Regular Article

Adaptation and Preliminary Validation of a Positive Psychology Assessment Tool: Character Strengths Semantic Differential Scale

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Abstract

Character strengths are a protective factor against psychological symptoms. However, there is a lack of research that has investigated the psychometric properties of abbreviated character strengths scales. The purpose of this study was to adapt and validate the Character Strengths Semantic Differential Scale (CS-SDS) with a sample of 235 college students. Using the back-translation method, the CS-SDS was translated from English into Turkish and then adapted. Next, exploratory factor analysis was conducted to determine the factorial structure of the Turkish version of CS-SDS (T-CS-SDS). The results indicated that the T-CS-SDS had a four-factor structure, namely, leadership, humanity, wisdom, and vitality. Significant moderate correlations were found for the character strengths factors with perceived stress, depression, and life satisfaction. Cronbach's alpha coefficients for the factors were above .70. This is the first study that supported the use of the T-CS-SDS as a positive psychology assessment tool to design and implement innovative interventions to increase the well-being of college students.

Keywords

character strengths, validity, reliability, life satisfaction

Introduction

Martin Seligman presented positive psychology to the audience in the annual American Psychological Association presidential meeting in 1998. He indicated that since World War II, the field of psychology has concentrated on repairing damage and healing the pathology (Seligman, 1998). However, it could not achieve the expected outcomes (Seligman, 1998). Positive psychology, the new modern behavioral science that focuses on human strengths and virtues, might be

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a more efficient way of improving the mental health and well-being of society. Focusing on human strength and what is health- and growth-oriented within and between people may actively prevent problems and help to build flourishing individuals and societies (Friedman, 2008).

In line with humanistic psychology, positive psychology explores protective personal factors and practices to help people achieve optimal functioning (Duckworth et al., 2005; Friedman, 2008). Character strengths are one of the tenets and key protective factors in the field of positive psychology that are manifested in the range of individual behaviors (i.e., thoughts, feelings, and actions) and contribute to various fulfillments in producing desirable outcomes (i.e., academic success) (Park et al., 2004). People typically have varying degrees of character strengths; however, each person owns, celebrates, and practices several distinct character strengths (Peterson & Seligman, 2004). Personal and environmental factors such as good parenting, schooling, and socializing can help cultivate specific character strengths. If cultivated and exercised, character strengths not only prevent mental health problems but also produce healthy development (Noronha et al., 2019; Park & Peterson, 2009; Shogren et al., 2017) that can foster positive educational environments (Duan, 2016).

Although college life provides opportunities for growth and development, leaving a known environment, being exposed to new ideologies that conflict with traditional values, adjusting to new circumstances, and dealing with academic and financial problems can cause stress among college students (Akinlotu & Ertan, 2018; Kaya et al., 2021). In addition, Turkish college students face specific college life problems, including lack of current knowledge among professors, lack of university facilities and resources, including libraries and meeting rooms, and lack of off-campus transportation that costs both time and money (Arslan & Akkas, 2014). From the positive psychology perspective, character strengths can impact how people appraise situations and mobilize coping resources. In that regard, character strengths can be a significant protective factor that can empower college students against mental health problems.

Character strengths sustain mental health by promoting psychological well-being and reducing psychological symptoms (Duan, 2016; Park, 2004). Research indicates that character strengths play a mediating role and buffer against perceived stress (Li et al., 2017) and depression (Lee et al., 2020; Tehranchi et al., 2018), and higher levels of character strengths are significantly positively associated with physical, psychological, and social well-being (Li et al., 2017; Park & Peterson, 2009). In particular, character strengths, including inquisitiveness (Xie et al., 2020), curiosity, love (Kim et al., 2018), kindness, and teamwork (Gillham et al., 2011), are significantly negatively correlated with psychological symptoms of depression. However, hope, curiosity, zest (Peterson et al. 2007), vitality, gratitude, perseverance, and love are significantly positively correlated with life satisfaction (Noronha & Dametto, 2016).

An important first step for the use of character strengths in research and practice is to have a reliable and valid measurement tool. Peterson and Seligman (2004) constructed a classification of character strengths, in which they identified 24 character strengths that are reflective of six broad virtues, namely, *wisdom, courage, humanity, transcendence, temperance, and justice*. Based on the classification system, they developed the *Virtues in Action Inventory of Strengths* (VIA-IS) scale to assess character strengths and virtues within and between people. However, it requires approximately 30–40 minutes for the VIA-IS to be completed, a drawback that may cause challenges in research and practice. Therefore, researchers aimed to develop shorter measures to assess character strengths (Furnham & Lester, 2012). Consequently, Chan and his colleagues developed a shorter tool for measuring character strengths, named the *Character Strengths—Semantic Differential Scale* (CS-SDS), which has similar characteristics to the VIA-IS. Research provides evidence that the CS-SDS is a reliable and valid measurement tool to assess character strengths among college students (Chan et al., 2007; Chou et al., 2021; Lee et al., 2020).

Research has provided different factorial structures for VIA-IS, including five (Azanedo et al., 2014; Eeden et al., 2014; Ruch et al., 2014) and six-factor structures (Kabakci et al., 2019). However, there is scarcity of research that has investigated the psychometric properties of the CS-SDS. To the best of our knowledge, only Chou et al. (2021) investigated psychometric properties of the CS-SDS with a sample of Korean students and found a five-factor structure. Currently, there have been no research studies that evaluated shorter character strengths measures for use in Turkey. It is also not known whether the CS-SDS would provide a different factorial structure. Therefore, the purpose of the current study was to evaluate the psychometric properties of the T-CS-SDS with a sample of Turkish college students. It is believed that the findings of this study may facilitate the use of mental health and character strengths interventions (Niemiec, 2017) for research and practice for college students.

Method

Participants and Procedures

The participants of this study were 235 Turkish college students (93 male and 143 female) studying at two different universities located in the Central Anatolia and Black Sea regions of Turkey. The participants had a mean age of 20.22 (SD = 1.88) ranging from 17 to 34 years old. Among them, 24% were freshman (N = 57), 34% were sophomore (N = 79), 21% were junior (N = 49), and 21% were senior (N = 50) college students.

After IRB approvals were obtained from the affiliated universities, collaborators from the respected universities were contacted. The data were collected with the help of class instructors. Before participating in the study, the potential participants were informed about the purpose and process of the study, and they were informed that participation was totally voluntary. It was emphasized that not participating in the study would not have any negative effect on their relationship with the class instructors, and no personal information would be collected. The volunteer participants completed a questionnaire using a secured website (www.surveymonkey.com) in university computer labs. The participants were given adequate time to complete the questionnaire.

Measures

Character Strengths. *Character Strengths—The Semantic Differential Scale* (CS-SDS) measures 24 character strengths that are described in the Value in Action (VIA) classification system (Chan et al., 2007; Peterson & Seligman, 2004). This study chose to use CS-SDS over VIA-IS because of its length. The CS-SDS is composed of 24 items that use semantic differential scaling (Rosenberg and Navarro, 2018), with the items listed on bipolar adjectives on a six-point continuum (e.g., Courage 3 2 1 0−1 −2 −3 Cowardice; Humanity 3 2 1 0−1 −2 −3 Cruelty; Gratitude 3 2 1 0−1 −2−3 Ingratitude). Osgood et al. (1957) indicated that semantic differential scaling has the advantage of counteracting acquiescence bias. As a result, researchers recommended the use of a semantic differential response format instead of Likert-type scaling (Friborg et al., 2006). To make the evaluation of the scale easier, the bipolar rating can be converted to a 1–7 rating scale, and a total score can be obtained by summing the scores of individual items. Higher scores of the CS-SDS indicate higher levels of character strengths.

Translation. As recommended by Brislin et al. (1973) and the English version of the CS-SDS was translated into the Turkish language by two researchers who both have PhD degrees from American universities using the back-translation method to ensure the accuracy of the translation. Comparison of the translated version of the scale with the original version revealed that the scales

were comparable in terms of the meaning of items. The internal consistency reliability coefficient (Cronbach's alpha) of the Turkish version of the CS-SDS was reported to be .90 for the current study, indicating very high reliability (Taber, 2018).

Perceived Stress Scale (PSS-10)

The PSS-10 measures the extent to which situations in an individual's life are appraised as stressful (Cohen et al., 1983). The Turkish version of the PSS-10 (T-PSS-10; Kaya et al., 2019) was used in this study. The scale is composed of 10 items; sample items include "In the last month, how often have you felt that you were unable to control the important things in your life?" and "In the last month, how often have you been upset because of something that happened unexpectedly?." Each item is rated on a 5-point Likert-type scale (0 = *never* to 4 = *very often*). A total score is obtained by summing the scores of the individual items, with higher scores indicating higher levels of perceived stress. The internal consistency reliability coefficients (Cronbach's alpha) for the PSS-10 were reported to range between .78 and .91 (Lee, 2012). In the current study, the internal consistency reliability coefficient (Cronbach's alpha) of the T-PSS-10 was reported to be .84, indicating high reliability (Taber, 2018).

The Patient Health Questionnaire-9 (PHQ-9)

The PHQ-9 measures clinical depression (Kroenke et al., 2001). The Turkish version of the PHQ-9 was used in this study (Sari et al., 2016). The scale is composed of nine items; sample items include "Little interest or pleasure in doing things" and "Thoughts that you would be better off dead or of hurting yourself in some way." Each item is rated on a 4-point rating scale (0 = *not at all* to 3 = *nearly every day*). A total score is obtained by summing the scores of the individual items, with higher scores indicating higher levels of depression symptoms. Summed scores of 0–4, 5–9, 10–14, 15–19, and 20–27 represent no depression or a minimal level of depression, mild depression, moderate depression, moderately severe depression, and severe depression, respectively. The internal consistency reliability coefficients (Cronbach's alpha) for the PHQ-9 measures were reported to range between .86 and .89 (Kroenke et al., 2001). In the current study, the internal consistency reliability coefficient (Cronbach's alpha) of the T-PHQ-9 was reported to be .87, indicating high reliability (Taber, 2018).

Satisfaction with Life Scale (SWLS)

The SWLS measures global cognitive judgments of life satisfaction (Diener et al., 1985). The Turkish version of the SWLS was used in this study (Durak et al., 2010). The scale is composed of five items; sample items include "I am satisfied with my life" and "So far I have gotten the important things I want in life." Each item is rated on a 7-point scale (1 = *strongly disagree* to 7 = *strongly agree*). A total score is obtained by summing the scores of the individual items, with higher scores indicating higher levels of satisfaction with life. The internal consistency reliability coefficient (Cronbach's alpha) for the SWLS was reported to be .87 (Diener et al., 1985). In the current study, the internal consistency reliability coefficient (Cronbach's alpha) of the SWLS was reported to be .87, indicating high reliability (Taber, 2018).

Data Analysis

Exploratory factor analysis was used to investigate the factorial structure of the Turkish version of the CS-SDS. In addition, Pearson correlation coefficients were used to determine the relationship

between character strengths and life satisfaction, perceived stress, and depression. T tests, ANOVA, and descriptive analysis, including means and standard deviations, were used to provide a general description of the sample.

Results

Descriptive Statistics

The results indicated that the participants had a mean character strengths score of 5.84 (SD = .69), which was similar to the mean character strengths scores reported previously for Turkish youth using the VIA-IS (Kabakci et al., 2019). The participants reported that they had higher levels of integrity (M = 6.38, SD = .89), fairness (M = 6.31, SD = 1.05), and gratitude (M = 6.21, SD = .99) and lower levels of appreciation of beauty (M = 5.01, SD = 1.59), citizenship (M = 5.22, SD = 1.81), and love of learning (M = 5.39, SD = 1.68) character strengths. These results indicate that Turkish youth expressed that they had more humanistic character strengths (i.e., integrity, gratitude, and citizenship). The t test results indicated that there were significant differences between female and male students' character strength scores. Female students (M = 5.93, SD = .64) reported significantly higher character strength scores than male students (M = 5.71, SD = .74; t (233) = −2.37, p < .05). Moreover, t test analyses with Bonferroni corrections indicated that female students had significantly higher levels of love to learning (M = 6.04, SD = 1.05; M = 5.36, SD = 1.55; t (233) = −3.98, p < .002) and spirituality (M = 6.38, SD = .91; M = 5.81, SD = 1.20; t (233) =−4.11, p < .002) character strengths scores than male students. One-way ANOVA results indicated that there were no significant differences between character strength scores of the first-year (M = 5.85, SD = .77), second-year (M = 5.80, SD = .59), third-year (M = 5.93, SD = .60), and fourth-year students (M = 5.93, SD = .60; F (3, 231) =.37, p = 77).

In addition, the participants had moderate levels of perceived stress (M = 2.90, SD = .57) and life satisfaction (M = 4.44, SD = 1.57) and a low level of depression symptoms (M = 7.37, SD = 5.40). However, it is important to note that 26 participants had PHQ-9 scores of 15 or above, reflecting at least minor depression.

Exploratory Factor Analysis

Examination of the data showed that the Bartlett test of sphericity was significant (X^2 = 2238.97, p < .01), indicating that the variables were significantly correlated. The Kaiser–Meyers–Olkin criterion for sampling adequacy was .88, indicating that there was a sufficient number of correlations between the variables. These results confirmed that the data were appropriate to conduct exploratory factor analysis.

A 24X24 correlation matrix was subjected to principal axis factoring. Principal axis factoring executes better than maximum likelihood when the normality assumption is not met and in terms of recovering factors with low loadings (Coughlin, 2013; De Winter & Dodou, 2012). The preliminary results indicated that one of the character strengths "love" had an initial communality value of .17, which was below the commonly accepted criteria of 20. Therefore, it was removed from the consequent analysis. The exploratory factor analysis results showed that four factors had an eigenvalue greater than one. However, the scree plot also indicated a three-factor model. A three-factor and a four-factor model was rotated using Promax rotations, which allowed factors to be correlated. The four-factor model explained 54% of the total variance, with the best interpretable solution. The factor loadings ranged from .38 to .70. Table 1 shows the means and SDs for each of the character strengths, factor loadings, eigenvalues, and percentage of variance explained by the factors.

Table 1. Means and SDs for Each of the Items on the Turkish version of the CS-SDS, Factor Loadings, Eigenvalues, and Percentage of Variance Explained by Each Factor.

		Factor Loadings			
Item	M (SD)	Leadership	Humanity	Wisdom	Vitality
4. Creativity-unimaginative	5.66 (1.25)	.665	.054	.048	−.052
2. Bravery-cowardice	5.62 (1.28)	.570	.107	−.091	−.031
14. Leadership-passive	5.63 (1.27)	.521	−.101	.243	.137
5. Curiosity-disinterested	5.90 (1.25)	.441	.174	−.056	.144
18.Persistence/perseverance-resignation	5.85 (1.31)	.437	−.159	.344	.125
3. Citizenship/collaborative-individualistic	5.22 (1.81)	.431	.031	−.205	.340
22. Social intelligence/Perspective-social awkwardness	6.00 (1.09)	.409	.049	.344	−.045
12. Judgment/critical thinking-hasty decision	5.78 (1.43)	.406	.061	.091	.073
1. Appreciation of beauty and excellence-disregard for beauty and excellence	5.01 (1.59)	.395	−.089	.009	.112
6. Fairness-Biased	6.31 (1.05)	.229	.750	−.116	−.050
11. Integrity-deceitful	6.38 (0.89)	.226	.705	−.142	.071
8. Gratitude-unappreciative	6.21 (0.99)	.106	.672	.041	−.142
13. Kindness-selfishness	6.10 (1.00)	−.036	.627	.034	.161
7. Forgiveness and mercy-vengeful	6.10 (1.31)	−.135	.619	−.035	.263
17. Modesty and humility-arrogant	6.14 (1.02)	−.325	.562	.401	.022
20. Prudence-reckless	6.06 (1.03)	.049	.389	.290	.078
21. Self–regulation/self-discipline-laziness	5.64 (1.40)	−.006	−.108	.713	.155
16. Love of learning-apathetic	5.77 (1.31)	−.007	.048	.649	.024
23. Spirituality-No sense of purpose	6.16 (1.07)	−.118	.376	.583	−.163
19. Perspective/wisdom-naive	5.44 (1.28)	.367	−.088	.578	−.079
24. Zest/enthusiasm-indifference	5.99 (1.05)	.175	.073	.273	.435
9. Hope-pessimism	5.86 (1.31)	.197	.064	.077	.419
10. Humor and playfulness-Humorless	5.92 (1.19)	.328	.121	−.035	.415
Mean score (SD)	5.84 (0.69)	5.63 (0.85)	6.19 (0.76)	5.75 (0.97)	5.92 (0.94)
Eigenvalue		7.86	2.06	1.61	1.01
% Variance		34.20%	8.95%	7.02%	4.42%
Cumulative % variance		34.20%	43.16%	50.18%	54.61%

The four-factor structure was consistent with Chou et al.'s study, which also provided support for a four-factor solution for the CS-SDS (Chou et al., 2021). However, there were differences in terms of specific character strengths loading on factors. Based on the findings of the previous studies and the highest loading items, the retained factors were named leadership, humanity, wisdom, and vitality. The leadership factor included *creativity, bravery, leadership, curiosity, persistence, citizenship, social intelligence, judgment, appreciation of beauty, and excellence* character strengths. The humanity factor included *fairness, integrity, gratitude, kindness, forgiveness, humility, and prudence* character strengths. The wisdom factor included *self-regulation, love of learning, spirituality, and perspective* character strengths. The vitality factor included *zest,*

hope, and humor character strengths. The correlations between the factors ranged from .46 to .63, $p < .05$.

Reliability

Internal consistency reliability of the scale was analyzed using Cronbach's alpha scores. Cronbach's alphas for the generic scale and the leadership, humanity, wisdom, and vitality factors were .90 and .79, .85, .76, and .71, respectively. All of the scores were above the cutoff alpha level of .70 (Nunnally, 1978).

External Correlates

The convergent and discriminant validity of the Turkish version of the CS-SDS was evaluated by correlating scores of the generic scale and the factors with scores of perceived stress, depression, and satisfaction with life. The results indicated that the leadership factor had significant correlations with perceived stress ($r = -.18$, $p < .01$), depression ($r = -.29$, $p < .01$), and satisfaction with life ($r = .16$, $p < .05$). The humanity factor had a significant correlation with depression ($r = -.14$, $p < .05$), but it did not have significant correlations with perceived stress ($r = -.12$, $p > .05$) or satisfaction with life ($r = .00$, $p > .05$). The wisdom factor had significant correlations with perceived stress ($r = -.15$, $p < .05$), depression ($r = -.21$, $p < .05$), and satisfaction with life ($r = .31$, $p < .05$). The vitality factor had significant correlations with perceived stress ($r = -.27$, $p < .05$) and depression ($r = -.30$, $p < .05$), but it did not have a significant correlation with satisfaction with life ($r = .12$, $p < .05$). All of the correlations were in the expected directions. Detailed information on the correlation between the variables is shown in Table 2.

Discussion

The current study investigated the validity and reliability of the Turkish version of the CS-SDS. The findings confirmed a four-factor structure for the T-CS-SDS, which is in line with previous studies that supported a four-factor structure for the character strengths (Brdar & Kashdan, 2010; Chou et al., 2021; McGrath & Walker, 2016). Furthermore, this study indicated significant correlations between the factors (i.e., leadership, humanity, wisdom, and vitality) and perceived stress, depression, and satisfaction with life. All of those factors also had at least acceptable levels of internal consistency reliability.

The results revealed a four-factor structure of the T-CS-SDS. The emerged factors and the character strengths that composed those factors showed differences compared to the previous character strengths studies. However, previous studies reported such differences as well (Brdar & Kashdan, 2010; Chou et al., 2021; McGrath & Walker, 2016). The existence of universal virtues remains a question in the psychology literature (Peterson & Seligman, 2004). The findings of this

Table 2. Correlations Between the Factors and Life Satisfaction, Perceived Stress, and Depression.

	Life Satisfaction	Perceived Stress	Depression
Leadership	.16*	−.18**	−.29**
Humanity	−.00	−.12	−.14*
Wisdom	.31**	−.15*	−.21**
Vitality	.12	−.27**	−.30**
Total CSE	18**	−.22**	−.30**

study did not support the presence of universal virtues. Culture plays a significant role in the formation of our values (Kubokawa & Ottaway, 2009). For example, people from individualistic cultures may differ in terms of values from people from collectivist cultures (i.e., valuing individual interests vs. collective good) (Christopher & Hickinbottom, 2008). Turkey tends to have more collective values and embrace distinct cultural aspects, which might partially explain why the factor construction of the character strengths in this study was different from that in previous studies.

However, there were some similarities between the findings of this study and previous studies. For example, zest, hope, and humor character strengths that composed the vitality factor were also found in Brdar and Kashdan (2010) study conducted with a sample of Croatian college students and in McGrath and Walker's (2016) study conducted with a sample of British college students. Additionally, the wisdom factor showed similarities with self-control, self-restraint, and fortitude factors that were reported in previous studies (Azañedo et al., 2014). Although positive psychology is criticized for not being culturally sensitive (Christopher & Heckingbottom, 2008), there are some virtues that include either the same or similar character strengths across culturally diverse populations. However, further research is needed on this issue.

The results also indicated that leadership, humanity, wisdom, and vitality factors were significantly correlated with depression. This finding is in line with previous research studies, which indicated that character strengths might play a buffering role against depression (Lee et al., 2020). Students with a high level of character strengths might be less vulnerable to dysfunctional attitudes and perceived stress, leading to a low level of depression symptoms (Lee et al., 2020). The results indicated that leadership, wisdom, and vitality factors were significantly negatively associated with perceived stress. Students with a high level of these factors might have broadened momentary thought-action repertoires that promote the discovery of new ideas, actions, and social bonds. Therefore, they might pursue a wide range of thoughts and behaviors, such as "pushing the limits," "being creative," and "envisioning greater achievements," leading to faster recovery from stressful situations (Fredrickson, 2001; Li et al., 2017). However, humanity did not have significant correlations with perceived stress. Being fair, grateful, kind, humble, and prudent does not have a relationship with students' ability to prevent problems or retrieve resources to deal with problems in Turkey. It is important to note that Turkish students are more tolerant of expressing aggression to solve problems than international students (Gozuyesil et al., 2020). The results indicated that leadership and wisdom factors had significant correlations with life satisfaction; however, humanity and vitality factors did not have significant associations with life satisfaction. Previous research also indicated that wisdom and leadership were significantly associated with life satisfaction (Ardelt, 1997; Lee, 2012). It is possible that the students with higher levels of wisdom were more contemplative about their life goals and were able to meet expectations. However, contrary to previous research that indicated that zest, hope, and leadership character strengths were related to the affective component of subjective well-being (Blasco-Belled et al., 2018), this study did not find a significant association between humanity and vitality (composed of zest, hope, and humor character strengths) factors and life satisfaction. More research is needed to investigate this phenomenon as well. Finally, although previous research indicated that the character strength "love" had a positive relationship with life satisfaction (Porto Noronha & Martins, 2016) and a negative relationship with depression (Kim et al., 2018), the results of this study did not support the inclusion of this variable. It is possible that the character strength "love" has unique variance that is not explained by the leadership, humanity, wisdom, and vitality factors for Turkish college students.

Implications

Character strengths can be a starting point for improving the health and functioning of individuals, groups, and societies. Although people may have different combinations, character strengths can be developed at will (Lavy, 2020). A host of character strengths education programs have been incorporated into schools and have yielded encouraging results regarding desirable behaviors, positive attitudes, academic achievement, and reduced risky behaviors (Lavy, 2020). The current research provided a means of evaluating the character strengths of Turkish college students. This may facilitate the development of such individual or group intervention programs to foster character strengths and increase the psychological well-being of Turkish college students. Examples of the interventions include "strength regulations" and "core quadrants" in which people identify and practice the character strengths. (Ackerman, 2020). For further information, the readers are referred to Ackerman (2020).

The results indicated that vitality and leadership factors were significantly associated with perceived stress and depression. Therefore, college professionals may target cultivating vitality and leadership factors to reduce perceived stress and depression among Turkish college students. For example, instilling hope and teaching humor could be two viable ways to alleviate perceived stress and depression symptoms (Li et al., 2018). The results also indicated that wisdom and leadership factors were significantly correlated with life satisfaction. In particular, wisdom had the strongest correlation with life satisfaction. It is possible that designing intervention programs to increase self-control, love of learning, spirituality, and perspective might positively influence life satisfaction for Turkish college students. However, it is important to note that the provided implications are not conclusive. For example, life review therapy and spirituality interventions could be used to increase self-rated wisdom (Jeste & Lee, 2019), which may lead to a higher level of life satisfaction among Turkish college students.

Limitations

The current study includes several important limitations that limit the generalizability of the results. First, the sample of this study was overrepresented with female students; therefore, the sample may not represent the general college student population in Turkey. Due to the cross-sectional nature of the study, only correlational relationships were determined between the variables; therefore, cause-effect relationships could not be determined. This study used self-report measurement tools; therefore, social desirability is a caveat that may negatively affect the results. Finally, this is the first study to use, adapt, and validate a short character strengths scale, and more research is needed to compare and contrast the results.

Appendix

Turkish Version of CS-SDS

Karakter Gucleri Olcegi

Lutfen kendinizi asagidaki karakter ozellikleri acisindan derecelendiriniz. Sizin meziyetlerinizi en iyi tanimlayan bosluga Check isareti (✓) koyunuz. Lutfen hicbir maddeyi bos birakmayarak 24 maddenin hepsini derecelendiriniz.

Guzellik ve mukemmelligin takdiri ()3 ()2 ()1 ()0 ()1 ()2 ()3 Guzellik ve mukemmellige aldirmama

Cesaret ()3 ()2 ()1 ()0 ()1 ()2 ()3 Korkaklik
Vatandaslik/isbirlikci ()3 ()2 ()1 ()0 ()1 ()2 ()3 Bireysel
Yaraticilik ()3 ()2 ()1 ()0 ()1 ()2 ()3 Hayal gucu olmayan
Meraklilik ()3 ()2 ()1 ()0 ()1 ()2 ()3 Ilgisiz
Adil and Yanlilik, Adil olmak ()3 ()2 ()1 ()0 ()1 ()2 ()3 Yanlilik
Af ve merhamet ()3 ()2 ()1 ()0 ()1 ()2 ()3 Kinci
Sukran sahibi olma ()3 ()2 ()1 ()0 ()1 ()2 ()3 Takdir etmemezlik
Umut ()3 ()2 ()1 ()0 ()1 ()2 ()3 Karamsarlik
Espri ve sakacilik ()3 ()2 ()1 ()0 ()1 ()2 ()3 Sakaci olmayan
Durust ()3 ()2 ()1 ()0 ()1 ()2 ()3 Duzenbaz
Muhakeme ve elestirel dusunme ()3 ()2 ()1 ()0 ()1 ()2 ()3 Acele karar
Musfiklik ()3 ()2 ()1 ()0 ()1 ()2 ()3 Bencillik
Liderlik ()3 ()2 ()1 ()0 ()1 ()2 ()3 Pasif
Ask ()3 ()2 ()1 ()0 ()1 ()2 ()3 Duygusal olarak baglanmama, bag kurmama
Ogrenme aski()3 ()2 ()1 ()0 ()1 ()2 ()3 Ilgisiz
Tevazu ve alcakgonulluluk ()3 ()2 ()1 ()0 ()1 ()2 ()3 Kibirli
Kararlilik/Israrla mucadele ()3 ()2 ()1 ()0 ()1 ()2 ()3 pes etme
Bilgelik/derinlemesine inceleme ()3 ()2 ()1 ()0 ()1 ()2 ()3 Tecrubesizlik
Sagduyu ()3 ()2 ()1 ()0 ()1 ()2 ()3 Pervasiz
Kendini discipline etme/duzenleme ()3 ()2 ()1 ()0 ()1 ()2 ()3 Tembellik
Sosyal Zeka/sosyal bakis acisi ()3 ()2 ()1 ()0 ()1 ()2 ()3 Sosyal yonden tuhaf olma
Maneviyat ()3 ()2 ()1 ()0 ()1 ()2 ()3 Amacsizlik
Cosku/neseli ()3 ()2 ()1 ()0 ()1 ()2 ()3 Kayitsizlik

Declaration of Conflicting Interests

Funding

Ethical Approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Data Availability

The datasets generated and/or analyzed during the current study are available from the corresponding author on reasonable request.

Informed Consent

Informed consent was obtained from all individual participants included in the study.

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Karakter Güçleri Ölçeği

Lütfen kendinizi aşağıdaki karakter özellikleri açısından derecelendiriniz. Sizin meziyetlerinizi en iyi tanımlayan boşluğa onay işareti (✓) koyunuz. Lütfen hiçbir maddeyi boş bırakmayarak 24 maddenin hepsini derecelendiriniz.

Örnek: Eger kendinizi güzellik ve mükemmelliği takdir eden biri olarak görüyorsanız, "Güzellik ve mükemmelliğin takdiri" ifadesine en yakın olan seçeneği işaretleyiniz.

1. Güzellik ve mükemmelliğin takdiri ()3 ()2 ()1 ()0 ()1 ()2 ()3 Güzellik ve mükemmelliğe aldırmama
2. Cesaret ()3 ()2 ()1 ()0 ()1 ()2 ()3 Korkaklık
3. Vatandaşlık/işbirlikçi ()3 ()2 ()1 ()0 ()1 ()2 ()3 Bireysel
4. Yaratıcılık ()3 ()2 ()1 ()0 ()1 ()2 ()3 Hayal gücü olmayan
5. Meraklılık ()3 ()2 ()1 ()0 ()1 ()2 ()3 Ilgisiz
6. Adil olmak ()3 ()2 ()1 ()0 ()1 ()2 ()3 Yanlılık-Taraf tutma
7. Af ve merhamet ()3 ()2 ()1 ()0 ()1 ()2 ()3 Kinci
8. Şükran sahibi olma ()3 ()2 ()1 ()0 ()1 ()2 ()3 Takdir etmemezlik
9. Umut ()3 ()2 ()1 ()0 ()1 ()2 ()3 Karamsarlık
10. Espri ve şakacılık ()3 ()2 ()1 ()0 ()1 ()2 ()3 Şakacı olmayan
11. Dürüst ()3 ()2 ()1 ()0 ()1 ()2 ()3 Düzenbaz
12. Muhakeme ve eleştirel düşünme ()3 ()2 ()1 ()0 ()1 ()2 ()3 Acele karar
13. Müşfiklik ()3 ()2 ()1 ()0 ()1 ()2 ()3 Bencillik
14. Liderlik ()3 ()2 ()1 ()0 ()1 ()2 ()3 Pasif
15. Aşk ()3 ()2 ()1 ()0 ()1 ()2 ()3 Duygusal olarak bağlanmama, bağ kurmama
16. Öğrenme aşkı ()3 ()2 ()1 ()0 ()1 ()2 ()3 İlgisiz
17. Tevazu ve alçakgonüllülük ()3 ()2 ()1 ()0 ()1 ()2 ()3 Kibirli
18. Kararlılık/Israrla mücadele ()3 ()2 ()1 ()0 ()1 ()2 ()3 Pes etme
19. Bilgelik/derinlemesine inceleme ()3 ()2 ()1 ()0 ()1 ()2 ()3 Tecrübesizlik
20. Sağduyu ()3 ()2 ()1 ()0 ()1 ()2 ()3 Pervasız
21. Kendini disipline etme/düzenleme ()3 ()2 ()1 ()0 ()1 ()2 ()3 Tembellik
22. Sosyal Zeka/sosyal bakış açısı ()3 ()2 ()1 ()0 ()1 ()2 ()3 Sosyal yönden tuhaf olma
23. Maneviyat ()3 ()2 ()1 ()0 ()1 ()2 ()3 Amaçsızlık
24. Coşku/neşeli ()3 ()2 ()1 ()0 ()1 ()2 ()3 Kayıtsızlık

Değerlendirme

Bu ölçek dört yapıdan oluşmaktadır: Liderlik, İnsaniyet, Bilgelik ve Yaşamsallık.

Liderlik: 4, 2, 14, 5, 18, 3, 22, 12, ve 1 numaralı maddelerden oluşmaktadır.

İnsaniyet: 6, 11, 8, 13, 7, 17, ve 20 numaralı maddelerden oluşmaktadır.

Bilgelik: 21, 16, 23, ve 19 numaralı maddelerden oluşmaktadır.

Yaşamsallık: 24, 9, ve 10 numaralı maddelerden oluşmaktadır.

Puanlama

1. Lütfen her bir madde için ()3 ()2 ()1 ()0 ()1 ()2 ()3 sıralamasını, ()7 ()6 ()5 ()4 ()3 ()2 ()1 olarak puanlayınız.

2. Her bir yapı için belirtilen maddelere verilen puanları toplayınız.

3. Elde edilen puanları o yapıyı oluşturan madde sayısına bölünüz.

4. Elde edilen puanın 7`ye yakınlığı kişinin kendisini o yapıya yakın gördüğünü, 1`e yakınlığı ise kişinin kendisini o yapıya yakın görmediğini belirtmektedir.