



RESEARCH

Adaptation of Multidimensional Existential Regret Inventory to Turkish: Reliability and Validity Analysis

Çok Boyutlu Varoluşsal Pişmanlık Envanterinin Türkçeye Uyarlanması: Güvenirlilik ve Geçerlilik Analizi

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Abstract

The aim of this study is to analyze the validity and reliability of the "Multidimensional Existential Regret Scale" (MDPS) in the Turkish population. The adaptation study was applied to people between the ages of 19-61. Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA) and test-retest reliability analysis were performed on two different study groups consisted of 343 people. As a result of EFA, a 34-item and a five-factor structure model, consisting of internal conflict, self-regret, regret of other persons, acceptance, sensuality, which explains % 55.93 of the total variance was obtained. According to CFA results the factor loadings ranged between .34 and .88. Model fit indices were found as RMSEA .070; GFI .803; AGFI .861; CFI .850; χ^2 2.573 ($p < .001$). These values show that model-data fit is sufficient. The internal consistency reliability coefficient of the entire scale was .94. It was observed that the item-total correlations of the scale ranged from .34 to .74. The findings obtained from the research show that the Multidimensional Existential Regret Scale is a valid and reliable measurement tool that can be used in the field of psychology.

Keywords: Existence, regret, acceptance, internal conflict, the meaning of life

Öz

Bu araştırmanın amacı "Çok Boyutlu Varoluşsal Pişmanlık Ölçeği (ÇBVPÖ)"nin Türk popülasyonunda geçerlik ve güvenilirlik analizini yapmaktır. Uyarlama çalışması 19-61 yaşları arasındaki kişilere uygulanmıştır. Açıklayıcı Faktör Analizi (AFA), Doğrulayıcı Faktör Analizi (DFA) ve test tekrar test güvenilirlik analizleri için iki ayrı örneklem üzerinden toplam 343 kişi ile çalışma yürütülmüştür. AFA sonucunda varyansın % 55.93'ünü açıklayan 34 madde ve içsel çatışma, kendine ilişkin pişmanlık, diğer kişilere ilişkin pişmanlık, kabullenme, duygusallık olarak 5 boyuttan oluşan bir yapı elde edilmiştir. DFA sonucuna göre maddelerin faktör yüklerinin .34 ile .88 arasında değiştiği görülmektedir. DFA sonucunda uyum indeksi değerleri; RMSEA .070; GFI .803; AGFI .861; CFI .850; χ^2 ise 2.573 ($p < .001$) olarak bulunmuştur. Bu değerler modelin kabul edilebilir uyum düzeyinde olduğunu göstermektedir. Ölçeğin tümü için elde edilen iç tutarlılık katsayısı .94 olarak belirlenmiştir. Ölçeğin madde toplam korelasyonlarının .34 ile .74 arasında değiştiği görülmüştür. Araştırmadan elde edilen bulgular Çok Boyutlu Varoluşsal Pişmanlık Ölçeğinin Türkçe uyarlaması psikoloji alanında kullanılabilecek geçerli ve güvenilir bir ölçme aracı olduğunu göstermektedir.

Anahtar sözcükler: Varoluş, pişmanlık, kabullenme, iç çatışma, hayatın anlamı

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WHEN we consider the idea of existentialism in the historical process, "What is a human?" It is possible to start with Socrates, who answered "know yourself" (Çavuşoğlu 2017). Existentialism was a problem that interested the masses in the old times. It is an approach that maintains its importance by being individualized today. In this philosophy, the existence of human, his/her self-realization, the insecurity of this world, its randomness, the present, the existence of human, his/her nothingness and weakness are handled (Sarıoğlu 2008). Existentialism emerges at a time when the person is under threat, becomes a meaningless being, becomes alienated due to not being able to adapt to the society he (or she) is in and wants to save his/her self and regain his/her essence (Sartre 2003, Beyazyüz 2020).

Although the concept of existentialism is referred to as "humanistic psychology" in psychology, Rollo May, one of the representatives of this field, stands in a different place by dealing with the more tragic side of human existence (Özen 2012). The trend towards existentialism in psychology started with the advancement of social sciences after the Renaissance period. It offers a perspective against the dialectics of "subject/object materialism/idealism." According to existential psychology, humans should not be considered a subject that exists only because he/she can think, as some perspectives suggest, nor as a mechanical subject that can be controlled didactically, as suggested by the cognitive-behavioral approach. According to May, humans should be handled with historical integrity and context without being isolated from society. It should be considered a subject that exists in culture and all its relations (Güngen 2009). Based on existential psychodynamic theories, conflicts arise from the individual's confrontation with his/her existence.

The benefits of existence, specific anxieties, are a part of human existence and certain qualities brought from creation. How can one discover the nature of these returns? The answer is "deep personal reflection." Conditions for this are solitude, silence, time, and relief from the usual distractions that each of us fills our world. Suppose we can erase or take control of our usual world if we reflect on our world situation, existence, limits, and possibilities. In that case, if we reach the underlying factors of all causes, we will face the rewards of existence and "ultimate concerns, deep structures." Some immediate experience often facilitates this thinking process. Ultimate anxieties/deep structures include death, freedom, isolation, and meaninglessness. The individual's confrontation with one of these life facts constitutes the content of dynamic existential conflict (Yalom 2001). The goal is to increase people's awareness of themselves at the center of existential psychology. It has been assumed that everyone has self-consciousness at their core and can use it as power after experiences in their life. After these experiences, people need to reflect on their choices, analyze and evaluate their feelings. People are not prisoners of their past experiences. They have the power to cope with feelings such as regret and unhappiness brought about by the lived situations and to make decisions afterward (Corey 1991).

Regret is a feeling about the past, and it is an emotion that arises from the negative evaluation of choice (behavior) made or not made in the past (Zeelenberg et al. 1998). In other words, regret includes thoughts about "what could have been" rather than "what happened" for the opposite behavior done or not done (Kahneman and Miller 1986, Connolly and Zeelenberg 2002). Regret indicates that something has gone wrong and that some things need to change. This may trigger some positive changes (Connolly and

Reb 2005) and encourage the individual to adapt in the psychological field (Lecci et al. 1994).

Lucas (2004) stated that regrets are long-lasting and painful feelings, and they turn into existential regrets at the intersection of existential anxiety and existential guilt. Events or choices do not explain existential regrets, but by an individual's experience of a choice or an excessive desire to reverse and change a decision. In this way, it differs from the concept of regret.

In existential regret, the person sometimes does not want to accept the current situation; in such cases, thinking about what we can do to change the outcome and facing the future may be the most appropriate solution. It is also necessary to accept that the harm is caused and the resulting reality. When we look at the studies in the clinical field, it is seen that people avoid accepting the consequences of their own choices. Studies reveal that methods have been developed that can be used to avoid the painful consequences of our behavior in order to ward off the formation of existential regret and anxiety (Lucas 2004). Henry David Thoreau said, "Make the most of your regrets; because to regret retrospectively is to relive the event" (Baard 2003). Reker and Truckle presented the structure of existential regret as a conceptual framework to explain the importance of existential regret in the lives of advanced adults (Figure 1). Then, they developed the Multidimensional Existential Regret scale in line with the literature.

It was thought that the concept of existential regret would be of great help in determining intervention areas for treatment attempts. It has been suggested that the results obtained with the scale will also contribute to the successful progression of advanced adults in the aging process in order to achieve a better quality of life (Reker and Truckle 2009).

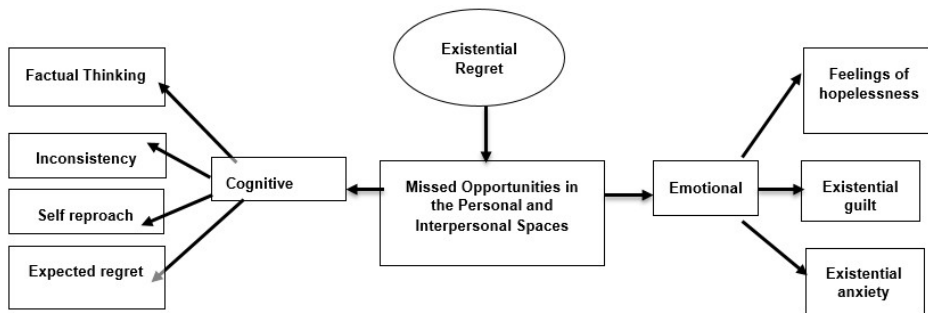


Figure 1. Multidimensional Existential Regret conceptualized structure (Reker ve Truckle 2009)

The recent global pandemic process has caused many psychological and physical problems, as well as economic problems. People need to experience a sense of existential regret after the questions they ask about their lives, to review their lives, to switch between their old goals and their new goals, and to allow new learnings to replace what they have learned in the past, in terms of creating a transformation.

In Turkey, qualitative or quantitative scientific studies on existential regret have not been found. It is aimed to adapt the Multidimensional Existential Regret Inventory (MERI) developed by Gary Reker and Samantha E. White-Truckle (2009) into Turkish with this study, In this context, it is thought that this adaptation study can form a basis for the subject of existential regret to be addressed with different studies.

Method

Sample and Procedure

The ages of the participants in the study ranged from 19 to 61 (Mean= 38.87; SD= 16.34) and consisted of 323 individuals, 198 of whom were female, and 125 were male. One hundred forty-seven are married, 159 are single, and 17 are divorced/widow. In the study sample, the inclusion criteria were volunteers, at least literate, and over 18 years old; The exclusion criteria were determined as non-volunteer, illiteracy, and being under the age of 18. Written permission was obtained by contacting one of its researchers, Garry Reker, via e-mail to adapt the scale to Turkish.

The ethics committee permission required for the research was obtained from the Istanbul Kultur University Ethics Committee (dated 01.07.2020 and numbered 2020.45). In addition, a short informational statement was made at the beginning of the scales used about obtaining consent from the participants. The sample group was obtained by the conveniency method. It was applied by sending the online link of the scales to the participants' e-mail addresses. Answering the scale questions took approximately 15 minutes. In addition, a test-retest was conducted with a group of 20 people. For the validity and reliability study, the sample size was calculated according to the rule that the sample size recommended by Costello and Osborne (2005) should be ten times the number of items. A total of 350 participants were reached, and the data of 27 participants who were found to be missing were excluded from the study and the data of 323 participants were included in the analysis.

Measures

Demographic information form (age, gender, marital status, educational status, occupation) was given as a data collection tool in the research. Then Multidimensional Existential Regret Scale, Spiritual Well-Being Scale, Meaning of Life Scale, and Posttraumatic Growth Inventory were used.

The Multidimensional Existential Regret Scale

The Multidimensional Existential Regret Scale (MFPS) was developed by Reker and Truckle (2009) to contribute to the study of people's well-being and successful aging in advanced adulthood. The 7-point Likert-type "Multidimensional Existential Regret Scale (MERI) - Multidimensional Existential Regret Scale" (MCPPS), which consists of 35 items in total, ranging from "strongly agree" to "strongly disagree," consists of 5 sub-dimensions. The names of each sub-item are Inner Struggle, Limits on Experience, Neglecting Others, Self-Deprecation, and Undoing the Past. The reliability coefficients of these sub-dimensions were determined as .91, .72, .89, .86, .84, respectively. Sub-dimensions explain 60% of the overall variance of the scale. The general internal consistency reliability coefficient of the scale is .95. MDPS and its subscales showed a good level of internal consistency. It showed the highest correlation with the same criterion measure, the existential guilt scale (PEGS) (.69). MERI and its five subscales were highly reliable and moderately correlated within the classroom (Reker and Truckle 2009). High scores obtained from the scale reflect high levels in the existential regret variable.

Meaning of Life Scale

The scale, which has two sub-dimensions, the meaning found in life and the meaning sought, consists of 10 items. It was developed by Steger et al. (2006). It was adapted into Turkish by Akın and Taş (2015). A high score on the scale indicates a high level of meaning in life. The internal consistency coefficient of the 7-point Likert-type scale is .82 for the meaning subscale and .87 for the sought meaning scale (Steger et al. 2006). The overall internal consistency coefficient of the scale for this study was .71.

Spiritual Well-Being Scale

The scale, which was developed by Ekşi and Kardeş (2017) for adults, aims to determine people's search for meaning in line with people's value judgments in terms of personal, social, environmental, and transcendent aspects. A high score on the scale indicates a high level of meaning in life. The 29-item and 5-point Likert-type scale; transcendence; what has occurred beyond the normal or the laws of physics, transcendence, harmony with nature (harmony with nature), and anomie; It has three sub-dimensions named aimlessness, depression stemming from social disorder. The internal consistency coefficient of the overall scale was calculated as .88. The overall internal consistency coefficient of the scale for this study was .93.

Posttraumatic Growth Inventory

The adaptation study of the scale developed by Tedeschi and Calhoun (1996) was carried out by Aydın and Kabukçuoğlu (2020) to reveal the positive changes that occur as a result of combating high-level stress. A high score on the scale indicates a high level of meaning in life. The scale is a 6-point Likert-type scale consisting of 5 sub-dimensions and 23 items, and the internal consistency coefficient was calculated as .93. For this study, the overall internal consistency coefficient of the scale was calculated as .94.

Statistical analysis

The study performed exploratory factor analysis (EFA) and reliability analysis with the SPSS 22.0 program. Cronbach alpha internal consistency coefficient, item-total score correlation coefficients for reliability analysis, and Pearson correlation coefficient for test-retest reliability analysis were calculated. To estimate the scale's construct validity, exploratory factor analysis was applied, and items with a factor load above .30 were evaluated. In order to test the criterion-related validity of the scale, multiple regression analysis was carried out in which five sub-factors of the Multidimensional Existential Regret Scale were considered the predictor variable, and each variable was used as the criterion the predicted variable. In the confirmatory factor analysis (DFA), the AMOS 22.0 program was used, and the goodness of fit values are given in Table 2. The level of significance in the study was determined as $p < 0.05$.

Results

Linguistic validity, discriminant validity among similar scale validity types, exploratory factor analysis (EFA), confirmatory factor analysis (CFA), test-retest, and reliability results were evaluated in this part of the study.

Validity analysis

Language validity

In the Turkish translation of the scale, three instructors who are experts in the field and fluent in both English and Turkish were received. After the scale was finalized with the cross-translation method, the conceptual comprehensibility of the scale was checked and the scale was made ready for use.

Table 1. Factor loads obtained by varimax rotation method

	Inner Conflict	Self-Regret	Regret About Other People	Acceptance	Emotionality
21. I find myself living in the past instead of the future.	.744				
15. I frequently experience a great sense of emptiness in my life.	.725				
10. My thoughts about the past interfere with my daily life and activities.	.718				
6. I experience a great deal of anxiety over the fact that I cannot change the past.	.643				
24. I fear making future choices because I do not want to let myself down again.	.635				
8. I blame myself for missed opportunities.	.611				
23. I often criticize myself for not living the life I wanted to.	.610				
31. I often experience a state of inner turmoil and despair.	.592				
13. I often find it hard to understand why I failed to make certain choices in my life.	.526				
29. I often feel constrained about my past choices.	.524				
35. I feel as though I have failed to develop positive relationships with others	.521				
16. I have difficulty seeing new alternatives in life.	.520				
34. I often feel guilty about failing to pursue goals and opportunities for achievement.	.510				
12. I find it difficult to trust myself enough to know that I am making the right decision.	.506				
5. I wish I had done more with my life.		.691			
17. If I could live my life over again, I would do it differently.		.683			
4. It troubles me to realize that I have made choices in life without listening to myself.		.599			
27. I am mad at myself for making decisions in the past without thinking about how they would shape my life later.		.579			
32. I feel as though I have ignored my own potential.		.531			
20. I feel as though things would be so much better for me if I had only acted on certain opportunities.		.489			
22. I feel as though I have neglected significant others in my life.			.767		

9. I worry that I have let my family down by failing to remain close and involved.					.700
30. I feel as though I have failed to live up to my responsibilities to others.					.695
11. I feel angry with myself for not fulfilling the needs of family, friends, or others in my life.					.651
25. I lament not taking a greater responsibility to help others in need.					.578
18. I wish I had spent more time and energy with loved ones.					.562
33. I would not want to change anything about my past.					-.758
26. I think I have done the best I could in life.					-.709
14. I hardly ever dwell on my past choices.					-.634
28. In spite of all the things I did not do in my life, I find it easy to move on.					-.514
1. I cannot stop thinking about what could have been.					.742
3. It upsets me to think that I have let others down in the past.					.501
2. I cannot seem to find a good enough reason for why I failed to achieve important goals in my life.					.455
19. I often become restless when I think about my unresolved conflicts.					.382
Eigenvalue	12.789	1.982	1.612	1.397	1.242
Explained Variance	37.600	5.831	4.472	4.110	3.652
Total Explained Variance	37.600	43.431	48.173	52.283	55.935

Construct validity

In order to test the factor structure of the Multidimensional Existential Regret Scale, exploratory and confirmatory factor analyzes were performed.

Within the scope of the research, Kaiser-Meyer-Olkin (KMO) Sample Adequacy Test and Bartlett's Test of Sphericity were applied to determine the suitability of the data collected for the Multidimensional Existential Regret Scale for EFA, and it was found that the data were suitable for EFA (KMO: .935; Approx. Chi-square: 5710.486; Degrees of freedom: 561; Bartlett's p: .00). Principal component analysis as factor extraction method in the EFA study of the Multidimensional Existential Regret Scale; Varimax with Kaiser Normalization was used as the rotation method, and the lowest factor load was determined as .38 (Table 1).

It shows the factor loadings obtained by the Varimax (flat) rotation method. In the study, it is seen that all items except the 7th item of the 35-item Multidimensional Existential Regret Scale are loaded on five sub-dimensions in total, and the factors of the items vary between .76 and .38. The 7th item with a factor load below .30 ("I did not miss the possibility of discovering the opportunities life offers") was removed from the scale. The final version of the scale was determined as 34 items. The reverse items of the scale are items 14, 26, 28, and 33. The variance rate explained by the five sub-dimensions was 55.935%. This rate is above 50%, and the expected total explained variance rate in social sciences (Beavers 2013).

Table 2. Results of 5-dimensional confirmatory factor fit indices for the Multidimensional Existential Regret Scale

Goodness of Fit Measures	For This Study Goodness of Fit Values	Perfect Fit Criteria	Acceptable Compliance Criteria
CMIN/Df	2.573	$0 \leq \chi^2/df \leq 3$	$3 \leq \chi^2/df \leq 5$
GFI	.803	$.90 \leq GFI$	$.80 \leq GFI$
AGFI	.861	$.90 \leq AGFI$	$.80 \leq AGFI$
CFI	.850	$.95 \leq CFI$	$.85 \leq CFI$
RMSEA	.070	$.0 \leq RMSEA \leq .05$	$.06 \leq RMSEA \leq 1.0$
TLI	.853	$.90 \leq TLI$	$.80 \leq TLI$
IFI	.850	$.95 \leq IFI$	$.85 \leq IFI$

(Simon et al. 2010, Hooper Coughlan and Mullen 2008)

In the study in which the scale was developed, there are 35 questions and 5 sub-dimensions. In the original form of the Multidimensional Existential Regret Scale, the dimensions were, in order, Inner conflict, 11 items (1, 6, 10, 12, 15, 16, 19, 21, 24, 28, 31; Cronbach alpha = .91), Limits on Experience 4 items (2, 7, 26, 32; Cronbach alpha = .72) Neglecting Others 8 items (3, 9, 11, 18, 22, 25, 30, 35; Cronbach alpha = .89) Self-Deprecation 7 items (4, 8, 13, 14, 23, 27, 34; Cronbach alpha = .86) and Undoing the Past 5 items (5, 17, 20, 29, 33; Cronbach alpha = .84) (Reker and Truckle 2009).

In this adaptation study, a measurement tool consisting of 34 items and 5 sub-dimensions was obtained according to the results of EFA. The new dimension names and items of the scale are respectively; internal conflict (items: 6,8,10,12,13,15,16,21,23,24,29,31,34 and 35), self-regret (items 4,5,17,20,27 and 32), regret about other people (items: 9,11,18,22,25 and 30), acceptance (items: 14,26,28 and 33) and emotionality (items: 1,2,3 and 19). All items in the acceptance sub-dimension in the scale are scored in the opposite direction.

Confirmatory factor analysis

According to the Confirmatory Factor analysis, it was determined that the structural equation modeling results of the scale (Structural Equation Modeling Results) were significant at the $p < .001$ level and 34 items constituting the scale were related to the scale structure. The reference values and bibliography regarding the acceptable fit index values are given in Table 2.

The values accepted in the fit index calculations are shown in Table 6, which is provided. RMSEA value below .08 and CMIN/df value below 3 corresponds to acceptable fit (Marsh et al. 2006). According to the results of the first level 5 - dimensional analysis, when the goodness of fit indexes of the multidimensional existential regret scale are examined; RMSEA .070; GFI .803; AGFI .861; CFI .850; χ^2/df , on the other hand, can be said to be at an acceptable level with values of 2.573 ($p < .000$) (Table 2).

First-level 5-dimensional confirmatory factor analysis results of the Multidimensional Existential Regret Scale are shown in Table 3. Accordingly, it is seen that the lowest factor load value of the scale, which consists of 34 items, is .34, and the highest value is .88. Accordingly, the factor load values of the 34-item scale were found to be at an acceptable level.

Table 3: CFA standardized burden results of the Multidimensional Existential Regret Scale

Sub-factors and items loaded on sub-factors	Standardized factor load values	Standard error	CR(t)
Internal Conflict			
S12	.65	2.10	
S21	.76	1.52	12.062***
S10	.68	1.66	11.073***
S15	.75	1.48	11.588***
S6	.76	1.80	11.894***
S24	.72	1.48	12.133***
S8	.69	1.68	11.153***
S23	.78	1.54	12.287***
S31	.74	1.73	11.767***
S13	.71	1.44	11.415***
S16	.59	1.83	9.788***
S29	.70	1.71	11.323***
S34	.72	1.51	11.501***
S35	.57	2.09	9.483***
Self-Regret			
S5	.66	1.74	
S17	.64	1.73	10.113***
S4	.70	1.81	10.877***
S27	.78	1.35	11.948***
S32	.63	2.01	9.938***
S20	.65	1.84	10.240***
Regret About Other People			
S22	.80	1.28	
S9	.69	1.78	12.605***
S30	.71	1.39	12.924***
S11	.77	1.29	14.227***
S25	.47	2.10	8.191***
S18	.58	2.28	10.343***
Acceptance			
S33	.68	1.67	
S26	.64	1.53	7.892***
S14	.54	2.02	7.192***
S28	.43	1.98	6.043***
Emotionality			
S1	.34	3.13	
S2	.47	2.30	4.927***
S3	.53	2.58	5.158***
S19	.73	1.60	5.607***

***p<0.001

Similar scale validity

In order to examine the discriminant validity of the Multidimensional Existential Regret Scale within the scope of similar scale validity, Posttraumatic Growth, Meaning of Life, and Spiritual Well-Being scales were used. Pearson Correlation Coefficient was used to examine the relationship between scale scores. When the theoretical framework was evaluated, no scale similar to existential regret was found. Therefore, within the scope of similar scale validity, the Posttraumatic Growth, Meaning of Life, and Spiritual Well-

Being scales and Multidimensional Existential Regret were used to show that they are unrelated (weak or statistically insignificant correlation) with the scale scores measuring the constructs that are conceptually distant from it (discriminant validity). It is predicted that there will be weak but inverse and statistically significant relationships between the scales. Analysis results are given in Table 4.

Table 4. Multidimensional Existential Regret Scale and Pearson correlation analysis results for posttraumatic growth, meaning in life, and spiritual well-being scale scores

		Existential Regret Total Score
Posttraumatic Growth	<i>r</i>	-.142*
The Meaning of life	<i>r</i>	-.147**
Spiritual Well-Being	<i>r</i>	-.122*

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

There is an inverse low level statistically significant relationship between the total and sub-dimension scores of the Multidimensional Existential Regret Scale and the Posttraumatic Growth, Meaning of Life, and Spiritual Well-Being scale scores. Multiple linear regression analysis was conducted to explain the predictor of the sub-dimensions of the multidimensional existential regret scale on the total scores of the posttraumatic growth, spiritual well-being, and meaning of life scales.

Table 5. The prediction power of Multidimensional Existential Regret Scale sub-dimensions on meaning of life, spiritual well-being, and posttraumatic growth variables

Sub dimesions	Predicted Variables	B	Standard Error	B	t	R	R ²	df	F
Internal Conflict		.06	.038	.180	1.822				
Self-Regret		-.11	.082	-.123	-1.359				
Regret About Other People	The meaning of life	-.05	.067	-.060	-.818	.22	.04	5	3.279*
Acceptance		-.10	.093	-.070	-1.162				*
Emotionality		-.25	.106	-.178	-2.394**				
Internal Conflict		.02	.100	.025	.250				
Self-Regret		-.21	.217	-.091	-1.001				
Regret About Other People	Spiritual Well-Being	.31	.177	.129	1.769	.21	.04	5	3.109*
Acceptance		-.18	.247	-.046	-.763				
Emotionality		-.72	.280	-.192	-2.590**				
Internal Conflict		.33	.112	.290	2.999**				
Self-Regret		-.89	.243	-.328	-3.685**				
Regret About Other People	Posttraumatic Growth	-.01	.198	-.006	-.084	.29	.08	5	5.899*
Acceptance		.07	.276	.015	.259				
Emotionality		-.80	.314	-.186	-2.555**				

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The predictors of the sub-dimensions of the multidimensional existential regret scale on the total score of the meaning of life scale were examined. Considering the significance level corresponding to the F value, it is seen that the established model is statistically significant ($F=3.279$; $p < .01$). The emotionality sub-dimension of the

multidimensional existential regret scale has a predictive effect on the total meaning of life score. The sub-dimensions of internal conflict, regret for oneself, regret others, and acceptance does not have a predictive effect. It is seen that 0.04% of the change on the meaning of life scale total score is explained by the values obtained from the emotionality subscale scores.

Table 6. Reliability results for the Multidimensional Existential Regret Scale

	Item Total Correlation	Cronbach Alpha If Item Deleted
Internal Conflict Subscale (Cronbach's Alpha=.93)		
6	.712	.926
8	.659	.927
10	.669	.927
12	.633	.928
13	.682	.927
16	.580	.930
15	.713	.926
21	.738	.925
23	.739	.925
24	.742	.925
29	.662	.927
31	.709	.926
34	.676	.927
35	.552	.930
Self-Regret Subscale (Cronbach's Alpha = .83)		
	Item Total Correlation	Cronbach Alpha If Item Deleted
4	.631	.800
5	.621	.802
17	.591	.808
20	.544	.818
27	.689	.788
32	.554	.816
Regret Regarding Other Persons Subscale (Cronbach's Alpha =.83)		
	Item Total Correlation	Cronbach Alpha If Item Deleted
9	.642	.794
11	.671	.788
18	.517	.821
22	.726	.775
25	.430	.834
30	.625	.798
Acceptance Subscale (Cronbach's Alpha=.66)		
	Item Total Correlation	Cronbach Alpha If Item Deleted
14	.422	.604
26	.485	.562
28	.345	.651
33	.512	.539
Emotionality Subscale(Cronbach's Alpha=.62)		
	Item Total Correlation	Cronbach Alpha If Item Deleted
1	.365	.579
2	.363	.579
3	.432	.528
19	.447	.517

The predictors of the sub-dimensions of the multidimensional existential regret scale on the total score of the spiritual well-being scale were examined. Considering the significance level corresponding to the F value, it is seen that the established model is statistically significant ($F=3.109$; $p < .01$). The multidimensional existential regret scale has a predictive effect on the total score of the emotional sub-dimension spiritual well-being scale. The sub-dimensions of internal conflict, regret for oneself, regret others, and acceptance does not have a predictive effect. It is seen that 0.04% of the change on the spiritual well-being scale total score is explained by the values obtained from the emotionality subscale scores.

The predictors of the sub-dimensions of the multidimensional existential regret scale on the total score of the posttraumatic growth inventory were examined. Considering the significance level corresponding to the F value, it is seen that the established model is statistically significant ($F=5.899$; $p < .01$). It was found that the sub-dimensions of multidimensional existential regret scale internal conflict, self-regret and emotionality had a predictive effect on the total score of the posttraumatic growth inventory; regret and acceptance of other people sub-dimensions also do not seem to have a predictive effect. It is seen that 0.08% of the change in the total score of the posttraumatic growth inventory is explained by the values obtained from the scores of the inner conflict, self-regret, and emotionality subscale.

The original form of the scale was positive with existential guilt, existential emptiness, depression, and a risky health condition; personal meaning, acceptance of death, self-forgiveness, personal responsibility, and life satisfaction were negatively related (Reker and Truckle 2009). This finding used measurement tools with an expected negative correlation in the opposite direction for discriminant validity. Pearson correlation and multiple regression analysis support the underlying finding (Table 5).

Reliability analysis

In the reliability analysis performed to test the reliability of the Multidimensional Existential Regret Scale, the Cronbach's Alpha value was found to be .94. In Table 6, the scale and reliability results for sub-dimensions are shown. The original on the original scale is "I lament not taking chances to discover all that life has to offer." The item was excluded from the scale because the total correlation coefficient of item 7, whose Turkish expression was "I did not miss the possibility of discovering the chances that life offers," was lower than .30. Finally, an item-total correlation greater than .30 indicates that the items have high discriminative power (De Vaus 2002). When the relevant results were examined, it was seen that the item-total correlations ranged between .34 and .74.

Test-retest analysis

A test-retest application was used to test the consistency of the scale concerning time. The correlation between the results of the scale application, which was carried out with 20 participants at 10-day intervals, was evaluated. Thus, it was tested whether the scale showed reliability over time. As a result of the analysis of the total score of the Multidimensional Existential Regret Scale, the correlation value between the two applications was found to be .89, which was statistically significant at a high level (p

<.01). Detailed test-retest values regarding the total scores and sub-dimensions scores of the scale are presented in the table (Table 7).

Table 7. Test-retest analysis results of the Multidimensional Existential Regret Scale

		Posttest Emotiona- lity	Posttest Existential sum	Posttest Internal Conflict	Posttest Self Regret	Post-test Regret About Other People	Posttest Acceptance
First test Emotionality	<i>r</i>	.734**					
First test Existential Regret total	<i>r</i>		.894**				
First test Internal Conflict	<i>r</i>			.867**			
The first test is Self- Regret	<i>r</i>				.803**		
First test Regret for Other People	<i>r</i>					.887**	
First test Acceptance	<i>r</i>						.566**

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Discussion

It is aimed to deal with the concept of existential regret, which is an important concept, and there are few studies in the related literature with this study. The Turkish validity and reliability of the "Multidimensional Existential Regret Scale" was examined in order to encourage more research on the subject of existential regret. The language validity and factor structure of the scale were examined for the validity of the Multidimensional Existential Regret Scale. For the language validity of the scale, researchers working in related social science fields and academicians who are fluent in English and Turkish were consulted. Exploratory and confirmatory factor analysis was performed to reveal the scale's factor structure.

In this adaptation study, the number of sub-dimensions in the original form of the Multidimensional Existential Regret Scale did not change (5 sub-dimensions). However, the names of the dimensions were changed due to the displacement of the items loaded on the dimensions. The original sub-dimension names of the scale were adhered to as much as possible. The sub-dimensions were renamed according to the contents and meanings of the items loaded into the sub-dimensions. This proposed change regarding the sub-dimension names of the scale seems to be possible due to the differentiation feature of the concept of existential regret according to individuals and cultures.

Lucas's conceptualization was also used to rename the scale sub-dimensions, as Lucas (2004) distinguishes the concept of existential regret from concepts such as existential guilt, existential anxiety, and existential incompatibility. In addition, the item-total correlation coefficient of the 7th item in the original scale is lower than .20; therefore, the item was removed from the scale. The removed article was translated into Turkish as "I did not miss the chance of discovering the chances that life has to offer." In a new adaptation study to be made in the future, due to the sentence structure of the item, the 7-point Likert type of the scale and the semantic load in the sentence, the necessary permissions were obtained from the authors for this item, so that the sentence structure would not be an inverse item expression (...I missed it, I got the possibility of

discovering it....) It is thought that this arrangement will make the expression more understandable in terms of Turkish.

After the confirmatory factor analysis was carried out, the Goodness of Fit values of the Multidimensional Existential Regret Scale is included in the acceptable goodness of fit values. The scale was confirmed by confirmatory factor analysis with five sub-dimensions and 34 items. Reliability analysis was performed, and it was seen that the internal consistency values of the scale ranged from .34 to .74. The internal consistency value for the overall scale was found to be .94. The internal consistency values of the sub-dimensions of the scale, on the other hand, were calculated as .92, .83, .83, .66, and .62 for internal conflict, regret for oneself, regret for others, acceptance, and emotionality, respectively. When the findings were examined, it was determined that the "Multidimensional Existential Regret Scale" was valid and reliable in the Turkish sample group. It is thought that the scale will contribute to the studies to be done in this field. Although similar studies on the subject are quite limited, Deniz (2016) developed the Scale of Existential Anger in her study; It was found that the scale consisted of 10 items, showing a one-dimensional structure, and the Cronbach's Alpha coefficient was .93. It is stated that the scale will contribute to future studies in existential psychology.

Lucas (2004) defines existential regret as "a deep desire and pain to go back and change an experience because one cannot consciously make a choice or make a choice that is compatible with one's own beliefs, values, and development needs. Although the literature on the subject is limited, the concepts of existentialism and regret are pretty comprehensive in psychology when considered alone.

Traumatic experiences reveal emotions such as regret, anxiety, hopelessness, anger, and processes such as posttraumatic growth (Callely 2017), ontological well-being (Tunç 2021) associated with these emotions by questioning the existential processes in individuals. In this context, some similar studies were found. In some of these studies, the concept of trauma is generally explained as an existential injury because trauma threatens and destroys basic human needs and goals (Thompson and Walsh 2010, Weems et al. 2016). Menzies (2020) argues that the existential approach, existential authenticity encourages people to accept painful aspects of human existence and reduces existential anxiety by pushing them towards the future. Callely (2017) states that existential anxiety and regret trigger behaviors or actions that help make sense of life events. It has been revealed that this situation softens the relationship between posttraumatic stress symptoms and posttraumatic growth. In another study, the COVID-19 pandemic and life satisfaction mediated the relationship between existential anxiety, posttraumatic stress symptoms, and posttraumatic growth (Tomaszek and Muchacka-Cymerman 2020).

The concept of existential regret offers an essential perspective for mental health professionals. For the creative power of existential regret to emerge, people need to encounter some feelings of loss and sadness. Otherwise, the reflex of constantly changing perspective may cause the person to misinterpret his reality after a point. Recognizing the impact of existential regret on well-being will help people overcome their regrets and create a more positive view of themselves, their past, and the future that lies ahead.

On the other hand, the present study has some limitations. The first limitation of the study is that the data was collected during the Covid-19 process, which is a global epidemic. For this reason, it was tried to reach people through the Google form. The number of people reached was also limited. It should also be taken into account that the

results may differ due to studying with a larger sample group. Another limitation is that the length of the answer options is challenging when read by some participants since the scale responses are 7-point Likert's ranging from strongly agree to disagree strongly. If a validity and reliability study is conducted for the scale again, it is recommended to adapt it as a 5-point Likert instead of a 7-point Likert. It may allow the answers to be more easily remembered. The application of this scale on different sample groups in future studies will contribute to the validity and reliability of the scale.

Conclusion

The Multidimensional Existential Regret Scale is a valid and reliable 7-point Likert-type scale based on self-report. It is a scale with five sub-dimensions: internal conflict, self-regret, regret for others, acceptance, and emotionality. It is thought that the use of the scale in new research on existential regret, which is very limited in the literature, will make significant contributions to the theoretical and practical fields of existential psychology/psychotherapy and positive psychology. It is thought that the issue of existential regret, which concerns all humanity, has become a fundamental element of people's existential inquiries in their daily life experiences with the COVID-19 pandemic. It is thought that it will be important for mental health professionals to address the issue of existential regret with the "Multidimensional Existential Regret Scale", which is a quantitative assessment tool, in order to bring research into the relevant literature in which individual existential regrets are questioned and to improve well-being in the clinical practice of mental health professionals.

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Addendum 1. The Multidimensional Existential Regret Inventory (MERI) (Turkish version)

Below are a number of statements that people often feel differently about. Read each statement carefully and indicate how much you think each applies to you in general. Please rate the extent to which you agree with each statement using the 7-point scale below. Circle the answer that best represents your feeling about the statement. Please use the "I am undecided" answer carefully. There are no right or wrong answers; just state your honest opinion.

	Kesinlikle Katılıyorum	Katılıyorum	Orta Derecede Katılıyorum	Kararsızım	Orta Derecede Katılmıyorum	Katılmıyorum	Kesinlikle Katılmıyorum
1. Neler olabileceği hakkında düşünmeyi durduramıyorum.							
2. Hayatımdaki önemli fırsatları neden kaçırdığıma dair yeteri kadar iyi bir sebep göremiyorum.							
3. Geçmişte başkalarını hayal kırıklığına uğratmış olmak beni üzüyor.							
4. Kendimi dinlemeden hayatta seçimler yapmış olduğumu fark etmem beni rahatsız ediyor.							
5. Keşke hayatım için daha fazlasını yapsaydım.							
6. Geçmişini değiştiremeyeceğim için büyük bir endişe yaşıyorum.							
7. Kaçırılan fırsatlar için kendimi suçluyorum.							
8. Ailemi, onlara yeterince yakın olamadığım için hayal kırıklığına uğratmanın üzüntüsünü yaşıyorum.							
9. Geçmiş hakkındaki düşüncelerim günlük hayatımı ve aktivitelerimi engelliyor.							
10. Ailemin, arkadaşlarımla ve hayatımdaki diğer insanların ihtiyaçlarını karşılayamadığım için kendime kızgın hissediyorum.							
11. Doğru karar verdiğimi bilsem bile kendime güvenmekte zorlanıyorum.							
12. Hayatımda belirgin seçimler yapamamış olmayı sıklıkla anlamakta zorlanıyorum.							

13. Geçmiş seçimlerimin üzerinde neredeyse hiç durmadım.							
14. Hayatımda sıklıkla büyük bir boşluk duygusu deneyimliyorum.							
15. Hayatta yeni alternatifleri görmekte zorlanıyorum.							
16. Hayatımı tekrar yaşayacak olsam farklı şekillendirirdim.							
17. Keşke sevdiğilerimle daha fazla zaman geçirip, onlarla daha fazla şey yapsaydım.							
18. Çözülmemiş çatışmalarımı düşündüğümde sık sık huzursuz oluyorum.							
19. Sadece belirgin fırsatlara göre hareket etseydim sanki işler benim için çok daha iyi olurdu.							
20. Kendimi gelecek yerine geçmişte yaşarken buluyorum.							
21. Hayatımdaki önemli insanları sanki ihmal etmiş olduğumu hissediyorum.							
22. İstediğim hayatı yaşamadığım için sık sık kendimi eleştiriyorum.							
23. Kendimi tekrar hayal kırıklığına uğratmaktan istemediğim için gelecek hakkında seçimler yapmak konusunda korkuyorum.							
24. İhtiyacı olan diğer insanlara yardım etmek için daha fazla sorumluluk almıyorum.							
25. Hayatta yapabileceğim en iyisini yaptığımı düşünüyorum.							
26. Geçmişteki kararlarımı hayatımı ileride nasıl şekillendireceklerini düşünmeden, verdiğim için kendime kızgınım.							
27. Hayatımda yapmadığım her şeye rağmen hayatıma kolayca devam ediyorum.							
28. Geçmiş seçimlerimle ilgili sık sık kısıtlanmış hissediyorum.							
29. Başkalarına karşı sorumluluklarımı yerine getiremediğimi hissediyorum.							

30. Sık sık umutsuzluk ve içsel karmaşa yaşıyorum.							
31. Kendi kapasitemi sanki görmezden geldiğimi hissediyorum.							
32. Geçmişimle ilgili hiç bir şeyi değiştirmeyi istemezdim.							
33. Amaçları ve fırsatları elde etmek hakkında kendimi sık sık suçlu hissediyorum. Hedefe ulaşmada ve başarıya ilişkin fırsatları kaçırma konusunda kendimi suçlu hissediyorum.							
34. Diğer insanlarla sanki olumlu ilişkiler geliştiremediğimi hissediyorum.							

Evaluation guideline

Turkish adaptation of The Multidimensional Existential Regret Scale consists of five sub-dimensions:

Scoring;

1. Internal Conflict (14 items: 6,8,10,12,13,15,16,21,23,24,29,31,34 and 35 alpha coefficient = .93)

2. Self-Regret (6 items: 4,5,17,20,27 and 32 alpha coefficient = .83)

3. Regret Regarding Others (6 items: 9,11,18,22,25 and 30; alpha coefficient = .83)

4. Acceptance (4 items: 14,26,28 and 33 alpha coefficient = .66)

All items included in the acceptance sub-dimension in the scale are scored in the opposite direction.

5. Emotionality (4 items: 1,2,3 and 19 alpha coefficient = .62)

Total score: Alpha coefficient = .94

The highest score to be obtained from the scale is 238 and the lowest score is 34.

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