Kendimi asi biri olarak görürüm.							
20.	Diğer insanlarla etkileşim içinde olmak benim için önemlidir.							
22.	Bilgimi başkalarıyla paylaşmaktan hoşlanırım.							
23.	Zor görevleri başarmayı severim.							
24.	Ödüller benim için önemli bir motivasyon kaynağıdır.							