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ORIGINAL ARTICLE

Development and Evaluation of Turkish Language Versions of three Positive Psychology Assessments

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Abstract This study reports the development and evaluation of a Turkish-language version of three positive psychology assessments for use in clinical, education and research settings with Turkish-speaking individuals. A multistage translation of the Brief Resilience Scale (BRS; Smith et al. in *International Journal of Behavioral Medicine*, *15*, 194–200, 2008), the General Mattering Scale (GMS; Marcus 1991) and the Short Grit Scale (GS; Duckworth & Quinn in *Journal of Personality Assessment, 91,* 166–174. doi:10.1080/00223890802634290, 2009) is detailed, as well as the procedure used to evaluate the internal structure of the translated assessments. The results yielded from data of 268 participants indicated factor structures ranging from acceptable to robust model fit for the BRS, GMS, and GS. Implications for counseling practice and future research are discussed.

Keywords Resilience · Mattering · Grit · Positive psychology · International Counselling · Turkey

Introduction

While the conceptual underpinnings of positive psychology have been discussed informally for over 100 years, the field of positive psychology has only recently become established as a paradigm aimed at supporting individuals wanting to lead meaningful and fulfilling lives through the use of effective interventions. In 1998, Martin Seligman introduced the term *positive psychology* into the psychology lexicon during his Presidential Address to the membership of the American Psychological Association (Froh 2004). According to Seligman, a focus on well being, contentment, satisfaction with past experiences, hope and

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optimism for the future, and happiness in the present, would help clinicians working from a positive psychology framework to promote personal growth in the lives of their clients (Seligman and Csikszentmihalyi 2000). Although initially developed as a way to support well being and optimal functioning across the general population, positive psychology techniques are now being used to supplement traditional forms of therapy (Harvard Mental Health Letter 2008).

Supporting the implementation of positive psychology in practice is a growing body of literature supporting the efficacy of positive psychology interventions. In recent years, positive psychology researchers have worked to identify the strengths facilitating the ability of individuals, groups, and institutions to flourish, with their work appearing in numerous journals such as the *Journal of Counseling Psychology, Counseling Psychologist, Journal of Career Assessment, Journal of Multicultural Counseling and Development, American Journal of Nursing, Journal of Personality and Social Psychology, Journal of Child and Adolescent Psychiatric Nursing*, and *Journal of Mental Health Counselling.* Additionally, journals such as the *Journal of Positive Psychology* and the *Journal of Happiness Studies*, publications specifically addressing the field of positive psychology, have emerged as additional locations for the publication of research related to the study of positive emotions and positive character traits.

Although positive psychology originated as a psychological construct, its influence also can be found in the work of professional counselors. According to the American Counseling Association (2015), counseling is defined as a professional way of empowering individuals and groups to accomplish mental health, wellness, education, and career goals. Using a wellness-based perspective, counselors work with clients to identify personal strengths that can be used to help overcome the challenges these clients are facing. In line with this wellness-based approach, positive psychology also focuses on character strengths in assisting people to have better relationships, improve their health, increase their happiness, accomplish goals, and develop greater wellbeing. In addition to character strengths, positive psychology encompasses a variety of other constructs, such as hope, resilience, coping, problem solving and wellbeing (Chou et al. 2013).

These constructs and measures provide counselors with a greater understanding of the salient issues in the lives of their clients. Different positive psychology constructs can be measured with various instruments, and in this study we focused on three specific constructs: resilience, mattering, and grit.

Resilience

Resilience means not giving up on life and bouncing back from challenging experiences (American Psychological Association 2015). According to Fredrickson (2001), resilience helps a person cope with negative emotions before or during stressful situations. In terms of assessing an individual's resiliency, the Brief Resilience Scale (BRS; Smith et al. 2008) has consistently proven to be one of the most psychometrically strong measures available (Windle et al. 2011). The scale is appropriate for use with an adult population, and originally was developed with a sample of undergraduate students and cardiac rehabilitation patients in New Mexico (Smith et al. 2008). A review of the literature for studies employing the BRS identified resilience as being strongly correlated with both less stress and improved mental health (Kemper et al. 2015). Resilience also was found to correlate positively with forgiveness and gratitude (Kumar and Dixit 2014).

Mattering

The perception of the degree to which individuals believe that they matter to others has been described as an important aspect of wellbeing (Marshall 2001). Rayle (2005) addressed five ways that individuals determine their degree of mattering that include: (a) beliefs that family members and significant others believe individuals are important and significant, (b) showing interest, (c) paying attention, (d) depending/relying on them, and (e) general concern with their fate. The General Mattering Scale (Marcus 1991) measures perceived mattering, and several studies have been conducted using this measurement.

Research results have revealed that mattering as a variable predicts at-risk status of adolescents for dropping out of high school (Lemon and Watson 2011). Additionally, the mattering scale assessed adult male participants on their belief that they mattered to others in their community (De Forge and Barclay 1997), and mattering provided a new measure of monitoring specific self-efficacy and outcome expectancies of a college student population (Guirguis and Chewning 2008). Researchers also have presented findings suggesting that mattering explains a significant portion of the variance of wellness (Rayle and Myers 2004; Rayle 2005).

Grit

The concept of grit means having a passion for long-term goals, and is defined as a form of trait-level perseverance (Duckworth et al. 2007). One way to empirically quantify the construct of grit is through the Short Grit Scale (SGS; Duckworth and Quinn 2009). The SGS was developed and normed on a large sample of participants ranging in age from 10 to 45. Appropriate for use with both male and female clients, the SGS is somewhat limited in terms of diversity, as the norm group was comprised primarily of White Americans. Despite this limitation, the Short Grit Scale has been used by researchers in studies where grit has been found to be predictive of psychological wellbeing (Salles et al. 2014), as an important individual difference trait for exercise behavior (Reed 2014), and as a consistent and adaptive predictor for self-regulated learning (Wolters and Hussain 2014).

Addressing Positive Psychology Constructs with Turkish Clients

The field of counseling is growing and evolving in Turkey, with researchers suggesting that counseling will eventually flourish and become a feasible part of Turkish society (Stockton and Güneri 2011). As counseling services develop, Turkish counselors will need access to a variety of psychometrically sound assessment instruments sensitive to their culture and written in their native language. The purpose of this study was to translate and evaluate the psychometric credibility of three popular positive psychology-based instruments – the Brief Resilience Scale, the General Mattering Scale, and the Short Grit Scale – because these instruments have the potential to help counselors create impactful changes in the lives of their clients and do not require advance training or knowledge to administer.

Furthermore, Turkish counselors mainly work in school settings and have limited time to work with each student. Scales that can be administered in a brief amount of time and be easily evaluated are tremendous assets for counselors working in such settings. The future expansion of Turkish counseling services into non-educational sites, such as mental health facilities,

college counseling services, social work, and rehabilitation services (Dogan 2000), will also increase the need for brief assessment instruments. With this study, we aimed to translate, adapt and evaluate three brief scales for use within Turkish culture, expand the counseling literature in Turkey, and contribute to the representation of various cultures in the research literature from the perspective of the original scales.

Method

Following Institutional Review Board Approval, we translated the Brief Resilience Scale, General Mattering Scale, and Short Grit Scale, administered them to Turkish undergraduate students, and completed analyses to evaluate their psychometric properties and factorial structures.

Participant Characteristics

Participants were Turkish-speaking undergraduate students studying in two universities: one in northern Turkey and another in the northwest. The participants' ($N = 350$) ages ranged from 18 to 46 ($M = 22.53$, $SD = 3.71$). There were 181 women (52 %) and 106 men (30 %) in the sample, whilst for the remaining 63 participants (18 %) gender data were missing. Due to other missing data, 137 (39 %) of the original participants were removed from the sample group, and, of the 213 remaining participants, there were 138 women (65 %), 72 men (35 %), and three participants who did not provide a response to the gender question. Among this remaining sample, the overall average age was found to be 22.29 years ($SD = 3.41$), with women being slightly younger ($M = 21.85$, $SD = 2.99$) than men ($M = 23.13$, $SD = 4.00$).

Measurement of Constructs

General Mattering Scale

The General Mattering Scale (Marcus 1991) was designed to measure the degree to which individuals believe that they matter to others. The Likert-type assessment consists of five questions and each questions includes four potential participant responses, ranging from 'Very Much' to 'Not at All'. Possible scores on the Scale range from five to 20, with higher scores indicating a greater perception of mattering.

Perceived mattering is estimated through questions including "How much do you feel other people pay attention to you?" and "How much do you feel others would miss you if you went away?" Rayle and Myers (2004) examined reliability scores of the GMS and reported alpha coefficients ranging from .74 to .86 among college students. Another study conducted with first year college students indicated an alpha coefficient of .79 (Lenz and Oliver 2015).

Brief Resilience Scale

The Brief Resilience Scale (Smith et al. 2008) was designed to measure an individual's ability to overcome difficult situations. This Likert-type assessment consists of six questions and each question includes five potential participant responses, ranging from 'Strongly Disagree' to 'Strongly Agree'. Possible scores from the Scale range from 6 to 30, with high scores indicating greater resilience.

Individuals respond to statements in the instrument such as "It does not take me long to recover from a stressful event." The initial study demonstrated strong convergent and discriminant predictive validity, with Smith et al. (2008) reporting internal consistency estimates ranging from .80 to .91.

Short Grit Scale

The Grit-S (Duckworth and Quinn 2009) was developed to evaluate trait-level perseverance and passion for long-term goals. This Likert-type scale consists of eight statements, each including five potential participant responses ranging from *'Very Much Like Me'* to *'Not Like Me At All'*. Grit is predicted through participant responses such as "I am diligent" and "Setbacks do not discourage me." Possible scores on the Scale range from eight to forty, with higher scores indicating greater grittiness. Duckworth and Quinn reported evidence for predictive validity and Cronbach's alphas ranging from .73 to .83.

Translation of the Instruments

We utilized a seven-phase model for translating each instrument from their original English language version to a Turkish language version. The phases included (a) selecting instruments to translate and evaluate, (b) completing a forward translation of items from English to their Turkish equivalents, (c) individually analyzing items across independent translators to cross-validate the conceptual meaning of translated items, (d) completing a back translation of Turkish items into their English language equivalents, (e) analyzing and revising individual items as needed, (f) having two educators whose primary language is Turkish review each item, and (g) reviewing and consensus-forming for the Turkish language version of the instruments. These implemented steps were seen as coherent, with guidelines recommended by several authors (cf., Beaton et al. 2000; Borsa et al. 2012; Van Widenfelt et al. 2005; Wild et al. 2005).

In the first phase of the study, the researchers explored relevant gaps in available Turkish language psychological instruments in their areas of interested and selected the three instruments identified herein. An item-by-item forward translation from English to Turkish was completed by the first author, whose native language is Turkish. Then, the forward translation was given to the third author and to a professional in the counseling field, both of whose native language is Turkish. The back translation was followed by an expert review that consisted of the forward translators and the back translators (the second and fourth authors). These authors, both of whose native language is English, compared the back translation items with the original instrument items. The research team then corrected the necessary items and sent the Turkish versions to two language professionals in Turkey. After their review, the first and the second authors made the last corrections and finalized the items.

Procedure

After finalizing the translations, we utilized Qualtrics to create an online survey. Then, we contacted three faculty members from two major universities to help with disseminating access to the survey. The contacted faculty members were previous instructors of the first and third authors and were selected also for their reputations as quality instructors. After they agreed to help, we sought a collaboration letter from each faculty that indicated their willingness to

distribute the survey link. Subsequent to collecting the collaboration letters, we applied to the Institutional Review Board (IRB), and received approval to conduct the study.

Upon receiving IRB approval, we sent the survey link to the three faculty members who then disseminated the access details to their students. The questionnaire included an information sheet, which provided information regarding the purpose of the study, the voluntary nature of participation, and contact information for any questions or concerns potential participants may have. Then followed four demographic questions and the questionnaire itself, which consisted of Turkish translations of the General Mattering Scale, Brief Resilience Scale, and Grit-S, along with two additional instruments included as a part of a broader study unrelated to this evaluation. After five months of access availability, the data from Qualtrics were downloaded and transferred into the Statistical Package for the Social Sciences (SPSS; IBM Corporation 2013), and the first and second author then ran the data analyses.

Data Analyses

Statistical Power Analysis

A power analysis was conducted to detect the adequacy of the sample size for detecting model fit, using the criteria suggested by Stevens (2009), $n/p \geq 15$. With this formula in mind, it was determined that the largest scale, consisting of eight items, would require a sample size of at least 120 participants. Given the acquired sample size of 213 yielding a participant to item ratio of 26.5 to 1, we considered the sample size to be robust for making statistical inferences about model fit.

Preliminary Analysis

After transferring the original data into SPSS (IBM Corporation 2013), information was deleted from participants who did not fully complete the questionnaire. Then, missing values within the data were replaced utilizing the series mean method in SPSS.

Primary Analysis

The model fit was analyzed for the BRS, GMS, and GS using the SPSS Analysis of Moment Structures software, Version 22. Separate analyses were conducted for each of the translated assessments using the original factor structures depicted by their respective authors (Marcus 1991; Smith et al. 2008; Duckworth and Quinn 2009). We interpreted the CMIN/DF, p, root mean residual (RMR), goodness of fit index (GFI), comparative fit index (CFI), Tucker-Lewis index (TLI), and the root mean square error of approximation (RMSEA) metrics of model fit. When inspecting these values, the standards presented by Dimitrov (2012) were used, in which a strong model fit is represented in values for the CMIN/DF < 2, $p > .05$, RMR $< .08$, GFI $> .90$, CFI $> .90$, TLI $> .90$, and RMSEA $< .10$.

In instances that the model fit was not consistent with these standards, we inspected modification indices to identify items that could potentially have a covaried error term. When identified, error terms were covaried and the model was run again and fit indices were inspected. If a factor model persisted as an inadequate fit, individual item correlation loadings were inspected and scrutinized for potential deletion. Items in these scenarios were deleted if correlation coefficients were less than .70. When a final model was identified, Cronbach alpha coefficients for each of the scale scores were computed.

Results

Brief Resilience Scale

Primary Analysis

The chi-square was significant for the hypothesized model, $\chi^2(9) = 54.43$, $p < .001$. The model, however, proved to be an unacceptable fit for the data, which also was confirmed by the fit indices, CMIN/DF = 6.04, RMR = .09, GFI = .91, CFI = .86, TLI = .78, RMSEA = .15.

Final Model

After pairing error terms for items 4 and 6 ("It is hard for me to snap back when something bad happens" and "I tend to take a long time to get over set-backs in my life") an acceptable model fit emerged for scores on the BRS, $\chi^2(8) = 24.68$, $p < .01$. This finding was additionally supported by the fit indices, CMIN/DF = 3.08, RMR = .07, GFI = .96, CFI = .95, TLI = .91, RMSEA = .09 (see Fig. 1).

General Mattering Scale

Primary Analysis

The chi-square was significant for the hypothesized model, $\chi^2(5) = 16.11$, $p = .007$. The model, however, was a modest fit for the data, which also was confirmed by the fit indices, CMIN/DF = 3.22, RMR = .02, GFI = .97, CFI = .96, TLI = .93, RMSEA = .10.

Final Model

After pairing error terms for items 1 and 2 ("How *important* do you feel you are to other people?" and "How much do you feel other people pay attention to you?") and items 4 and 5
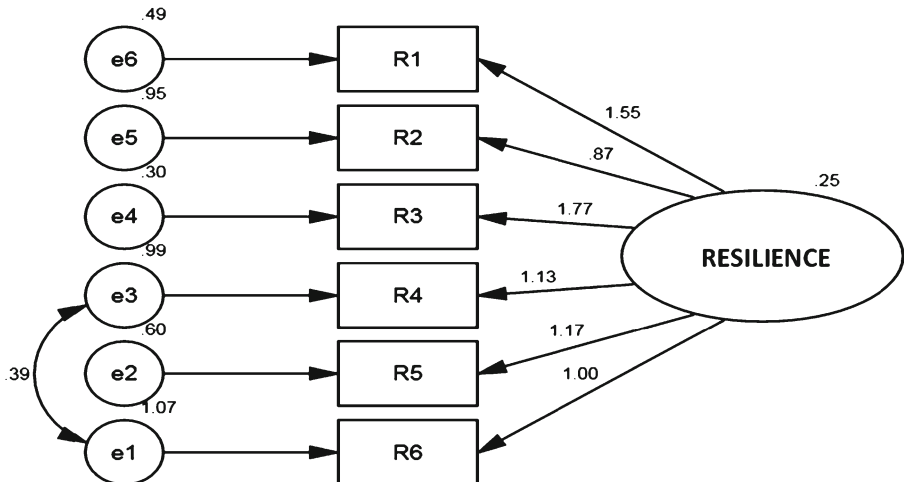

Fig. 1 Confirmatory model with covaried items for Turkish translation of the Brief Resilience Scale

("How interested are people generally in what you have to say?" and "How much do people *depend* on you?), a very good model fit emerged for scores on the GMS, $\chi^2(3) = 3.77$, $p = .29$; a finding that was confirmed by the fit indices, CMIN/DF = 1.25, RMR < .01, GFI = .99, CFI = .99, TLI = .99, RMSEA = .03 (see Fig. 2).

Grit Scale

Primary Analysis

The chi-square was significant for the hypothesized model, $\chi^2(20) = 182.03$, $p < .001$. The model, however, was a modest fit for the data, which was also confirmed by the fit indices, CMIN/DF = 9.10, RMR = .16, GFI = .80, CFI = .66, TLI = .53, RMSEA = .19.

Final Model

Items 1 and 5 were eliminated from the model due to markedly low regression coefficients (−.03 and .23 respectively) and items 3 and 6 were paired ("I have been obsessed with a certain idea or project for a short time but later lost interest" and "I have difficulty maintaining my focus on projects that take more than a few months to complete"). These modifications resulted in a robust model for scores on the GS, $\chi^2(8) = 10.68$, $p = .22$, as confirmed by inspection of the fit indices, CMIN/DF = 1.33, RMR = .04, GFI = .98, CFI = .99, TLI = .99, RMSEA = .04 (see Fig. 3).

Discussion

The objective with this study was to develop and evaluate Turkish versions of the General Mattering Scale (GMS; Marcus 1991), the Brief Resilience Scale (BRS; Smith et al. 2008), and the Short Grit Scale (GS; Duckworth and Quinn 2009). The results revealed that all three instruments had sufficient ($\alpha \geq .70$) reliability scores when administered to a Turkish college
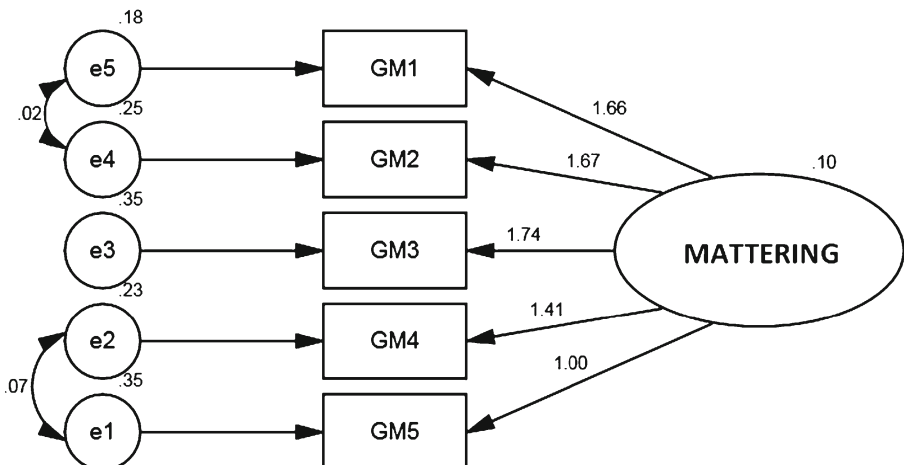

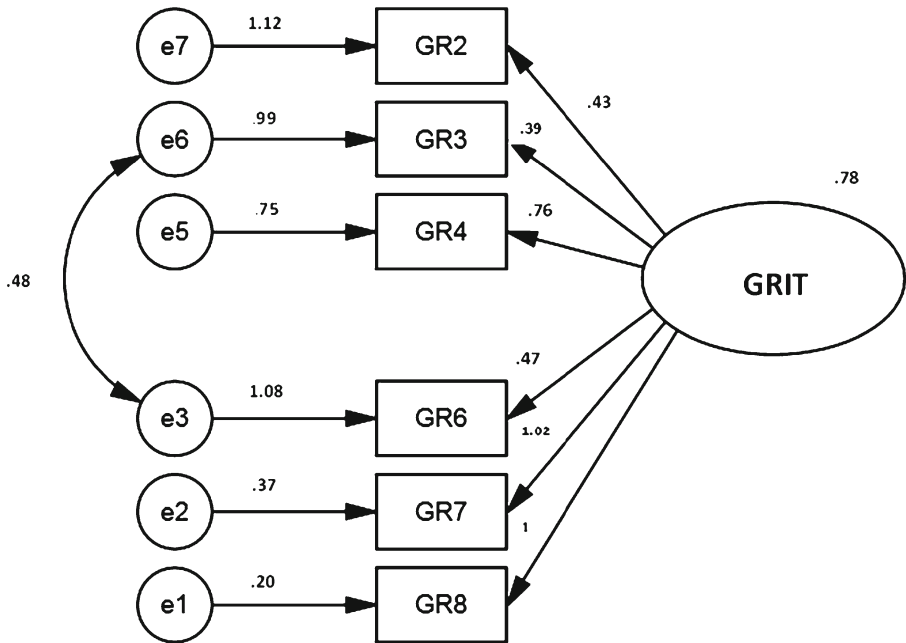Fig. 2 Confirmatory model with covaried items for Turkish translation of the General Mattering Scale

Fig. 3 Confirmatory model with covaried items for Turkish translation of the Grit Scale

student population. After making all necessary alterations (i.e., pairing or deleting items) based on the modification indices produced by a confirmatory factor analysis, all three instruments yielded a model fit that ranged from acceptable to robust, based on the criteria suggested by Dimitrov (2012).

Results for the GMS, which is a measure of an individual's belief that they matter to others, demonstrated an excellent model fit for the Turkish version after correlating pairs of error variances. Findings were consistent with Marcus' (1991) results, affirming that the GMS is a one-factor instrument consisting of five items. This means that general mattering has been determined as being perceived similarly in both U.S. and Turkish cultures, and counselors working with Turkish-speaking populations can use the GMS to evaluate general mattering for Turkish individuals and groups.

As an example of potential use, researchers in the U.S. have determined that when college students mattered to their friends and felt supported by their families, they experienced less academic stress and were able to handle the academic stress they did experience more effectively (Rayle and Myers 2004; Rayle and Chung 2007). Based on such findings, counselors working with Turkish college students could consider utilizing the Turkish version of the GMS for similar purposes.

The CFA results for the BRS (Smith et al. 2008), which measures an individual's ability to overcome negative emotions and challenging situations, revealed an acceptable model fit for the Turkish language version after correlating pairs of error variances. Findings confirmed the original findings of Smith et al. (2008), affirming that the BRS is a unidimensional model including six items. The parallel between the English and Turkish versions of the BRS indicates that the concept of resilience is likely to be perceived similarly in both languages and cultures.

In the literature, Malkoc and Yalcin (2015) have reported resilience as being one of the more salient predictors of wellbeing among college students. Furthermore, Kemper et al. (2015) have identified resilience as being strongly correlated with both mental health and with experiencing less stress. In light of such findings, counselors working with Turkish college students could well use the BRS in the creation of treatment strategies and interventions aimed at improving mental health and wellbeing.

The CFA analysis of the Grit-S Scale (Duckworth and Quinn 2009), which measures an individual's trait level perseverance, resulted in a robust model for scores on the Turkish version after removing items and correlating pairs of error variances. The analyses of data led to the need to eliminate two items from the Turkish Version of the Grit-S Scale, due to their low regression coefficients, which may stem from a semantic loss in translation or a different perception of the concept of grit in Turkish culture and language. As a result, the GRIT-S Scale is better suited as a six-item instrument when translated into Turkish.

Researchers have to this point studied grit from various perspectives. Collectively, their findings suggest that grit is an important predictor of metacognition (Arslan et al. 2013), self-regulated learning (Wolters and Hussain 2014), psychological well being (Salles et al. 2014), and school success (Ray and Brown 2015). Based on such findings, counselors and university advisors who works with Turkish college students could consider using the Turkish version of the Grit Scale as a means to help students better achieve academic success.

Taken together, we believe that, as previous researchers have suggested (cf., Rayle and Myers 2004; Rayle and Chung, 2007; Kemper et al. 2015), these three scales might help counselors work with their clients in addressing academic and mental health-related issues. Considering that not all Turkish universities have a counseling center, the utility of such assessments may also extend to advisors who may use any of these scales, as they are brief, user friendly, and require minimal training.

Limitations of this Study and Recommendations for Future Research

Despite the auspicious implications for use of a positive psychology assessment battery within Turkish communities, the findings of this study should be considered within its limitations. First, although there are 193 universities in Turkey (Turkish Council of Higher Education 2015), participants were recruited from only two public universities, thereby limiting the study's generalizability. Second, examination of the key concepts in the extant literature revealed few studies conducted with Turkish college students. Therefore, the scant research on the various concepts (resilience, general mattering, and grit) in Turkey creates another limitation in regard to meaningful implications (e.g., in regard to mental health and wellbeing) for working within Turkish culture. Lastly, the sample was restricted to college students, with the possibility that these scales might be relevant for college students only, as, for example, those individuals who have not gone to college may have less sense of mattering, resilience, and grit, which may have prevented them from going to college in the first place.

Based on such limitations, it is suggested that future research might seek to confirm the applicability of the three positive psychology assessments with a greater variety of Turkish populations. Furthermore, since this study aimed to provide tools for counselors in Turkey, and most counselors in that context work in school settings, future research should consider examining the applicability of the three scales to middle and high school-aged children, revising the scales as needed to be developmentally appropriate for those age groups.

Conclusion

The positive psychology scales under investigation in this study are consistent with the general nature and mission of counseling, as they emphasize individuals' strengths and how these strengths can be maximized to improve mental health and wellbeing. Additionally, in recent years, positive psychology and wellness-based approaches have been recognized in the counseling field in Turkey as viable approaches to working with clients. As a result, the authors chose to translate grit, resilience, and mattering scales to contribute to the development of positive psychology in Turkey. Additionally, we specifically chose these scales because they are easy to administer and do not require advanced training. As a consequence, we believe that this study provides additional tools counselors and advisors can utilize in working with college students in Turkey.

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