Evaluation of The Turkish Version of The Multi-Measure Agentic Personality Scale

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ABSTRACT

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Objective: The term agency has been defined as a sense of responsibility for one's life course, the belief that one is in control of one's decisions about life and is responsible for their outcomes and the confidence that one will be able to overcome obstacles that impede one's progress along one's chosen life course. The "Multi-Measure Agentic Personality Scale (MAPS)" was designed to measure agentic personality. The present study aimed to assess the applicability of the MAPS for Turkish youngsters.

Methods: Data from a total of 410 participants (male n=188, 45.8%; female n=222, 54.2%) were utilized for validity and reliability analyses. Of the participants, 196 (47.8%) were university students and the rest were not (n=214; 52.2%). The mean age of the participants was 22.5 (SD=1.9) ranging from 19 to 25.

Results: Exploratory factor analysis yielded four-factor model explaining 57.43% of the variance. Confirmatory factor analyses (χ^2/sd=3.11, GFI=0.94, RMSEA=0.05) and second-order factor analyses (χ^2/sd=3.87, GFI=0.99, RMSEA=0.03) indicated that a four factor solution met the criteria standards for adequacy of fit. The internal consistency and test-retest stability revealed a moderate to high reliabilities. After analyzing the data, 5 items were dropped from the original scale.

Discussion and Conclusion: The analyses demonstrated that the Turkish version of MAPS could be used in studies that evaluates agency.

Key words: Agency, agentic personality, validity, reliability

ÖZET

Çok-Yönlü Eylemli Kişilik Ölçeği'nin Türkçe formunun değerlendirilmesi

Amaç: Eylemlilik, kişinin yaşamının yönüne ilişkin sorumluluk duygusu, yaşamı ile ilgili kararları kontrol edebilme ve bunların sorumluluğunu alma konusundaki inancı ve seçtiği yaşam yönünde ilerlemeye ilişkin güveni olarak tanımlanmaktadır. Bu çalışmanın amacı, eylemli kişiliği ölçen "Çok-Yönlü Eylemli Kişilik Ölçeği'nin" Türk gençlerinde uygulanabilirliğini değerlendirmektir.

Yöntem: Araştırmaya 19-25 yaş aralığında, üniversite öğrencisi olan (n=196; %47.8) ve olmayan (n=214; %52.2) toplam 410 genç katılmıştır. Katılımcıların %45.8'i erkek (n=188), %54.2'si kadındır (n=222) ve yaş ortalamaları 22.5'tir (SS= 1.9).

Bulgular: Açımlayıcı (açıklanan varyans %57.43), doğrulayıcı (χ^2/sd=3.11, GFI=0.94, RMSEA=0.05) ve ikinci düzey doğrulayıcı faktör analizi sonuçları (χ^2/sd=3.87, GFI=0.99, RMSEA=0.03) önerilen dört-faktörlü modelin uygunluğunu desteklemektedir. İç tutarlılık ve test-tekrar test sonuçları ölçeğin yüksek güvenilirliğine işaret etmektedir. Yapılan analizler sonucunda, ölçeğin orijinal versiyonundan 5 madde çıkarılmıştır.

Sonuç: Sonuçlar ÇEKÖ Türkçe versiyonunun "eylemliliği" değerlendiren araştırmalarda kullanılabileceğini göstermektedir.

Anahtar kelimeler: Eylemlilik, eylemli kişilik, geçerlilik, güvenilirlik

INTRODUCTION

The agency or agentic personality meaning acting on one's will is defined as a sense of responsibility for one's life course, taking responsibility for one's own life, the belief that one is in control of one's decisions and is responsible for his outcomes and the confidence that one will be able to overcome the obstacles that impede one's progress along one's chosen life course (1-3). Erikson (4) who was one of the first theoreticians using this concept in the psychology literature, emphasized the importance of self direction and free exercise of choice as well as agency for the formation of a coherent identity in the postindustrial societies. The agency includes the active role of the individual in their own development, making their own choices and accepting the outcomes of these

choices. Côté (5) stated that the agency was constituted by a combined structure including self esteem, purpose in life, self efficacy and internal focus of control rather than a single psychological structure. Considering the self efficacy - one of the subscales of the scale - as a subdimension of agency, Côté suggested that the efficacy is one of the four variables increasing the agency capacity, and when the explanations concerning the self efficacy are considered, this view is found to be supported. Self efficacy is defined as "a person's belief in his/her own competence in managing the situations as expected from her/him". Self efficacy is also defined as "a sense of responsibility for one's own life and taking responsibility for one's own life, the belief that one is in control of one's decisions and is responsible for their outcomes and the confidence that one will be able to overcome the obstacles that impede one's progress along one's chosen life course" (3). According to these definitions, the relationship between self efficacy and agency is obvious. An agentic individual believes in his/her competence in self control and controlling his/her life. Similarly a self-efficient individual also believes in his/her competence in control (3). The self esteem -one of the subscales- as a subdimension of agency, carries three meanings consisting of self love, self acceptance and sufficiency (5-7). In the same way the features of an agentic individual include believing in self love, self acceptance and self efficacy. For the agent individual, these characteristics play a key role in self directing (5-7). When the focus of control is assessed as a subdimension of agency, only the internal focus of control gains importance. The individuals having an internal focus of control believe that they are the reason of their own behaviors. In a similar way, the agent individual accepts his/her own responsibility and knows that "what happened was his/her own doing" (5-7). The purpose in life concept representing the last subscale, points out the short term and long term purposes of the individual in his/her life. Likewise, the agent individual has the features such as understanding, managing life, and applying the decisions that he/she made, and goal setting and acting to achieve them. These features, play a key role in self directing of the individual (5-7). In the literature (8,9), autonomy has been also suggested as a subdimension of the agency. According to

Ozdikmenli-Demir (10) these features that are discussed within the scope of agency, provide also the ego strength to the individual for coping with the challenges encountered in life. The autonomous individuals who are able to act independently from other people might be more competent in terms of feeling as an adult and playing adult roles (11,12).

In the review of literature, even though the importance of agency in the development of the identity has been strongly emphasized particularly in the theory of Erikson, both in abroad and in Turkey, mostly the sociologists have studied this concept. In these studies, the agent individuals were assessed in terms of demographic variables such as the socioeconomic level (SEL), the household income, whether the costs of university education were afforded by the individual (5-7). While the results of these studies indicated a significant correlation between the agency level and identity statuses, no differentiation was reported in terms of sex and SEL. On the other hand in the literature of psychology, a limited number of studies were conducted on agent personality (8,9). For example, in a study on the individuals from various ethnic groups, conducted by Côté and Schwartz (8), the relationship between the agency and identity formation was examined. In this study, a positive correlation was found between the agency and exploration/flexible commitment and a negative correlation was found between agency and avoidance. In addition, no correlation was found between the foreclosure/adaptation and agency. Similarly, in the study conducted by Schwarts et al. (9) on the relationship and the development of ego identity, they used a classification constituted by the triad of exploration/flexible commitment representing identity status of achievement, avoidance representing the identity status of moratorium and turbulent and foreclosure/adaptation representing the identity status of foreclosure. In conclusion, a positive correlation was found between the agency and exploration/flexible commitment and a negative correlation was found between agency and avoidance. Besides, in the same study no correlation was found between the agency and foreclosure/adaptation. In this study, it was concluded that the

increased level of agency was associated with healthier identity formation. These findings indicate the possible importance of agent personality in the identity formation. In other words, while the higher levels of independent behavior are associated with identity status of achievement and the lower level of independent behavior was associated with higher probability of the identity status of moratorium.

The discussion concerning whether the society (structure) is affected by actions or the actions are affected by the society, is termed as the agency/structure discussion in sociology. The agency-structure discussion is an ongoing discussion and the interest in this subject in sociology can be traced back to Durkheim (13). Emirbayer and Mische assert that in order to understand agency, one has to accept the responsibility of the mental status of the individual for certain social structures (13). In addition, according to Côté (8), for the empirical examination of the relationship of the structure/agency from a psychological point of view, the agency should be analyzed in terms of individual differences and mental health. In the review of the literature related to agency, no study was found on the relationship between the agency and the variables affecting mental health, neither in abroad nor in Turkey, however the relationship between the subdimensions of the agency and mental health variables was studied. For example, correlations were stated between the self efficacy which is one of the subdimensions of the agency and job satisfaction (13,14) and stress (1). On the other hand, according to Côté the level of independent behavior of the individual determines the direction of the identity formation and a healthy transition into the adulthood (9). According to Bakan, the agency is an upper concept including the independent behavior of the individual and on the opposite side of this concept, the concept of "communion" takes part (2,12). In this context, the origins of the agency go back to the Mahler's separation-individuation concept (12). Additionally, it is also emphasized that the degree of agency affects individuation (8).

Introduction of the Multi-Measure Agentic Personality Scale (MAPS) into Turkish may be beneficial in some way. For example, as is known, following the psychotherapy, it is important to manage and direct his/her own life by the individual and taking his/her responsibility, in terms of improvement. Therefore this scale may be used for the follow up examinations in individuals on treatment and in individuals who completed their therapy process. In addition, during the course of certain diseases such as depression, the level of the independent behavior of the individual may be measured at the beginning, in the middle of the treatment and at the end of the treatment by using MAPS. Apart from these, this scale, may be also used in the studies including positive mental health variables (happiness, life satisfaction, job satisfaction). Within this context, while the agency is accepted as an important structure for mental health in the sub-fields of psychology including clinical and social psychology in addition to sociology, the main purpose of this study, is to assess the applicability of the MAPS (5) to the Turkish youngsters.

METHODS

This study is a descriptive study investigating the current situation. Data were obtained from individuals of different ages and a cross-sectional study order was used. In the validity study, the assessment of the validity of the language was followed by the exploratory and confirmatory factor analyses. Then the item analysis was performed. In the reliability study two types of reliability including the internal consistency coefficient and test-retest method were assessed.

The Study Group

The participants of the study, belonging to the same age group, were the university students in Ankara (n=196, 47.8%) and non-student young people working in an establishment in Ankara (n=214, 52.2%). The individuals administered the measurement tool were determined by purposive sampling considering the criteria of "being a university student or graduate and aged between 19-25 years". The basis of this sampling is to deliberately include one or a few subsections as a sample, instead of a study sample representing the

target population according to the purposes of the study (15). This sampling method is considered to give more clues about the values of the study sample (16).

The data collection tool was administered to 434 participants within the scope of the study. Prior to the data analyses, the responses of the participants to the data collecting tools were reviewed. As a result of this review 24 participants were excluded from the data set who did not fill out the majority of the items (at least 5%) or due to the centration errors. Ultimately, the analyses were performed by using data from 410 participants aged between 19-25 years. The distribution of the participant according to educational status, sex, and age groups was stated in Table 1 (Table 1).

Table 1: The Distribution of the Participants According to the Educational Status, Sex and Age Groups

Variable	n (%)
Sex	
Female	222 (54.2)
Male	188 (45.8)
Age Group	
18-19	90 (21.9)
20-24	181 (43.9)
25-26	139 (34.2)
University Education	
Yes	196 (47.8)
No	214 (52.2)

The mean age of the participants was found as 22.5±1.9 years. While the mean age of the female participants was 23.2±1.4 years, the mean age of the male participants was 22.3±1.6 years. While the mean age of the university students was 22.8±1.8 years, the mean age of the participants who were not university student was found as 23.1±1.7.

Data Collection Tool

Multi-Measure Agentic Personality Scale (MAPS): The Scale is constituted by 5 items measuring self esteem (I have a low opinion on myself), 5 items measuring life purpose (My personal existence is very meaningful and purposeful), 5 items measuring internal focus of control (What happens to me is my own doing) and 5 items measuring self efficacy (I have a lot of

willpower), a total of 20 items and four subscales. The items are assessed and rated on a 5 point scale from 1 point for "I do not agree at all" to 5 points for "I totally agree". 5 to 25 points may be obtained from each subscale. While scoring, the total score is taken into the consideration and higher scores indicate having agentic personality. An original study conducted among the young population in Canada (aged between 18-25 years), the structure validity was assessed by exploratory factor analysis (5). The scale was determined to have a 4-factor structure and to explain 42% of the variance. The Cronbach alpha values varied from 0.58 to 0.86 (average 0.76) for the whole scale and subscales. In another study, Schwartz, Côté and Arnett (9) tested the structural validity of the scale by using confirmatory factor analysis. The results (χ^2/df=1.02, CFI>0.99, RMSEA=0.01) demonstrated the confirmation of the Four-factor structure of the scale. In the same study, they also examined whether the factor structure was valid among 3 different ethnic groups (White Americans, Mexicans and Asians) and the results indicated the validity of the factorial structure in all of the three groups. In addition, in this study the Cronbach alpha value was found as 0.81 for the whole scale. In another study (17) the internal consistency coefficient of the study was examined and the Cronbach alpha values were found to vary from 0.59 to 0.85 for the whole scale and subscales (5).

The Translation process of the Multi-Measure Agentic Personality Scale: After getting in touch with the author and obtaining his consent (James E. Côté), the translation and adaptation study of MAPS was started. First the scale was translated into Turkish by four competent persons in English then another 4 persons performed the back translation into English. After the processes of translation- back translation, no difference was observed in the expression in Turkish and the scale became ready to use.

Process

The data obtained from the University students were collected within the course hours, with the consent and help of the instructor of the class. The participants

Table 2: The Results of Reliability And Item Analysis of MAPS

	Item No	When the item is excluded Cronbach alpha	Adjusted Item-Whole Correlation	Cronbach alpha	Test-Retest
Self Esteem	1	0.797	0.508	0.76	0.86
	2	0.794	0.527		
	3	0.809	0.308		
	4	0.801	0.430		
Purpose in Life	5	0.794	0.527	0.72	0.88
	6	0.797	0.483		
	7	0.794	0.530		
	8	0.811	0.313		
Internal Focus of Control	9	0.799	0.451	0.74	0.92
	10	0.803	0.399		
	11	0.822	0.346		
	12	0.801	0.431		
Self Efficacy	13	0.798	0.473	0.73	0.83
	14	0.800	0.446		
	15	0.800	0.446		

who were not student at the University were reached in their working place. While collecting the data, the criterion of willingness was essential, a short information about the purpose of the study was given to the participant and the scales were presented to the participants who were willing to participate in the study. Besides necessary additional information were given to the participant if required. No personal identifying information were requested. The administration of the scales took 10 to 15 minutes. The data of the study were collected in the Ankara County between August 2009-April 2010.

Data Analysis

In order to examine the suitability of the four-factor agency scale suggested by Côté (5) to Turkish, an exploratory, a confirmatory and a second-order factor analyses were performed successively. In order to verify whether the agency was formed by a four-structure consisted of purposes in life, self esteem, internal focus of control, and self efficacy, a second-order factor analysis was used. The reliability of the scale was verified by using internal consistency and test-retest methods. The scale was administered to 50 participants two times with an interval of 3 weeks for the test-retest reliability. The scales with one or more items left unanswered by 4 participants were excluded from the assessment and at the end the stability of the scale was assessed by using the data obtained from 46 participants. The statistical analyses of data obtained from the research were carried out by using the statistical package programs SPSS 15.00 and LISREL.

RESULTS

Reliability

In order to assess the reliability of the scale, the internal consistency was assessed by Cronbach alpha and the correlation analyses related to test-retest stability were performed. The Cronbach alpha reliability coefficient of the scale was found as 0.72 for the dimension of purpose in life, 0.76 for the dimension of self esteem, 0.74 for the dimension of internal focus of controls and as 0.73 for the dimension of self efficacy, it was found as 0.81 for the whole of the scale. Even though the internal consistency of the scale was not found very high, these values were within the acceptable limits. The test-retest reliability coefficient of the scale calculated by the administration of the scale to 46 participants was found as 0.88 for the dimension of purpose in life, 0.86 for the dimension of self esteem, 0.92 for the dimension of internal focus of control, 0.83

Table 3: The Results of The Principal Components Analysis of MAPS

Item No	Self Esteem	Purpose in Life	Internal Focus of Control	Self Efficacy
		Factors		
1	0.82			
2	0.81			
3	0.62			
4		0.77		
5		0.76		
6		0.71		
7		0.66		
8			0.82	
9			0.73	
10			0.61	
11			0.42	
12				0.80
13				0.73
14				0.66
15				0.66
Eigenvalue	4.191	1.70	1.41	1.31
Variance Explained	27.94	11.35	9.40	8.72
Total Variance Explained	**27.94**	**39.29**	**48.70**	**57.43**

for the dimension of self efficacy and 0.87 for the whole of the scale. In conclusion, apart from having internal consistency, one may say hat MAPS is a stable tool of measurement. According to the item analysis of MAPS, adjusted item-total correlations varied between 0.31 and 0.53, and when the item is excluded, the cronbach alpha values varied between 0.79 and 0.82. These results are stated in Table 2 (Table 2).

The assessment of the Factorial structure

In order to examine the suitability of the data for the factor analysis, the values of Bartlett Global Test were calculated by using the Kaiser-Meyer-Olkin (KMO) coefficient. While KMO gives information about the sample adequacy, Bartlett Global Test gives information about whether the variables correlate with each other. KMO value higher than 0.60 and a significant Bartlett test indicate that the data are adequate for the factor analysis (18). The results (KMO=0.80; χ^2=1579.105; p=0.00) indicated the adequacy of the data set for factor analysis.

The exploratory factor analysis. The principal components analysis was carried out by 20 items stated in the original scale. The self esteem graph (scree test) indicated that the scale had a four factor structure and

these factors explained 48.73% of the total variance. The items loaded to more than one factor were suggested to be defined as overlapping and to be excluded from the scale (13). In the assessment, two items from the subscale of self esteem and one from each of the other 3 subcales were detected to be overlapping items. Therefore, a total of 5 items (4,5,10,15,16) were excluded from the scale. A new factor analysis was performed with the rest of the items. The result of the analysis revealed that the scale had a four factor structure and explained 57.43% of the variance. The loading values of the items loaded to the factors varied from 0.42 to 0.82. The results are stated in Table 3.

The first factor includes the items related to self esteem (1-3), the second factor includes the items related to purpose in life (4-7), the third factor includes the items related to the internal focus of control (8-11) and lastly fourth factor includes the items related to self efficacy (12-15). While the twenty items of the original scale were described to explain 42% of the variance, in this study, it was observed that 15 items explained 57.43% of the variance of the scale. While the original scale includes 5 items in each factor, the self esteem factor includes 3 items and the other factors include 4

Table 4: The Goodness of Fit Indices for the Factorial Structure of Multi-Measure Agentic

Goodness of Fit Index	Value
χ^2/sd (261.63/84)	3.11
GFI	0.94
AGFI	0.92
CFI	0.93
NFI	0.91
NNFI	0.92
RMR	0.060
RMSEA	0.052

GGFI: Goodness of Fit Index, AGFI: Adjusted Goodness of Fit Index,
RMR: Root Mean Square Residual, RMSEA: Root Mean Square Error of Approximation,
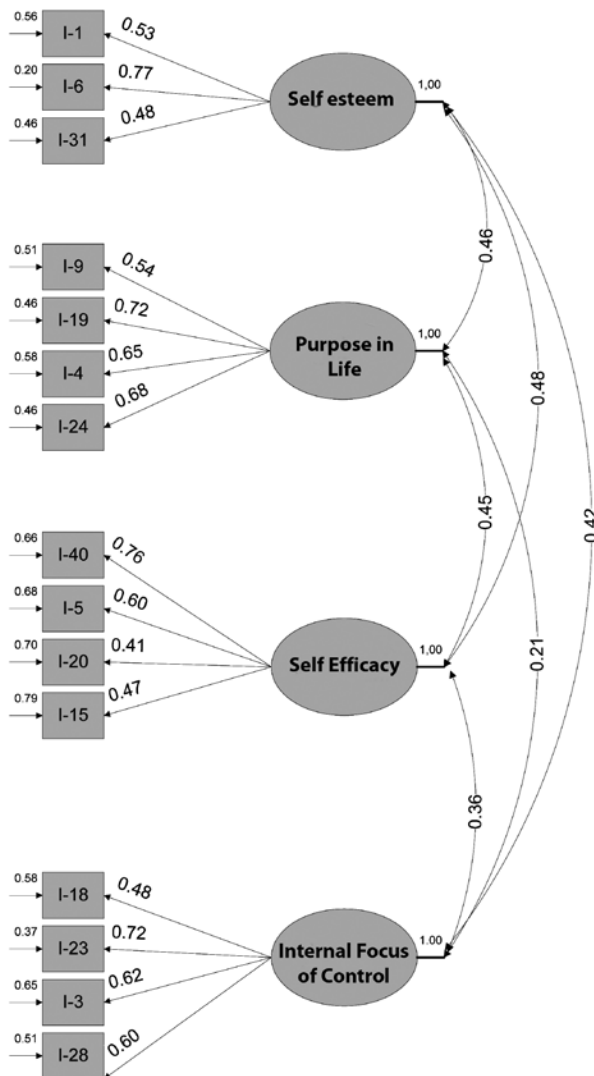CFI: Comparative Fit Index, NFI: Normed Fit Index, NNFI: Not-Normed Fit Index

Figure 1: Factor-Item correlation of the Multi-Measure Agentic Personality

items in each in this scale. The results of the confirmatory analysis which is one of the frequently preferred method for the verification of the structural validity, are explained in the following chapter.

Confirmatory Factor Analysis. In addition to the exploratory factor analysis carried out to verify the structural validity, on the purpose of determining the fitting level of the data observed with the four-factor model, a confirmatory factor analysis was performed. The confirmatory factor analysis, aims at assessing the level of the fit between a model constituted by the proposed factors (potential variables) and the actual data (19).

One of the ways of describing the fit between the model and data is the calculation of the proportion of Chi-square to the degree of freedom. A proportion value of 5 and below is defined as an acceptable value (20). The most frequently used indices are Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Root Mean Square Residual (RMR), Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI). The GFI, AGFI, NFI, NNFI and CFI values of 0.90 and over indicate a good fit, the RMR or RMSEA values of 0.05 and below are accepted as perfect fit, and the values of 0.08 and below are considered as acceptable (19-22).

In the application of CFA, the correlation matrix obtained from 15 items was used as data. The fit indices presented in table 4, indicate a good fit between the observed data and the proposed four-dimension model (Table 4).

The (χ^2/sd) proportion calculated by confirmatory factor analysis was 3.11 and this value indicate the good fit of the proposed factorial model with the data (19-20). According to the result of the confirmatory factor analysis, the detection of a GFI value of 0.94, a AGFI value of 0.92 and a CFI value of 0.93, a NFI value of 0.91, a NNFI value of 0.92, a RMR value of 0.06 and a RMSEA value of 0.5 indicate that the four-factor structure of the scale is acceptable. The coefficients related to the item-factor correlations are shown in Figure 1.

As shown in figure 1, the observed data reveal a good fit with the four dimension model and the path coefficients varied between 0.41 and 0.77. All of these values were over 0.30 and a value of 0.30 and over is

Table 5: The Goodness of Fit Indices for the Second Order Factor Structure of the Multi-Measure Agentic Personality

Goodness of Fit Index	Value
χ^2/sd (7.74/2)	3.87
GFI	0.99
AGFI	0.95
CFI	0.98
NFI	0.97
NNFI	0.93
RMR	0.022
RMSEA	0.030

GFI: Goodness of Fit Index, AGFI: Adjusted Goodness of Fit Index,
RMR: Root Mean Square Residual, RMSEA: Root Mean Square Error of Approximation,
CFI: Comparative Fit Index, NFI: Normed Fit Index, NNFI: Not-Normed Fit Index
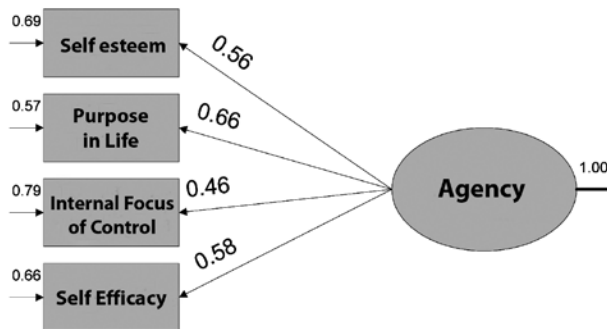
Figure 2: The Results of the Second Order CFA of the Multi-Measure Agentic Personality Scale

defined as acceptable (19). A second order confirmatory factor analysis was performed to verify whether the agency is constituted by the combination of four structures consisting of purposes in life, self esteem, internal focus of control and self efficacy and the results are interpreted in the following section.

The second order confirmatory factor analysis. In addition to the exploratory and confirmatory analysis performed to verify the structural validity of the scale, a second order confirmatory factor analysis was performed in order to determine the level of fit between purposes in life, self esteem, internal focus of control, self efficacy and agency which is described as the next level psychological structure.

The correlation matrix obtained from the four factors was used as data in the application of second order confirmatory factor analysis. The fit indices presented in the Table 5 indicate a good fit between

four-dimensional structure and the proposed agency model. In addition, the coefficients related to the factor-scale relationships calculated in the second order confirmatory factor analysis are shown in the Figure 2.

The (χ^2/sd) ratio calculated by the second order confirmatory factor analysis was 3.87 and this value showed that the model had a fit with the actual data (20). The detection of a GFI value of 0.99, a AGFI value of 0.95, a CFI value of 0.98, a NFI value of 0.97, a NNFI value of 0.93, a RMR value of 0.02 and a RMSEA value of 0.03 supported the argument claiming that the agentic personality was constituted by the combination of four psychological structures. The coefficients related to the factor-scale correlation resulting from the second order confirmatory analysis are shown in the Figure 2.

As shown in the Figure 2, the four dimension structure has a good fit with the agency model. The path coefficients varied between 0.46 and 0.66. All of these values were over 0.30 (20).

In conclusion, the results of exploratory, confirmatory and second order confirmatory analyses performed in order to determine the structural validity demonstrated that MAPS constituted by 15 items and 4 subscales was fit for the measurement of the agency and the scale explained 57.435% of the variance. The score that can be obtained from the 15-item scale may vary from 15 to 75.

DISCUSSION AND CONCLUSION

In this study the applicability of MAPS developed by Côté (5), to the Turkish youngsters was verified by performing the reliability and validity analyses. The results of exploratory and confirmatory factor analyses and the results of the second order CFA indicated the applicability of the Turkish version of MAPS for measuring agency.

The original scale is constituted by a total of 20 items and 4 subfactors, 5 items in each subfactors measuring self esteem, purpose in life, internal focus of control and self efficacy. These 20 items and 4 factors explain 42% of the variance. On the other hand, in this study, the factorial structure of the scale constituted by 15 items and 4 subscales was found to explain a significant percentage

(57.43%) of the total variance in the exploratory factor analysis. In a study conducted by Schwarts et al. (9) on the verification of the factorial structure of the scale, the four factor structure was confirmed. In this study the results of the confirmatory factor analysis also supported the suitability of the actual factorial structure. The factorial structure obtained in this study was found to yield better results than the factorial structure of the original scale. Besides, considering that in Turkish youth a higher percentage of the variance was explained by a lower number of items of the scale, one may say that the present items work better.

In the reliability study of the scale, two types of reliability consisting of internal consistency coefficient and test-retest methods were assessed. The results indicate the adequacy of the internal consistency and the correlations obtained depending on the test-retest method point out the stability of the measurements of the subscales. While the internal consistency coefficient in this study varied between 0.72 and 0.81, in the original MAPS study, these values varied between 0.58 and 0.86. The Cronbach alpha value was found as 0.81 in the whole of the study of Schwartz et al. (9). On the other hand the Cronbach alpha value varied between 0.59 and 0.85 in the study of Schwartz (17). One may say that the internal consistency values are similar in all of these studies. In the original study, the test-retest reliability of the scale was not verified. The relatively higher values of test-retest reliability of this study (ranged between 0.86 and 0.90), demonstrated that the scale can perform stable measurements.

As mentioned previously, in order to verify whether the agency is constituted by the combination of four structures consisting of purposes in life, self esteem, internal focus of control and self efficacy, a second order confirmatory factor analysis was performed in this study. The findings pointed out that the agency was constituted by these four psychological structures. Since the autonomy was claimed to be a subscale of agency in the literature (8,10), the relationship between the agency and autonomy may be verified in the following studies and a second order confirmatory factor analysis may be performed to assess if the agency has a structure also including autonomy.

When the findings in this study take into the consideration, it is possible to make a few suggestions directed to the future studies and daily life. For example the repetitions of the validity-reliability studies in various groups such as youngsters, adults and adolescents may provide new evidences for the suitability of the scale to Turkish. While the scale was demonstrated to be applicable to the Turkish youth, it is considered that it may be also used in the interdisciplinary and intercultural studies. For example the agency scale may be used in the verification of the claim that the communion (12,23) concept is on the opposite pole to the agency. In the interpretation of the autonomy, Bakan uses the concept of agency, and defines the agency as internal suppression and separation from the others for individuation, becoming independent from the medium. According to Bakan, while the agency expresses actively acting, communion expresses making decisions together with other people (12). Within this concept, particularly in the communitarian cultures, this scale may be used in the studies aimed at determining the tendencies of the individuals towards agency or communion. This scale may be used in the studies including some psychosocial variables related to the agency, by the mental health professionals, psychiatrists, psychological consultants, social service specialists. For example, this scale may be used in the studies on the relationships between agency and variables such as personality, identity, commitment, risk taking, depression, life satisfaction, subjective well being, and autonomy. Besides this scale may also be used in the studies aimed at determining whether the agency differs according to the demographic variables.

The most important limitation of the study is the lack of the verification of the convergent validity and divergent validity. The convergent and divergent validities could not be verified due to the absence of another scale measuring the agency. The convergent and divergent validities of the scale may be examined by other scales (such as autonomy) in the future studies. One of the important limitations of this study was that the participants were only students at the university or employees. In the study, the lack of the participants who are neither student nor employee is an important

deficit. Another important limitation of this study was that the exploratory and confirmatory analyses, item analysis and internal consistency coefficient were performed by using the data from the same database. However the high values obtained from both exploratory and confirmatory analyses indicated that the model was supported. The future studies may be performed by using data obtained from different databases. Another limitation of the study was that the validity of the factorial structure was not verified in both sexes

separately. In addition the study group was constituted by the individuals out of the clinical group. In the future study, determining whether the factorial structure is valid in both sex and whether the factorial structure is valid in both study group and clinical group, may provide significant evidences related to the validity of the study. In conclusion, one may assert that the Turkish version of MAPS is as a valid and reliable measurement tool and it may be used for measuring autonomous action and individuation types.

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