Turkish adaptation of Oxford positive self scale: Association with psychological distress, subjective vitality and psychological well-being

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ABSTRACT

Positive cognitions contribute directly to psychological well-being, whilst negative cognitions are associated with many mental disorders including depression and anxiety. Psychometric properties of the Oxford Positive Self-Scale were analyzed in a Turkish sample group to assess positive beliefs about the self. In this context, two studies were conducted with two different sample groups. Study I included 403 participants (57 % female, mean age: 25.66) and Study II included 375 participants (56 % female, mean age: 26). Confirmatory factor analyses conducted within the scope of Study I confirmed the 8-item short form of the scale with a 4-factor structure. Configural, metric and scalar analyses also confirmed the measurement invariance. Reliability analyses showed that the scale was in the acceptable reliability range. Item Response Theory analysis provided discrimination. Furthermore, positive self was positively correlated with openness, conscientiousness, extraversion, agreeableness, subjective happiness, self-esteem and negatively correlated with neuroticism. Structural equation modeling in Study II revealed that psychological distress and subjective wellbeing mediate the relationship between positive self-regard and psychological well-being, highlighting their roles in predictive validity analysis. The results suggest that the Oxford Positive Self-Scale short form is valid and reliable for assessing individuals' positive self-cognitions.

1. Introduction

Humans are generally aiming to be happy. Happiness has always been a topic of research and curiosity. For being happy or, more specifically, for a satisfying life, the internal conditions are as important as the external conditions. Self-concept is a construct that involves an individual's thoughts, perceptions, and evaluations of oneself (Gecas, 1982). People feel the need to have a positive view of themselves. (Heine et al., 1999). Positive self-concept can be described as an assessment of an individual's positive evaluations of oneself and the general result of these positive evaluations regarding the self-concept (Judge et al., 1998) In addition, positive beliefs regarding personal life support well-being (Tomyn & Cummins, 2011). Based on cognitive theories of depression, individuals' thoughts, inferences, attitudes and interpretations may increase the risk of depression (Gotlib & Joormann, 2010). For instance, evidence supporting the negative self-concept of a depressed person is more acceptable to the individual than evidence supporting positive self-evaluations (Beck et al., 1990). Research has shown that positive self-perception may be related to high self-esteem (Hulme et al., 2012),

positive psychological well-being may be associated with fewer cardiovascular disorders (Boehm & Kubzansky, 2012) and high well-being (Lin, 2015). Low self-esteem and worthlessness, which are among the DSM-5 (American Psychiatric Association, 2013) diagnostic criteria for depression, suggest that negative self-view may be associated with depression. According to a longitudinal study, self-affirmation increases well-being (Nelson et al., 2014). Psychological well-being is characterized by a combination of functioning in social and personal life (eudaimonic aspect) and positive emotional states like happiness (hedonic aspect) (Deci & Ryan, 2008). The hedonic perspective describes well-being in terms of the presence of positive affect and the absence of negative affect, meanwhile the eudaimonic perspective describes well-being as the development of people's existing potential and the outcome of complete psychological actualization (Vázquez et al., 2009).

The common formulation is that a person is considered healthy if not suffering from anxiety, depression, or other forms of psychological symptomatology, however, this common formulation means never necessarily health, and the existence of positive features of mental health is necessary to define a high degree of an individual's

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psychological well-being (Ryff, 1995). However, the presence of positive self-beliefs does not mean the absence of negative self-beliefs and the reverse is also relevant (Freeman et al., 2023). The purposes of positive psychology include understanding the basis of well-being and developing and validating interventions to improve well-being from a scientific perspective (Quoidbach et al., 2009). Within the framework of the 24-strong character classification defined by Peterson and Seligman (2004), elements such as not shying away from challenges, approaching life with enthusiasm and energy, interpersonal strengths, benevolence, self-awareness of motivations, cognitive strengths, and emotional strengths are included. The Oxford Positive Self Scale (OxPos), for which we measure psychometric properties, aims to assess the character traits listed above in conjunction with an individual's positive beliefs (Freeman et al., 2023). Therefore, we believe that measuring positive self-beliefs and focusing on strengthening positive self-beliefs will be more beneficial.

In the Turkish literature, many scale adaptation studies focus on positive self-evaluation such as the Subjective Happiness Scale (Akın & Satıcı, 2011), Flourishing Scale (Telef, 2013), Oxford Happiness Scale (Doğan & Çötok, 2011), Rosenberg Self-Esteem Scale (Çuhadaroglu, 1986). Besides, scale adaptation studies focusing on negative self-evaluation such as the State-Trait Anxiety Inventory (Öner & Le Compte, 1983), the Depression-Anxiety-Stress scale (Yılmaz et al., 2017), Beck Depression Inventory (Hisli, 1989), Generalized Anxiety Disorder Scale (Konkan et al., 2013) were also conducted. The Oxford Positive Self-Scale distinguishes from other scales by focusing on positive beliefs, assessing cognitions highly associated with psychological well-being, evaluating types of positive self-cognition, being interpretable across a broad age and gender range, being simple to use, and offering excellent reliability and validity (Freeman et al., 2023). We believe that the scale's simple, concise, and direct language will facilitate its use in practice and it can be used across all educational backgrounds.

1.1. Turkish culture

Several studies suggest that culture is related to self-perception (Akande, 2009; Cullen et al., 2015; Harman, 2017; Kim et al., 2014). Individualistic cultures encourage their members to discover and realize their potential; the individual's ultimate responsibility is towards oneself and one's immediate environment in a private context, in contrast to collectivistic cultures that emphasize relationships and acting together despite disadvantages (Akande, 2009). Therefore, happiness is perceived differently in both cultures. An individual who is raised in a collectivist culture will find happiness as long as he or she adapts to social harmony and social expectations, however, for an individual who is raised in an individualistic culture, social constraints may create the potential for misery, since happiness is based more on personal freedom, rights, and individual abilities (Satıcı, 2016). According to the results of empirical research in the United States aiming to improve well-being based on positive psychology with individuals from individualistic and collectivist cultures, it was concluded that the values of individual development and self-activity support well-being more in individualistic cultures, on the other hand, values that do not emphasize individualism and self-orientation support well-being more in collectivist cultures (Boehm et al., 2011). Turkish culture appears to be a collectivist culture (Aydın & Uçman, 2019), but some sources report that individualism and collectivism are intertwined in Turkish culture (İmamoğlu & Aygun, 1999; Kagitcibasi & Ataca, 2005; Satıcı & Gocet-Tekin, 2017). Our research was conducted with Turkish culture, so it may be useful to consider the effects of culture on self-evaluations.

1.2. The present study

Based on previous research, psychological well-being is associated with positive beliefs about the self. Positive self-thought and persistent self-esteem were reported to contribute to the level of self-affirmation in

response to psychological threats (Harris et al., 2019). Similarly, an empirical study showed that participants' moods improved after listening to positive self-expressions (Yeung & Lun, 2016). Positive self-beliefs were reported to improve the likelihood of experiencing positive affect according to a study examining the association between positive affect and positive self-beliefs. (Alessandri et al., 2014). Based on these findings, we believe that a valid and reliable measure of positive self-beliefs is necessary in Türkiye.

The purpose of this study was to adapt the Oxford Positive Self Scale (Freeman et al., 2023) to Turkish and Turkish culture and to examine its psychometric properties. In Study I, we examined the construct validity and criterion-related validity of the Oxford Positive Self Scale. For this purpose, we adapted the original scale to Turkish culture and examined it with confirmatory factor analysis (CFA), measurement invariance, IRT, reliability and self-esteem, big five personality traits, and subjective happiness. In Study II, we aimed to analyze the incremental validity of the Oxford Positive Self Scale with a serial mediation model. Therefore, we examined a model of the mediating role of psychological distress and subjective vitality between positive self and psychological well-being.

2. Study I

The Oxford Positive Self-Scale, initially comprising 24 items in its long-form version, also offers a condensed version with 8 items. Developed by Freeman et al. (2023), experts who are fluent in both English and Turkish translated the scale into Turkish. To ensure accuracy, corrections were implemented through a process of back-translating to the original language. The scale was online implemented in the Turkish sampling group and subsequent data collection followed. In the initial phase of the study, confirmatory factor analysis (CFA) will be conducted on the Oxford Positive Self Scale. Furthermore, the scale will be subject to examination through item-total correlations and Item Response Theory. Reliability analyses will also be conducted as part of this phase.

2.1. Method

2.1.1. Participants and procedure
Data were collected from volunteer participants online utilizing Google Forms. Participants were provided with an informed consent form. Study 1 data included 403 participants living in 43 provinces out of 81 provinces in Türkiye. Among the participants, 57 % were female ($n = 231$), and 43 % were male ($n = 172$). The mean age of the participants was 25.66 years (SD = 7.49; range = 18–60). The detailed demographic characteristics of participants for both studies are presented in Table 1.

2.1.2. Ethics
The study procedures were carried out in accordance with the Declaration of Helsinki and approved by Yildiz Technical University Social Sciences and Humanities Research Board (ID:20231202448). Moreover, an informed consent form was presented to the participants before the scales.

2.1.3. Measures

2.1.3.1. Oxford Positive Self Scale (OxPos). Freeman et al. (2023) developed a scale that assesses positive cognitions about the self and the long form contains 24 items. There is also an 8-item short form obtained from the long form. It consists of four factors: "mastery", "strength", "enjoyment" and "character". Each scale item consists of 5 different graded ratings: Do not believe it (0), Believe it slightly (1), Believe it moderately (2), Believe it very much (3), and believe it totally (4). Participants rated their self-assessment according to the last week. Higher scores show higher positive cognitions. There are no reverse

Table 1

Participants Demographics.

Sample	Gender		Age			Socioeconomic Status			Education Level		
	Female	Male	M	SD	Range	Low	Medium	High	High School	University	Postgraduate
Study I	231(57)	172(43)	25.66	7.49	18–60	82(20)	277(69)	44(11)	158(39)	201(49)	44(12)
Study II	210(56)	165(44)	26	7.27	18–56	70(19)	267(71)	38(10)	109(29)	217(57)	49(14)

Note. Information on gender, socioeconomic status, and education level is presented as n (%).

items in the scale. Analyses of the original 24-item long form of OxPos revealed a good fit [robust χ^2 = 995.676; df = 246; CFI = 0.956; TLI = 0.951; RMSEA = 0.049 (0.047, 0.052); SRMR = 0.031]. Moreover, OxPos scores were negatively correlated with depression, anxious avoidance, paranoia, hallucinations, and negative self-beliefs (r = −0.49, r = −0.34, r = −0.23, r = −0.20, r = −0.50 respectively), and positively correlated with psychological well-being, self-esteem, and positive social comparison (r = 0.79, r = 0.67, r = 0.72 respectively). Furthermore, the reliability coefficient of the 24-item long form was 0.92 and the reliability coefficient of the 8-item short form was 0.89 (Freeman et al., 2023).

2.1.3.2. Big Five Inventory. Rammstedt and John (2007) developed the inventory as a 10-item measurement tool to assess the Big Five personality traits. The Turkish version was adapted by Turkum et al. (2016). Participants rate each of the items on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). There are two items representing five personality traits in each factor: openness, extraversion, neuroticism, conscientiousness, and agreeableness. Reported Cronbach's alpha coefficients for the sub-dimensions of the BFI are 0.68, 0.71, 0.73, 0.73, and 0.71, respectively.

2.1.3.3. Subjective Happiness Scale. Developed by Lyubomirsky and Lepper (1999), the Subjective Happiness Scale includes self-evaluations of individuals and is a self-report-based scale consisting of 4 items. For instance, "Some people are usually very happy. They enjoy life no matter what, they make the most of everything" on a scale of 1 (not at all) to 7 (very much). The points that can be obtained from the scale range from 4 to 28. Lower scores mean that the individual has lower subjective happiness. Akın and Satıcı (2011) adapted the scale into Turkish and found Cronbach's α value to be 0.86. Cronbach's α value for this study has been calculated as 0.72.

2.1.3.4. Rosenberg Self-Esteem Scale. To assess the current level of self-esteem, Rosenberg (1965) developed a 4-point Likert-type scale (1 = Very False, 2 = False, 3 = True, and 4 = Very True) consisting of 10 items. It consists of 10 items on the theme of self-esteem. Çuhadaroglu (1986) adapted the Turkish version of the scale. After the reverse items were coded, higher scores indicate higher self-esteem. The original scale's Cronbach's alpha value was calculated as 0.84 (Çuhadaroglu, 1986). For this study, Cronbach's alpha reliability coefficient was calculated as 0.90.

2.1.4. Data analysis

Initially, descriptive statistical analyses were conducted using IBM SPSS Statistics version 26. The 24-item long form and the 8-item short form were analyzed using the CFA method via AMOS Graphics software to examine the factor analysis of the scale. Furthermore, configural, metric, and scalar invariance analyses were executed to assess gender-based measurement invariance among male and female participants. Additionally, the Item Response Theory (IRT) method was utilized to determine the distinctiveness and difficulties of the scale and this analysis was carried out using Stata software. Lastly, several reliability coefficients including Cronbach's Alpha (α), McDonald's Omega (ω), and Guttmann's Lambda (λ6) were examined using JASP software for assessing the reliability of the scale.

2.2. Results

First, the psychometric properties of the long form of the scale (24-item) were analyzed, followed by the analysis of the short form of the scale (8-item). The 24-item long form of OxPos did not show an acceptable model fit (χ^2/df = 4.165; CFI = 0.887; GFI = 0.821; AGFI = 0.782; NFI = 0.857; TLI = 0.987; IFI = 0.888; SRMR = 0.0617; RMSEA = 0.089). On the other hand, the 8-item short form of OxPos was found to be a good fit according to all goodness-of-fit tests (χ^2/df = 2.693; CFI = 0.981; GFI = 0.978; AGFI = 0.942; NFI = 0.971; TLI = 0.963; IFI = 0.982; SRMR = 0.0286; RMSEA = 0.065). In addition, all standardized factor loadings were significant (p < 0.001) and ranged from 0.684 to 0.813. As a result, the long form of OxPos (24 Items) could not be validated, while the short form (8 Items) was validated. The factor loadings, item-total correlations, and statistics are given in Table 2. Moreover, the factors of OxPos and its relationship with other variables are presented in Table 3. OxPos short form was correlated positively with all factors (mastery: r = 0.83, p < 0.001; strength: r = 0.82, p < 0.001; enjoyment: r = 0.79, p < 0.001; character: r = 0.68, p < 0.001). Oxpos was positively correlated with subjective happiness (r = 0.42, p < 0.001), self-esteem (r = 0.65, p < 0.001), openness (r = 0.30, p < 0.001), conscientiousness (r = 0.38, p < 0.001), extraversion (r = 0.36, p < 0.001) and agreeableness (r = 0.28, p < 0.001) and negatively correlated with neuroticism (r = −0.36, p < 0.001). Descriptive statistics and correlation results for other factors are shown in are presented in Table 3.

2.2.1. Measurement invariance

Following the examination of the factor structures of OxPos through confirmatory factor analysis, the investigation was conducted to determine whether OxPos measures different constructs comparably. In this context, Applied CFA results separately to gender-disaggregated datasets were scrutinized. The findings revealed that the scale demonstrated a statistically significant fit for both female and male participants. The results further indicated that the Turkish adaptation of OxPos achieved metric invariance (ΔCFI = 0.002) and scalar invariance (ΔCFI = 0.001), as illustrated in Table 4. This suggests that the Turkish version of OxPos holds consistent meaning for both men and women.

2.2.2. Item response theory

Item response theory (IRT) represents an essential and popular approach for analyzing and modeling item response data applicable to a wide range of measurement problems (Harwell et al., 1996). Item response theory requires the evaluation of each item rather than the summation (Baker & Kim, 2017). For Likert-type scales, item response theory concerns the sequential conceptualization of response options (Fraley et al., 2000). Due to the Likert structure of OxPos, we believe that IRT analysis will reveal the discrimination of responses more accurately. According to Baker (2001, p.34), α value >1 indicates a high level of discrimination. In the IRT analysis, the values of all items were found to be >1 (see Table 5).

2.2.3. Reliability

For the OxPos short form, Cronbach's Alpha, McDonald's Omega, and Guttmann's Lambda reliability analyses were conducted. The results of the reliability analyses are presented in Table 6. The results of the reliability analyses showed that the scale provides a reliable measurement.

Table 2

Factor loadings, descriptive statistics and Item-total correlations.

Factor	Item	Factor Loadings	Mean	SD	Item Total Correlations
F1 (mastery)	1. I can succeed	0.774	2.93	0.992	0.649
	2. I am worthwhile	0.684	2.87	1.151	0.616
F2 (strength)	3. I rise to the challenge	0.771	2.69	1.076	0.608
	4. I can do things as well as anyone else	0.793	3.03	0.982	0.681
F3 (enjoyment)	5. I can relax	0.779	2.60	1.166	0.595
	6. I can have fun	0.796	2.97	1.117	0.605
F4 (character)	7. I am a good person	0.813	3.14	1.057	0.500
	8. I am helpful	0.790	3.16	0.957	0.494

$N = 403$.

Table 3

Descriptive statistics and correlations with OxPos short form.

Variables	Mean	SD	Skewness	Kurtosis	Correlation with OxPos Short Form r	Correlation with OxPos Short Form p
Study I						
OxPos (8 Item Total Score)	23.38	5.97	−0.99	1.34	–	–
Subjective Happiness Scale	17.67	5.02	−0.19	−0.40	0.429	<0.001
Self Esteem Scale	29.30	6.43	−0.30	−0.51	0.650	<0.001
Big Five Personality Traits						
Openness	7.40	1.85	−0.32	−0.40	0.299	<0.001
Conscientiousness	6.73	1.89	−0.10	−0.38	0.383	<0.001
Extraversion	6.67	2.05	−0.10	−0.59	0.364	<0.001
Agreeableness	7.73	1.71	−0.45	−0.14	0.287	<0.001
Neuroticism	6.01	2.01	−0.05	−0.43	−0.364	<0.001
Study II						
OxPos (8 Item Total Score)	23.26	5.75	−0.840	1.00	–	–
Anxiety	6.05	4.67	0.659	−0.251	−0.234	<0.001
Stress	7.48	5.13	0.432	−0.499	−0.377	<0.001
Depression	5.92	5.06	0.863	0.106	−0.495	<0.001
Subjective Vitality	31.66	8.34	−0.002	−0.509	0.567	<0.001
Psychological Well-Being	41.35	8.58	−0.736	0.321	0.694	<0.001

Table 4

Fit indices of gender invariance.

Invariance	χ^2	df	NFI	CFI	RMSEA	SRMR	ΔCFI
Females	28.809	14	0.967	0.982	0.068	0.0318	–
Males	27.031	14	0.947	0.973	0.074	0.0402	–
Configural invariance	55.840	28	0.959	0.979	0.050	0.0318	–
Metric invariance	57.408	32	0.958	0.981	0.044	0.0329	0.002
Scalar invariance	62.302	36	0.955	0.980	0.043	0.0535	0.001

Table 5

IRT results for the OxPos.

Item	*a* coefficient	SE	Confidence interval	z	$p > |z|$
Item 1	2.42	0.23	1.96–2.88	10.25	0.001
Item 2	1.98	0.19	1.60–2.36	10.24	0.001
Item 3	2.28	0.22	1.84–2.71	10.33	0.001
Item 4	2.55	0.25	2.06–3.05	10.07	0.001
Item 5	1.65	0.16	1.32–197	10.00	0.001
Item 6	1.79	0.18	1.43–2.14	9.87	0.001
Item 7	1.22	0.14	0.93–1.50	8.43	0.001
Item 8	1.22	0.14	0.94–1.50	8.48	0.001

Table 6

Reliability results of OxPos.

	Study I ($N = 403$)	Study II ($N = 375$)
Cronbach's alpha	0.852	0.860
McDonald's omega	0.852	0.861
Gutmann's lambda	0.857	0.865

3. Study II

In Study II, after assessing the psychometric properties of OxPos, we tested the serial mediating role of psychological distress and subjective vitality in the link between positive self and psychological well-being. The concept of psychological well-being emphasizes positive self-regard (Ryff & Singer, 2008). Furthermore, psychological well-being was observed to exhibit a negative correlation with psychological distress, whereas it displayed a positive correlation with positive variables such as life satisfaction (Winefield et al., 2012). Besides that, the twenty-four character strengths of psychological well-being encompass approaching life with excitement and energy, engaging in activities with enthusiasm, and experiencing a sense of vitality (Park et al., 2004). Based on these findings, we suggest that it would be significant to test the mediating role of psychological distress and subjective vitality in the relationship between positive self and psychological well-being.

3.1. Methods

3.1.1. Participants and procedure

Study II consists of a total of 375 participants from 53 cities in Türkiye. Data were collected via Google Forms online. Among the participants, 56 % were female ($n = 210$), and 44 % were male ($n = 165$). The mean age of the participants was 26 years (SD = 7.27; range = 18–56). The participants' demographics are summarized in Table 1.

3.1.2. Measures

3.1.2.1. Depression-Anxiety-Stress Scale.
The DASS-21 was developed as a self-report scale by Lovibond and Lovibond (1995) to measure the intensity and frequency of symptoms in the past week. It consists of 3 factors, each consisting of 7 sub-items. These factors include depression,

anxiety, and stress. Yıldırım et al. (2018) adapted the Turkish version of the scale. The reliability coefficients ranged between 0.76 and 0.82 for the adaptation of the Turkish form (Yıldırım et al., 2018). Cronbach's alpha reliability coefficients for the present study were 0.82, 0.88, and 0.87, respectively.

3.1.2.2. Flourishing Scale. Developed originally by Diener et al. (2010) and adapted into Turkish by Telef (2013), the psychological well-being scale defines basic human components such as positive relationships, a sense of efficacy, and meaningful and purposive life (Telef, 2013). The name of the psychological well-being scale was later changed to the flourishing scale to better reflect the content of the scale. The scale consists of 8 items in a 7-point Likert-type self-report scale with a single-factor structure. Cronbach's alpha reliability coefficient was found to be 0.87. For the present study, the Cronbach's alpha reliability coefficient is 0.88.

3.1.2.3. Subjective Vitality Scale. The subjective vitality scale is a single-factor 7-point Likert-type scale consisting of 7 items (e.g. I feel alive and energized). Higher scores refer to higher levels of subjective vitality. The total score ranges between 7 and 49. Akın et al. (2012) adapted the Turkish version of the scale. Cronbach's alpha coefficient of the Turkish version was reported to be 0.84. For the present study, Cronbach's alpha coefficient was calculated as 0.87.

3.1.3. Data analysis

All the data were analyzed with IBM Statistics version 26 and AMOS Graphics version 22. The sub-dimensions of the scales were created as specified by the scale developers. Correlation tests were conducted between variables. Additionally, since the Flourishing Scale and Subjective Vitality Scale have a single-factor structure, two parcels were formed for each of them. Afterward, mediation tests were performed with structural equation modeling. We examined the mediating role of subjective vitality and psychological distress regarding the relation between positive self and psychological well-being. Moreover, bootstrap analysis was utilized to assess the significance of the indirect effect.

3.2. Results

Positive-self (short form) was negatively correlated with anxiety ($r = -0.234$, $p < 0.001$), depression ($r = -0.495$, $p < 0.001$) and stress ($r = -0.377$, $p < 0.001$) and positively correlated with psychological well-being ($r = -0.694$, $p < 0.001$) and subjective vitality ($r = 0.567$, $p < 0.001$). Structural equation modeling findings showed that the model fit

was good ($\chi^2/df = 3.097$; CFI $= 0.966$; GFI $= 0.946$; AGFI $= 0.906$; NFI $= 0.951$; TLI $= 0.951$; IFI $= 0.966$; SRMR $= 0.0423$; RMSEA $= 0.075$). As a result, psychological distress and subjective vitality serially and partially mediate the relationship between positive self and psychological well-being. All standardized coefficients are presented in Fig. 1.

Data on direct and indirect roles at 95 % confidence intervals are presented in Table 7. The indirect role was also statistically significant (bootstrap estimate $= 0.326$, 95%CI $= 0.255$–0.406). According to this result, we suggest that the mediating role of psychological distress and subjective vitality is significant in the relationship between positive self and psychological well-being (see Table 7).

4. Discussion

In recent years, endeavors to enhance individuals' positive cognitions have gained increasing significance. Positive psychology, as posited by Alex Linley et al. (2006), directs attention towards individuals' strengths rather than concentrating on their vulnerabilities or symptoms. In this context, we adapted the Oxford Positive Self-Scale, which was developed to improve positive cognitions and positive beliefs, to the Turkish language and Turkish culture examined it with a series of variables, and conducted two separate studies in this direction.

In the first study, the Oxford Positive Self-Scale was first translated into Turkish and then into English, the language of development, by experts fluent in Turkish and English. After necessary checks and corrections, we measured its psychometric properties. Our first result was that the long form of OxPos (24 items) could not be validated in CFA. However, in the confirmatory factor analysis of the short form (8 items), all goodness-of-fit tests were at acceptable levels and the 4-factor structure was confirmed. In addition, the 4-dimensional structure

Table 7
Parameters and 95%CIs for the paths of the final model.

| Model pathways	Estimated	95%CI	
		Lower	Upper
Direct link			
Positive self → Distress	−0.567	−0.651	−0.468
Positive self → Subjective vitality	0.473	0.360	0.579
Positive self → psychological well-being	0.464	0.360	0.572
Distress → Subjective vitality	−0.314	−0.430	−0.202
Subjective vitality → Psychological well-being	0.288	0.182	0.391
Indirect link			
Positive self → Distress → Subjective vitality → Psychological well-being	0.326	0.255	0.406
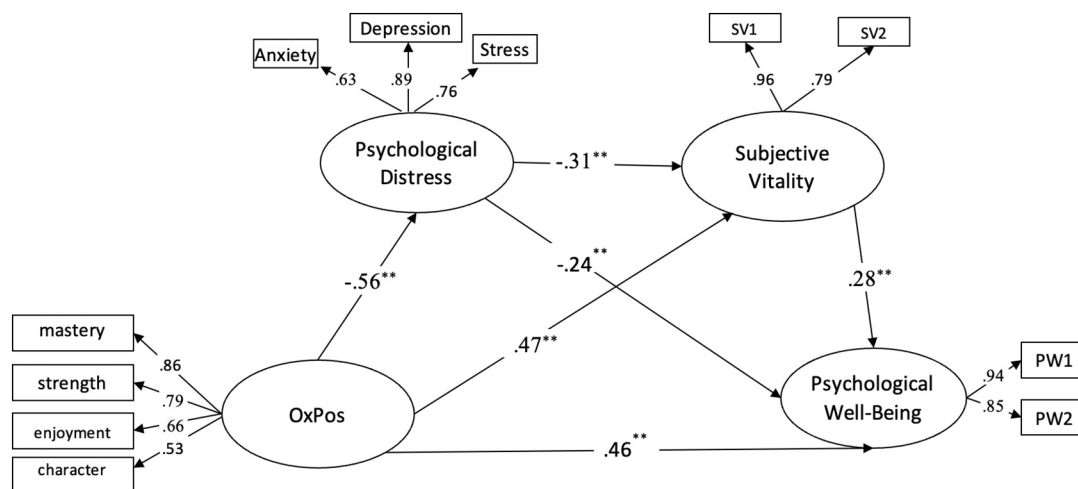
Fig. 1. Structural equation modeling for the serial mediation model. Note. * $p < 0.05$, ** $p < 0.01$, *OxPos*: Oxford Positive Self-Scale, *SV*: parcel of subjective vitality, *PW*: parcel of Psychological Well-Being.

proposed in the gender-based configurational, metric, and scalar analysis yielded similar results in both men and women. These invariance results are consistent with the original form of the scale. The scale showed reliable results in Cronbach's alpha, McDonald's Omega, and Gutmann's Lambda reliability analyses. In addition, the discrimination of item responses was analyzed with IRT, and the responses of all items were found to be discriminative. In IRT analysis α value higher than 1 is an indicator of discrimination (Baker, 2001, p.35) (see Table 5). In conclusion, the short form of the scale confirmed the 4-factor structure, provided measurement invariance, had good response discrimination, and yielded reliable results. We also think that the short form is more useful, more practical, and more applicable to large sample sizes.

The second study examined the mediating role of psychological distress and subjective vitality between positive self and psychological well-being. Subjective vitality and psychological distress were found to contribute indirectly to associations between positive self and psychological well-being. In other words, having positive beliefs about the self contributes to individuals experiencing less psychological distress and thus increasing their psychological well-being by increasing their subjective vitality. In parallel with our study, studies are reporting that positive self predicts depressive symptoms negatively (Ociskova et al., 2019), psychological distress was identified as a significant predictor of life satisfaction (Deniz et al., 2023), and positive self predicts subjective vitality positively (Satıcı & Deniz, 2019). Vitality, described as the ability to approach life with enthusiasm and energy, do things with vigor and enthusiasm, experience an adventure, and feel active and alive, is included in the character strengths classification (Peterson & Seligman, 2004).

In an experimental study, the intervention implemented to enhance positive affect was linked to changes in individuals' level of satisfaction and mental health (Schutte, 2014). There are many findings that positive psychology-based interventions reduce depressive symptoms and support well-being (Bolier et al., 2013; Sin & Lyubomirsky, 2009). Cognitive therapy emphasizes the identification and modification of negative cognitions (Casey et al., 2004), whilst positive psychology emphasizes positive characteristics and suggests that positive characteristics function as a potential protective buffer mechanism against mental disorders (Seligman & Csikszentmihalyi, 2000). In other terms, even if we have negative cognitions, we can protect ourselves from mental disorders by enhancing our positive cognitions. To support this suggestion, positive cognitions were found to be positively related to happiness, well-being, and satisfaction, and negatively related to depression, anxiety, and anger (Alsaleh et al., 2016; Lathabhavan & Lathabhavan, 2022; Wong, 2010). Additionally, in an empirical study rooted in positive psychology and directed towards cultivating hopeful goals, the intervention was discovered to positively impact the psychological well-being of the participants (Feldman & Dreher, 2012). Moreover, another empirical study reported an elevation in the participants' happiness levels and a reduction in depression levels following sessions designed to foster optimism and self-compassion in individuals (Shapira & Mongrain, 2010).

Our results are consistent with studies reporting the positive association of subjective vitality with psychological well-being and life satisfaction (Fini et al., 2010), and that subjective vitality positively predicts subjective happiness (Akın & Akın, 2015), has positive relationships with self-esteem (Castillo et al., 2017), positive self-worth, positive self-esteem are related to psychological well-being (Owens, 1994; Soucase et al., 2023).

4.1. Limitations

This scale adaptation has some limitations. At first, the present study was conducted with self-report questionnaires, which might lead to some subjective errors. Second, due to the cross-sectional design of the study, it is hard to reach causal conclusions. We believe that causality-effect relationships should be examined through experimental and longitudinal studies. Finally, the present study was performed on a non-clinical population from different cities in Türkiye. The study of the scale with a clinical sample will improve the results.

4.2. Implications

Interventions based on positive psychology focus on the construction and stabilization of positive cognitions rather than eliminating individuals' negative cognitions. In this context, the Positive Self Scale Turkish short form could be utilized in future studies to assess positive self-beliefs in the Turkish literature in a valid and reliable measurement instrument. Positive self-concept can be considered as a protective factor against negative conditions such as anxiety, depression, and stress and preventive studies aiming to improve it can be designed. In addition, it may be effective in improving the positive self-concept for intervention studies that can be designed to support individuals' psychological well-being and reduce anxiety levels. Furthermore, we believe that a brief, simplistic, and comprehensible version of the scale would appeal to different groups of society and provide an easy-to-use instrument.

4.3. Conclusion

The concept of positive self was investigated in two distinct studies with different samples by using short and long versions. Our results showed that the Oxford Positive-Self Scale Short Form (8 items) is a reliable and valid measurement tool. In addition, it was also found that the long version (24 items) of the scale did not support the same construct in Turkish culture. Another result was that a positive self increased psychological well-being by predicting psychological distress negatively and subjective vitality positively. We suggest that future empirical and longitudinal studies could improve the comprehension of the positive self-concept.

CRediT authorship contribution statement

Büşra Kocyigit: Writing – original draft, Investigation, Formal analysis, Data curation, Conceptualization. **Gamze Ceco:** Writing – review & editing, Visualization, Validation, Resources, Methodology. **M. Engin Deniz:** Writing – review & editing, Validation, Supervision, Project administration. **Seydi Ahmet Satici:** Writing – review & editing, Supervision, Methodology, Investigation.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

References

Akande, S. O. (2009). Knowledge, perception, and attitudes of library personnel towards preservation of information resources in Nigerian Federal University Libraries. *Library Philosophy and Practice (e-journal), 303*, 1–8.

Akın, A., & Akın, U. (2015). Friendship quality and subjective happiness: The mediator role of subjective vitality. *Eğitim ve Bilim, 40*(177), 233–243. https://doi.org/10.15390/EB.2015.3786.

Akın, A., & Satıcı, S. A. (2011). Subjective happiness scale: A study of validity and reliability. *Sakarya University Journal of Education Faculty, 21*, 65–77.

Akın, A., Satıcı, S. A., Arslan, S., Akın, Ü., & Kayıs, A. R. (2012). The validity and reliability of the Turkish version of the Subjective Vitality Scale (SVS). In *Paper presented at the 4th world conference on educational sciences, February, 2–5, Barcelona, Spain*.

Alessandri, G., Zuffianò, A., Fabes, R., Vecchione, M., & Martin, C. (2014). Linking positive affect and positive self-beliefs in daily life. *Journal of Happiness Studies, 15*, 1479–1493. https://doi.org/10.1007/s10902-013-9487-y

Alex Linley, P., Joseph, S., Harrington, S., & Wood, A. M. (2006). Positive psychology: Past, present, and (possible) future. *The Journal of Positive Psychology, 1*(1), 3–16. https://doi.org/10.1080/17439760500372796

Alsaleh, M., Lebreuilly, R., Lebreuilly, J., & Tostain, M. (2016). The relationship between negative and positive cognition and psychopathological states in adults aged 18 to 20. *Journal de Thérapie Comportementale et Cognitive, 26*(2), 79–90. https://doi.org/10.1016/j.jtcc.2016.02.002

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

Aydın, D., & Uçman, P. (2019). Investigation of the working life characteristics of the Turkish society within the framework of hofstede's dimensions. *Management and Political Sciences Review, 1*(2), 131–151.

Baker, F. B. (2001). *The basics of item response theory* (2nd ed.). Eric https://eric.ed.gov/?id=ED458219.

Baker, F. B., & Kim, S. H. (2017). *The basics of item response theory using R.* Springer.

Beck, A. T., Steer, R. A., Epstein, N., & Brown, G. (1990). Beck self-concept test. *Psychological Assessment: A Journal of Consulting and Clinical Psychology, 2*(2), 191–197. https://doi.org/10.1037/1040-3590.2.2.191

Boehm, J. K., & Kubzansky, L. D. (2012). The heart's content: The association between positive psychological well-being and cardiovascular health. *Psychological Bulletin, 138*(4), 655–691. https://doi.org/10.1037/a0027448

Boehm, J. K., Lyubomirsky, S., & Sheldon, K. M. (2011). A longitudinal experimental study comparing the effectiveness of happiness-enhancing strategies in Anglo Americans and Asian Americans. *Cognition & Emotion, 25*(7), 1263–1272. https://doi.org/10.1080/02699931.2010.541227

Bolier, L., Haverman, M., Westerhof, G., Riper, H., Smit, F., & Bohlmeijer, E. (2013). Positive psychology interventions: A meta-analysis of randomized controlled studies. *BMC Public Health, 13*(1), 119. https://doi.org/10.1186/1471-2458-13-119

Casey, L. M., Oei, T. P., & Newcombe, P. A. (2004). An integrated cognitive model of panic disorder: The role of positive and negative cognitions. *Clinical Psychology Review, 24*(5), 529–555. https://doi.org/10.1016/j.cpr.2004.01.005

Castillo, I., Tomás, I., & Balaguer, I. (2017). The Spanish-version of the Subjective Vitality Scale: Psychometric properties and evidence of validity. *The Spanish Journal of Psychology, 20*, E26. https://doi.org/10.1017/sjp.2017.22

Çuhadaroglu, F. (1986). *Self-esteem in adolescents* (Unpublished thesis). Hacettepe University.

Cullen, K. L., Gentry, W. A., & Yammarino, F. J. (2015). Biased self-perception tendencies: Self-enhancement/self-diminishment and leader derailment in individualistic and collectivistic cultures. *Applied Psychology, 64*(1), 161–207. https://doi.org/10.1111/apps.12026

Deci, E. L., & Ryan, R. M. (2008). Hedonia, eudaimonia, and well-being: An introduction. *Journal of Happiness Studies: An Interdisciplinary Forum on Subjective Well-Being, 9*(1), 1–11. https://doi.org/10.1007/s10902-006-9018-1

Deniz, M. E., Arslan, U., Satici, B., Kaya, Y., & Akbaba, M. F. (2023). A Turkish adaptation of the fears and resistances to Mindfulness Scale: Factor structure and psychometric properties. *Journal of Social and Educational Research, 2*(2), 79–84. https://doi.org/10.5281/zenodo.10442299

Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D.-w., Oishi, S., & Biswas-Diener, R. (2010). New well-being measures: Short scales to assess flourishing and positive and negative feelings. *Social Indicators Research, 97*(2), 143–156. https://doi.org/10.1007/s11205-009-9493-y

Doğan, T., & Çötok, N. A. (2011). Adaptation of the short form of the Oxford happiness questionnaire into Turkish: A validity and reliability study. *Türk Psikolojik Danışma ve Rehberlik Dergisi, 4*(36), 165–172.

Feldman, D. B., & Dreher, D. E. (2012). Can hope be changed in 90 minutes? Testing the efficacy of a single-session goal-pursuit intervention for college students. *Journal of Happiness Studies, 13*, 745–759. https://doi.org/10.1007/s10902-011-9292-4

Fini, A. A. S., Kavousian, J., Beigy, A., & Emami, M. (2010). Subjective vitality and its anticipating variables on students. *Procedia-Social and Behavioral Sciences, 5*, 150–156. https://doi.org/10.1016/j.sbspro.2010.07.064

Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). An item response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology, 78*(2), 350–365. https://doi.org/10.1037/0022-3514.78.2.350

Freeman, D., Rosebrock, L., Loe, B., Saidel, S., Freeman, J., & Waite, F. (2023). The Oxford Positive Self Scale: Psychometric development of an assessment of cognitions associated with psychological well-being. *Psychological Medicine, 1-9*. https://doi.org/10.1017/S0033291723000624

Gecas, V. (1982). The self-concept. *Annual Review of Sociology, 8*(1), 1–33. https://doi.org/10.1146/annurev.so.08.080182.000245

Gotlib, I. H., & Joormann, J. (2010). Cognition and depression: Current status and future directions. *Annual Review of Clinical Psychology, 6*, 285–312. https://doi.org/10.1146/annurev.clinpsy.121208.131305

Harman, M. (2017). The interaction of culture, self-perception, and depression in native American youth. *Michigan Sociological Review, 31*, 152–172. http://www.jstor.org/stable/26284788.

Harris, P. R., Griffin, D. W., Napper, L. E., Bond, R., Schüz, B., Stride, C., & Brearley, I. (2019). Individual differences in self-affirmation: Distinguishing self-affirmation from positive self-regard. *Self and Identity, 18*(6), 589–630. https://doi.org/10.1080/15298868.2018.1504819

Harwell, M., Stone, C. A., Hsu, T.-C., & Kirisci, L. (1996). Monte Carlo studies in item response theory. *Applied Psychological Measurement, 20*(2), 101–125. https://doi.org/10.1177/014662169602000201

Heine, S. J., Lehman, D. R., Markus, H. R., & Kitayama, S. (1999). Is there a universal need for positive self-regard? *Psychological Review, 106*(4), 766–794. https://doi.org/10.1037/0033-295X.106.4.766

Hisli, N. (1989). A reliability and validity study of Beck Depression Inventory in a university student sample. *Journal of Psychology, 7*(23), 3–13.

Hulme, N., Hirsch, C., & Stopa, L. (2012). Images of the self and self-esteem: Do positive self-images improve self-esteem in social anxiety? *Cognitive Behaviour Therapy, 41*(2), 163–173. https://doi.org/10.1080/16506073.2012.664557

İmamoğlu, E. O., & Aygun, Z. K. (1999). Value preferences from 1970s to 1990s: Cohort, generation and gender differences at a Turkish university. *Türk Psikoloji Dergisi, 14*(44), 1–22.

Judge, T. A., Erez, A., & Bono, J. E. (1998). The power of being positive: The relation between positive self-concept and job performance. *Human Performance, 11*(2–3), 167–187. https://doi.org/10.1080/08959285.1998.9668030

Kagitcibasi, C., & Ataca, B. (2005). Value of children and family change: A three-decade portrait from Turkey. *Applied Psychology: An International Review, 54*(3), 317–337. https://doi.org/10.1111/j.1464-0597.2005.00213.x

Kim, Y. H., Chiu, C. Y., Cho, S., Au, E. W., & Kwak, S. N. (2014). Aligning inside and outside perspectives of the self: A cross-cultural difference in self-perception. *Asian Journal of Social Psychology, 17*(1), 44–51. https://doi.org/10.1111/ajsp.12042

Konkan, R., Şenormanci, Ö., Güçlü, O., Aydin, E., & Sungur, M. Z. (2013). Validity and reliability study for the Turkish Adaptation of the Generalized Anxiety Disorder-7 (GAD-7). *Scale Archives of Neuropsychiatry, 50*(1), 53–58. https://doi.org/10.4274/npa.y6308

Lathabhavan, R., & Lathabhavan, R. (2022). Psychological capital and anxiety: A study among Gen Z job seekers. *Journal of Social and Educational Research, 1*(1), 21–26. https://www.journalser.com/jser/article/view/10.

Lin, C. C. (2015). Self-esteem mediates the relationship between dispositional gratitude and well-being. *Personality and Individual Differences, 85*, 145–148. https://doi.org/10.1016/j.paid.2015.04.045

Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the beck depression and anxiety inventories. *Behaviour Research and Therapy, 33*(3), 335–343. https://doi.org/10.1016/0005-7967(94)00075-U

Lyubomirsky, S., & Lepper, H. S. (1999). A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research, 46*(2), 137–155. https://doi.org/10.1023/A:1006824100041

Nelson, S. K., Fuller, J. A. K., Choi, I., & Lyubomirsky, S. (2014). Beyond self-protection: Self-affirmation benefits hedonic and Eudaimonic well-being. *Personality and Social Psychology Bulletin, 40*(8), 998–1011. https://doi.org/10.1177/0146167214533389

Ociskova, M., Prasko, J., & Kupka, M. (2019). Positive Self-Relation Scale – Development and psychometric properties. *Psychology Research and Behavior Management, 12*, 861–875. https://doi.org/10.2147/PRBM.S212923

Öner, N., & Le Compte, A. (1983). *State-trait anxiety inventory handbook.* Bogazici University Publications.

Owens, T. J. (1994). Two dimensions of self-esteem: Reciprocal effects of positive self-worth and self-deprecation on adolescent problems. *American Sociological Review, 59*(3), 391–407. https://doi.org/10.2307/2095940

Park, N., Peterson, C., & Seligman, M. E. (2004). Strengths of character and well-being. *Journal of Social and Clinical Psychology, 23*(5), 603–619. https://doi.org/10.1521/jscp.23.5.603.50748

Peterson, C., & Seligman, M. E. (2004). *Character strengths and virtues: A handbook and classification* (vol. 1). Oxford University Press.

Quoidbach, J., Wood, A. M., & Hansenne, M. (2009). Back to the future: The effect of daily practice of mental time travel into the future on happiness and anxiety. *The Journal of Positive Psychology, 4*(5), 349–355. https://doi.org/10.1080/17439760902992365

Rammstedt, B., & John, O. P. (2007). Measuring personality in one minute or less: A 10-item short version of the big five inventory in English and German. *Journal of Research in Personality, 41*(1), 203–212. https://doi.org/10.1016/j.jrp.2006.02.001

Rosenberg, M. (1965). *Rosenberg Self-Esteem Scale (RSES) [Database Record].* APA PsycTests. https://doi.org/10.1037/t01038-000

Ryff, C. D. (1995). Psychological well-being in adult life. *Current Directions in Psychological Science, 4*(4), 99–104. https://doi.org/10.1111/1467-8721.ep10772395

Ryff, C. D., & Singer, B. H. (2008). Know thyself and become what you are: A eudaimonic approach to psychological well-being. *Journal of Happiness Studies, 9*, 13–39. https://doi.org/10.1007/s10902-006-9019-0

Satıcı, S. A. (2016). *Investigation of academic self-efficacy of university students in terms of various variables (Publication No. 432440) [Doctoral dissertation, Anadolu University].*

Satıcı, S. A., & Deniz, M. E. (2019). Adolescents' self-perception and school satisfaction: Assessing the mediating role of subjective vitality. *Education and Science, 44*(197), 367–381 (https://doi.org/10.15390/EB.2019.7289).

Satıcı, S. A., & Gocet-Tekin, E. (2017). Harmony in Life Scale - Turkish version: Studies of validity and reliability. *Psicologia, Reflexao e Critica, 30*(1), 18. https://doi.org/10.1186/s41155-017-0073-9

Schutte, N. S. (2014). The broaden and build process: Positive affect, ratio of positive to negative affect and general self-efficacy. *The Journal of Positive Psychology, 9*(1), 66–74. https://doi.org/10.1080/17439760.2013.841280

Seligman, M. E., & Csikszentmihalyi, M. (2000). *Positive psychology: An introduction* (vol. 55). American Psychological Association.

Shapira, L. B., & Mongrain, M. (2010). *The benefits of self-compassion and optimism exercises for individuals vulnerable to depression. The Journal of Positive Psychology, 5* (5), 377–389. https://doi.org/10.1111/apps.12026

Sin, N. L., & Lyubomirsky, S. (2009). Enhancing well-being and alleviating depressive symptoms with positive psychology interventions: A practice-friendly meta-analysis. *Journal of Clinical Psychology, 65*(5), 467–487. https://doi.org/10.1002/jclp.20593

Soucase, B., Garcia-Alandete, J., & Rubio-Belmonte, C. (2023). Presence of/search for meaning and positive psychological functioning in Spanish emerging adults. *Current Psychology, 42*(3), 2198–2207. https://doi.org/10.1007/s12144-021-02394-z

Telef, B. B. (2013). The adaptation of psychological well-being into Turkish: A validity and reliability study. *Hacettepe University Journal of Education, 28*(3), 374–384.

Tomyn, A. J., & Cummins, R. A. (2011). Subjective wellbeing and homeostatically protected mood: Theory validation with adolescents. *Journal of Happiness Studies, 12* (5), 897–914. https://doi.org/10.1007/s10902-010-9235-5

Turkum, A. S., Satici, S. A., Yilmaz, M. F., & Kayis, A. R. (2016). Turkish version of 10-Item Big Five Inventory's psychometric properties. In *Paper presented at the X. European conference on social and behavioral sciences*. Sarajevo: Bosnia and Herzegovina.

Vázquez, C., Hervás, G., Rahona, J. J., & Gómez, D. (2009). Psychological well-being and health. Contributions of positive psychology. *Annuary of Clinical and Health Psychology, 5*, 15–27.

Winefield, H. R., Gill, T. K., Taylor, A. W., & Pilkington, R. M. (2012). Psychological well-being and psychological distress: Is it necessary to measure both? *Psychology of Well-Being: Theory, Research and Practice, 2*(1), 1–14. https://doi.org/10.1186/2211-1522-2-3

Wong, S. S. (2010). States-of-mind in psychopathology and psychological well-being. *Journal of Psychopathology and Behavioral Assessment, 32*(2), 178–184. https://doi.org/10.1007/s10862-009-9148-y

Yeung, J. C., & Lun, V. M.-C. (2016). When self-help materials help: Examining the effects of self-discrepancy and modes of delivery of positive self-statements. *The Journal of Positive Psychology, 11*(2), 163–172. https://doi.org/10.1080/17439760.2015.1037862

Yıldırım, A., Boysan, M., & Kefeli, M. C. (2018). Psychometric properties of the Turkish version of the Depression Anxiety Stress Scale-21 (DASS-21). *British Journal of Guidance & Counselling, 46*(5), 582–595. https://doi.org/10.1080/03069885.2018.1442558

Yılmaz, Ò., Boz, H., & Arslan, A. (2017). The validity and reliability of depression stress and anxiety scale (DASS-21) Turkish short form. *Research of Financial Economic and Social Studies, 2*(2), 78–91.