

# The Adaptation of the Dimensions of Identity Development Scale into Turkish

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## ABSTRACT

The adaptation of the Dimensions of Identity Development Scale into Turkish

**Objective:** In recent years, studies about identity development have focused on processes in identity development. The aim of this study was to adapt the Dimensions of Identity Development Scale which measures processes in identity development into Turkish.

**Method:** The Dimensions of Identity Development Scale was administered to 602 participants (322 females, 280 males) in total, aged between 18-23. To determine factor structure of the scale, exploratory and confirmatory factor analysis, and for reliability, internal consistency analysis were performed. Correlations between identity development dimensions and score of the Satisfaction with Life Scale were evaluated for criterion validity testing. To determine identity status cluster analysis was performed.

**Results:** Results of exploratory (explained variance 57.43%) and confirmatory factor analysis showed that the Dimensions of Identity Development Scale was valid. Correlations between the identity development dimensions and score of the Satisfaction with Life Scale were statistically significant. Internal consistency coefficients (commitment making 0.88, identification with commitment 0.87, exploration in breadth 0.84, exploration in depth 0.78, ruminative exploration 0.79) showed that the Dimensions of Identity Development Scale was reliable. In the cluster analysis, six identity status (achievement, foreclosure, moratorium, diffused diffusion, carefree diffusion, undifferentiated) were found.

**Conclusion:** The Dimensions of Identity Development Scale is a valid and reliable instrument for the assessment of adolescent's identity development.

**Key words:** Dimensions of identity development scale, identity development, reliability, validity



## ÖZET

Kimlik Gelişiminin Boyutları Ölçeği'nin Türkçeye uyarlanması

**Amaç:** Son yıllarda kimlik gelişimi hakkında yapılan çalışmalar kimlik gelişimindeki süreçlere odaklanmıştır. Bu çalışmanın amacı kimlik gelişimindeki süreçleri ölçen Kimlik Gelişiminin Boyutları Ölçeği'ni Türkçeye uyarlamaktır.

**Yöntem:** Kimlik Gelişiminin Boyutları Ölçeği, 18-23 yaş arasında bulunan toplam 602 katılımcıya (322 kadın, 280 erkek) uygulanmıştır. Ölçeğin faktör yapısını belirlemek için açımlayıcı, doğrulayıcı faktör analizi ve güvenilirlik için iç tutarlılık analizi yapılmıştır. Ölçüt bağımlı geçerliliği için, kimlik gelişimi boyutlarının Yaşam Doyumu Ölçeği puanıyla olan korelasyonlarına bakılmıştır. Kimlik statülerini belirlemek amacıyla da küme analizi yapılmıştır.

**Bulgular:** Açımlayıcı (açıklanan varyans %57.43), doğrulayıcı faktör analizi sonuçları, Kimlik Gelişiminin Boyutları Ölçeği'nin geçerli bir ölçme aracı olduğunu göstermiştir. Kimlik gelişimi boyutları ile Yaşam Doyumu Ölçeği arasındaki korelasyonlar anlamlı bulunmuştur. İç tutarlılık katsayıları (içsel yatırımda bulunma 0.88, içsel yatırımla özdeşleşme 0.87, seçeneklerin genişlemesine araştırılması 0.84, seçeneklerin derinlemesine araştırılması 0.78, seçeneklerin saplantılı araştırılması 0.79) Kimlik Gelişiminin Boyutları Ölçeği'nin güvenilir bir araç olduğunu göstermiştir. Küme analizi sonucunda altı kimlik statüsü (başarılı, ipotekli, askıya alınmış, dağılmış dağınık, kaygısız dağınık, farklılaşmamış) bulunmuştur.

**Sonuç:** Kimlik Gelişiminin Boyutları Ölçeği, ergenlerin kimlik gelişimini ölçmede geçerli ve güvenilir bir araçtır.

**Anahtar kelimeler:** Kimlik gelişiminin boyutları ölçeği, kimlik gelişimi, güvenilirlik, geçerlilik

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## INTRODUCTION

Several individual changes take place during adolescence period, which includes physical, cognitive, social and emotional fields. During this period, adolescents try to carry out several developmental challenges. The most important developmental challenge of the period is identity formation (1,2). When identity formation is investigated, it is evident that the most influential theory on identity formation literature is Erikson's Psychosocial Development Theory. According to Erikson's theory identity formation process is a reciprocal interaction of two dynamic entities. These are sense of identity and identity confusion. Sense of identity refers to individual's integration of various contents of identity sense into functional and internally consistent wholes. On the other hand, identity diffusion is stated as lack of a consistent and functional sense of identity and inability to make various contents of identity into a consistent whole (1,2).

Marcia (3), accepting basic concepts of Erikson's Psychosocial Development Theory, investigated the ways to measure identity structures and conceptualize identity as structuring ego. Based on exploration of alternatives (serious and conscious consideration and experience of alternative occupational, ideological and interpersonal directions) and commitment (making choices between different alternatives in various areas and showing behaviors in this direction) processes, he identifies four identity status (3-6). Individuals in the identity achievement status make commitment by effectively exploring the alternatives. Individuals in moratorium status effectively explore possible alternatives but do not make significant commitment. Individuals in foreclosure status make significant commitments but do not experience effective exploration process while making these commitments. Individuals in identity diffusion status make provisional explorations but do not make any commitments.

Marcia's Identity Status Model, based on Erikson's theory is the most commonly used model in studies on identity development. However, this model have also received some criticism. Principal criticism to Marcia's model is that the aim of the model is to classify

individuals and status rather than showing identity process (7-9). Marcia's model indicates current situation or result more than the process. However, when Erikson's theory is investigated (2), it can be seen that identity is evaluated not as a static condition but as a process.

With the advent of process in identity development, models which focus on process have been used more commonly in research. The most important and most commonly used model is Five Dimension Identity Formation Model, developed by Luyckx and associates (10-16). This model is based conceptually on identity formation to Erikson (1,2), on dimensions to explain identity formation to Marcia (3), on process dimension to Berzonsky (17) and on the quality of internal investment to Waterman (18). This model can be evaluated as an expanded and elaborated form of Marcia's model in terms of process dimension and it can be stated that the model tries to explain identity formation by focusing on the process.

Luyckx and associates (10-13) explored the alternatives that Marcia (4,5) used to determine identity status and divided commitment processes into subdimensions. Exploring the alternatives is divided into three: 1) exploration in breadth (indicates the degree of exploring different identity alternatives before making internal investment), 2) exploration in depth (indicates the in depth exploration of appropriateness of internal investments to self), 3) ruminative exploration (indicates the degree of rumination that makes reaching internal investments more difficult). Commitment is divided into two as commitment making (indicates the degree of decision on identity issues) and identification with commitment (indicates the degree of identification with emotions after commitment). Biggest advantage of this model is the facilitation of studies both with individual and variable focus. Thus, this model enables the evaluation of inter-individual differences regarding identity status at the same time with detailed investigation of identity formation processes. By using five identity dimensions, Luyckx et al. (10-13) suggested six identity status. Identity status in the model are formed by statistical clustering method. These identity status are: a) achievement (above average scores of commitment and

exploration in breadth and exploration in depth and below average score in ruminative exploration), b) foreclosure (above the mean commitment scores, below the mean exploration scores), c) moratorium (above the mean exploration scores, below the mean commitment scores), d) diffused diffusion (below the mean commitment and exploration in depth and exploration in breadth scores, above the mean ruminative exploration score) e) carefree diffusion (well below the mean in all five dimensions), f) undifferentiated (close to mean scores in all five dimensions).

Identity formation during adolescence is one of the most important variables affecting mental health of individuals (19). Individuals experiencing a healthy identity formation process obtain adult roles more readily (2,11,12). Healthy identity formation positively affect well-being and life satisfaction. Research shows that particularly commitment dimension positively predict satisfaction from life and well-being (10,11,20,21). Therefore, it is important to investigate identity development during adolescence. Tools measuring identity development are very limited in Turkey. In several studies on identity development (22-24), Extended Objective Measure of Ego Identity Status (EOM-EIS, 2), which was developed by Bennion and Adams (25), has been used extensively. However, EOM-EIS shows only the identity status of the individual and does not give exploration and commitment scores. The Dimensions of Identity Development Scale, which was developed by Luyckx and colleagues (10) provides both commitment and exploration scores and the identity status of the individual. In this context, the aim of the present study was to adapt The Dimensions of Identity Development Scale into Turkish.

## METHOD

### Sample

Participants consisted of 602 students from education faculties of various universities. 322 of the participants were women (54.8%) and 280 (45.2%) were men. Mean age of the participants was 19.7 years (SD=1.05) and age range was 18-23.

## Measures

Personal data form, The Dimensions of Identity Development Scale and Satisfaction with Life Scale for construct validity were used in the study. The reason to use Satisfaction with Life Scale was to determine the association of identity development dimensions with a mental health variable and the high reliability of this instrument.

**Personal Data Form:** Personal data form was used to obtain data on demographical features of the participants such as age and gender.

**Dimensions of Identity Development Scale (DIDS):** This scale was developed by, Luyckx et al. (10) to measure identity status and its Turkish adaptation was used. This scale includes a total of 25 items; 5 items measuring in depth exploration, 5 items measuring exploration in breadth, 5 items measuring ruminative exploration, 5 items measuring commitment making and 5 items measuring identification with commitment. Each item can be responded to on a 5-point Likert type rating scale, ranging from "strongly agree" (5 points) to "strongly disagree" (1 point). Each subscale score ranges from 5 to 25.

When the scale is scored, each dimension is scored separately and total score is obtained. Identity status are obtained by using cluster analysis to scores.

Confirmatory factor analysis (CFA) is used as the original scale is developed. CFA results of the original scale: The Root Mean Square Error of Approximation (RMSEA)=0.07, Comparative Fit Index (CFI)=0.94. Cronbach alpha values were 0.86 for commitment making, 0.86 for identification with commitment, 0.81 for exploration in breadth, 0.79 for exploration in depth and lastly 0.86 for ruminative exploration.

Adaptation studies of the DIDS were initiated after receiving approval from the authors (Koen Luyckx). First, the scale is translated in the adaptation study. The scale is translated into Turkish by 5 individuals from social sciences field and backtranslated into English by 5 different individuals. Items with consensus are kept and when there is no consensus,

agreement of at least three individuals are taken into account.

To evaluate construct validity, association of identity status and Satisfaction with Life Scale scores were investigated. Satisfaction with Life Scale was used to measure satisfaction from life.

**Satisfaction with Life Scale (SLS):** SLS was developed by Diener et al. (26) to collect data on satisfaction with life and adapted into Turkish by Koker (27). This scale includes 5 items measuring a single dimension. Items can be responded on a 7 point scale, ranging from “totally agree” (7 points) to “totally disagree” (1 point). Total score ranges between 5 to 35.

Reliability study indicated test-retest reliability coefficient as 0.85, item-scale correlation coefficients were between 0.71 and 0.80. While Cronbach alpha of the original scale was 0.76, Cronbach alpha value in this study group was 0.87.

### Procedure

Data were collected by group application. Data were collected from the participants during courses with permission of the instructor. Consent was obtained from the participants and participation was voluntary. Aims of the study was explained to the participants and scales were given to volunteers. When necessary, additional information were also given. Administration of the instruments took 20-25 minutes.

### Statistical Analysis

SPSS and LISREL softwares were used in statistical analysis of the data. Frequency and percent analysis were used to analyze demographical variables of the participants. In order to determine factor structure of the scale exploratory factor analysis and confirmatory factor analysis (CFA) were used. Pearson correlation analysis was used to determine criterion validity, and cluster analysis was used to determine identity status.  $p < 0.05$  was accepted as statistically significant.

## RESULTS

### Validity

Exploratory factor analysis and CFA were used to determine factor structure of the scale.

### Exploratory Factor Analysis

Five factors with eigenvalues larger than 1 were found in exploratory factor analysis. First factor had an eigenvalue of 8.62, and explained 14.25% of the variance; second factor had an eigenvalue of 3.27, and explained 14.16% of the variance; third factor had an eigenvalue of 1.59, and explained 13.83% of the variance; fourth factor had an eigenvalue of 1.27, and explained 11.05% of the variance and last of all, fifth factor had an eigenvalue of 1.14, and explained 10.35% of the variance. Five factor structure explained 63.65% of the variance. Eigenvalues and item loadings were given in Table 1; item loadings were between 0.48 and 0.79.

### Confirmatory Factor Analysis

In order to investigate construct validity of the scale, CFA were conducted with LISREL along with exploratory factor analysis. Confirmatory factor analysis aims to investigate the fit of a factorial model, consisting of observable factors (latent variables), with real data (28).

Correlation matrix obtained from 25 items were used in CFA application. Fit indexes presented in Table 2 indicated that data had a good fit with five dimension model.

$(\chi^2/sd)$  ratio calculated by CFA was 2.90 and this value indicated that the suggested factor model was consistent with the data. Goodness of Fit Index (GFI), was 0.95, Adjusted Goodness of Fit Index (AGFI) was 0.94 and CFI was 0.92, Normed Fit Index (NFI) was 0.93, Not-Normed Fit Index (NNFI) was 0.92; Root Mean Square Residual (RMR) was 0.07 and RMSEA was 0.06, suggesting that CFA results indicated five factor solution was acceptable and yielded valid results.

**Table 1: Factor Analysis of Dimensions of Identity Development Scale**

Variables	Factors				
	CM	EB	RE	IC	ED
1. I have decided on the direction I am going to follow in my life.	0.680				
2. I have plans for what I am going to do in the future.	0.762				
3. I know which direction I am going to follow in my life.	0.768				
4. I have an image about what I am going to do in the future.	0.743				
5. I have made a choice on what I am going to do with my life.	0.704				
6. I think actively about different directions I might take in my life.		0.620			
7. I think about different things I might do in the future.		0.740			
8. I am considering a number of different lifestyles that might suit me.		0.785			
9. I think about different goals that I might pursue.		0.788			
10. I am thinking about different lifestyles that might be good for me.		0.739			
11. I am doubtful about what I really want to achieve in life.			0.611		
12. I worry about what I want to do with my future.			0.696		
13. I keep looking for the direction I want to take in my life.			0.731		
14. I keep wondering which direction my life has to take.			0.749		
15. It is hard for me to stop thinking about the direction I want to follow in my life.			0.717		
16. My plans for the future match with my true interests and values.				0.664	
17. My future plans give me self-confidence.				0.741	
18. Because of my future plans, I feel certain about myself.				0.646	
19. I sense that the direction I want to take in my life will really suit me.				0.708	
20. I am sure that my plans for the future are the right ones for me.				0.684	
21. I think about the future plans I already made.					0.488
22. I talk with other people about my plans for the future.					0.669
23. I think about whether the aims I already have for life really suit me.					0.732
24. I try to find out what other people think about the specific direction I decided to take in my life.					0.792
25. I think about whether my future plans match with what I really want.					0.590
<b>Eigenvalues</b>	8.62	3.27	1.59	1.27	1.14
<b>% of variance</b>	14.25	14.16	13.83	11.05	10.35
<b>% of cumulative variance</b>	14.25	28.41	42.24	53.29	63.65

CM: Commitment Making, EB: Exploration in Breadth, RE: Ruminative Exploration, IC: Identification with Commitment, ED: Exploration in Depth

In addition to these findings, item-factor association coefficients were shown in Figure 1.

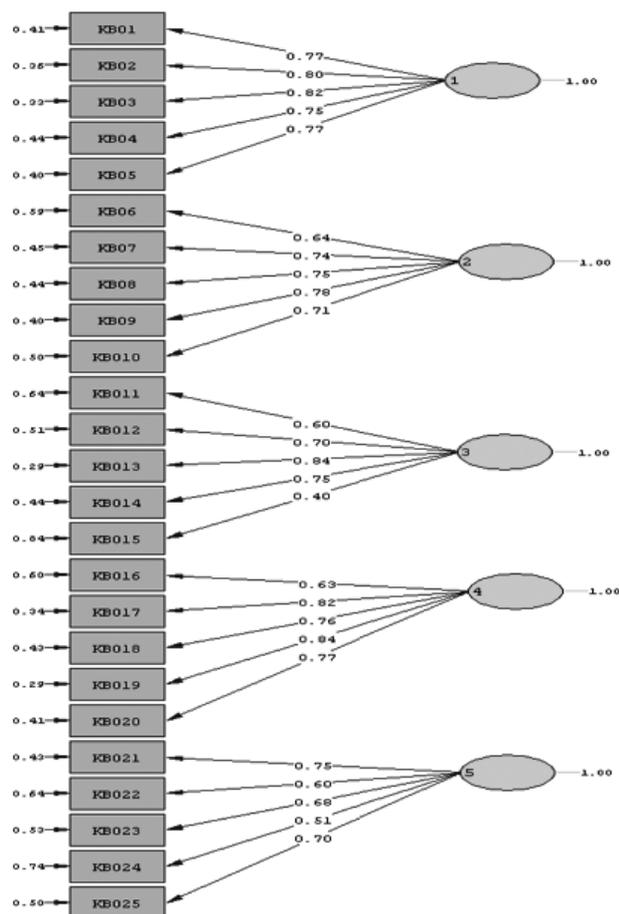
As seen in Figure 1, observed data had a good fit with five factor model and path coefficients were between 0.41 and 0.84. All values were higher than 0.30, and values equal to or higher than 0.30 are acceptable (29).

Correlation coefficients showing the association between dimensions of the scale were shown in Table 3.

When Table 3 was investigated, commitment dimensions were positively correlated with each other

**Table 2: Good Fit Index of Dimensions of Identity Development Scale**

Good Fit Index	Value
$\chi^2/SD$ (825.54/284)	2.90
Good of Fit Index	0.95
Adjusted Goodness of Fit Index	0.94
Comparative Fit Index	0.92
Normed Fit Index	0.93
Not-Normed Fit Index	0.92
Root Mean Square Residual	0.070
The Root Mean Square Error of Approximation	0.062



**Figure 1: Items of the DIDS and corresponding standardized pattern coefficients using CFA**

Note: 1: Commitment making, 2: Exploration in breadth, 3: Ruminative exploration, 4: Identification with commitment, 5: Exploration in depth

and with exploration in depth and exploration in breadth and negatively correlated with ruminative exploration. Exploration in depth and exploration in breadth were positively correlated with each other, and to a lesser degree, with ruminative exploration.

Criterion validity was investigated by examining the association between identity dimensions and subjective well being. Correlation coefficients indicating the association of scale dimensions with subjective well being were summarized in Table 4.

When the association of identity dimensions and satisfaction with life was investigated, we found that commitment dimensions were moderately associated with satisfaction with life, exploration in depth and

**Table 3: Correlations among the five identity dimensions (n=602)**

	CM	EB	RE	IC	ED
CM	1	0.47**	-0.43**	0.67**	0.41**
EB		1	0.10**	0.45**	0.52**
RE			1	-0.37**	0.11**
IC				1	0.48**
ED					1

\*\*p<0.01, CM: Commitment Making, EB: Exploration in Breadth, RE: Ruminative Exploration, IC: Identification with Commitment, ED: Exploration in Depth

**Table 4: Associations between the identity dimensions and life satisfaction (n=602)**

	Life Satisfaction
Commitment Making	0.42*
Exploration in Breadth	0.16*
Ruminative Exploration	-0.41*
Identification with Commitment	0.51*
Exploration in Depth	0.14*

\*p<0.01

exploration in breadth dimensions were weakly associated with satisfaction with life and ruminative exploration was moderately negatively associated with satisfaction with life.

## Reliability

In order to detect reliability of the scale, internal reliability (Cronbach alpha) coefficients were calculated. Cronbach alpha reliability coefficient was 0.88 for commitment making, 0.87 for identification with commitment, 0.84 for exploration in breadth, 0.78 for exploration in depth, and 0.79 for ruminative exploration.

## Distribution of Identity Status

Cluster analysis method was applied to scores obtained from the five dimensions to determine identity status of the participants. First cluster analysis method used was Ward's hierarchical cluster analysis technique. Since hierarchical cluster analysis results and dendrogram suggested the presence of six clusters, non-hierarchical cluster analysis with six clusters were

computed at the next step. Cluster analysis results showed that 120 of the participants were in achievement (19.93%), 73 (12.1%) were in foreclosure, 109 (18.1%) were in moratorium, 84 (13.9%) were in diffused diffusion, 66 (10.9%) were in carefree diffusion and last of all, 150 (24.9%) were in undifferentiated identity status.

## DISCUSSION

In this study, we adapted the Dimensions of Identity Development Scale, developed by Luyckx and colleagues (10), into Turkish by conducting reliability and validity studies.

Factor structure of the scale was examined with exploratory factor analysis and CFA. Exploratory factor analysis indicated that there were five factors with eigenvalues higher than 1 and that these factors explained 63.65% of the total variance. Besides, CFA analysis validated the factor structure. In this context, factor structure of the original scale was found in the present study. Each item loaded in a factor in the original scale was also loaded in the same factor in the Turkish form. Subdimensions revealed by factor analysis showed that adolescents living in Turkey has similar identity development patterns. Presence of ruminative exploration dimension in the adolescents who participated to the present study was particularly important. In this dimension, adolescents ruminate with the same identity questions to themselves, which lead to ambiguity and ineffectiveness. Permanent attempts to solve identity problems, culmination of these attempts in inadequacy and uncertainty, lead to stress and lower well being (10). In Erikson's theory (2), moratorium process has a very important place at healthy development of identity before transition to adulthood. In this stage, individuals experience different roles in several aspects of life, particularly during advanced adolescence. Moratorium process, particularly during university education, seems to be a prerequisite for successful identity formation. One of the principal reasons of prolongation of this period is that too many alternatives have been offered by the society, social pressure on adolescents to form their identities by

themselves and lack of sufficient support and guidance. In a study supporting this result, Çuhadaroglu et al. (30), compared various variables of adolescents living at Adana and Ankara. Results indicated that, adolescents living in Ankara had significantly lower persistence of self concept when compared with adolescents living in Adana. This showed that adolescents living in Ankara had more difficulties in identity formation. It was suggested that reason for this might be presence of more identity alternatives and less guidance and support for adolescents in Ankara.

Internal consistency coefficients were investigated for reliability study. Results indicated that subscale internal consistencies were sufficient. While internal consistency coefficients were between 0.78 and 0.88 in the present study, these figures were between 0.79 and 0.86 in the original study of the Dimensions of Identity Development Scale. Similar reliability coefficients were reported in other studies (11,31). These results showed that Turkish form of the scale was also reliable.

Association of identity dimensions with satisfaction with life was investigated in criterion validity study. Results indicated that, except ruminative exploration dimension, there was a positive and moderate association between other dimensions and satisfaction with life. In parallel to the model, while commitment and exploration in depth and exploration in breadth had a positive impact on well being, ruminative exploration had a negative impact. Similar results were obtained from other studies (10-13,31). When the association of satisfaction with life and identity dimensions are investigated, commitment making and particularly identification with commitment had highest positive impact on satisfaction with life. In identification with commitment process, individual feels that his/her commitment is consistent with his/her values and beliefs and reflects his/herself completely (10). In Five Factor Identity Formation Model, adolescents make commitments after they explore various aspects of life in breadth, however, they re-explore this commitment in depth later. When result of this exploration is positive, identity elements are identified, and this, by the definition of Erikson (2), leads to feeling of internal consistency and sameness.

Cluster analysis results showed six identity status. Cluster analysis results indicated that almost one fourth of the group were in undifferentiated identity status. Other studies reported similar rates of undifferentiated identity status (10-13,31). According to Schwartz et al. (31), this identity status resembles “low profile moratorium” condition. These individuals are placed at moratorium identity status when EOM-EIS was used and at undifferentiated identity status when DIDS was used.

The strongest aspect of DIDS is evaluation of both identity formation process and status and short administration time and reliable scoring. Therefore, this measure, which shows identity formation during

adolescence can be used in education and clinical fields.

Although this study provided important results on identity formation during adolescence and the measure to evaluate this process, there were some limitations. One of the limitations of the present study was that the participants were consisted of only university students. In future studies, inclusion of high-school students and other adolescents who are not going to the school and working or not working will help to obtain more comprehensive results. Another limitation of the study was the use of satisfaction with life score only, for criterion validity. In future studies, use of other variables for criterion validity will provide data on the association of identity dimensions with other variables.

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