# The Reliability and Validity of the Resilience Scale for Adults-Turkish Version

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## Abstract

**Objective:** *Resilience is as a dynamic process related to an individual's capacity to cope with difficult or stressful experiences and the ability to psychologically overcome adversity. The aim of this study was to examine the reliability and validity of the Resilience Scale for Adults-Turkish Version.*

**Method:** *The Resilience Scale for Adults was first translated into Turkish, and was then back translated. Subsequently, the questionnaire was administered to 350 students and 262 employees. The internal consistency and test-retest reliability of the scale were determined, and criterion-dependent validity and confirmative factor analysis were conducted using Amos v.16.0.*

**Results:** *Factor analysis of the scale confirmed the fit of the original's 6-dimensions: perception of self, perception of future, structured style, social competence, family cohesion, and social resources ($\chi2 = 1104$, $df = 480$, $\chi2/df = 2.3$; RMSEA = 0.055; TLI = 0.90; CFI = 0.91). The 6-dimensions structure explained 53.5% of the total variance. The Social Comparison Scale and Locus of Control Scale were used to determine the criterion-dependent validity of the scale. Alpha coefficients for the sub-dimensions of the scale ranged from 0.66 to 0.81 and the test-retest reliability of the factors ranged from 0.68 to 0.81.*

**Conclusion:** *The present findings show that the Resilience Scale for Adults-Turkish Version exhibited acceptable levels of reliability and validity in the study samples.*

**Key Words:** *Resilience Scale for Adults, Reliability, Validity*

## INTRODUCTION

The death of a loved one, loss of employment, significant health problems, terrorist attacks, and similarly traumatic events are very difficult life experiences. Many people can experience a flood of emotions and exhibit different behaviors in reaction to such events. While initially experiencing negative emotions, people generally can accept such stressful and life-changing experiences over the course of time. The main factor involved in such adaptation is resilience, which is an ongoing process characterized by certain steps and requiring effort and time (Garmezy 1991; Luthar 1991; Werner 1995; Luthar et al. 2000; Masten 2001).

Resilience generally represents an adaptation or achievement process (Hunter 2001). It is an individual's adaptation to significant stress factors, such as a trauma, a threat, a tragedy, a family or inter-personal adversity, significant health problems, and employment or financial difficulties (Tusaie and Dyer 2004). In addition, resilience is the ability to bounce back when faced with difficult life experiences (Garmezy 1991) and the ability to successfully cope with change or misfortune (Wagnild and Young 1993).

Some definitions that focus on personality describe resilience as a factor that supports adaptation to and reducing the negative effects of stress (Jacelon 1997). Additionally, some studies suggest that resilience is related to genetic factors and that some people are born resil-

ient (Block and Block 1980). On the other hand, some studies report that resilience is a learnable personality trait (Beardslee and Podorefsky 1998). In this regard, resilience becomes a feature consisting of a learned and perceived developmental process with coming up against the facts (Masten et al. 1990).

Although many studies have examined the concept of resilience from different points of view, most are not theoretically founded and rely on empirical findings (Nancy et al. 2006). Some definitions of resilience are based on personal (Rutter 1993) or family characteristics (Hawley and DeHaan 1996), whereas others are based on the processes and mechanisms involved in resilience (Wolin and Wolin, 1993), In general, resilience refers to specific situations associated with significant risk of psychological distress. Nevertheless, it also describes a posi-

| TABLE 1. Resilience scale studies in the literature. | | | | | | |
|---|---|---|---|---|---|
| Scale | Bruth Protective Factors Inventory (BRFI) | Connor-Davidson Resilience Scale (CD-RISC) | Resilience Scale For Adults (RSA) | Adolescent Resilience Scale (ARS) | Brief-Resilient Coping Scale (BRCS) | Resilience Scale (RS) |
| Authors | Baruth and Carroll 2002 | Connor and Davidson 2003 | Friborg et al. 2003 | Oshio et al. 2003 | Sinclair and Wallston 2004 | Wagnild and Young 1993 |
| Number of items | 16 | 25 | 37 | 31 | 4 | 25 |
| Reliability | Internal consistency of the total scale is 0.83 and of the subscales is as follows: adaptive personality: 0.76; supportive environment: 0.98; fewer stressors: 0.55; compensating experiences: 0.83. | Internal consistency of the total scale is 0.89. Test-retest reliability is 0.87. | Internal consistency of the subscales ranges from 0.67 to 0.90. Test-retest correlations range from 0.69 to 0.84. | Internal consistency of all the scale's factors range between 0.72 and 0.75. | Internal consistency is computed for group 1 as 0.64 and 0.68 for group 2. Test-retest reliability for group 1 is 0.71. | Reliability coefficient was 0.91 in a previous study. |
| Validity | Content validity and construct validity were established | Convergent validity was established, but not discriminant validity. | Construct validity was established. Different scales indicated discriminant validity. | Construct validity was established. | Content validity and predictive validity was established. | Content validity and concurrent validity were established. |
| Number of factors | 3 | 5 | 5 | 3 | 1 | 2 |
| Theoretical basis | Research supports 4 protective factors: adaptive personality, supportive environment, fewer stressors, and compensating experiences. | Stress, coping, and adaptation. | Adjustment and coherence. | Research of resilience. | Polk's theory of resilience. | Research support of the construct of resilience. |
| Instrument advantages | The scale can be useful for educators and counselors. Presence of reverse scored items | Tested in the general population and in clinical samples. Good internal consistency. | Good construct and discriminant validity. Presence of reverse scored items. | Results support the construct of adolescent resilience. | Easy to use and has sufficient internal consistency values. | Tested in different sample groups, and obtained good reliability and validity values. |
| Instrument disadvantages | Other factors that can affect resilience are not measured. Reliability and validity need further investigation. | Assesses characteristics of resilience, but not the resiliency process. Lack of descriptions of the administration procedure and detailed scoring procedure. | Findings need to be confirmed in different sample groups. | Findings need to be confirmed in different sample groups. | Low reliability values. Lack of descriptions of the administration procedure and detailed scoring procedure. | Further piloting of item wording is needed for different cultures. Lack of descriptions of the administration procedure and detailed scoring procedure |

tive outcome (Luthar et al. 2000). In this respect, resilience can be considered the protective factors, processes, and mechanisms that contribute to positive outcomes (Masten and Reed 2002).

Some studies have identified a number of factors associated with resilience (Haase 2004). These factors constitute 3 higher order categories: (a) individual dispositional attributes, (b) family support and cohesion, and (c) external support systems. Individual characteristics include psychic robustness, sociability, intelligence, communication skills, and such personal attributes as self-efficacy and talent (Olsson et al. 2003). Research on family characteristics shows that at least one parent or parental substitute is crucial in this process (Fonagy et al. 1994; Hawley and DeHaan 1996). External support systems include peers, teachers, neighbors, and others that facilitate an individual's attempts to overcome adversity (Garmezy 1993; Werner 1993; Brooks 1994). In addition, it is critical to have someone outside the family that is available during times of trouble, and to have hobbies that require social interaction and cooperation (Smith and Prior 1994).

Several researchers have generated theories and developed frameworks for measuring the complex structure of resilience. Table 1 lists studies that measured resilience directly or indirectly, from different points of view (Nancy et al. 2006). As shown in Table 1, the Baruth Protective Factors Inventory measures the construct of resilience by assessing 4 protective factors: adaptable personality, supportive environments, fewer stressors, and compensating experiences (Baruth and Carroll 2002). The Connor-Davidson Resilience Scale assesses successful stress coping ability, ignoring the resilience process and focusing on stress, coping, and adaptation (Connor and Davidson 2003). The Resilience Scale for Adults measures the protective resources that promote resilience, and identifies the main protective factors involved in regaining and maintaining mental health (Friborg et al. 2003). The Adolescent Resilience Scale assesses the psychological characteristics of resilient youths and is comprised of 3 factors: novelty seeking, emotional regulation, and positive future orientation (Oshio et al. 2003). The Brief-Resilient Coping Scale measures the tendency to successfully adapt to and cope with stress. The purpose of this scale is identifying strong coping behaviors (Sinclair and Wallston 2004). The Resilience Scale considers resilience a positive personality trait that facilitates personal adaptation (Wagnild and Young 1993). Table 1 summarizes the psychometric properties of the scales, such as scaling, validity, and reliability, and other data.

It can be seen that resilience, regarding one of the miracles as creativity or belief instinct of human nature, has a multi-dimensional and dynamic nature, which includes interpersonal relationships within such social contexts as family, friends, school, organization, and the community (Coutu 2002). The models proposed for explaining the construct of resilience are also environmentally oriented. It is necessary to consider environmental factors to understand personal experience and development, because development occurs within an environment.

Measuring all aspects of resilience in consideration of environmental factors is important for two reasons. First, it may show which factors are most critical for regaining and maintaining mental health and, secondly, it may be useful for educational and development programs, and in the selection of personnel that will undertake difficult jobs, by identifying those with the ability to tolerate stress and negative emotions in an organizational context.

The concept of resilience is used in various ways and there isn't a consensus on the term's translation in the Turkish literature. In addition, there are an insufficient number of studies, and adaptation and scale development studies are psychometrically inadequate or include only limited age groups (Öğülmüş 2001; Özcan 2005; Gizir and Aydın 2006; Gürgan 2006; Karaırmak 2006; Taşğın and Çetin 2006; Terzi 2006; Gizir 2007; Karaırmak and Siviş 2009a, 2009b). The aim of the present study was to rename the resilience term with a common perception, and to determine the reliability and validity of the Resilience Scale for Adults-Turkish Version.

## METHOD

### a. Translation study

The term resilience is translated in the Turkish literature as yılmazlık (Öğülmüş 2001; Özcan 2005; Gürgan 2006), kendini toparlama gücü (Terzi 2006), psikolojik sağlamlık (Gizir and Aydın 2006; Karaırmak 2006; Gizir 2007), and dayanıklılık (Taşğın and Çetin 2006). A pre-study was conducted that aimed to reduce the variety of these terms and arrive at a more accurate translation by consulting university psychiatry and psychology faculty members. A survey was prepared and sent to faculty members via e-mail, and included a summarization of the term's definitions and some theories, based on the literature. The survey contained the following Turkish translations of the term based on the results of translation and development studies: kendini toparlama gücü,

toparlanma, güçlülük, psikolojik güçlülük, dirençlilik, yılmazlık, sağlamlık, psikolojik dayanıklılık, dayanıklılık, and psikolojik sağlamlık. Participants assessed the term's translations on a 7-point Likert-type scale. The participants included 23 faculty professors and associate professors from several universities. The results showed that the best Turkish translation of resilience is psikolojik dayanıklılık (this term received 121 of the potential 161 points); therefore, the Turkish translation psikolojik dayanıklılık was used for this study.

Translation of the Resilience Scale for Adults was conducted using Brislin et al.'s (1973) method. This translation method includes 5 steps: a first translation, assessment of the first translation, back translation, assessment of the back translation, and expert view. Firstly, 2 English Language and Literature faculty members, whose native language is Turkish, translated the scale into Turkish. Then, 6 experts examined the Turkish scale, in terms of understandability, word structure, and cultural appropriateness. Next, 2 English Language and Literature faculty members, whose native language is Turkish, back translated the scale into English. The back-translated English scale was compared to the original and was presented to 2 experts after some corrections were made. Following the experts' assessment, that final version of the scale was used for this study.

### b.    Main study

### Sample

Two different samples were used for the adaptation study of the Resilience Scale for Adults-Turkish Version. Student and employee samples were included in the study for the purpose of confirming the findings of one another, and enhancing the generalizability of the findings. The student sample included 350 university students (167 female, 183 male) studying at 3 different universities in Ankara. The employee sample included 262 employees (126 female, 136 male) performing the same job at private banks in İstanbul. The student sample was aged between 18 and 25 years (mean: 21.84 years; SD: 1.75 years), and the employee sample was aged between 21 and 37 years (mean: 29.63 years; SD: 1.82 years).

### Instruments

### Resilience Scale for Adults

Friborg et al. (2003) developed this scale that includes 5 sub-dimensions personal strength, structural style, social competence, family cohesion, and social resources. Their subsequent study (Friborg et al.

2005) showed that the structure of 6-sub-dimensions explain the resilience model much better than 5 sub-dimensions. The personal strength dimension was split into to perception of self and perception of future sub-dimensions, resulting in a 6 sub-dimensions structure. The structural style (3,9,15,21) and perception of future (2,8,14,20) sub-dimensions were measured by 4 items each, the family cohesion (5,11,17,23,26,32), perception of self (1,7,13,19,28,31,), and social competence (4,10,16,22,25,29) sub-dimensions were measured by 6 items each, and the social resources (6,12,18,24,27,30,33) sub-dimension was measured by 7 items. The scale uses a 5-point semantic differential scale format, in which each item has 2 opposite attributes at each end of the scale continuum. The positive and negative attributes were distributed to both sides, so as to reduce acquiescence bias.

Confirmative factor analysis was conducted to determine the validity of the scale, which showed that the 6 sub-dimensions structure explained 57% of the total variance. The Personality Scale (Engvik 1993) and Social Intelligence Scale (Silvera et al. 2001) were used to determine the convergent and discriminant validity of the scale. The internal consistency of the structural equation model of the scale's reliability was 0.80 for the perception of self, 0.75 for the perception of future, 0.76 for the structural style, 0.82 for the social competence, 0.86 for the family cohesion, and 0.84 for the social resources sub-dimensions (Friborg et al. 2005).

### Locus of Control Scale

This scale was created by Rotter (1966) and translated into Turkish by Dağ (1991). It was used to test the criterion-dependent validity of the Resilience Scale for Adults-Turkish Version. It measures the state of the internality or externality of generalized control expectations. Higher scores indicate stronger belief in an external locus of control. The Cronbach's alpha coefficients for the scale were 0.75 and 0.74 in some studies (Basım and Şeşen 2006, Şahin et al. 2009). The Cronbach's alpha coefficient in the present study was 0.74.

### Social Comparison Scale

This scale was created by Gilbert et al. (1991) and translated into Turkish by Şahin and Şahin (1992). It measures the perceptions of self when comparing him or her to the others. It was also used to test the criterion-dependent validity of the Resilience Scale for Adults-Turkish Version. Higher scores indicate more positive

perceptions of self. The Cronbach's alpha coefficient for the scale was reported as 0.83 (Şahin et al. 2009). The Cronbach's alpha coefficient in the present study was 0.81.

### Statistical Analysis

The data were analyzed using SPSS for Windows v.16.0 and Amos v.16.0. Pearson's correlations were calculated to measure the test-retest reliability of the scale within a 3-week period. The Cronbach's alpha coefficient was calculated for the internal consistency of the scale. Confirmative factor analysis was conducted for the structure validity of the scale. The Social Comparison Scale and the Locus of Control Scale were used to determine the criterion validity of the scale.

## RESULTS

### Explanatory findings

The mean Resilience Scale for Adults-Turkish Version sub-dimension scores in the employee sample was higher than those in the student sample (Table 2). Our analysis shows that the employees were more resilient than the students and the difference between 5 of the scale's 6 sub-dimensions (not the structural style dimension) was significant (P < 0.05).

### Reliability Findings

### a. Test-retest reliability

The 350 students were used to determine the test-retest reliability of the scale. The scale was administered 2 times to the same sample within 23 days. Pearson's correlations for the sub-dimensions were as follows: 0.72 (P < 0.01) for the perception of self, 0.75 (P < 0.01) for the perception of future, 0.68 (P < 0.01) for the structural style, 0.78 (P < 0.01) for the social competence, 0.81 (P < 0.01) for the family cohesion, and 0.77 (P < 0.01) for the social resources sub-dimensions.

### b. Internal consistency

The item-total coefficients and the Cronbach's alpha for the scale and sub-dimensions were calculated to determine the internal consistency of the scale, for both samples. The item-total coefficients ranged from 0.20 to 0.52 in the both samples (Table 3). Cronbach's alpha for the sub-dimensions ranged from 0.66 to 0.81 for the student sample and 0.68 to 0.79 for the employee sample. In addition, Cronbach's alpha of the total scale was 0.86 for both samples.

### Validity Findings

### a. Factor analysis

The factor structure of the Resilience Scale for Adults varied between 5 (Fribog et al. 2003) and 6 (Fribog et al. 2005) dimensions. Both factor structures were analyzed with the student sample (n = 350) in the present study. Confirmative factor analysis was conducted to determine the validity of both structures of the scale using Amos v.16.0. Figure 1 shows the results of the factor analysis of the scale with 5 dimensions, after the perception of self and perception of future dimensions were combined to form the personal strength dimension. The results of confirmative factor analysis show that the ratio of chi-square to the degree of freedom ($\chi 2/df$) was 2.8, the root mean square error of approximation (RMSEA) was 0.057, the Tucker Lewis Index (TLI) was 0.83, and the comparative fit index (CFI) was 0.84. On the other hand, the results of factor analysis of the scale with 6 dimensions (Figure 2) show that the ratio of chi-square to the degree of freedom ($\chi 2/df$) was 2.1, the root mean square error of approximation (RMSEA) was 0.053, the Tucker Lewis Index (TLI) was 0.91, and the comparative fit index (CFI) was 0.92. A model is considered to have a good fit if the comparative fit index or Tucker Lewis Index is above 0.90. The present results show that the factor structure of the scale with 6 dimensions has a good fit. In addition to these results, the scale with 6 di-

TABLE 2. Explanatory statistics for the samples.

| | Students | | | Employees | | | t test | |
|---|---|---|---|---|---|---|---|---|
| | n | M | SD | n | M | SD | t | P |
| Perception of Self | 350 | 3.84 | 0.70 | 262 | 3.97 | 0.56 | 3.095 | 0.02 |
| Perception of Future | 350 | 3.85 | 0.77 | 262 | 3.93 | 0.64 | 1.961 | 0.05 |
| Structural Style | 350 | 3.59 | 0.99 | 262 | 3.67 | 0.89 | 0.879 | 0.38 |
| Social Competence | 350 | 3.78 | 0.83 | 262 | 3.92 | 0.69 | 3.068 | 0.02 |
| Family Cohesion | 350 | 3.98 | 0.83 | 262 | 4.14 | 0.63 | 3.205 | 0.02 |
| Social Resources | 350 | 4.03 | 0.65 | 262 | 4.10 | 0.56 | 1.957 | 0.05 |

TABLE 3. Item-total correlations.

| | Student sample (alpha = 0.86) | | Employee sample (alpha = 0.86) | |
|---|---|---|---|---|
| | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
| R1 | .425 | .855 | .404 | .854 |
| R2 | .204 | .860 | .202 | .860 |
| R3 | .235 | .861 | .298 | .857 |
| R4 | .291 | .859 | .205 | .860 |
| R5 | .312 | .858 | .200 | .860 |
| R6 | .316 | .858 | .311 | .857 |
| R7 | .404 | .856 | .416 | .854 |
| R8 | .406 | .856 | .414 | .854 |
| R9 | .220 | .861 | .301 | .857 |
| R10 | .338 | .857 | .291 | .857 |
| R11 | .433 | .856 | .439 | .854 |
| R12 | .372 | .857 | .418 | .854 |
| R13 | .350 | .857 | .398 | .855 |
| R14 | .481 | .854 | .475 | .852 |
| R15 | .340 | .858 | .360 | .856 |
| R16 | .365 | .857 | .321 | .857 |
| R17 | .402 | .856 | .426 | .854 |
| R18 | .421 | .855 | .447 | .853 |
| R19 | .306 | .858 | .383 | .855 |
| R20 | .473 | .854 | .506 | .853 |
| R21 | .390 | .856 | .381 | .855 |
| R22 | .298 | .858 | .349 | .856 |
| R23 | .469 | .854 | .440 | .853 |
| R24 | .450 | .855 | .431 | .854 |
| R25 | .345 | .857 | .309 | .857 |
| R26 | .482 | .854 | .407 | .854 |
| R27 | .464 | .855 | .444 | .854 |
| R28 | .345 | .857 | .293 | .857 |
| R29 | .446 | .855 | .515 | .852 |
| R30 | .476 | .854 | .439 | .854 |
| R31 | .362 | .857 | .353 | .856 |
| R32 | .315 | .858 | .360 | .855 |
| R33 | .528 | .853 | .528 | .852 |

mensions was administered to the employee sample (n = 262) and the results of our analysis ($\chi 2$ = 1104, df = 480, $\chi 2$/df = 2.3; RMSEA = 0.055; TLI = 0.90; CFI = 0.91) confirmed the structure of the scale for the other sample. The results explained 55.5% and 53.5% of the total variance in the student and employee samples, respectively.

**b. Criterion validity**

The observed correlation between the sub-dimensions of the scale, and the Social Comparison Scale and Locus of Control Scale provided the criterion validity of the resilience scale for the both samples (Table 4). These scales were used to determine the scale's validity based on the results of previous studies (Shehu and Mokgwathi 2008; Baker et al. 1999) that found the similar correlations. The results of our correlation analysis show that there was a positive correlation between the Social Comparison Scale and all the sub-dimensions of the Resilience Scale for Adults-Turkish Version at the P < 0.01 significance level in both samples.

There was a negative correlation between the Locus of Control Scale and the perception of self, perception of future, and structural style dimensions of the Resilience Scale for Adults-Turkish Version at the P < 0.01 significance level. Moreover, there was a negative correlation between the Locus of Control Scale, and the social competence and social resources dimensions of the Resilience Scale for Adults-Turkish Version only in the employee sample at the P < 0.05 significance level; however, there wasn't a correlation between the family cohesion dimension and the Locus of Control Scale.

TABLE 4. Correlations between the scales.

| | Student sample (n = 350) | | | | | | | Employee sample (n = 262) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| (1) Perception of Self | 1 | | | | | | | 1 | | | | | | |
| (2) Perception of Future | .513** | 1 | | | | | | .543** | 1 | | | | | |
| (3) Structural Style | .200** | .303** | 1 | | | | | .299** | .343** | 1 | | | | |
| (4) Social Competence | .242** | .152** | .114* | 1 | | | | .295** | .208** | .128* | 1 | | | |
| (5) Family Cohesion | .221** | .295** | .279** | .182** | 1 | | | .312** | .330** | .318** | .204** | 1 | | |
| (6) Social Resources | .358** | .371** | .238** | .456** | .509** | 1 | | .511** | .483** | .330** | .408** | .550** | 1 | |
| (7) Social Comparison | .453** | .330** | .211** | .314** | .168** | .349** | 1 | .388** | .306** | .205** | .269** | .236** | .379** | 1 |
| (8) Locus of Control | -.242** | -.224** | -.138** | -.096 | -.057 | -.097 | -.133* | -.272** | -.244** | -.206** | -.148* | -.095 | -.125* | -.112 |

*P < 0.05, **P < 0.01. (1) Perception of self, (2) perception of future, (3) structural style, (4) social competence, (5) family cohesion, and (6) social resources are sub-dimensions of the Resilience Scale for Adults.
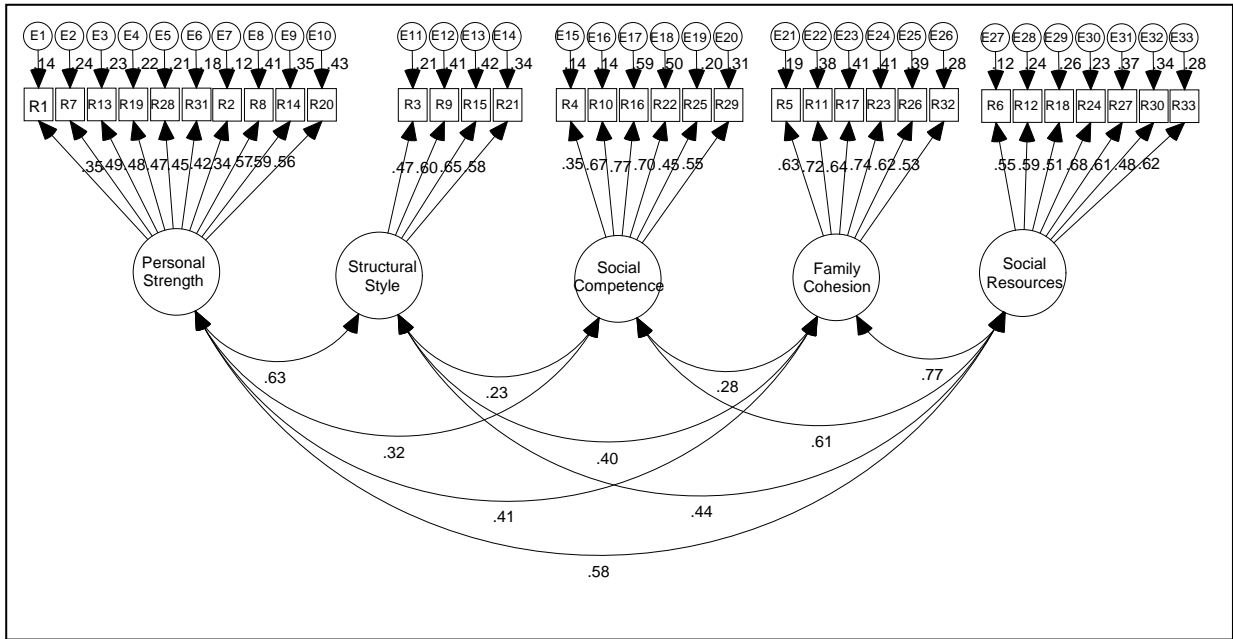
FIGURE 1. The 5-dimensions structure of the Resilience Scale for Adults-Turkish Version.
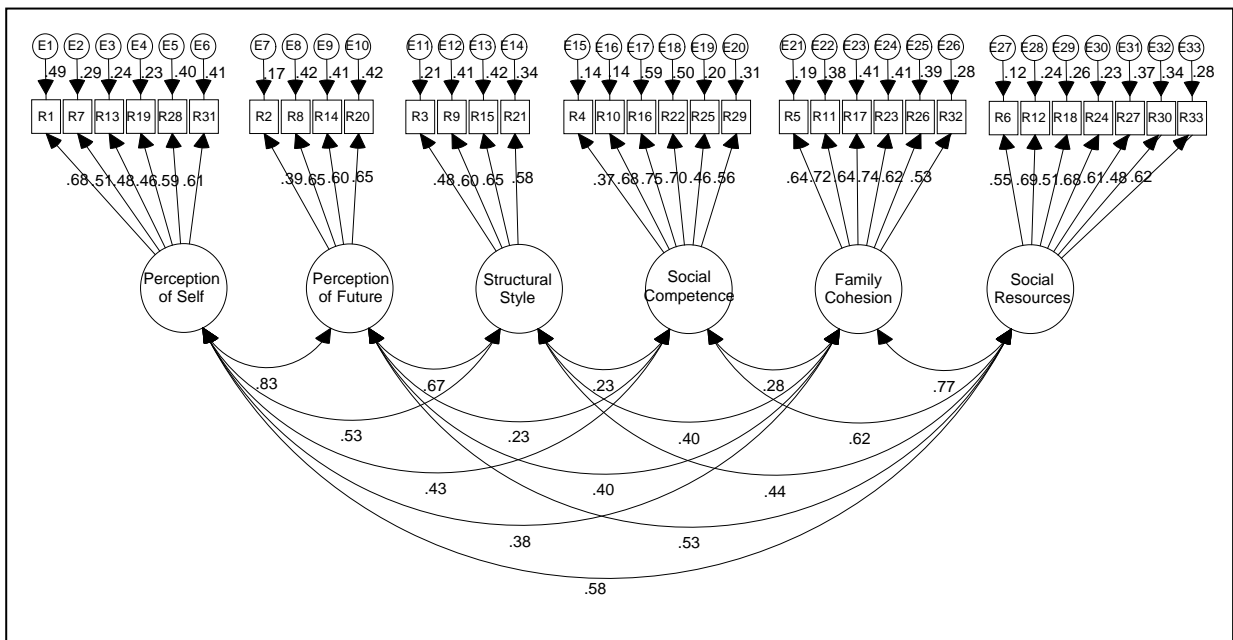


FIGURE 2. The 6-dimensions structure of the Resilience Scale for Adults-Turkish Version.

## DISCUSSION

The purpose of the present study was to explore the psychometric properties of the Resilience Scale for Adults-Turkish Version. The results show that the scale's reliability and validity are acceptable, based on findings confirmed in the 2 different samples. The results of our explanatory analysis show that mean resilience in the employee sample was significantly higher than that in the student sample. As the mean age of the employees

was 29.63 years and that of the students was 21.84 years, we think this finding supports the notion that resilience is a developmental process (Masten et al. 1990). Both the student and employee samples demonstrated the test-retest reliability and internal consistency of the scale. The student sample showed that the scale's test-retest reliability is similar to that which was previously reported (Friborg et al. 2003, 2005).

Cronbach's alpha coefficients were computed for the

internal consistency of the scale's sub-dimensions and results were similar and at significantly acceptable levels in both samples. The internal consistency of the entire scale was calculated for both samples and high Cronbach's alpha coefficients were obtained. In addition, the scale's item-total correlations in both groups was > 0.20, which is regarded as the lower limit (Büyüköztürk 2007). Ultimately, together with the reliability results of the previous studies, the internal consistency of the scale was established for the selected samples (Friborg et al. 2003, 2005).

The structure validity and criterion validity of the scale were computed to determine its validity. Confirmative factor analysis was performed for the 5- and 6-dimensions structures of the scale using the student sample. The results of the analysis show that the fit indices of the 5-dimensions version of the scale were lower than the approved levels. On the other hand, the fit indices of the 6-dimensions version of the scale were at the approved levels. These findings support those of the development studies of the original scale (Friborg et al. 2003, 2005). Finally, the scale with 6-dimensions was administered to the employee sample in order to test the factor structure on a different sample. Thus, the Resilience Scale for Adults-Turkish Version overlapping with the original confirmed the fit of the 6-sub-dimensions: perception of self, perception of future, structural style, social competence, family cohesion, and social resources.

The Social Comparison Scale and the Locus of Control Scale were used to test the criterion validity of the Resilience Scale for Adults-Turkish Version. The Social Comparison Scale measures positive and negative perceptions of self by comparing an individual's responses in various dimensions to those of others (Gilbert et al. 1991). The results of our correlation analysis show that all dimensions of the Resilience Scale for Adults-Turkish Version had a positive correlation with the Social Comparison Scale in both samples. This implies a prospective relationship. High scores indicate a positive self, as compared to others for the Social Comparison Scale (Şahin and Şahin 1992). In this regard, a positive self implies an increase in the resilience.

The Locus of Control Scale was also used to test the criterion validity of the Resilience Scale for Adults-Turkish Version. The results show that Locus of Control Scale had significant negative correlations with the perception of self, perception of future, and structural style dimensions of the Resilience Scale for Adults-Turkish Version in both samples. Moreover, there were significant negative correlations between the Locus of Control Scale, and the social competence and social resources dimensions of the Resilience Scale for Adults-Turkish Version only in the employee sample. Nevertheless, there wasn't a correlation between the Resilience Scale for Adults-Turkish Version family cohesion dimension and the Locus of Control Scale. High scores indicate an external locus of control and low scores indicate an internal locus of control. People with an external locus of control have low self-esteem, and are generally incompetent and passive (Şahin et al. 2009). These attributes imply that people with an external locus of control also have low-level resilience. These results indicate prospective relations. All of the present study's findings indicate that the Resilience Scale for Adults-Turkish Version has adequate criterion validity.

Translation of the term resilience into Turkish was accomplished based on a survey. The high level of consensus among the experts involved confirmed the face validity of the translation. The findings relevant to the reliability and validity of the Resilience Scale for Adults-Turkish Version are limited to the selected samples. In order to obtain more generalizable findings on the scale's reliability and validity it is essential to administer the scale to qualitatively and quantitatively different samples. Consequently, the Resilience Scale for Adults-Turkish Version (in appendix) might contribute to future studies of organizational research and clinical applications about the resilience for the national literature.

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