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From the Editor

Dear Readers,

It is a great pleasure to present to you the latest issue of The Turkish Psychological Counseling and Guidance Journal. In this issue, we feature a wide array of high-quality, original research that reflects the rich and evolving landscape of psychological counseling and guidance. As always, our goal is to support the development of the field through rigorous scientific inquiry and to create a platform for sharing knowledge, practices, and perspectives that contribute to individual and societal well-being.

This issue includes important contributions addressing proactive career development, psychological resilience, trauma intervention skills, online therapy practices, and emerging psychological constructs such as ecopsychological sensitivity. The development and validation of new measurement tools—including the Proactive Career Behaviors Scale, the Ecopsychological Sensitivity Scale, and Turkish and Arabic versions of international instruments—demonstrate our community's commitment to culturally relevant research and evidence-based practice.

The articles also touch on critical social and developmental themes such as early-life negative experiences, self-compassion, loneliness, premarital relationship education, post-divorce adjustment, and youth engagement in terrorism. Together, these works contribute to a deeper understanding of the human experience across various life domains and contexts.

This year also holds a special place in the history of our field. We are proud to celebrate the 60th anniversary of the establishment of the first Department of Guidance and Psychological Counseling in Turkey, founded in 1965 at the Faculty of Educational Sciences, Ankara University. This foundational step marked the beginning of structured counselor education in our country, with the first undergraduate students admitted in 1969. Over the past six decades, the department has nurtured countless professionals, researchers, and educators who have significantly shaped the theory and practice of psychological counseling and guidance.

To commemorate this meaningful milestone, the 26th International Psychological Counseling and Guidance Congress will be hosted by Ankara University from June 13 to 15, 2025. This congress will be a valuable space for academic exchange, reflection, and celebration. I warmly invite all colleagues, scholars, and professionals in the field to join us at this special event. Your participation will not only honor the legacy of our profession but also contribute to shaping its future.

I would like to express my heartfelt thanks to our authors, reviewers, and editorial team for their dedication and contributions. I hope this issue inspires new ideas, collaborations, and continued passion for advancing psychological counseling and guidance both in Turkey and around the world.

Warm regards,

Prof. Dr. Metin PİŞKİN
Editor-In-Chief

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RESEARCH ARTICLE

Proactive Career Behaviors Scale: A Study of Validity and Reliability

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ABSTRACT

This study aims to develop a valid and reliable tool to assess proactive career behaviours in university students. The participants of the study included three different groups of students enrolled at a public university in Turkey. A total of 999 students, 448 males and 551 females, participated in the study. The psychometric properties of the scale were analysed using confirmatory factor analysis, exploratory factor analysis, internal consistency coefficient, criterion-related validity, and test-retest methods. The exploratory factor analysis yielded a structure comprising 24 items across six factors. This six-factor structure explained 71.73% of the variance. The six-factor structure of the scale was validated through confirmatory factor analysis. The reliability analysis, measured using Cronbach's alpha, showed values ranging from .83 to .91 for the whole scale and its sub-scales. In conclusion, the Proactive Career Behaviour Scale has been proven to be a valid and reliable tool for administration among university students.

Today, career has become an area of development associated with almost every aspect of life. Therefore, planning their career well is now much more critical for individuals, especially for university students who have not yet started working life but are in the preparation phase for this (Zhang et al., 2023). Different from the past, the current business world expects university students to develop several new career competencies (Koen et al., 2012; Sultana, 2022). In this regard, proactive career behaviours represent one of the essential competencies anticipated for development (Sultana, 2022).

Proactive career behaviours, which are considered one of the important career competencies for the 21st century (Sylva et al., 2019), began to be the subject of research in the late 1990s (Frese et al., 1997; Seibert et al., 1999), when research on proactive career behaviours was very limited. As such, no studies at that time had investigated the proactive career behaviours of university students. As research on proactive career behaviours was conducted, the proactive career behaviours of university students were found to be a source of positive effects in the transition to work life (De Vos et al., 2009). Proactive career behaviours were also reported to have a significant relationship with career adaptability (Korkmaz, 2023) and visions about the future (Doğanülkü, 2024). Proactive career behaviours also help university students to successfully manage their career (Agrawal & Pradhan, 2023) and positively contribute to employability (Valls et al., 2020). With the

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positive effects of proactive career behaviours on university students, recent years have included more frequent research on this issue (e.g. Doğanülkü & Korkmaz, 2023; Korkmaz, 2023; Okolie et al., 2023; Zhang et al., 2023).

Besides these studies mentioned above, several theories also make assumptions about proactive career behaviours, which involve two career theories in particular. The first one is Career Structuring Theory (Savickas, 2005), which emphasizes four basic career adaptation skills such as control, curiosity, concern, and confidence (Savickas, 2005). Individuals can adopt to and influence their environment through career adaptation skills. Career Structuring Theory emphasizes that individuals' proactive career behaviours emerge as a result of exhibiting these four basic career adaptation skills (Hirschi et al., 2015; Savickas, 2005). In other words, practices that improve individuals' career adaptability could enable them to display more proactive career behaviour. Another important career theory that offers perspective on proactive career behaviours is "Social Cognitive Career Theory-(SCCT)" (Lent et al., 2002). In terms of SSCT, proactive behaviour within the career self-management framework is considered a key active component that combines cognitive, social, and personality mechanisms with a variety of career development and sustainability outcomes (Lent et al., 2022). In other words, displaying proactive career behaviours is considered an active agent for individuals to reveal their potential.

Proactive career behaviours include active participatory actions that people take to achieve goals related to their professional and career life (De Vos et al., 2009). An analysis of the literature on proactive career behaviours shows that proactive career behaviours are initially evaluated under four basic dimensions: career planning processes, skill-talent development activities, networking, and idea consultation (Claes & Ruiz-Quintanilla, 1998). Later studies developed a process model of proactive career behaviours by drawing on a broader field of proactivity research (Crant, 2000, De Vos et al., 2009; Grant & Ashford, 2008; Raabe et al., 2007). In this process model, proactive career behaviours consist of six factors under cognitive and behavioural components.

While cognitive components refer to planning processes that include career exploration activities, goal setting, and developing specific plans, behavioural components refer to activities aimed at networking, mentor support, and skill development activities (Claes & Ruiz-Quintanilla, 1998; De Vos et al., 2009, Sonnentag, 2017). The dimensions under the cognitive components refer to the insights that individuals develop in line with their career aspirations, and the dimensions under the behavioural components refer to the behaviours initiated to manage career (De Vos et al., 2009). In other words, behavioural components are clear and observable actions undertaken by people to obtain their career objectives (King, 2004).

Career exploration is defined as a lifelong process indicating that individuals collect information about their careers and test hypotheses about themselves and their environment to achieve their career goals, especially during transition periods of life (Zikic & Hall, 2009). Goal setting is the situation in which an individual anticipates and decides on the career-related outcomes he or she wants to achieve (Greenhaus et al., 1995). In other words, the individual determines the point she wants to reach in the future with the information she obtains as a result of career exploration activities. Developing specific plans is defined as developing plans to support individuals to obtain their career objectives (Seibert et al., 2013). Creating a system of commands for behaviour and action is an indicative of the function of developing specific plans. The literature acknowledges networking as one of the most basic proactive career behaviours. Networking refers to the actions individuals take to initiate, maintain and preserve connections with different people who can support them in their professional endeavours (Forret & Dougherty, 2004). Mentor support refers to a developmental relationship between a younger and less experienced individual and an older and more experienced mentor (Eby et al., 2013). It also involves consulting experienced people and receiving support from them during the career journey (Eby et al., 2013). Skill development activities refer to activities aimed at initiatives and interventions leading individuals to master and become competent in various tasks in their careers (Claes & Ruiz-Quintanilla, 1998). These activities could also be considered participation of individuals in activities that aim to improve themselves and provide them with unique skills to be successful.

An analysis of the literature on proactive career behaviours, along with the research findings mentioned above, reveals that university students exhibiting these behaviours experience positive influences in their career development. Besides, individuals are expected to exhibit these behaviours in terms of career development tasks. In this regard, reliable and valid measurement tools to reveal university students' proactive career behaviour levels are crucial, which help them to have an idea about the nature, form, duration, and direction of the services to be offered. However, an analysis of the literature revealed no measurement tools suitable for Turkish culture to measure university students' proactive career behaviours. Only the "Career Engagement Scale" adapted by Korkmaz et al. (2020) seems to be capable of measuring university students' proactive career behaviours. This scale was developed by Hirschi et al. (2014) in their study conducted with a group of German university students, but they also stated a limitation on the applicability of the scale in other countries and languages. Besides, different from western societies, Turkish society maintains a collectivistic cultural structure (Tagay et al., 2016), which may be reflected in the way Turkish individuals display proactive behaviours with the effect of cultural structure (Smale et al., 2019). Therefore, one of the main purposes of the current study is to develop a measurement tool that is unique to Turkish culture and capable of measuring proactive career behaviours in the local literature.

The "Career Engagement Scale" (Korkmaz et al., 2020), which is used in the local literature to measure university students' level of proactive career behaviours, is a one-dimensional scale. However, the proactive career behaviours process model includes six main proactive career behaviours, each of which has special importance (De Vos et al., 2009). Individuals or groups may be good at exhibiting one proactive career behaviour but not others. Therefore, another important motivation for conducting the current study is to develop a statistically reliable and valid measurement tool that informs about the level of each proactive career behaviour of Turkish university students.

Method

Participants and Procedure

The individuals involved in the present research consist of university students enrolled in Çukurova University in the 2022-2023 academic year. Students were included in the study using a convenient and easily accessible sampling method. Written informed consent was received from the participants, and no personal information was requested. The research followed the principles in the Declaration of Helsinki and received approval and registration from the Çukurova University Ethics Committee (E95704281/604/02/02-443120). During the scale development process, data were collected from three different groups at different times.

Table 1 presents findings in relation to participating individuals within the scope of the validity analysis conducted in the study.

Table 1. Participating Individuals' Characteristics

	Variables		f	%
Exploratory factor analysis	Gender	Female	210	53.4
		Male	183	46.6
		Total	393	100
	School year	1	59	15.1
		2	113	28.8
		3	132	33.6
		4	89	22.6
		Total	393	100
Confirmatory factor analysis	Gender	Female	193	56.2
		Male	150	43.8
		Total	343	100
	School year	1	45	13.1
		2	176	51.3
		3	85	24.8

Table 1 *(Continued)*

		4	37	10.8
		Total	343	100
Criterion-related validity	Gender	Female	148	56.2
		Male	115	43.8
		Total	263	100
	School year	1	43	16.3
		2	82	31.2
		3	71	27
		4	67	25.5
		Total	263	100

As shown in Table 1, exploratory factor analysis was conducted on a sample of 393 students to examine the factor structure of the Proactive Career Behaviours Scale. The participants' ages ranged from 18 to 25, with an average age of 22.2 years. The model fit of the six-factor structure, derived from exploratory factor analysis, was assessed through first-level and second-level confirmatory factor analyses using data from 343 students. The participants' ages ranged from 18 to 24, with an average age of 20.7 years. Finally, for the criterion-related validity study, the measurement tools were administered to a group of 263 students. The participants' ages ranged from 18 to 26, with an average age of 21.4 years. Hence, 999 students participated in the study during the scale development process. Additionally, Cronbach's alpha coefficient, calculated for the reliability analysis of the scale, was determined using data from 343 participants for the confirmatory factor analysis. Another reliability analysis, the test re-test process, was conducted similarly by recollecting data three weeks later from 214 participants in the group of 343 people from whom data were collected for confirmatory factor analysis.

Data Collection Tools

In addition to the Proactive Career Behaviour Scale developed in this study, the "Career Engagement Scale" (CES) and the "Career Adaptability Scale" (CAS) were also used as data collection tools.

The Career Engagement Scale (CES). The Career Engagement Scale (CES), which was developed by Hirschi et al. (2014), assesses the extent to which individuals engage in proactive career behaviours. Korkmaz et al. (2020) adapted the CES into Turkish. The adaptation study was conducted with university students. The CES consists of nine items responded on a five-point Likert scale and measures single dimension. The response options for the scale range from "(1) hardly ever" to "(5) very frequently." Higher scores obtained from the scale indicate a greater level of proactive career behaviours. Cronbach's alpha coefficient determined during the reliability analysis of the adaptation study was .88 for the whole scale. In this study, Cronbach's alpha coefficient was found to be .90.

The Career Adaptability Scale (CAS). CAS was developed by Eryılmaz and Kara (2016) to measure individuals' career adaptability. The scale is responded on a five-point Likert scale with options ranging from "not at all suitable" to "very suitable." Higher scores obtained from the scale indicate higher career adaptability. The CAS consists of two sub-scales including "career exploration" and "career planning" and consists of 10 items. Cronbach's alpha values obtained from the reliability analysis during the development phase were .85 for the overall scale, .84 for career exploration, and .71 for career planning. In this study, Cronbach's alpha values were .85 for the career exploration sub-scale, .74 for the career planning sub-scale, and .81 for the whole scale.

Proactive Career Behaviours Scale Development Process

The procedures recommended by DeVellis (2016) were implemented during the development of the Proactive Career Behaviours Scale, which included 1) setting the object of measurement, 2) generating the item pool, 3) setting the format for measurement, 4) expert panel review of the pool, 5) creating the trial form of the scale and piloting with the target audience, 6) evaluating the items, and 7) optimizing scale length. First of all, the determination of the structure to be measured requires considering the development of the measurement tool based on theoretical foundations related to the phenomenon to be measured. This provides great convenience in clarifying the scale development process (DeVellis, 2016). In this regard, the relevant literature and theoretical framework were reviewed in detail during the development of the Proactive Career Behaviours Scale. These reviews indicated that the most detailed explanations of proactive career behaviours

are put forward in the proactive career behaviours process model proposed by De Vos et al. (2009). In the process model, proactive career behaviours are discussed under six basic factors: career exploration, goal setting, developing special plans, networking, mentor support, and skill development activities (De Vos et al., 2009).

The process model proposed by De Vos et al. (2009) includes a pool of 48 items developed based on these six fundamental dimensions. Determining the scaling method is the next stage in the scale development process. Likert scale is one of the most frequently used item formats. Utilizing a Likert-type scale allows the declarative statement to benefit from response options that reflect different degrees of agreement or approval with the statement (DeVellis, 2016). Likert-type scales could be 3-point, 5-point, or 7-point. Considering that the number of categories was neither too few nor too many, a 5-point Likert form with options including "never, rarely, sometimes, often, almost always" was preferred during the development of the Proactive Career Behaviours Scale.

The 48 items in the item pool were arranged in line with the preferred scaling format and turned into a form to be presented for expert opinion. This form, along with the information text, was first presented to five academics who specialize in the field of Guidance and Psychological Counselling and work on career development. Six items were removed from the item pool based on the evaluations of field experts, and the final form was reduced to 42 items. This 42-item form was sent to two separate language experts. Revisions were made in line with the suggestions received from language experts, and necessary language revisions were completed. After these stages, 42 items in the item pool were turned into a pilot form for pilot administration. This form was administered to a group of 30 people to determine its comprehensibility. During the administration process, the feedback provided by the students was noted, and the items that were challenging to understand were re-analysed to give their final form. After this stage, the scale was administered to the target population for reliability and validity analysis. The scale includes no reverse-coded items, and higher scores indicate increased proactive career behaviours.

Validity and Reliability Study of the Proactive Career Behaviours Scale

The validity of the Proactive Career Behaviours Scale was assessed through expert opinions, construct validity, and criterion-related validity. Exploratory factor analysis and confirmatory factor analysis were carried out for construct validity. Exploratory factor analysis seeks to identify a limited number of meaningful structures from a larger set of items that can collectively explain the data (Büyüköztürk et al., 2009). Confirmatory factor analysis is employed to assess how well factors derived from various variables, grounded in a theoretical framework, align with actual data (Kline, 2016). Internal consistency was calculated, and the test-retest method was employed for the reliability assessment of the scale.

Data Analysis

Initially, the data collected from the participants were examined to determine whether there were any missing data, and the data of the three individuals with missing data were removed. These data were then entered into the SPSS 26.0 program on the computer. Then, extreme values were examined, normality and linearity assumptions were analysed, and multicollinearity analysis was performed. The data from four participants in the exploratory factor analysis group, the data from two participants in the confirmatory factor analysis, and the data from six participants in the criterion-related validity analysis group were removed from the data set because they had extreme values that would affect normality. Exploratory factor analysis to identify the latent structure of the scale was performed using SPSS 26.0, while confirmatory factor analysis for assessing model fit was conducted with AMOS 24.0. The goodness of fit for the model was assessed using the following criteria: $\chi^2/df < 5$, TLI > .90, CFI > .90, GFI > .90, RMSEA < .10, and SRMR < .08 (Marcoulides & Schumacher, 2001; Tabachnick & Fidell, 2007). Pearson correlation analysis was used when performing criterion-related validity analysis and test-retest analysis. Additionally, Cronbach's alpha was computed to evaluate the internal consistency of the scale.

Results

Results Regarding the Validity of the Scale

Both construct validity and criterion-related validity were assessed as part of the validity for the Proactive Career Behaviours Scale.

DOĞANÜLKÜ AND KIRDÖK

Construct Validity

In terms of construct validity, exploratory factor analysis was initially conducted to identify the factor structure of the scale. Confirmatory factor analysis was conducted to assess the accuracy of this factor structure of the scale.

Exploratory Factor Analysis. To determine the factor structure of the Proactive Career Behaviours Scale, a 42-item version of the scale was administered to the participants, followed by exploratory factor analysis. In the exploratory factor analysis, Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity were conducted to assess the appropriateness of the data collected from the study group for factor analysis. The KMO test gives statistical insights into the appropriateness of the sample size for exploratory factor analysis of the gathered data. Multivariate normality of the data can be demonstrated with Bartlett's Sphericity (Büyüköztürk, 2016; Çokluk et al., 2016). The KMO value indicates a medium value of 0.60, a good value of 0.70, a very good value of 0.80, and an excellent value of 0.90 (Kalaycı, 2006). In exploratory factor analysis, the eigenvalues of the items should be at least 1, each factor should contribute a minimum of 5% to the total variance of the scale, and that the item factor loading values should be no less than .40 while determining which items to be included in the scale. Additionally, items should load onto a single factor, and for those with adequate factor loading values across two or more factors, there must be a minimum difference of .10 (Stevens, 2009; Tavşancıl, 2010). Finally, when a measurement tool is developed, non-orthogonal techniques should be used when it is assumed that the factors in the measurement tool may be related to each other in the exploratory factor analysis. The most prominent non-orthogonal techniques are Direct Oblimin and Promax techniques (Seçer, 2018). The literature regarding the Proactive Career Behaviours Scale to be developed emphasizes that the factors are potentially interrelated (De Vos et al., 2009). Therefore, this study used the ProMax technique. Taking these requirements into consideration, firstly KMO and Bartlett's test of sphericity were conducted. Table 2 presents the test results.

Table 2. Results of the KMO and Bartlett's Test of Sphericity

KMO		.93
Barlett's Sphericity Test	χ2	11260.449
	sd	86
	p	.000

The KMO value approaching 1 indicates that the sample size is adequate, while a significant χ² value from Bartlett's Test of Sphericity suggests that the data satisfy the criteria for multivariate normality. The 42-item scale was organized into 6 factors with eigenvalues exceeding 1, and these factors explained 66.94% of the overall variance. However, the analysis revealed 13 items that were not associated with any factors and were redundant; these items were subsequently excluded. After 13 items were removed, exploratory factor analysis was repeated with the remaining 29 items. To assess the appropriateness of the data collected from the study group for factor analysis, KMO and Bartlett's test of sphericity were conducted once more, and the results are demonstrated in Table 3.

Table 3. Results of the KMO and Bartlett's Test of Sphericity

KMO		.91
Barlett's Sphericity Test	χ2	7037.600
	sd	406
	p	.000

As seen in Table 3, The KMO value nearing 1 indicates the adequacy of the sample size. According to Bartlett's Test of Sphericity, χ2 is significant and the data meet multivariate normality. The exploratory factor analysis revealed that 29 items were grouped into 6 factors with eigenvalues greater than 1, which accounted for 70.46% of the variance (Table 4).

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Table 4. Eigenvalues and Variance Values of Factors

Factors	Factor Eigenvalue	Explained Variance (%)	Total Variance (%)
Factor 1	9.74	33.61	70.46
Factor 2	3.13	10.79	
Factor 3	2.23	7.69	
Factor 4	2.08	7.19	
Factor 5	1.76	6.07	
Factor 6	1.47	5.07	

Considering DeVellis's (2016) recommendation on making the scale length appropriate, exploratory factor analysis was conducted again by removing five items with item factor loadings less than .50 to increase the practicality and quality of the 29-item scale version. As in other procedures, KMO and Bartlett's Sphericity Test were first conducted and the results showed that the number of participants was appropriate and the data met multivariate normality (Table 5).

Table 5. Results of the KMO and Bartlett's Test of Sphericity

KMO		.89
Barlett's Sphericity Test	χ^2	5204.265
	sd	276
	p	.000

Consistent with the initial exploratory factor analysis, 24 items were organized into 6 factors with eigenvalues greater than 1, and these factors explained 71.73% of the total variance. By removing five items with factor loadings below .50, the percentage of the remaining items explaining the total variance increased by approximately 1.5 points (Table 6). The examination of the scree plot reveals a 6-factor structure with eigenvalues exceeding 1 (Figure 1).

Figure 1. Scree Plot Graph of Proactive Career Behaviours Scale
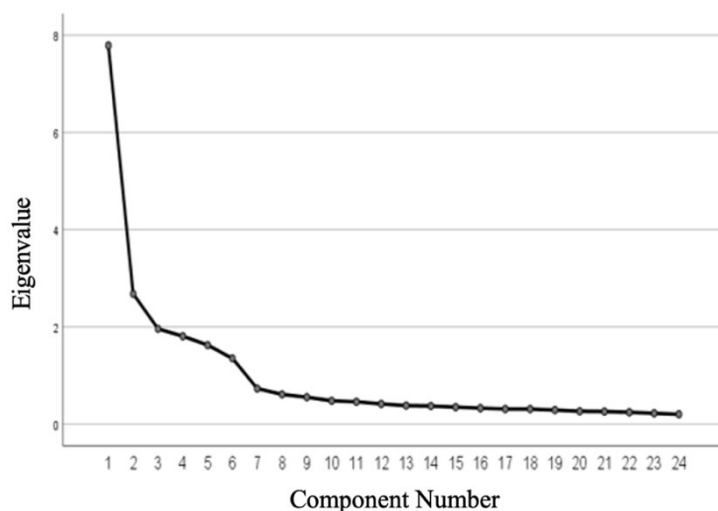
The proactive career behaviours process model (De Vos et al., 2009) served as the theoretical framework during the development of the Proactive Career Behaviours Scale. Taking into account the six fundamental proactive career behaviours (career exploration, goal setting, developing special plans, networking, mentor support, and skill development activities) outlined in this model, a pool of items was developed and the created items were submitted for expert review. The six-dimensional structure reached

following the exploratory factor analysis showed parallelism with the 6 basic proactive career behaviours in the proactive career behaviours process model, which is the theoretical framework used when creating the item pool. Accordingly, each factor was named by the item contents using the names of the proactive career behaviours in the process model. In this direction, factor 1 is named as career exploration, factor 2 as goal setting, factor 3 as developing special plans, factor 4 as networking, factor 5 as mentor support, and factor 6 as skill development activities. Following the final exploratory factor analysis, the eigenvalues of the 6-factor structure and the variances they explain are presented in Table 6.

Table 6. Eigenvalues and Variance Values of Factors

Factors	Factor Eigenvalue	Explained Variance (%)	Total Variance (%)
Factor 1	7.79	32.45	71.73
Factor 2	2.68	11.16	
Factor 3	1.96	8.16	
Factor 4	1.80	7.53	
Factor 5	1.62	6.77	
Factor 6	1.35	5.64	

As seen in Table 6, this structure of the measurement tool, consisting of 24 items and 6 factors, explains 71.73% of the total variance value. The order of variance values explained by the factors, from highest to lowest, is factor 1 (32.45%), factor 2 (11.16%), factor 3 (8.16%), factor 4 (7.53%), factor 5 (6.77%) and factor 6. (5.64%). In the scale development process, the variance explained by each factor is recommended to be a minimum of 5% (Stevens, 2009). As seen in Table 6, the variance values for all factors are above 5%. Table 7 presents the factor load values for each item in the scale, along with the common variances they account for, item-total correlation coefficients, and their mean and standard deviation values.

Table 7. Item Factor Loadings, Common Variance, Item Total Correlation, and Mean and Standard Deviation Values of the Proactive Career Behaviours Scale

I	Factor Loadings						Common Variance	Item Total Correlation	Average	Standard Deviation
	F1	F2	F3	F4	F5	F6				
I1	.85						.73	56	3.50	.99
I2	.84						.73	57	3.68	.85
I4	.77						.68	52	3.17	1.10
I6	.74						.67	57	3.70	.91
I9		.64					.47	40	3.66	.86
I12		.82					.68	42	3.67	.91
I13		.86					.73	43	3.67	.92
I14		.88					.77	41	3.79	.91
I17			.85				.74	64	3.54	.97
I18			.89				.77	61	3.47	1.02
I19			.86				.73	60	3.53	1.00
I20			.89				.79	62	3.54	1.01
I22				.66			.66	63	3.46	.93
I23				.56			.60	63	3.50	.91
I26				.89			.76	50	3.13	1.14
I27				.87			.69	46	3.27	1.06
I29					.89		.75	59	3.20	1.05
I30					.86		.77	64	3.15	1.05
I31					.83		.71	62	3.19	1.06
I35					.81		.68	59	2.93	1.08
I36						.84	.77	63	2.90	1.17
I38						.82	.74	58	3.16	1.06
I39						.86	.77	61	3.04	1.17

Table 7 *(Continued)*

I41	.83	.70	58	3.11	1.15

Note 1: *Every correlation is significant at the p < .001 threshold.*
Note 2: *Load values less than .50 are not shown in the table.*
Note 3*: I: Items.*

As shown in Table 7, item factor loadings range from .56 to .89. Item factor load values of .32 or higher suggest that the loadings are adequate (Çokluk et al., 2016; Tabachnick & Fidell, 2007). The lowest common variance explained by the items was .47, while the highest variance was found to be .79. An analysis of the item-total correlations shows that the values are between .40 and .64. Item-total correlations of .30 and above reflect that the scale items are effective in differentiating the measured feature (Büyüköztürk, 2016). Therefore, the scale is sufficient in terms of item-total correlation. Correlation values between the factors were calculated to reveal the relationship between the sub-scales of the Proactive Career Behaviours Scale. The results are shown in Table 8.

Table 8. Correlations between the Proactive Career Behaviours Scale Sub-scales

Sub-Dimensions	1	2	3	4	5	6
1. Career exploration	-					
2. Goal setting	.24**	-				
3. Developing special plans	.47**	.36**	-			
4. Networking	.41**	.35**	.43**	-		
5. Mentor support	.44**	.28**	.39**	.34**	-	
6. Skill development activities	.41**	.29**	.33**	.34**	.52**	-

Note. **$p < .01$

An examination of Table 8 reveals significant correlations among all sub-scales of the Proactive Career Behaviours Scale, with values ranging from .24 to .52. It is recommended that the correlation coefficient between the sub-scales should not be .85 or above in terms of multicollinearity problem (Çokluk et al., 2016). Therefore, the results indicate no multicollinearity problem.

Confirmatory Factor Analysis. The fit of the six-dimensional structure of the Proactive Career Behaviours Scale, derived from exploratory factor analysis, was assessed through first-level and second-level confirmatory factor analysis. Meydan and Şeşen (2011) state that when confirmatory factor analysis is performed, second-level multi-factor models of multidimensional scales should also be tested. Therefore, first, confirmatory factor analysis was conducted at the first level, followed by the second-level confirmatory factor analysis.

The goodness of fit values from the first-level confirmatory factor analysis indicate that the model falls within an acceptable range [χ^2 (237, N = 343) = 476.308; p < .001; χ^2/ df = 2.01; TLI = .94; CFI = .95; GFI = .90; RMSEA = .05; SRMR = .04]. Figure 2 illustrates the model for the first-level confirmatory factor analysis, which consists of six factors.

Figure 2. Coefficients of the Diagram for the First-level Confirmatory Factor Analysis Model
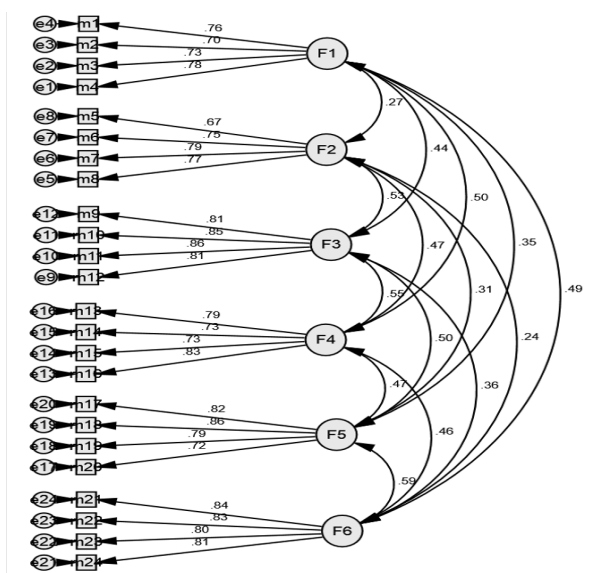
Note. F1: Career exploration. F2: Goal setting. F3: Developing special plans. F4: Networking. F5: Mentor support. F6: Skill development activities.

An analysis of the factor load values of the model shows that they range from .67 to .86. Given that the minimum item-factor loading value suggested in the literature is .30, the item-factor loadings in the model are deemed acceptable (Çokluk et al., 2016). In addition, item-factor load values of .46 and above indicate a good measurement (Büyüköztürk, 2016). Therefore, the outcomes of the first-level confirmatory factor analysis indicate that the measurement is reliable.

After the first-level confirmatory factor analysis was completed, a second-level confirmatory factor analysis was performed. The goodness of fit values from the second-level confirmatory factor analysis indicate that the model falls within an acceptable range [χ^2 (246, N = 343) = 539.074; p < .001; χ^2/ df = 2.19; TLI = .93; CFI = .94; GFI = .88; RMSEA = .06; SRMR = .06]. Figure 3 illustrates the model for the second-level confirmatory factor analysis, which consists of six factors.

Figure 3. Coefficients of the Diagram for the Second-level Confirmatory Factor Analysis Model
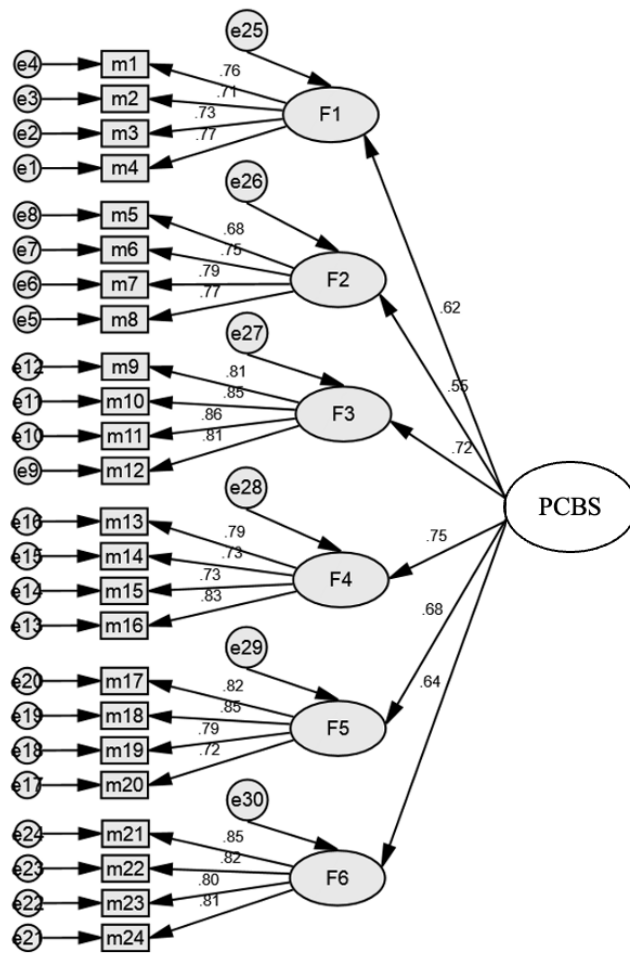
Note. PCBS: Proactive Career Behaviours Scale. F1: Career exploration. F2: Goal setting. F3: Developing special plans. F4: Networking. F5: Mentor support. F6: Skill development activities.

An analysis of Figure 3 shows that the factor load values within the model range from .68 to .86. Given that the literature suggests a minimum item-factor load value of .30, the item-factor load values in the model are deemed acceptable (Çokluk et al., 2016). In addition, item-factor load values of .46 and above indicate a good measurement (Büyüköztürk, 2016). Therefore, the second-level confirmatory factor analysis results also show a good measurement. These results reveal the suitability of the scale in terms of validity criteria.

Criterion-Related Validity

Another method used within the scope of validity reviews included the criterion-related validity method. While criterion-related validity analysis of the Proactive Career Behaviours Scale was conducted, the one-dimensional "Career Engagement Scale" (Korkmaz et al., 2020) and the two-dimensional (career planning and career exploration) "Career Adaptability Scale" (Eryılmaz & Kara, 2016) were used. Table 9 displays the correlation values among the scales.

Table 9. Correlation Values for Total and Sub-Scale Scores of Measurement Tools

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Career exploration	-										
2. Goal setting	.52**	-									
3. Developing special plans	.65**	.67**	-								
4. Networking	.52**	.41**	.49**	-							
5. Mentor support	.62**	.47**	.58**	.68**	-						
6. Skill development activities	.60**	.32**	.47**	.52**	.56**	-					
7.CAS-Career exploration	.49**	.43**	.47**	.39**	.44**	.39**	-				
8.CAS-Career planning	.43**	.38**	.44**	.37**	.42**	.34**	.62**	-			
9.CES	.51**	.36**	.53**	.49**	.59**	.55**	.61**	.61**	-		
10.CAS	.45**	.46**	.51**	.42**	.48**	.41**	.83**	.86**	.67**	-	
11.PCBS	.81**	.71**	.80**	.78**	.83**	.76**	.53**	.50**	.65**	.58**	-

Note 1. **$p < .01$

Note 2. *CAS:* Career Engagement Scale. *CES:* Career Adaptability Scale. *PCBS:* Proactive career behaviours Scale.

An analysis of Table 9 shows that there are moderate and significant relationships between the PCBS and CES ($r = 0.65$, $p < 0.01$) and between the PCBS and CAS ($r = 0.58$, $p < 0.01$). It was also concluded that there were moderate and significant relationships between the PCBS and the career exploration ($r = .53$, $p < .01$) and career planning ($r = .50$, $p < .01$) sub-scales of the CAS. Besides, all sub-scales of the PCBS (career exploration, goal setting, developing specific plans, mentor support, networking and skill development activities) were found to be positively and significantly related to the CES and CAS. In summary, increased PCBS is associated with increased CES and increased CAS.

Results Regarding the Reliability of the Scale

Cronbach's alpha internal consistency coefficient was calculated from the data collected from 343 people for confirmatory factor analysis to conduct the reliability analysis of the Proactive Career Behaviours Scale. In addition, reliability analyses based on the test-retest method were calculated with the data obtained from the Proactive Career Behaviours Scale, which was administered to a group of 214 people with three-week intervals. Table 10 presents the analysis results.

Table 10. Cronbach's alpha Internal Consistency Coefficients and Test-Retest Correlations for the Proactive Career Behaviours Scale Total and Sub-Scale Scores

Sub-scale	Cronbach's Alpha	Test-Retest Correlation
Career exploration	.83	.70
Goal setting	.84	.82
Developing special plans	.89	.73
Networking	.85	.73
Mentor support	.87	.69
Skill development activities	.89	.71
Proactive Career Behaviours Scale Total	.91	.86

Note. *All correlations are significant at the p < .01 level.*

As seen in Table 10, Cronbach's alpha values for both the Proactive Career Behaviours Scale as a whole and all sub-scales of the scale range between .83 and .91. Taber (2018) reports that values between .76 and .95 are quite high in terms of reliability. In other words, the internal consistency coefficients of the Proactive Career Behaviours Scale indicates that the scale is reliable. Test-retest correlation values range between .69 and .86. High positive correlation values resulting from test-retest correlations also show the stability of the scale across time (Erkuş, 2005).

Discussion, Conclusion and Recommendations

The purpose of the current research was to produce a reliable and valid tool for evaluating the proactive career behaviours of university students. In this regard, first of all, a comprehensive literature review was conducted to create an item pool for the feature to be measured. The created item pool was revised using the opinions of five field experts and two language experts. Then, a pilot test was conducted on a small group of participants to test the comprehensibility of the items. Following the pilot test, revisions were made based on the feedback received, and the scale was administered to the target audience for validity and reliability analysis. An analysis of the data collected from the participants indicated a measurement tool with valid and reliable psychometric properties consisting of 24 items with 6 factors.

Proactive career behaviours are one of the most important competencies expected from individuals in the career-field in the 21st century (Sylva et al., 2019). Demonstration of these behaviours is considered one of the important elements of a successful career path. Employers expect individuals to take the initiative and be proactive and show proactive behaviours (Brown et al., 2006). Proactive career behaviours are behaviours that have developmental features in both the professional and personal development journey (Doğanülkü, 2024). Proactive career behaviours have an important function, which makes measurement tools that reveal the level at which these behaviours are exhibited by individuals important. Only by using these measurement tools can information be collected about proactive career behaviours, which have an important function for individuals. Therefore, it is very important that these scales comply with validity and reliability criteria. This study aims to develop a scale to serve this function.

Recent employment problems in Turkey cause individuals to experience difficulties in transitioning to work life (Çivilidağ, 2019). Proactive career behaviours facilitate and accelerate the transition to business life (De Vos et al., 2009). Additionally, proactive career behaviours are an important predictor of successful career management (Agrawal & Pradhan, 2023). Therefore, there is a need for practices and studies that improve the proactive career behaviours of university students, to both increase the employment of individuals and support them in carrying out a successful career process. In this regard, measurement tools to provide information about various proactive career behaviour levels of university students have an important role. There are different proactive career behaviours, and each of them is critically important. Therefore, the measurement tool to measure proactive career behaviours should be capable of providing information about the level of each of these behaviours. Thus, by having information about which proactive career behaviours of university students need to be developed, the direction, size, and duration of interventions could be designed to improve these.

Two scales that are frequently used in studies conducted abroad stand out in proactive career behaviours. The Proactive Career Behavior Scale developed abroad by Strauss et al. (2012) is one of these, and this scale consists of 13 items and four sub-scales, which include career planning, skill development, career

consultation, and networking. Another commonly used tool to measure proactive career behaviours is the "Career Engagement Scale" developed by Hirschi et al. (2014). This scale, which included nine items and is one-dimension, was adapted to Turkish by Korkmaz et al. (2020). In other words, the scale does not provide information about the level of each proactive career behaviour of individuals but provides information about the general level of proactive career behaviours. No other measurement tools apart from this were found to have been adapted and developed to measure the proactive career behaviours of Turkish university students. The scale we developed addresses more areas in terms of content compared to these two scales and can measure six different proactive career behaviours. In summary, this research attempted to eliminate this deficiency by developing a measurement tool that would provide information about the level of each of the different proactive career behaviours of Turkish university students.

The current study revealed two important recommendations that may be related to individuals' careers as well as individuals who conduct research and practices in the field of career. Proactive career behaviours are important not only for college students but also for blue-collar and white-collar workers (Bauer et al., 2019). In other words, individuals working for career success are expected to exhibit proactive career behaviours. However, career behaviours demonstrated in a student position and an employee position indicate differences. The Proactive Career Behaviours Scale developed in this research is aimed at university students. Therefore, researchers are recommended to develop the Proactive Career Behaviours Scale Working Individuals Form. The other recommendation presented within the scope of the study is for the staff working in university career centres. One of the important functions of university career centres is to support students and graduates to be proactive and show proactive behaviours (Niles, 2002). In this context, it is suggested that practitioners working in career centres should first apply this scale to the university students and graduates and obtain information about the level of their proactive career behaviours. These measurements enable to identify the proactive career behaviours lacking in students and graduates and design intervention programmes accordingly, which is believed to improve the quality of the services provided to them.

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RESEARCH ARTICLE

Psychological Counsellors' Mental Well-Being and Resilience Levels Predicting their Trauma Intervention Skills

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ABSTRACT

The purpose of this study is to examine the relationship between psychological counselors' mental well-being and resilience levels and their trauma intervention skills. The study group consisted of 191 psychological counselors, 135 females and 56 males, who agreed to participate in the study. Data were collected through the Psychological Counsellors' Trauma Intervention Skills Scale, the Warwick-Edinburgh Mental Well-Being Scale, the Brief Resilience Scale, and the Personal Information Form prepared by the researchers. Data analysis was performed using the independent sample t-test, one-way analysis of variance (ANOVA), Pearson correlation analysis, and multiple linear regression analysis. Analysis results indicated a significant relationship between psychological counsellors' trauma intervention skills levels and their mental well-being and resilience levels. In addition, psychological counselors' mental well-being and resilience levels were found to explain 34% of the total variance of trauma intervention skills levels.

Studies on mental health have generally been within the scope of issues on psychopathology starting from the zero point of psychology (Sarı and Yıldırım, 2017). However, in addition to containing psychopathological elements, human nature also includes the individual's well-being, strengths, and healthy ways of coping (Seligman, 1999). With this view gaining momentum, the positive psychology movement has become stronger. Positive psychology aims to investigate individuals' development of positive emotions and positive personal characteristics, understand which situations they see their lives as worth living, which aspects help them to overcome difficulties, and which sources of motivation they have in creating a meaningful life (Seligman, 2002).In this regard, the main purpose of the positive psychology discipline is to make sense of well-being by maximizing the individual's functionality (Sheldon et al. 2000). "Well-being", one of the basic concepts of positive psychology, has attracted the attention of researchers because it has a great impact on the quality of life (Demirtaş and Baytemir, 2019). The concept of "mental well-being" is defined by the World Health Organisation (2014) as "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and can make a contribution to his or her community. In addition to referring to a mentally healthy individual, the concept of mental well-being has a

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multidimensional nature that includes concepts such as positive emotions, satisfaction, and psychological effectiveness (Duman, Köroğlu, Göksu and Talay, 2020). Another explanation of mental well-being includes the individual's being mentally healthy, having a high psychological and social quality of life, and having functional well-being (Rose et al., 2017). Individuals with a high level of mental well-being are expected to be able to evaluate themselves and the environment healthily, effectively cope with the difficulties of life, establish healthy social relationships, discover the meaning of life, and have a desire for self-actualization (Ryan and Deci, 2001).These individuals are also reported to show an effective determination to achieve the goals they set for themselves, positively affect people around them, have high self-competence levels, and define a meaningful purpose and a sense of meaning in their lives (Trenoweth, 2017).Based on all these, high mental well-being increases individuals' quality of life and significantly contributes to both their physical health and social relationships (Bedir, 2023).

"Positive mental health" is reported to be the main source for the well-being and permanent functionality of individuals and societies (WHO, 2004). In addition to being a structure applied by individuals to make sense of the world and make healthy decisions, the concept of positive mental health is one of the main sources that increase well-being by containing both cognitive and affective characteristics of individuals (Kottke et al. 2016). The academic literature uses the concepts of positive mental health and mental well-being interchangeably (Tennant et al. 2007). Although there is no consensus on the clear definitions of the two concepts, there is a consensus that the concept of mental well-being includes both hedonic (subjective well-being) and eudaimonic (psychological well-being) dimensions (Maheswaran et al., 2012).Hedonic well-being is defined as the high level of life satisfaction obtained as a result of experiencing pleasurable emotions and moods more, and negative emotions and moods less (Diener, 1984). The definition of psychological well-being by Ryff (1989) gains meaning within the eudaimonic framework. The concept of well-being is defined with the concept of "eudaimonia", which is formed by the combination of the words "eu" (good) and "daimon" and meets the meanings of happiness, prosperity and development, and focuses on individuals' efforts to be fully functional and to realize their unique abilities (Demirtaş and Baytemir, 2019).Mental well-being includes both of these perspectives: firstly, the subjective experience of happiness and life satisfaction, and secondly, positive psychological functioning, positive relationships with others, and self-actualization (Stewart-Brown and Janmohamed, 2008).

Resilience is another concept that has become prominent in positive psychology in recent years (Seligman, 2002). The phenomenon of resilience has been put forward with the increase in questioning about psychopathology and resilience (Masten, 2001). The origin of the concept of resilience is based on the Latin word "Resiliens" (Masten and Gewirtz, 2006). Used especially in the fields of mathematics, physics, and engineering, this concept can be described as the return of an object that had been bent or cracked due to a certain effect to its former balance (Greene 2002). The use of the concept for mental health and human development dates back to the 1960s (Topçu and Demircioğlu, 2020). There are different views about the Turkish equivalent of the concept of resilience. Various equivalents such as " the power of self-recovery", "psychological resilience", "resilience", and "psychological strength" have been put forward (Işık, 2016). Resilience, one of the important concepts of positive psychology, has been defined differently numerous researchers. Masten et al. (1990) define the concept of resilience as the process that provides positive outcomes by getting rid of traumatic effects, achieving positive results in high-risk situations, and maintaining social competence. According to Block and Kremen (1990), it is the adaptation of individuals to negative life events and the ability to cope with them. According to Jacelon (1997), resilience is the individual's ability to overcome and adapt to these situations despite extremely difficult and negative conditions. Ramirez (2007) defined it as the ability to increase well-being in a short time as a result of various traumatic life events, recover oneself, adapt successfully to these traumatic events, and then return to the previous state. In addition to these definitions, Brooks and Goldstein (2003) argue that the concept of resilience should be defined as the individual's ability to cope with stressful events regardless of having experienced difficulties in life. While the concept of resilience was used to indicate an individual's innate personality trait in early studies, recent studies define it as a feature that can be developed and acquired (Luthar et al., 2000). The common points of all these definitions show that the concept of resilience indicates a dynamic process. This structure, which can change over time, is defined as the ability to exhibit positive adaptation. Considering all these, risk factors have a key role in the emergence of resilience. Resilience is not expected to emerge without experiencing traumatic life events (Tatarer, 2020). In short, resilience can be addressed if an individual shows healthy adaptation and achieves success in different areas of his/her life despite being in the risk group or being exposed to challenging

life events (Luthar and Cicchetti, 2000). The concept of resilience involves three basic elements. While the first element is a significant level of negativity (risk factor), the second one is protective factors, and the third one is the positive results occurring despite all negative situations. The concept of resilience is considered as a situation emerging with the mutual interaction of all these three processes (Rutter, 1990). Risk can be defined as measurable conditions that may have negative consequences in the future (Masten and Reed, 2002). It is also defined as factors that may cause the onset of a problematic situation or contribute to the maintenance of the problem that has already occurred (Kirby and Fraser, 1997).Studies on this issue indicate some of the risk factors as low socioeconomic level/poverty, the child's exposure to strict parental attitudes, the mother's education level, parents' psychopathology, child neglect and abuse, and divorce (Hoşoğlu et al., 2018). Protective factors are described as situations that serve as a buffer against the negative effects of risks (Durlak, 1998). To be characterized as a protective factor, a situation should be related to risks (Rutter, 1990). Protective factors are determined as situations that cause differences between individuals who continue their development and adapt positively despite being exposed to the same risk and individuals who cannot fulfill their developmental tasks and cannot adapt positively (Masten and Powell, 2003). Individuals with a high level of resilience benefit from several "internal" and "external" resources to cope with negative experiences effectively. While effective problem-solving skills, self-esteem, self-confidence, self-efficacy, internal locus of control, and positive and optimistic view of the future can be listed as internal protective factors, familial and environmental characteristics can be characterized as external protective factors (Arslan, 2015). Soylu (2017) reported that social support and self-esteem of divorced women have a direct effect on resilience. Hence, internal and external protective factors have a significant effect on the risks faced by the individual (Karaırmak, 2006). In addition to all these, the positive emotions felt by the individual contribute significantly to both his/her subjective development and psychological well-being. Positive emotions increase the diversity of the individual's thoughts and behaviors and become an important source for the adaptation to different and new situations. By having a positive effect on the ability to recover faster against stressful life events, the high number of positive emotions felt by the individual increases his/her motivation (Karaırmak et al., 2011).Like in resilience, protective factors also show a dynamic structure. While the same protective factor may be useful for one individual in one situation, it may not be as useful for another individual. The function of protective factors is also reported to potentially change depending on time. Protective factors that contribute to positive outcomes in one situation may not provide positive outcomes for the same individual in another situation (Johnson and Wiechelt, 2004). Studies on resilience report that a positive or functionally contributing outcome should be indicated together with risk factors and protective factors (Masten, 2001).An analysis of the related literature shows that the factors considered positive outcomes are viewed in two groups. While the first one is the absence of psychopathology, the second one is positive outcomes such as academic success and social competence (Akar, 2018). Rather than which protective factors individuals have, another important point is to determine to what extent these protective factors decrease and prevent risks (Gizgir and Aydın, 2006). Throughout humanity, the destructive power of nature and people's wild side have caused human beings to face many traumatic situations (Taytaş and Tanhan, 2022). Rather than just viewing it as a situational phenomenon, trauma should be considered a socio-psychological process that develops over time (Akcan, 2018). Historical developments of trauma showed that the psychological effects of these traumatic life events were initially ignored, which was caused by the belief that traumatic experiences resulting from external circumstances could be tolerated by the individual. This notion suggests that the psychological problem emerging after the trauma indicates the individual's predisposition or mental problem (Kaya, 2019). The concept of trauma is defined by researchers differently and refers to the effect of shocking, hurtful, and injurious experiences that affect the individual physically, psychologically, and socially (Lotfi and Başçıllar, 2017). Tedeschi and Calhoun (2004) define trauma as events that occur unexpectedly and threaten the individual's physical integrity and life. DSM-V defines trauma as witnessing a death, injury, or threat to oneself. Post-traumatic stress disorder emerging as a result of these events is the emergence of the reactions of the individual in the form of intense fear, terror, and helplessness (Köroğlu, 2013). These traumatic events may cause the individual to activate guilty and helpless self-images and use negative coping methods that match these self-images. In this regard, there is a need to reveal the relationship between traumatic stress and ego

functions during the trauma therapy process. In addition, it is highly important for clients to give importance to themselves and receive cognitive interventions to make them feel valuable (Taytaş and Tanhan, 2022).The therapy process, which helps clients to change distorted beliefs occurring due to trauma in a useful way, express their feelings openly and cope with stress effectively, and paves the way for clients to live without being stuck in trauma (Zara, 2004).In this regard, due to the client stories they listen to, psychological counselors helping traumatized clients may experience trauma indirectly. Like their clients, psychological counselors' trust in life and people may be shaken, and they may feel anger and helplessness (Güveli, 2003) because trauma can affect not only the person who is exposed to it but also the individual who helps the traumatized client. The related literature refers to this effect as compassion fatigue and secondary traumatic stress. Therefore, awareness-raising studies are recommended to be increased today to effectively cope with the stress and fatigue experienced by psychological counselors working with individuals experiencing trauma (Taytaş and Tanhan, 2022).Besides their most basic counseling skills, psychological counselors who specialize in trauma should have in-depth knowledge and practice skills on trauma (Bengisoy and Özdemir, 2019).Accordingly, psychological counselors should have a thorough knowledge of therapy, have high levels of knowledge and skills about counseling for traumatized individuals, feel competent enough to help these individuals, and fully trust their skills in the counseling process (Taytaş and Tanhan, 2022). Based on all these, the purpose of this study is to examine the relationship between psychological counselors' trauma intervention skills and their mental well-being and resilience levels. It was aimed to examine whether the mental well-being and psychological resilience levels of psychological counsellors who provide effective contact with individuals with traumatic experiences are effective at the point of trauma intervention. With the results to be obtained from this research, it is aimed to make effective practices in line with the needs of psychological counsellors. Mental well-being and psychological resilience are close concepts in literature. The main difference between them is that psychological resilience is the process of getting rid of the effects of negative life events and obtaining positive outcomes. Mental well-being, on the other hand, means that the person is mentally healthy, has a high psychological and social quality of life and his/her well-being is functional. An analysis of the literature indicated no studies on psychological counselors' trauma intervention skills, mental well-being, and resilience. For this reason, this study is believed to contribute to the literature.

Method

Research Design

This study utilized a correlational model, which is one of the quantitative research methods. Correlational research is conducted to determine the relationships between two or more variables (Büyüköztürk, 2015). The reason for choosing the relational screening model in this study is to reveal the relationship between psychological counsellors' trauma intervention skills and their mental well-being and psychological resilience levels.

Study Group

The study group consisted of 191 psychological counselors, 135 females and 56 males, who agreed to participate in the study. Participation was on a voluntary basis. Table 1demonstrates the gender distribution of the study group. Table 1 shows that while 135 (70.7%) participants were females, 56 (29.3%) participants were males. The participants' ages ranged between 18 and 54, and their average age was 32.30.

Table 1. Gender Distribution of the Study Group

		n	%
Gender	Female	135	70.7
	Male	56	29.3
	Sum	191	100.0
Age	18-25	40	20.9
	26-34	85	44.6
	35-44	46	24.1
	45-54	20	10.4
	Sum	191	100.0

Data Collection Tools

Data were collected through the "Personal Information Form" prepared by the researchers, the "Psychological Counsellors' Trauma Intervention Skills Scale", the "Warwick-Edinburgh Mental Well-Being Scale", and the "Brief Resilience Scale". The necessary permissions for using the scales were obtained from the relevant researchers.

Personal Information Form: The Personal Information Form was prepared by the researchers and collected data about the participants 'demographic characteristics such as gender, age, and perceived income level. The form also included closed-ended questions about the evaluation of the adequacy of undergraduate education concerning trauma intervention and the presence of previous experience in trauma intervention.

Psychological Counsellors' Trauma Intervention Skills Scale: The scale, developed by Taytaş and Tanhan (2022) and named as the Scale of Psychological Counselors' Ability to Intervene in Trauma, aims to measure psychological counselors' trauma intervention skills. The 10-item scale is responded on a 5-point Likert scale and includes two sub-scales as cognitive and emotional. Each of the sub-scales is measured with five items. Psychological counselors' perception of intervention skills in the scale items consisted of the options listed as "relevant to me", "generally relevant to me", "sometimes relevant to me", "rarely relevant to me", and "not relevant to me at all". Cronbach's alpha reliability coefficient of the scale was calculated as .87. An analysis of the alpha reliability coefficients obtained from the sub-factors of the scale showed that the alpha values were.78 for the cognitive dimension and.83 for the emotional dimension. The internal consistency coefficient of the scale was calculated as .87 (Taytaş and Tanhan, 2022).

The Warwick-Edinburgh Mental Well-Being Scale: The scale was developed by Tennant et al. (2007) to measure the concept of mental well-being as a whole. The scale was adapted to Turkish culture by Demirtaş and Baytermir (2019) in a study conducted on 394 university students. The 14-itemself-report scale is responded on a 5-point Likert scale to measure mental well-being. Responses include "none of the time", "rarely", "some of the time", "often", and "all of the time". All the items in the scale are positively worded. Cronbach's alpha internal consistency reliability coefficient was found to be 0.92.

The Brief Resilience Scale: The scale was developed by Smith et al. (2007) to measure individuals' resilience. The scale was adapted into Turkish by Doğan (2015) with the participation of 295 university students. The Brief Resilience Scale is a 6-item, self-report measurement tool responded on a 5-point Likert scale. The items are responded as "Strongly disagree", "Disagree", "Neutral", "Agree", and "Strongly agree". Items 2, 4, and 6 are coded reversely. The internal consistency method was used to analyze the reliability of the scale. Hence, the internal consistency coefficient was found to be .83.

Data Collection and Analysis

Data were collected from psychological counselors who agreed to participate in the study in the virtual environment. Data were obtained from a total of 191 participants between the 20th of March 2023 and the 20th of May 2023, and data analysis was performed using the SPSS 26 package program. Firstly, the normality assumptions of the data obtained were checked. While examining normality assumptions, skewness and kurtosis values were examined. Since the results ranged from -1.5 to +1.5, it was observed that the data of the study exhibited a normal distribution (Tabachnick et al., 2007). The results are shown in Table 4 below. Additionally, it was examined whether the data showed a homogeneous distribution. It was observed that the Levene test significance value was $p > 0.05$. It was determined that the data showed a homogeneous distribution (Field, 2005). In this context, parametric tests were used for analysis. For this reason, independent sample t-test, one-way variance (ANOVA) analysis, Pearson correlation analysis and multiple linear regression analysis were used for analysis.

Findings

This section presents the findings and interpretations obtained as a result of statistical analyses.

Table 2. T-test Results of the Trauma Intervention Skills Scale according to the Gender Variable

	Gender	n	$\bar{X}$	ss	t	p
Trauma	Female	135	4.13	.55	1.94	.054
Intervention	Male	56	3.94	.74		
Skills Scale						

(t=.080; p>.01)

An analysis of Table 2 indicates no significant differences between the group scores as a result of the t-test conducted to determine whether the psychological counselors' trauma intervention skill levels differed significantly according to gender.As seen in Table 2, while female psychological counselors' trauma intervention skills mean score was 4,13 (sd=,55), male participants'mean score was 3,94 (sd=,74). Since the mean scores were close to each other, no significant differenceswere detected.

Table 3. T-test Result of Trauma Intervention Skills Scale according to the evaluation of undergraduate education

	Undergraduate	n	$\bar{X}$	ss	t	p
Trauma	adequate	38	4.09	.69	.080	.94
Intervention	inadequate	153	4.08	.61		
Skills Scale						

(t= .080; p>.01)

An analysis of Table 3 indicates no significant differences between the groupmean scores as a result of the t-test conducted to determine whether the psychological counselors' trauma intervention skill levels differed significantly according to the evaluation of the adequacy of the undergraduate education on trauma intervention.Since the mean scores were close to each other between those who find undergraduate education adequate (4,09) and those who find it inadequate (4,08), no significant differences were found.

Table 4. Pearson Moments Multiplication Correlation Analysis Results between Psychological Counsellors' Trauma Intervention Skills, Mental well-being, and Resilience Levels

	1	2	3	Mean	SD	Skewness	Kurtosis
1-Trauma Intervention Skills	-			4.080	.623	-.552	-.157
2- Mental well-being	.547**	-		3.893	.576	-.343	.672
3-Resilience	.492**	.587**	-	3.529	.667	.059	-.139

**p<.01

An analysis of Table 4 indicates a positive, moderate, and significant relationship between psychological counselors' trauma intervention skill levels and their mental well-being (r=.547, p<.05). In addition, a positive, moderate and significant relationship was found between psychological counselors' trauma intervention skills and resilience levels (r=.492, p<.05).

Table 5. Regression Analysis Results of Psychological Counsellors' Mental Well-Being and Resilience Levels Predicting Trauma Intervention Skill Levels

	B	SE	β	t	p
Constant	1.56	.259		6.03	.000
Mental well-being	.43	.079	.394	5.40	.000
Resilience	.24	.068	.261	3.58	.000

(F=49.28 ; p= .000; R= .57 ; R2= .34)

An analysis of Table 5 shows that the model constructed in line with the results of multiple regression analysis for trauma intervention skills was significant (F=49.28; p= .000; R= .57; R2= .34). The psychological counselors' mental well-being and resilience levels were found tosignificantly predict trauma intervention skills levels. Psychological counselors' mental well-being and resilience levels were found toexplain approximately 34% of the total variance of trauma intervention skills.

Discussion and Conclusion

This study aimed to find out whether psychological counselors' mental well-being and resilience levels predicted their trauma intervention skills. The study also aimed to determine whether psychological counselors' trauma intervention skills differed significantly by gender and their views about the adequacy of undergraduate education. The main hypothesis of the study is that if psychological counselors' mental well-being and resilience levels are high, their trauma intervention skills are also high.

Recently, the concept of resilience has a highly important and current place for professional groups providing psychological services to individuals. When it is considered in terms of PCG (Psychological Counseling and Guidance) services carried out in schools, preventive guidance and psychological counseling services gain great importance when the developmental problems of childhood and adolescence period are taken into consideration (Karaırmak, 2006).Preventive programs for students at-risk are recommended to give importance to helping these students develop skills to cope with difficulties and adapt, gain resistance against traumatic life events, learn skills to find social support, and develop skills to improve interpersonal relationships (Gizgir, 2007).Psychological counselors, who are responsible for the psychological services provided in schools, are the mental health workers who establish the closest contact with individuals in the risk group. In this regard, the resilience and mental well-being levels of psychological counselors facing traumatic experiences gain importance. Özgönül and Ümmet (2020) found a significant positive relationship between psychological resilience and counselling self-efficacy in their study on mental health workers. Yüksel Şahin and Emre (2021) found that psychological counsellors with high professional satisfaction had high levels of mental well-being in their study. They also concluded that psychological counsellors with high levels of occupational burnout had low levels of mental well-being. Based on these findings, it is expected that the level of psychological resilience and mental well-being will be positively affected by the increase in the level of counselling self-efficacy and professional satisfaction of psychological counsellors who are in effective contact at the point of trauma intervention. According to Tatarer (2020), having experienced traumatic life events is necessary for the emergence of resilience. In this regard, it is clear that psychological counselors are exposed to traumatic events that they experienced in their own subjective lives as well as the ones conveyed by the client. Psychological counselors' ability to intervene in trauma also gains importance in the therapy process, which provides positive outcomes by getting rid of traumatic effects.

The findings of this study revealed a positive, moderate, and significant relationship between psychological counselors' trauma intervention skills levels and their mental well-being and resilience levels. This result indicates that psychological counselors' ability to intervene in trauma increases with the increase in their mental well-being and resilience levels. It is very important for psychological counselors, who are one of the important stakeholders of the mental health field, to establish the first contact with individuals experiencing trauma. The high level of mental well-being and resilience of the counselors establishing this contact enables them to

intervene more effectively in the face of trauma. A psychological counselor with high levels of mental well-being and resilience is believed to be able to intervene in a way to be affected by the client's trauma less. Hence, psychological counselors' mental health is considered to have an important impact on trauma intervention.

Another finding of the study is that the trauma intervention skills levels of psychological counsellors do not differ significantly according to gender or views about the adequacy the undergraduate education on trauma intervention. No differences were detected between male and female psychological counselors in terms of their trauma intervention, which is considered to result from the close mean scores in the analyses. Taytaş (2022) examined the trauma intervention skill levels of psychological counsellors in terms of different variables. According to the study, it was determined that psychological counsellors' levels of intervention to trauma did not reveal a significant difference according to gender variable. This result supports the findings of our study. Uslu (2005) and Sarpdağ (2019) examined the counselling skills of psychological counsellors in their studies. According to the findings of the studies, it was concluded that gender variable was not effective on counselling skills. In addition, the analysis of the data obtained from the participants who found the undergraduate education adequate and the participants who found the undergraduate education inadequate also did not reveal a significant difference due to the close mean scores to each other. No significant difference was detected based on the assessment of the adequacy or inadequacy of the psychological counseling and guidance education given at the undergraduate level in universities and the ability to intervene in trauma since the mean scores were close to each other. However, the high number of participants who found the education inadequate (n=153. $\bar{X}$ =80,01) is worth considering in terms of the evaluation of undergraduate education in universities. Taytaş (2022), in his study on 265 psychological counsellors, mentioned the evaluation of undergraduate education at the point of trauma intervention. According to the findings, although there was no significant difference between the participants who found their undergraduate education adequate and those who found it inadequate, it was stated that the number of psychological counsellors who found it inadequate was higher. This result is similar to the present study.

Another finding of the study showed that psychological counsellors' mental well-being and resilience levels explained 34% of the total variance of trauma intervention skills. Hence, mental well-being and resilience levels significantly predicted psychological counsellors' trauma intervention skills. This finding shows that psychological counsellors' mental well-being and resilience levels are more advantageous in terms of trauma intervention skills. Psychological counselors who intervene in trauma could develop two conditions according to their level of being affected by trauma, which is referred to as secondary traumatic stress and compassion fatigue (Herman, 2019). Kahil (2016) concluded in his study that the secondary traumatic stress levels of professionals who professionally intervene in trauma are high. Counselors with high levels of mental well-being and resilience can be considered to have lower levels of effects and secondary trauma experiences by the trauma stories of the clients. In addition, compassion fatigue levels may increase as a result of counselors' exposure to the trauma stories. Psychological counselors with high levels of resilience and mental well-being levels could deal with these issues more effectively (Chrestman, 1995).

The limitations of this study are that it included counselors who filled out the questionnaire via Google Forms, and the research data were limited to the data obtained from the Psychological Counselors' Trauma Intervention Skills Scale, the Warwick-Edinburgh Mental Well-Being Scale, and the Brief Resilience Scale between 20.05.2023 and 20.06.2023.

Recommendations

Some recommendations could be made based on the results of the present study. As stated, psychological counselors' high levels of mental well-being and resilience play an important role in their effective trauma intervention. In this regard, practices can be done to protect and strengthen the mental well-being and resilience levels of psychological counselors who provide mental health services in the field of trauma. Psychological counsellors who specialise in a specific field such as child, adolescent, adult, family or couples counselling can be provided with practices and supervision support to increase their competencies in trauma. In addition, empowering activities can be included to minimise the level of being affected by traumatic stories. Basic skills that will increase the mental well-being and psychological resilience levels of psychological counsellors can be gained at undergraduate level. In addition, a large portion of the general participant group stated that undergraduate education was inadequate concerning the trauma issue (80.1%). In this regard, the number and credits of undergraduate and graduate courses that strengthen counselors' trauma intervention skills can be

increased in the psychological counseling and guidance curriculum. In addition, the research can be conducted with face-to-face or semi-structured interviews with psychological counselors. This study was conducted only with psychological counselors; the relationship between trauma intervention skills and mental well-being and resilience can be investigated in different groups of mental health professionals.

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RESEARCH ARTICLE

Psychometric Properties of the Turkish Version of the Short Form of the Adult Sibling Relationship Questionnaire (ASRQ-SF) in Emerging Adults

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ABSTRACT

A growing area of research examines the role of siblings in the family system, yet little is known about the characteristics of sibling relationships during emerging adulthood in Turkey. The aim of this study was to investigate the psychometric properties of the Turkish adaptation of the Adult Sibling Relationship Questionnaire-Short Form (ASRQ-SF). The study also examines the role of gender dynamics in Turkish emerging adult sibling relationships. The sample was comprised of 406 emerging adults (287 female and 119 male) aged between 18 and 25 who had at least one sibling and who were continuing their education at university. The construct validity of the ASRQ-SF was examined using exploratory and confirmatory factor analysis. The results confirmed the three-dimensional structure (warmth, conflict and rivalry) in the target sample. In the reliability study, internal consistency coefficients were determined to be .94 for warmth, .90 for conflict, and .91 for rivalry dimensions. Furthermore, gender-based results in the study showed that there was more warmth in sister-sister dyads. The findings of this study show that the ASRQ-SF is both a reliable and valid measurement tool that can be used to evaluate sibling relationship characteristics in Turkish emerging adults.

The relationships we have with our sibling relationships are among of the longest-lasting relationships humans experience and these relationships have a dynamic nature over time and may change depending on the family characteristics, environmental conditions, and the developmental stage the siblings find themselves in.. Studies indicate that in childhood and adolescence, characteristics of siblings and sibling relationship dynamics are related to personality development and mental health (Greer et al., 2015; Geerts-Perry et al., 2021; Jensen et al., 2023b; McHale et al., 2012). In addition, a broader literature emphasizes the importance of these relationships across the lifespan (Conger & Littler, 2010; Riggio, 2000; Scharf et al., 2005), and more research

is examining sibling relationships, particularly in emerging adulthood (Cassinat & Jensen, 2020; Finan et al., 2018; Hamwey & Whiteman, 2021; Portner & Riggs, 2016). However, the examination of the qualities of sibling relationships in Turkish culture is quite new (Aytaç-Bakkaloğlu, 2021; Cilali et al., 2019; Ozbay & Aydogan, 2020). There are common measurement tools for assessing sibling relationship characteristics in different cultures and evaluating sibling relationship characteristics from childhood to adulthood (Graham-Bermann & Cutler, 1994; Riggio, 2000; Stocker et al., 1997; Straus et al., 1996), yet the applicability of these measures in Turkish culture is limited, which constrains sibling research in Turkey. We aim to increase our understanding of emerging adults' sibling relationships in Turkish context by examining the psychometric properties of the Turkish adaptation of the Short Form of Adult Sibling Relationship Questionnaire (ASRQ-SF; Stocker et al.,1997). In addition, we also examines the role of gender plays in Turkish emerging adult sibling relationships.

Sibling Relationships in Emerging Adulthood

Like other close relationships, sibling relationships also change across the lifespan. Emerging adulthood is seen as a period that includes 18-25 years of age with transition from adolescence to adulthood (Arnett, 2000; 2004). In emerging adulthood, family relationships are maintained more voluntarily than childhood and adolescence (Aquilino, 2006). Emerging adults need less parental support and guidance even if they are not yet completely independent (Arnett & Tanner, 2005) and there are changes in the qualities of interactions between emerging adult siblings (Milevsky, 2019; Milevsky & Heerwagen, 2013). However, at the end of adolescence and emerging adulthood, the bonds siblings, and especially those with warm sibling relationships, remain an important source of support (e.g., Ozbay & Aydogan, 2020). Furthermore, it is found that even though siblings engage in less joint activities in adulthood compared to adolescence, the relationships become more intimate and warm (Scharf et al., 2005).

Relationships between siblings in emerging adulthood are defined by the amount of warmth, conflict and rivalry (Milevsky & Heerwagen, 2013; Stocker et al., 1997) displayed in the relationship. The Adult Sibling Relationship Questionnaire (ASRQ), first developed by Stocker et al. (1997), evaluates these three characteristics of sibling relationships in young, middle and late adulthood. Warmth includes siblings' intimacy, support, and being informed about each other's relationships and thoughts. Conflict refers to the arguments, antagonism and dominant behaviors experienced by the siblings with each other. Finally, rivalry refers to the perception of maternal and paternal favoritism by siblings. Thus, similar to childhood and adolescence, sibling relationships in adulthood are characterized with positive qualities reflected in warmth, as well as negative qualities such conflict and rivalry characteristics (e.g., Jensen et al.,2018; Milevksy et al., 2005; Plamondon et al., 2021; Scharf et al., 2005). However, since siblings in adulthood choose how to communicate or stay in contact with each other, the conflict between sibling dyads is mentioned less than in childhood (Stocker et al.,1997). In the same way, in the rivalry dimension, if siblings live separately from their parents and siblings in adulthood, rivalry is more rare (Stocker et al., 1997). However, the characteristics of these relationships that appear in adulthood are also influenced by relationships in adolescence (e.g., Tucker et al., 2019). A longitudinal study reported that emerging adults who were victims of aggression from a close sibling during adolescence had fewer close relationships with their siblings after four years and received less support from them (Tucker et al., 2019). Furthermore, there alsostudies focusing on the unique role of siblings in the development of empathy in childhood and adulthood (e.g. Gungordu & Hernandez-Reif, 2022). However, there may be changes in maintaining the relations of emerging adults with their siblings due to attending college, getting married, having romantic relationships and starting a family, and beginning more concentrated participation in the workforce (Aldrich et al., 2021; Jensen et al., 2018). Milevsky and Heerwagen (2013) found that emerging adults who are university students have more close relationships with their siblings despite their living apart from siblings. During these time siblings often move away from home, shifting from near daily contact, to entirely less regular contact via family visits for holidays or inter-semester breaks, or through technology-mediated communications such as message via mobile phones and other devices, or through social media applications (Hamwey et al., 2019).

Socio-demographic characteristics of sibling dyads, such as gender compositions, age difference, and birth order, are also related to sibling relationship quality (Milevsky et al., 2005; Weaver et al., 2003). For instance,

there are more close relationships between adult sisters, involving support and giving more positive feedback (Milevsky et al., 2005). The relationship between brother-sister dyads are more distant and protective than sister-sister dyads (Weaver et al., 2003), while the qualities such as teaching new skills and keeping confidentiality in each other are more common between brother-sister dyads (Doughty et al., 2013). While some studies, gender differences were not found in the relationship between siblings (e.g. Tucker et al., 2019) in some studies, women reported higher quality relationship with their siblings than men (e.g. Gungordu & Hernandez-Reif, 2022). There are changes in sibling relationships based on cultural norms and cultural practices (Cicirelli, 1995) For example, siblings' lives are closely intertwined throughout life in many nonindustrialized societies, with carefully defined duties and responsibilities (Cicerelli, 1995). Also the relationships between siblings are expected to continue closely throughout life in Turkey. Furthermore, the age gap between siblings and the gender of sibling can be effective in these relationship. For expamle, in non-industrialized societies, the eldest brother or sister is sometimes expected to obey them like a parent (Cicirelli, 1995). Although Turkey has predominantly collectivist cultural characteristics, it also attaches importance to individuation as well as collectivist socialization in its developed and urbanized regions (Atak & Çok, 2010). The socio-cultural context in Turkey has traditionally been defined as a culture in which social connectedness among immediate family, close and more distant relatives, neighbors and other social groups are crucial (İmamoğlu et al., 1993). Especially in the urban areas of Turkey, it has been observed that the traditional family lifestyle has been adopted and even the kinship relations, especially the ties between siblings, have retain an air of traditional family values that favor closeness and continuity of contact. Kağıtçıbaşı (2007) revealed that there are changes in the family, along with a cultural structure classification that brings together both "autonomy and relationality."

As a testament to the importance of sibling relationships in Turkey, a study of adults who left home to continue their university education in Turkey also found that sibling relationship quality in emerging adulthood, is a stronger predictor for their resilience than their relationship with their parents (Ozbay & Aydogan, 2020). The bond between siblings lasts for a lifetime and the enduring nature of the relationship is a common belief in Turkey. Even when physical distance separates siblings in adulthood, the harmony of autonomous and relational traits in the Turkish cultural context (Kağıtçıbaşı, 2007) and the continuation of the ties can be explained by the continuation of inter-dependence behaviour patterns in the family. In another study conducted on a Turkish adult group, in-depth interviews were conducted with seven sibling couples aged 18-25 to understand the changes in sibling relationships from childhood to adulthood (Aytaç-Bakkaloğlu, 2021). In these interviews, it was reported that there were positive changes from childhood to emerging adulthood, and the frequency of conflicts decreased even though conflicts between siblings continued (Aytaç-Bakkaloglu, 2021). In addition, because of the influence of the cultural factor, behaviours such as offering more care and providing support to the younger sibling from the older one also persisted (Aytaç-Bakkaloğlu, 2021). Yet in spite of this finding, sibling relationships in this period, similar to studies conducted in Western societies (e.g., Lindell & Campione-Barr, 2017), also took on a more egalitarian structure like friendships (Aytaç-Bakkaloğlu, 2021). In emerging adulthood, competitive relationships between siblings may occur perhaps based on the favouritism of parents between siblings. One interesting recent qualitative study (Con et al., 2019) examined differences in parental differential treatment on sibling relations in Turkey and in the US found that gender played a different role in terms of understanding differential treatment. Mothers favored sons more than daughters in Turkey but in the US mothers favored their daughters. This gendered nature of favoritism also impacted the sibling relationships differently across the two contexts. Also, some studies revealed no significant differences in themes describing emerging adults' sibling-related memories between females and males, and between Turkey and U.S. (e.g. Kara et al., 2023). Another Turkish-based study showed that after the negative experience of the father's death, the roles and responsibilities between siblings changed and the brother was given a role as protector, caregiver, and more responsibility in the family, even when he was a minor (Özbay & Aydoğan, 2019). Considering the influence of cultural context on family relationships in Turkish society, where collectivist cultural characteristics are considered predominant, the need for cultural adaptation of a measurement instrument focused on the characteristics of sibling relationship of the emerging

adult group is important to help systematize current research on this important relationship in the rapidly evolving Turkish cultural context.

Measurement Tools for Adult Sibling Relationships

There are a limited number of tools that measure sibling relationship characteristics in adulthood. One of these scales is the Brother-Sister Questionnaire developed by Graham-Bermann and Cutler (1994), which examines the sister or brother relationships of individuals with measured subscales that include empathy, similarity, boundary maintenance, and power/controlling behavior domains. Another scale sometimes used to examine sibling relationship quality, more focused on conflict between siblings, is the Revised Conflict Tactics Scale (Straus et al., 1996). This scale evaluates the sibling relationship characteristics remembered between the ages of 7-17 together with conflict styles by thinking of the siblings' conflicts at a given age. There is also the Lifespan Sibling Relationship Scale (LSRS) developed by Riggio (2000), which is also widely used in the recent relevant literature. The LSRS focuses on evaluating the attitudes of individuals towards sibling relationships in childhood and adulthood and consists of 48 items. The adaptation studies of the LSRS to Turkish culture were carried out by Oz-Soysal, Yurdabakan, Uz Bas, and Aysan (2016) and Cilalı, Erdur-Baker, and Bugay (2019) on emerging adults. The scale consists of a total of six sub-dimensions, three of which related to adulthood (adulthood emotions, childhood behaviors and childhood cognition). However, there are limitations on recalled sibling relationship experiences of the scales evaluating sibling relationships developed by Straus et al. (1996) and Riggio (2000). A new scale has been developed thatmeasures the quality of sibling relationships in emerging adulthood. The Emerging Adults' Relationships with Siblings Scale, which consists of five sub-scales namely, closeness, conflict, Ill-Wishes, parent-mediated relationship, and upward comparison (Jensen et al., 2023a). Indeed, in retrospective studies, the scale scores may be limited due to difficulty in remembering the past or social desirability issues influencing the ratings obtained (Bell & Bell, 2018). Therefore, we focused our efforts on the ASRQ, specifically the short form, as it focuses on current behaviors toward, and feelings about, a specific sibling. Also, the ASRQ-SF was adapted for the following reasons: (I) The ASRQ long form is too long for many data collection efforts and the ASRQ-SF can be applied easily, (II) The ASRQ-SF provides ease of use in cross-cultural comparative studies.

Adult Sibling Relationship Questionnaire (ASRQ)

The original ASRQ consists of 81 items and evaluates the quality of adult sibling relationships in the broad dimensions of warmth, conflict, and rivalry. The questionnaire includes 14 dyadic relationship subscales included under the three main dimensions; Intimacy, Affection, Knowledge, Acceptance, Similarity, Admiration, Emotional Support, Instrumental Support, Dominance, Competition, Antagonism, Quarrelling, Maternal Rivalry, and Paternal Rivalry. Several validation studies of the original ASRQ have been successfully conducted in different cultures (see Table 1). The 81-item form of the ASRQ was adapted in Turkish by Şahin (2017), and the CFA model was confirmed but 14 items were deleted as a result of EFA in the study suggesting some items may not be appropriate for the Turkish context. In addition, the 81-item ASRQ represents a significant item burden for researchers, especially when interested in broad dimensions of Warmth, Conflict, and Rivalry rather than the more numerous relationship subscales. Considering this situation, we thought it important to examine the psychometric properties of the short form of the scale in Turkish culture. The ASRQ-SF consists of 47 items spread over 8 subscales, which represents a 42% reduction in item load from the original ASRQ. The items on the 8 subscales are used to create 3 higher-order factors: Warmth (intimacy, affection, knowledge), Conflict (dominance, quarrelling, antagonism), and Rivalry (maternal and paternal rivalry). In addition to the US, successful validation studies of ASRQ-SF have been conducted in South Korea (Jang, 2009), France (Plesis, et al., 2020), and Poland (Walęcka-Matyja, 2016). The ASRQ-SF is widely used in sibling studies (Milevsky, 2019; Ponti & Smorti, 2020; Scharf et al., 2005; Stewart et al., 2001). Considering that ASRQ is widely used in research in the field of developmental psychology and family studies, the ASRQ-SF was adapted for the following reasons: (I) The ASRQ long form is not very useful in the data collection process and the ASRQ-SF can be applied more systematically and understandably, (II) ASRQ- Short Form (ASRQ-SF) is the most suitable scale for cross-cultural studies.

Table 1. Summary of prior ASQR validation studies.

Citation	Language	Sample	Factorial structure	Construct validity	Analysis	Items
Şahin (2017)	Turkish	Emerging adults	3 / 3; warmth, conflict, rivalry	BES, SES	CFA, EFA	67 items, 14 items deleted
Tani et al. (2013)	Italian	Emerging adults	2 / 2; warmth, conflict	NRI	EFA, CFA	43 items
Walęcka-Matyja (2016)	Polish	Adults	3 / 3; warmth, conflict, rivalry	GHQ-28, MHC-SF	EFA, CFA	61 items
Plesis, et al. (2020)	French	Adults	3 / 3; warmth, conflict, rivalry	●	-	44 items (3 items deleted from conflict subscale
Jang (2009)	South Korea	College students	2 / 2; warmth, conflict	●	EFA	30 items
Heyeres, 2006	Germany	Adults	3 / 3; warmth, conflict, rivalry	●	EFA	81

Note. 3/1 = 3 factor and 3 structure; 2 / 2 = 2 factor and 2 structure; BES = Basic Empathy Scale; SES = Self-Esteem Scale; NRI = Network of Relationships Inventory; GHQ-28 = General Health Questionnaire; MHC-SF = Mental Health Continuum-Short Form; EFA = Exploratory Factor Analysis, CFA = Confirmatory Factor Analyses

The Present Study

The aim of the current study is to adapt the ASRQ-SF (Stocker et al., 1997) to Turkish and to investigate the evidence for its validity and reliability, in so doing we will provide a comprehensive descriptive and structural examination of the ASRQ in a sample of Turkish emerging adults. In the current study, we translated and adapted the 47-item ASRQ-SF into Turkish to examine its psychometric properties. The results obtained from our study of the ASRQ-SF are expected to contribute to the understanding of emerging adult sibling relationship characteristics in the Turkish cultural context.

Method

Participants

Participants were recruited from a public university in western Turkey and a private university in the east. In this study a purposeful sampling method was used. We enrolled emerging adult participants who had a sibling who was at least 9 years of age. The final sample consisted of 396 emerging adult university students in Turkey (280 female, 70.7%; 116 male, 29.3%) Range 18-25, Mage = 20.56, SD =1.44). A large majority of the participants rated their socio-economic status as middle-income (n = 331, 83.6%). In addition, most participants' parents had a high school or higher education level (n=131, 33.0% of the mothers and n=191, 48.3% of the fathers).

The number of siblings of the study participants varied between one and nine and they have an average of three siblings. In the current study, those who had more than one sibling were asked to respond to the survey considering one target sibling older than nine years of age. Each of the participants shared information about their chosen sibling (see Table 2 for demographic info). The targeted siblings of participants were 204 male (51.5%) and 192 female (48.5%). Participants who reported on younger siblings (95 females, 117 males) that ranged between 9 and 22 years old with a mean age of 16.01 years (SD =2.81). Participants that rated on older siblings (93 females, 87 males) that ranged between 19-36 years old with a mean age of 25.81 years (SD =3.49). Most of the participants (n = 234, 59.1%) stated that they met face-to-face with their siblings quite

often, and the majority (n = 207, 52.1%) stated that they were more likely to call each other. In addition, siblings got together on special occasions (n =351, 88.7%). 121 of the emerging adults who appeared in the study lived in the same city with their family (30.4%), while 179 participants (45.2%) lived in a dormitory, 56 participants (14.1%) lived with their housemates, and 40 participants (10.1%) lived elsewhere. In this study most participants (n = 232, 58.8 %) lived 100 km or further from their siblings at the time of the data collection. In addition, to obtaining information about the most shared topics and contents among siblings in emerging adulthood, the participants were asked to write the topics they shared the most with their siblings. The written answers were examined in terms of content and grouped into five themes: Education (university life, exams, education planning; n = 215), family (family relationships, communication, sharing with parents, conflicts within the family; n = 84), close relationships (friendship, romantic relationships, family relationships; n = 61) future goals (career goals; n = 36), daily conversation topics (interests, movies, music, cooking, social media, shopping, fun together; n = 55).

Table 2. Participants' demographic descriptive statistics.

Participants' profile	M ± SD or % (n)
Age (years)	20.56 (1.44)
Gender	
Male	29.3 (116)
Female	70.7 (280)
Perceived social-economic state	
Low income	9.3 (37)
Middle income	83.6 (331)
High income	7.1 (28)
Sibling's age (years)	20.54 (5.83)
Siblings' gender	
Male	51.5 (204)
Female	48.5 (192)
Birth order	
First-born	41.4 (164)
Second-born	31.6 (125)
Third	13.9 (55)
Forth	8.3 (33)
Fifth or later born	4.8 (19)
Sibling birth order	
First-born	29.0 (115)
Second-born	47.2 (187)
Third	14.6 (58)
Forth	4.8 (19)
Fifth or later born	4.3 (17)
Sibling dyads	
Sister-sister	37.4 (148)
Brother-brother	17.9 (71)
Sister-brother	44.7 (177)
Parents'marital status	
Together	95.2 (377)
Separate	1.8 (7)
Divorced	3.0 (12)
Mother education	
Primary	45.2 (179)
Secondary	21.7 (86)
High school	19.9 (79)
University	13.1 (52)
Father education	
Primary	30.6 (121)
Secondary	21.2 (84)
High school	22.5 (89)
University	24.0 (95)
Postgraduate (Master/PhD)	1.8 (7)

Data Collection Tools

The participants completed the Short-Form Adult Sibling Relationship Questionnaire. In addition, the Lifespan Sibling Relationship Scale subscale of adulthood sibling relationship was used for convergent validity. Participants completed the Wellness Scale (Siyez et al., 2020) and the Autonomous-Related Self Scale (Kağıtçıbaşı, 2007; 2013) for discriminant validity. Finally, a Personal Information Form, created by the research team, was used to collect demographic information, as well as characteristics of the participants' family, and nature and extensiveness of contact between the participants and their targeted sibling.

Personal Information Form. This form consists of questions about the age, gender, socioeconomic status, current living situation, and parenting and sibling information. Specifically, we asked the participants about the number of siblings they had, the physical distance between them and their siblings, the frequency of face-to-face and telephone contact, information about their parents' sibling relationships, and their parents' current marital status.

Adult Sibling Relationship Questionnaire- Short Form (ASRQ-SF). ASRQ-SF was developed to evaluate the perceptions of adults of all ages about both their siblings' and their own feelings and behaviors towards them (Stocker et al., 1997). If a participant had multiple siblings appropriate for the study, the scale asks the person to choose a sibling that they see as more warm to him/her. The ASRQ-SF focuses on participants' relationships with only one of their siblings. The original version of the ASRQ consists of 81 items and the short form consists of 47 items, and has not been published (Stocker et al., 1997). However, the ASRQ-SF is used widespread in different countries such as France (Plesis et al., 2020), South Korea (Jang, 2009), the United States (Warner, 2017), and Poland (Walecka-Matya, 2017). The 47 items of the ASRQ-SF, which make up eight sub-scales grouped into the three composite factors of sibling relationship: Warmth, conflict, and rivalry. The warmth scale totals 18 items from three subscales: Intimacy (6 items, e.g., How much do you talk to this sibling about things that are important to you?), emotional support (6 items, e.g., How much does the sibling try to cheer you up when you are feeling down?) and knowledge (6 items, e.g. How much do you know about this sibling?). The conflict scale included 17 items from three subscales: quarrelling (5 items, e.g., How much does this sibling disagree with you about things?), antagonism (6 items, e.g., How much does this sibling put you down?), dominance (6 items, e.g., How much is this sibling bossy with you?). The rivalry scale included 12 items from two subscales: Paternal rivalry (6 items, e.g., Does this sibling think your father favors him/her or you more?) and Maternal rivalry (6 items, e.g., Does this sibling think your mother supports him/her or you more?). The warmth and conflict scores range from 1-5 (1 (hardly at all) to 5 (extremely much), and rivalry scores range from 0-2, with 0 indicating absence of rivalry and 2 indicating maximum rivalry. Cronbach's alpha estimates were .94, .90 and .91 warmth, conflict and rivalry scale, respectively in the Turkish sample.

Lifespan Sibling Relationship Scale (LSRS). The LSRS (Riggio, 2000) measures one's attitude towards sibling relationships in childhood and adulthood. The questionnaire includes 48 items and rated on a five-point Likert-type scale (1 = strongly disagree to 5 = strongly agree). The LSRS includes separate subscales for childhood and adult sibling relationship quality. In this study, the sub-scale of adult sibling relationship quality was used, which consists of affect, cognition and behavioral dimensions of the sibling relationship. The sub-scales each consist of 8 items: adult affect ("My sibling makes me happy"), adult behavior ("I presently spend a lot of time with my sibling"), adult cognition ("I know that I am one of my sibling's best friends"). Higher scores on the LSRS scales reflects more positive views toward the targeted sibling. In the present study, Cronbach's alpha estimates were .82, .86, .88 for adult affect, adult behavior, and adult cognition, and Cronbach's alpha coefficient for the 24-item LSRS was .93.

Wellness Scale for Emerging Adults (WSEA). This WSEA measures the psychological wellness of adults (Siyez et al., 2020). The WSEA consists of 12 items that are rated on 5-point Likert scale ranging from strongly dissatisfied to strongly satisfied. The scale items include current satisfaction with a variety of domains of life including: family life, relationships with others, love, career choice, world view, sexual life, sexual identity, physical health, spiritual life, life goals, and life in general. Higher scores indicate a higher level of wellness. In the present study, Cronbach's alpha for wellness was .81.

Autonomous-Related Self Scale (ARSS). The ARSS was developed by Kağıtçıbaşı (2007/2013) to assess the self-perceptions of individuals in relation to others. The scale has three subscales which are autonomous self (e.g. item "I feel independent of the people who are close to me"), related self (e.g. item "I think often of those to whom I feel very close"), and autonomous-related self (e.g. item "A person can feel both independent and connected to those who are close to him/her"). The autonomous self scale measures the degree of autonomy in close personal relationships. The related self scale assessed the degree of relatedness in close personal relationships. Finally, the autonomous related self scale assessed the degree of autonomy and relatedness in close personal relationships. There are a total of 27 items on the scale and participants rate each item within a range of 1 (strongly disagree) to 5 (strongly agree). In the present study, Cronbach's alpha estimates were .61, .62, .72 for relational self, autonomous self, autonomous-relational self subscales, respectively.

Procedure

Written permission for the adaptation of ASRQ-SF to Turkish culture was obtained from Dr. Richard Lanthier and Dr. Clare Stocker via e-mail in February 2020. The scale was separately translated from English to Turkish by two of the authors of this study. Following these translations, the two authors of the study examined the items of the scale together and disagreements on translation were resolved by consensus. The original English and Turkish form of the scale was then shared with two experts working in the family counseling field. Experts examined the original and translation states of the scale together and evaluated whether the words in the items were used in the same sense in both cultures. Thus, the comprehensibility of the Turkish expressions of the items and the suitability of the items in the scale were examined. After the corrections made inline with the expert opinions, the Turkish version of ASRQ-SF the scale was ready for data collection.

IRB permissions were granted before the start of our data collection (Ethics committee date: 11.05.2020 and Ethics committee no: -804.01-E.2005110024). Data were collected through self-report instruments using Google Forms. The authors of the study made the following announcement by sharing the Google form link with the information about the study to the students at their university via e-mail and social media (Instagram and Facebook) accounts where the student communities are located: "This study focuses on understanding your relationships with your siblings. In order to take part in the study, you must have a sibling at least 9 years old. Your identity information is not requested in the study. Participation in the research is entirely voluntary. Your responses will only be seen by researchers and will not be shared with other people in any way. You can stop answering items in the research at any time. This study takes about 15 minutes. ". Following the instructions given in this way, after the target group stated that they met the criteria required for the study, they answered the personal information form and ASRQ-SF. "I am participating in this study completely voluntarily and I know that I can interrupt it at any time. I agree with the use of the information I have provided in scientific publications." With these instructions, consent of participants was obtained. The data were obtained from 406 emerging adults continuing their education at a university in November-December 2021.

Data Analysis

SPSS 24.0 and AMOS 24.0 programs were used in the analysis of the data. Before the analyses, the data set was examined specific family contexts and data were statistical outliers that would exclude participants from analysis. A total of 519 participants interacted with the survey. A number of participants were removed from the dataset used for analysis. Regarding family context, 32 participants were over the age of 25, eight participants reported on siblings who were under nine years old, 15 participants reported on siblings who are twins and half-siblings, 46 participants reported on siblings who had a chronic illness, and 22 participants had a parent or parents who died. Data were examined for missing data and all data was complete. We then examined participant data extreme values. The data were converted to standard Z scores and the data belonging to the nine participants were seen to be extreme values (±3.29) and removed from the data set. Additionally, multidimensional extreme value analysis suggested excluding the data of one participant from the data set. Skewness values for the items varied between -0.17 and 0.67 and kurtosis ranged from -0.47 and -0.64. With these obtained values, it was determined that normality assumptions were met and the data showed normal distribution (Tabachnick & Fidell, 2013). Thus, final data analyses were done on 396 participants. The construct validity of ASRQ-SF was examined using exploratory factor analysis (EFA) and confirmatory factor

analysis (CFA). Following the EFA and CFA, convergent and discriminant validity of the ASRQ-SF scales were examined using correlations. For the reliability of the ASRQ-SF, we computed Cronbach's alpha.

Results

Exploratory Factor Analysis (EFA)

In this study, EFA was first performed using the SPSS 24.0 to examine the original factor structure of ASRQ-SF. The Kaiser-Meyer-Olkin (KMO) test was computed to determine the sampling adequacy of the data. The obtained value was .83, indicating sampling adequacy. The chi-square value obtained from the Barlett test was significant at .01 level. This obtained value shows that the sample size is sufficient to perform factor analysis (Tavşancıl, 2005). Factor analysis was performed on the three-dimensional structure as stated in the original measurement model of ASRQ-SF. To clarify the relationship among factors, the varimax rotation (the orthogonal rotation technique of Principal Component Analysis) was used. The contribution of warmth (items from intimacy, emotional support, and knowledge subscales), conflict (items from quarreling, antagonism, dominance subscales) and rivalry (items from paternal rivalry and maternal rivalry subscales) of the scale to total variance was calculated as 48%. It was determined that the eigenvalue of the "warmth" factor that emerged as the first factor was 10.46, the eigenvalue of the "conflict" factor that emerged as the second factor was 7.30, and the eigenvalue of the "rivalry" factor that emerged as the third factor was 5.05, the variance was 20%, 15% and 13%, respectively. Factor loadings for the warmth dimension have been observed to vary between .61 and .82 and for conflict dimension has been observed to vary between .51 and .77 and rivalry dimension has been observed to vary between .66 and .75. These obtained factor loadings are evaluated as good (Tabachnick & Fidell, 2013). Table 3 presents the subscales of the scale and the factor loading related to the items.

Table 3. Factor structure and factor loadings.

	Factors								
	Warmth			**Conflict**				**Rivalry**	
Items	Intimacy	Knowledge	Emotional Support	Quarreling	Antagonism	Dominance		Maternal Rivalry	Paternal Rivalry
Item 1	.75		Item 3	.67			Item 6	.66	
Item 2	.73		Item 18	.64			Item 7	.67	
Item 16	.82		Item 19	.60			Item 22	.68	
Item 17	.78		Item 34	.63			Item 23	.67	
Item 32	.68		Item 35	.58			Item 38	.66	
Item 33	.76		Item 4		.67		Item 39	.70	
Item 14		.73	Item 5		.68		Item 12		.73
Item 15		.69	Item 20		.77		Item 13		.74
Item 30		.76	Item 21		.72		Item 28		.75
Item 31		.77	Item 36		.72		Item 29		.73
Item 46		.77	Item 37		.72		Item 44		.74

Table 3 *(Continued)*.

Item 47	.76	Item 10	.52	Item 45	.72
Item 8	.69	Item 11	.57		
Item 9	.68	Item 26	.51		
Item 24	.63	Item 27	.53		
Item 25	.61	Item 42	.55		
Item 40	.67	Item 43	.55		
Item 41	.66				

Confirmatory Factor Analyses (CFA)

In addition, confirmatory factor analysis (CFA) was performed using three dimensions and eight subscales of the original scale and AMOS 24.0 program with 47 items. It was observed that the three-factor structure of the scale was confirmed. In the evaluation of the data compliance of the proposed model, the values of Chi-Square Goodness Adjustment, the Root Mean Square Error of Approximation (RMSEA), Normed Fit Index (NFI), the Comparative Fit Index (CFI), Goodness Fit Index (GFI), and the Adjusted Goodness-of-Fit Index (AGFI) were examined. The obtained fit indices all indicated good fit to the proposed structure (Hu & Bentler, 1999; Schermelleh-Engel et al., 2003; Schumacker & Lomax, 1996; Tabachnick & Fidell, 2013). The following fit indices were obtained: $x2/sd = 39,950/17 = 2.35$; RMSEA= .06; GFI = .98l CFI = .98; NFI = .98; and AGFI = .95. In addition, the relationships between the latent variable warmth and observed variables (intimacy, emotional support and knowledge) varied between .83 and .96. The relationships between the latent variable conflict and observed variables (quarrelling, antagonism, dominance) varied between .70 and .90. The relationships between the latent variable rivalry and observed variables (maternal rivalry, paternal rivalry) varied between .69 and .97. Figure 1 shows the results of the second order confirmatory factor analysis using standardized regression coefficients.

Figure 1. Standardized Regression Coefficients.
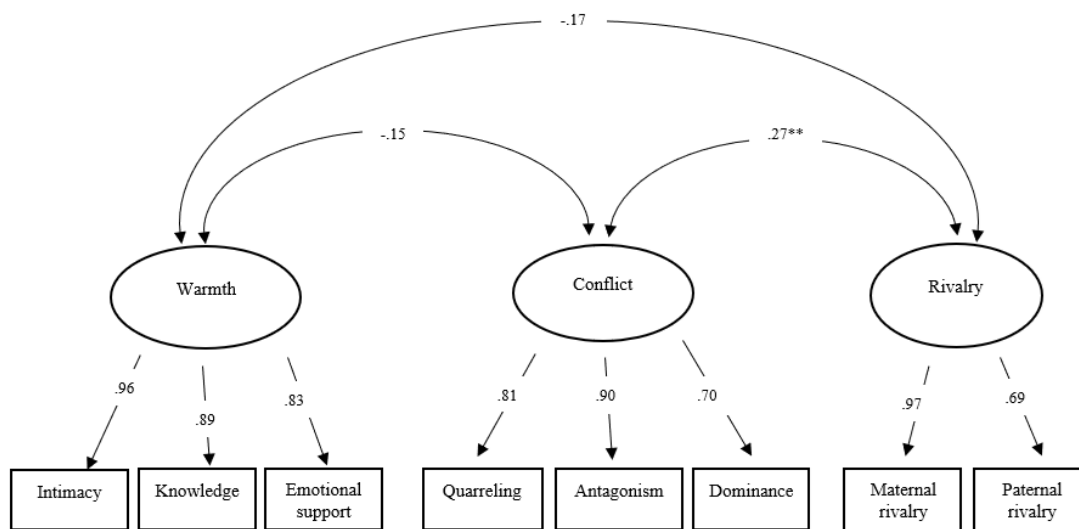
Note: ** $p < .01$

Evidence of Convergent and Discriminant Validity

Discriminant Validity

The wellness scale and autonomous-related self scale were administered to assess discriminant validity. Wellness was positively correlated with warmth (r = .20, p < .01) and negatively correlated with conflict (r = -14, p < .01). Both autonomous self (r = .17, p < .01) and autonomous relational self (r = .20, p < .01) were positively correlated with warmth. Autonomous relational self was negatively associated with conflict (r=-.18, p <.05), and positively correlated with rivalry (r=.14, p <.05). It should be noted that the magnitude of these correlations are small.

Variables	1	2	3	4	5	6	7	8
1. Warmth	1.00							
2. Conflict	-.11*	1.00						
3. Rivalry	-.13**	.22**	1.00					
4. Wellness	.20**	-.14**	-.09	1.00				
5. Sibling Relationship Quality	.76**	-.20**	-.13**	.25**	1.00			
6. Relational Self	-.02	.08	-.05	-.04	-.00	1.00		
7. Autonomus Self	.17**	-.07	.04	.20**	.28**	-.38**	1.00	
8. Autonomous-Relational Self	.20**	-.18**	.14**	.17**	.31**	.11*	.48**	1.00
M	66.38	44.25	8.27	45.93	95.98	26.54	32.32	35.97
SD	13.13	11.67	6.69	7.05	14.62	4.53	4.34	4.68
Range	29-90	19-81	0-24	24-60	54-120	13-40	19-44	23-45

Table 4. Correlations as evidence of convergent and discriminant validity
Note. ** *p* < .01, * *p* < .05

Convergent Validity

Relationships between sibling relationship quality as assessed by the LSRS and warmth, conflict, and rivalry were examined to assess convergent validity. Adult sibling relationship quality was positively correlated with warmth (r = .76, p < .01) and negatively significant relationship was obtained between adult sibling relationship quality and conflict (r = -20, p < .01) and adult sibling relationship quality and rivalry (r = -13, p < .01).

Table 2, it is seen that the items that provide the formation of the two-factor structure of the scale have a significant contribution to the factor formation (p<.01). It is seen that the error variance values for CFA vary between .213 and .470 and all values are at a significant level.

Reliability

Within the scope of reliability study, Cronbach's alpha coefficient was calculated at the factor and subscale level. The Cronbach's alpha coefficient of ASRQ-SF was found to be .88 for intimacy, .83 for emotional

support, .88 for knowledge, .77 for quarreling, .87 for antagonism, .74 for dominance, .86 for maternal rivalry, .88 for paternal rivalry. The Cronbach's alpha coefficient was found to be .94 for warmth and .90 for conflict and .91 for rivalry dimensions.

Sibling Relationships and Gender Composition of Dyad

In addition to the validity and reliability analyses of ASRQ-SF, one-way analysis of variance for independent samples were conducted to examine whether the relationship between sibling dyads differs according to gender composition of the dyad. According to the results of the analysis, there is a significant difference between sibling pairs (sister-sister, brother-sister and brother-brother) only in the dimension of warmth. Post-hoc analyses showed that sister-sister sibling pairs (M = 71.41) had higher levels of warmth in their relationship than brother-brother (M = 63.11) and brother-sister (M = 63.49) sibling pairs. There was no significant difference in conflict and rivalry variables according to sibling gender composition of the dyads.

Discussion

The aim of this study was to adapt the Adult Sibling Relationship Scale Short Form developed by Stocker et al. (1997) into Turkish and examine its psychometric properties. In this context, the items in the original form of the scale were translated into Turkish first, and at the next stage, the structural validity of the scale was examined in the emerging adult sample of participants who continued their university education and who had a sibling who was at least 9 years old. The factor structure of the Adult Sibling Relations Scale on the Turkish emerging adult group was examined by exploratory factor analysis and confirmatory factor analysis methods, and it was concluded that the structure obtained was a good fit with the original structure suggested by Stocker et al (1997). The factor loading values should be 0.30 and above (Costello & Osborne, 2005) and the factor loading for all sub-scales showed sufficient values. Factor loadings varied between .61 and .82 for the warmth scale; varied between .51 and .77 for the conflict scale and varied between .66 and .75 for the rivalry scale. However, in the EFA results, it was observed that the factor loads in the dimensions belonging to the conflict area were lower, especially dominance. This may be due to differences based on language and culture and the characteristics of the sample. In the adaptation studies carried out in different cultures of the scale, it was observed that some items in conflict dimension differed to some extent and were excluded the scale. For example, in the adaptation study conducted in French culture, three items related to the conflict dimension were removed from the scale due to their low factor loadings (Plesis et al., 2020). Also, in the long version of Turkish form (Şahin, 2017) four items were deleted from conflict subscale due to low factor loadings. However, the version of the ASRQ- SF in South Korea which has collectivistic culture, the closeness and conflict dimensions of the scale were confirmed (Jang, 2009). Still, in our study, dominance loadings were sufficient. Future research with other samples can further examine whether this cultural variation is consistent across samples with Turkey and across other cultures. In addition, while the structural aspects of the ASRQ-SF are similar across Turkey and the US, it would be interesting to conduct cross cultural comparisons at the mean level to determine whether culture differences exist at that level.

The results of the correlation analysis for convergent validity of the scale showed a high level of positive correlation between the warmth dimension of the ASRQ-SF and the quality of adult sibling relationship as assessed by the LSRS; while LSRS has a low level of negative correlation with conflict and rivalry. The LSRS evaluates the closeness between siblings in the cognitive, affective, and behavioral fields between siblings (Riggio, 2000). It is an expected result that there will be a high level of relationship between the warmth and the adulthood sibling relationship quality. The discriminant validity of conflict and rivalry with the ASRQ scale also points to the added information given in conflict and rivalry scales is not simply the reverse of warmth. The ASRQ provides additional information on the characteristics of the sibling relationship that may not be captured in other measures and is something to be considered when researchers are interested in more nuanced views of the sibling relationship.

In terms of discriminant validity, a small positive significant relationship was found between warmth and wellness, a small negative relationship between conflict and wellness, and no relationship with the rivalry dimension. These findings support the discriminant validity of the ASRQ and are consistent with other studies, with small to moderate relations with ASRQ factors and scores on other measures. In the original norming

study of the full ASRQ (Stocker et al., 1997), only conflict showed a small negative relationship with mental health problem scores. In a study using the ASRQ-SF developed by Stocker et al (1997), it was determined that there was a moderately positive significant relationship between warmth and well-being among Italian emerging adults, and a negative, but low levels of significant relationship with conflict (e.g., Ponti & Smorti, 2020). In a study conducted on the emerging adult group, it was reported that high levels of support from siblings were associated with low levels of loneliness and depression, and high levels with self-esteem and life satisfaction (e.g., Milevsky, 2005). Again, these small to moderate correlations make intuitive and theoretical sense and show that the ASRQ scale measures unique qualities of the sibling relationship that are also meaningfully related to outcomes of interest like indexes of mental health described above. Research looking at the role sibling relationships play both within and across cultures for understanding such outcomes is an important area for further study.

In addition, the relationships between the Autonomous-Relational Self Scale and warmth, conflict and rivalry were examined for discriminant validity purposes. There was no relationship between the autonomous self-structure and sibling warmth, conflict, and rivalry. However, warmth between siblings was positively related to autonomous self and autonomous-relational self; it was found that the autonomous-relational self was negatively correlated with sibling conflict and low positively with rivalry. The small magnitude of the correlations provide further evidence of discriminant validity for the ASRQ-SF. In terms of understanding the statistically significant correlations, the autonomous-relational self-trait indicates ongoing family commitment (Kağıtçıbaşı, 2000) and it can be interpreted that the emerging adults in this study group maintain interdependent behavior patterns in the family and even that these relationships are related to the intimacy area that includes sibling intimacy and emotional support. On the other hand, parental control and its effects continue in the Turkish emerging adult group, even if it decreases somewhat (Doğan & Cebioğlu, 2011). The siblings make inferences about how much their parents love, reject or exclude them by observing their behaviors towards other siblings during childhood (Brody, 2004). When both parents approach their children with an egalitarian attitude, the nature of the relationship between siblings takes on a more egalitarian structure with less rivalry (Wallace, 2012). However, it has been reported that the characteristics based on rivalry between siblings' change depending on the developmental period, and emerging adults might have less rivalry with their siblings than adolescents (Buhrmester & Furman, 1990; Scharf et al., 2005).

In the current study, intimacy, conflict and rivalry relationship characteristics between emerging adults and siblings were examined based on gender differences to provide additional evidence for cultural similarity and difference with other studies. According to the results, it was found that warmth between sisters was higher than that reported by brothers and brother-sister pairs. There were no differences in the dimensions of conflict and rivalry between the same and different genders (sisters-sisters, brother-brother and sisters-brothers). In some studies, it has been reported that there is no gender difference in the relations between siblings (e.g., Portner & Riggs, 2016; Scharf et al., 2005; Tucker et al., 2019). In this study, it was observed that the relations between sisters, including intimacy, knowledge, and emotional support, were more common in Turkish emerging adults than in those relationships that involved men. These findings are consistent with study results in the related literature showing that there is more intimacy between sisters, more time spent together, and they provide more support to each other (e.g., Jeong et al., 2013). This difference in relations between the genders can be explained by the cultural context and the features of the emerging adulthood period. Even though studies examining the nature of sibling relationship dynamics in emerging adulthood in Turkey are still quite recent (Aytaç-Bakkaloğlu, 2021), the characteristics and continuation of these relationships in emerging adulthood and middle adulthood are important for families. Even if adult children leave home for different reasons such as going to university and getting married, because of the prominence of relationships based on mutual-emotional dependence in family relationships in Turkish culture (Kağıtçıbaşı, 2013), maintaining the sibling relationships and ties in adulthood is the expected behavior in Turkish society. In addition, questions were asked to the participants in the study to describe how their parents' observed intimacy and frequency of contact in their sibling relationships. The adults who appeared in the study stated that their mothers were in more contact with their siblings than their fathers and that they observed more closeness in these relationships. This

information may also indicate the importance of sibling relations among women in Turkish society. From the perspective of conflict and rivalry characteristics, the reason why there is no difference in the conflict and rivalry dimension in relationships between same and different genders can be explained by the influence of factors such as age difference, physical distance, and parental attitudes. Studies showing that the eldest child is brought up with stricter family rules and harbors feelings of resentment towards their younger siblings who do not have the same rules show that this unequal treatment can be explained as a cause of disagreements and conflicts in sibling relationships (Cinalioğlu &Gazioğlu, 2022; Milevsky & Heerwagen, 2013). Also, while living together with a sibling is a situation that can sustain the conflict levels of siblings, it has been found that those who live apart from their siblings have less conflict frequency (Hamwey et al., 2019; Lindell &.Campione-Barr, 2017). In this study, although the majority of participants live far away from their siblings , the rate of participants stating that they meet frequently is also high and this can be explained by the effect of physical distance in conflict situations rather than gender compositions.

The reliability analysis of the scale revealed that the reliability coefficients obtained in the results ranged from .83 to .94 in warmth, between .74 and .90 in conflict, and between .86 and .91 in rivalry. The Cronbach alpha value in the original version of the ASRQ is between .88 and .97 (Stocker et al., 1997), the Polish version in different languages is between .87 and .97 (Walecka- Matyja, 2016), the Italian version is between .81 and .90 (Tani et al., 2013), the German version has been reported to be .75 to .94 (Heyeres, 2006), the French version of the ASRQ-SF .65 to .96 (Plesis, et al., 2020). All of these studies indicate acceptable levels of reliability for this measure as a research tool. Taken together, the obtained evidence of validity and reliability in the current study has shown that ASRQ-SF can be used to measure sibling relationship characteristics in emerging adults in Turkish culture.

Limitations and Future Research Directions

The main strength of the study is the adaptation of a measurement tool evaluating sibling relationship characteristics in emerging adulthood to Turkish culture. However, some limitations of the study should be considered when evaluating the results of the study. First, the majority of study group consisted of females. Studies show that there are gender-related changes in relations between siblings (Doughty et al., 2013), and women score higher on sibling relationship quality than men (Sommantico et al., 2019). Further studies should examine gender-based differences in sibling relationships quality and the future research is needed try to test for female and male groups using a measurement invariance of ASRQ-SF. The other limitation of the study is that all participants were university students, essentially representing a sample of convenience of a certain type of emerging adult. Life transitions, such as starting more serious romantic relationships, entering higher education, and career/work can be lead changes in relationships between siblings (e.g. Conger & Little, 2012; Hamwey et al., 2019). In future studies, examining the psychometric properties of the scale in emerging adults experiencing various life transitions and inclusion of community-based sample would provide further information about how useful the ASRQ-SF is in broader cultural contexts in Turkey and in other countries.

However, another limitation of this study is the age gap between the participants and their targeted siblings', birth order, and developmental periods differences. For example, Milevksy and Heerwagen (2013) found that the age gap between sibling was a determinant in the maintaining relationships. In collectivistic cultures, the age gap between siblings, gender and birth order affected sibling relationships, as the older sibling often assumes a semi-parenting role towards to younger siblings (Cicirelli, 1995). The quality of the relationship between siblings is affected by the age difference and gender because Turkey is a society where collectivistic features are dominant. Moreover, another limitation is that the targeted sibling in the study must be at least nine years old. Systematic studies of these large age gaps in age between siblings have yet to be systematically studied, but anecdotal evidence suggests warmer less conflicted relations. In research that examines relations between observed age gap and sibling relationship quality have shown mixed results. For example, in a sample of young adults found a small correlation only between conflict and age gap (-.23),yet found only a small correlation (-.08) with rivalry (Stocker et al., 2020). Thus the effect of age gap in adult sibling relations is worthy of future research. In addition, since the study participants included only emerging adults, examining the psychometric properties of the scale in different groups including middle aged and older age adults in Turkey in future studies will increase the knowledge about the characteristics of the sibling relationship

depending on the participants' age. Another limitation is that the majority of the participants lived relatively close to each other, most lived at least 100 km from their targeted siblings. Further the study should test on living together sibling. Finally, one of these limitations is that in the current study, participants whose siblings had a disability or chronic illness were not included in the study. Some studies show that this relationship characteristics and interactions between siblings may differ if they have a sibling with disability or chronic illness (Sommantico et al., 2020). In future studies, testing ASRQ in a different group with disabilities or chronic diseases will contribute to understanding the characteristics of the relationship between siblings in special cases.

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Esra Eker Durmuş: Contributed to the literature review, data collection and method section.
Richard Lanthier: Contributed conceptualization of the study, proof reading process and revision of the manuscript.
Yaşar Özbay: Contributed conceptualization of the study and method and discussion section.
Mehmet Göktaş: Contributed to the literature review, data collection and method section.

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RESEARCH ARTICLE

Early-Life Negative Experiences and Self-Compassion as Predictors of Social-Emotional Loneliness in Female University Students

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ABSTRACT

This research aims to gain insight into the role of early-life negative experiences and self-compassion as predictors of social-emotional loneliness in female university students. This cross-sectional study included 216 students (mean=21.36, SD=3.58) aged between 17-29 years enrolled in the Faculties of Physical Therapy and Rehabilitation, Nursing and Health Sciences of a state university. The data were collected using the Early Life Experiences Scale, Self-Compassion Scale, and Social-Emotional Loneliness Scale for Adults. The findings indicate a moderately positive and significant link between social-emotional loneliness and early-life negative experiences, along with a weak, negative yet significant association between social-emotional loneliness and self-compassion. Moreover, 17% of the variance in social-emotional loneliness is accounted for by early-life negative experiences and self-compassion.

"A deep sense of love and belonging is an irreducible need of all women, men, and children. We are biologically, cognitively, physically, and spiritually wired to love, to be loved, and to belong. When those needs are not met, we do not function as we were meant to. We break. We fall apart. We numb. We ache. We hurt others. We get sick." - Brené Brown.

Loneliness is recognized as a public health problem (Cacioppo & Cacioppo, 2018; D'Hombres et al., 2018) as a distressing and widespread emotion (Hawkley & Cacioppo, 2010) that occurs when the individual, who was created to love, be loved, and belong, is deprived of social relations and their social needs are not met. The phenomenon of loneliness has been addressed and tried to be understood by different disciplines through written and oral culture. Although there is a lot of theoretical information on the subject, there is no clear and agreed-upon definition (Karnick, 2005). According to Weiss (1975), loneliness is an undesirable psychological state resulting from deprivation and inadequacy in social relationships due to incompatibility between the relationships desired and experienced by individuals (Akbaş et al., 2020). The lack of a partner or close friendships is associated with emotional loneliness in romantic relationships (Ernst & Cacioppo, 1999). Social

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loneliness is associated with lacking a broader network of social relationships such as family, relatives, friends, and neighbors.

Loneliness occurs when relationships are less than acceptable and the desired closeness is not realized (de Jong-Gierveld, 1987). In other words, loneliness does not reflect being literally alone under all circumstances. In some cases, people may feel lonely with others, while others may not, even when alone (Nilsson et al., 2006).

The emergence of loneliness in the literature is addressed with different theoretical approaches. According to the cognitive inconsistency approach, loneliness is a state of reluctance experienced when there is a discrepancy between the interpersonal relationships one wants to have and the ones one perceives to have (Perlman & Peplau, 1982). In the existentialist approach, loneliness is a part of humanity and a natural consequence of living in modern society (Moustakas, 1961). In the social needs approach (Weiss, 1975; Fromm-Reichmann, 1990; Sullivan, 1953) loneliness is caused by the absence of relationships that meet intrinsic social needs such as attachment, social integration, early care needs, value assurance, and feeling safe (Weiss, 1987; Heinrich & Gullone, 2006). The longing for interpersonal intimacy is a condition that remains in every person throughout life from infancy, and the threat of losing this longing affects the individual's later life (Fromm-Reichmann, 1990).

Research indicates that loneliness is a more common experience during adolescence and young adulthood (Matthews et al., 2019; Ponzetti, 1990). Higher levels of loneliness in university students are associated with higher levels of depression, depressive symptoms, suicidal ideation and suicidal behavior, more frequent health examinations, lower quality of life (Beutel et al., 2017), lower self-esteem (So and Fiori, 2022; Yoyen, 2017), lower psychological resilience (Perron et al., 2014), and risky behaviors and employment problems (Matthews et al., 2019). Cacioppo and Cacioppo (2018) state that lonely individuals have a higher tendency to focus on negative situations in their social relationships, which leads to a vicious cycle that negatively affects health. These results suggest that social relationships may play an important role in individuals' lives as a source of protection. The parent-child interaction is the first and most crucial relationship through which individuals learn to make sense of the world (Marris, 1993). Early life experiences lead to mental schemas about the existence of trustworthy figures and the criterion of trustworthiness. These schemas will likely lead individuals to establish close relationships throughout life (Fiori et al., 2011; Merz & Consedine, 2009). Children who develop good relationships and secure attachment through positive experiences in childhood can seek closeness in their relationships by forming positive thoughts about themselves and others (Kachadourian, 2004).

On the other hand, children with a stressful childhood may lack a dependable figure in their lives. For instance, children who are exposed to adverse experiences such as neglect and abuse early in life may develop less positive schemas in their relationships (Merz & Consedine, 2012). It is stated that individuals with such negative schemas have more pessimistic views in their interactions with other people (Mikulincer et al, 2003). This result is supported by the long-term effects of early life experiences on psychological outcomes (Hyland et al., 2018; Lin & Chiao, 2020; Musetti & Corsano, 2021). In line with the related literature and the social needs approach (Weiss, 1987; Heinrich & Gullone, 2006), in this study, we thought that social-emotional loneliness in university students may be related to early life experiences. Although previous research has examined the social relationships that contribute to loneliness among college students, this article has the potential to fill a gap in the literature by explicitly highlighting the potential role of early life experiences on social-emotional loneliness during the college years and to understand the origins of loneliness from a developmental perspective (Li et al., 2021; Schochet et al., 2023; Tong et al., 2024).

Another concept that is related to loneliness in university years is self-compassion. Self-compassion is the ability to handle life's challenges with an understanding that such difficulties are commonly experienced rather than isolating oneself from life during tough times (Neff, 2003; Neff, 2003). Neff and Germer (2017) suggest that self-compassion allows people to reduce their dysfunctional thoughts when encountering adverse events. In this context, they state that people can be compassionate to themselves even in pain or a crisis. Self-compassion helps individuals to get out of the negative thought spiral and increase their well-being. This situation contributes to the individual's ability to regulate better emotions and thoughts (Neff et al., 2005). Therefore, through self-compassion, a person can be satisfied with his/her current social interactions by

adjusting his/her existing expectations when faced with the experience of loneliness. This view is also compatible with the cognitive inconsistency approach explaining loneliness (Schnepper et al., 2020).

As a universal experience, loneliness is a decisive but poorly understood risk factor for mental and physical health. The potential antecedents of loneliness need to be identified to develop health policies. This study, conducted to develop an understanding of the possible antecedents of loneliness, was focused on two approaches; the social needs approach (Weiss, 1975; Fromm-Reichmann, 1990; Sullivan, 1953), based on the need to establish and maintain social connections, and the cognitive inconsistency approach (Perlman & Peplau, 1982), based on the need to think consistently with oneself and one's environment. Using these two approaches together could help to understand the antecedents of social-emotional loneliness more comprehensively. Although there are studies investigating the relationship between adverse childhood experiences and loneliness in the literature (Başoğlu, 2019; de Heer et al., 2022; Diehl et al., 2018; Fan et al., 2023; Mumford et al., 2023; Wang et al., 2022), we focused on how adverse childhood experiences and self-compassion affect social-emotional loneliness in female university students. This study investigates the potential role of adverse childhood experiences and self-compassion on social-emotional loneliness. The literature review has shown relationships between these variables; however, it is necessary to analyze the dynamics of these interactions in detail. Therefore, this study aimed to explore the role of early life negative experiences and self-compassion in predicting social-emotional loneliness. In line with this purpose, the hypotheses of the study are as follows:

Hypothesis 1. There is a significant relationship between early life negative experiences and social-emotional loneliness in university students.

Hypothesis 2. There is a significant relationship between self-compassion and social-emotional loneliness in university students.

Hypothesis 3. Early life negative experiences and self-compassion variables explains social-emotional loneliness in university students.

Materials and Methods

The correlational model is a quantitative research approach used to determine the presence and extent of covariation among two or more variables. According to Buyukozturk et al. (2019), this method identifies the direction and strength of relationships between variables, making it possible to conduct more detailed analyses. Accordingly, in this study went beyond the relationship between the variables and tried to determine which variables predict the other (Creswell, 2012). Early life negative experiences and self-compassion were defined as independent variables and social-emotional loneliness was determined as the dependent variable.

Participants

The convenience sampling method, one of the non-probability sampling methods, was used in the study. In this context, the study group consisted of 216 female students (mean=21.36, SD=3.58) aged between 17-29 years enrolled in the Faculties of Physical Therapy and Rehabilitation, Nursing and Health Sciences of a state university. Since the number of female students studying in the programs in the faculties included was significantly higher than that of male students, only female students were included.

Data Collection Tools

Early Life Experiences Scale

It is a 15-item scale developed by Gilbert et al. (2003) to assess individuals' childhood negative experiences. The adaptation of the scale to Turkish culture was conducted by Akin et al. (2016). The scale evaluates childhood experiences in three sub-dimensions. These sub-dimensions are "unvalued" (3 items), "threatened" (6 items), and "submissiveness" (6 items). Responses for the Early Life Experiences Scale were ranked on a Likert-type scale ranging from "1 (completely untrue)" to "5 (very true)". A minimum score of 15 and a maximum score of 75 is obtained from the scale. Akin et al. (2016) found Cronbach's alphas of 0.78 for threat,

0.71 for submissiveness, 0.57 for unvalued, and 0.85 for the total score. In the current study, Cronbach alpha was calculated as 0.86 for threat, 0.83 for submissiveness, 0.66 for unvalued, and 0.92 for the total score.

Social and Emotional Loneliness Scale for Adults

The scale, developed by DiTommaso and Spinner (1993), and the short-form study conucted by DiTommaso et al. (2004) assess the social-emotional loneliness of individuals. The adaptation of the Social and Emotional Loneliness Scale for Adults into Turkish was conducted by Akgul (2020). The scale evaluates social-emotional loneliness in three sub-dimensions. These sub-dimensions are "social loneliness" (5 items), "emotional-family loneliness" (5 items), and "emotional-romantic loneliness" (5 items). The 7-point Likert-type scale is graded between "1 (strongly disagree)" and "7 (strongly agree)". The scale has a minimum score of 15 and a maximum score of 105. Akgul (2020) found Cronbach's alphas of 0.82 for social loneliness, 0.76 for emotional-familial loneliness, 0.85 for emotional-romantic loneliness, and .83 for the total score. The current study found Cronbach's alphas of 0.88 for social loneliness, 0.90 for emotional-familial loneliness, 0.85 for emotional-romantic loneliness, and 0.82 for the total score.

Self-Compassion Scale

The scale developed by Neff (2003) assesses individuals' self-compassion. The validity and reliability study of the Self-Compassion Scale for Turkish culture was conducted by Akin et al. (2007). The scale evaluates self-compassion in 6 sub-dimensions. These sub-dimensions are "self-kindness" (5 items), "common humanity" (4 items), "mindfulness" (4 items), "self-judgment" (5 items), "over-identification" (4 items) and "isolation" (4 items). The scale is a 5-point Likert-type scale ranging from "1" (never) to "5" (always). The minimum score is 26, and the maximum score is 130. Akin et al. (2007) found Cronbach's alphas of 0.77 for self-kindness, 0.72 for self-judgment, 0.72 for common humanity, 0.80 for isolation, 0.74 for mindfulness, and 0.74 for over-identification dimension. The current study found Cronbach's alpha of 0.86 for self-kindness, 0.89 for self-judgment, 0.79 for common humanity, 0.80 for isolation, 0.83 for mindfulness, 0.80 for over-identification, and 0.95 for the total score.

Data Processing and Collection

The Principles of the Declaration of Helsinki was carried out in the study. After receiving permission to use the scales from the authors via email, a request was made to Ankara Yıldırım Beyazıt University Social and Human Sciences Ethics Committee with the research code 2020-229, and ethics committee approval was granted with decision number 19 at the meeting held on 09.07.2020. After obtaining ethics committee approval, data were collected online from university students who agreed to participate in the study during the 2021-2022 academic year. Participants were informed that their participation in the study was voluntary, and their identities would be kept confidential. Due to negative childhood experiences and negative sub-dimensions in the self-compassion scale, we asked the participants to determine a pseudonym to make them feel more comfortable in their answers to the questions. The participants were sent an "Informed Consent Form," created through Google Forms, and had information about the research and the questionnaire form electronically. The administration of the scales took an average of 25 minutes. Documents sent electronically were completed by 227 participants (216 female and 17 male). Considering the distribution of the participants, it was decided to conduct the study only with female students, and the data of male participants were not included in the statistical analysis.

Statistical Analysis

The data in the study were analysed using IBM SPSS 25 statistical software. Before starting the analysis, it was checked whether the value of each variable was within the range of possible values and whether there was any missing data. Descriptive statistics, skewness and kurtosis coefficients, and graphs (Histogram, Detrended Normal Q-Q, Normal Q-Q Plot, and box plots) were used to check whether the data distribution was normal. The skewness coefficients of the total scores obtained from the scales used in the study were between 0.084 and 0.727, and the kurtosis coefficients were between -0.531 and -0.117 at an acceptable level (Tabachnick & Fidell, 2013). The research variables were symmetrical in the graphs studied. The analyses were carried out using parametric methods. Since all data in the research group were collected through self-report, a Harman single factor test was conducted to assess the presence of any common method bias in the data (Podsakoff et al., 2003; Podsakoff et al., 2012). Accordingly, all subscales of early life experiences, self-compassion, and

social-emotional loneliness were subjected to exploratory factor analysis. According to the analysis results, there are ten factors with eigenvalues greater than 1. The initial eigenvalue of the first factor is 15.029 and explains 25.62% of the variance. This is less than the 40% critical value. Therefore, it was decided that this study had no common method bias (Podsakoff et al., 2003; Podsakoff et al., 2012). Potential relationships between variables were examined with the Pearson Moment correlation coefficient. Then, stepwise regression analysis revealed the potential effect of early life negative experiences and self-compassion variables, determined as independent variables in the study, on the social-emotional loneliness variable. Before the analysis, antecedents such as sample size, multicollinearity, outliers, normality, linearity, co-variance, and independence of residuals were checked. As a result of the control, it was determined that the assumptions were met.

Results

Table 1 presents the descriptive statistics and correlations between the variables.

Table 1. Descriptive statistics and correlations of the variables (n = 216).

Variable	M	SD	Skewness	Kurtosis	1	2	3
Early life experience	31.94	11.91	.727	-.182	-		
Self-compassion	79.63	19.41	.084	-.531	**-.410****	-	
Social-emotional loneliness	48.09	16.23	.160	-.117	**.408****	**-.280****	-

***p < .01.

The findings revealed positive, moderate, and significant correlations between social-emotional loneliness and early life negative experience (r=.408, n=216, p<.01). At the same time, there is a weak, negative, and significant relationship between social-emotional loneliness and self-compassion (r=-.280, n=216, p<.01). Overall, Hypothesis 1 and Hypothesis 2 were confirmed.

After the correlation analysis, the findings of the stepwise multiple linear regression analysis conducted to reveal the potential role of childhood experiences and self-sensitivity in predicting social-emotional loneliness among female university students are presented in Table 2.

Table 2. The findings of stepwise multiple linear regression analysis

Model	Variable	B	Standard Error	β	T	p	Zero Order	Partial Correlation
Model 1	Constant	30.335	2.900		10.461	.000		
	Early life experiences	.556	.085	.408	6.533	.000	.408	.408
Model 2	Constant	41.798	6.422		6.508	.000		
	Early life experiences	.480	.093	.352	5.180	.000	.408	.334
Table 2 (Continued) Self-compassion		-.113	.057	-.136	-1.997	.047	-.280	-.136
Model 1	R=.408 F (1.214) = 42.68	R^2=.162 p<.05						
Model 2	R=.426 F (2.213) = 23.63	R^2=.174 p<.05						

When the first model in Table 2 is analyzed, it is seen that early negative life experiences significantly predicted social-emotional loneliness (R^2 =.162, p<.05). Early negative life experiences explain 16% of the total variance of social-emotional loneliness. When the second model is analyzed, it is seen that early life negative experiences and self-compassion significantly predict social-emotional loneliness (R^2 =.174, p<.05). Early negative life experiences and self-compassion together explain 17% of the total variance in social-emotional

loneliness. Overall, Hypothesis 3 was confirmed.

Discussion

With the emphasis on the need to develop health policies to prevent and reduce loneliness (Equal Opportunities Committee, 2015), as a public health issue (Cacioppo & Cacioppo, 2018; D'Hombres et al., 2018), this study aimed to examine whether there is a relationship among early life negative experiences, self-compassion, and social-emotional loneliness in female university students and to test whether the first two variables have a role in explaining social-emotional loneliness. At first stage, the relationships between the variables were determined. At second stage, early life negative experiences and self-compassion variables were used to explain social-emotional loneliness. We showed that there was a moderate, positive, and significant relationship between social-emotional loneliness and early life negative experiences and a weak, negative, and significant relationship between social-emotional loneliness and self-compassion (see Table 1). In the literature, the results of the studies in which social-emotional loneliness is related to early life negative experiences (Bırni et al., 2023; Kamiya et al., 2014; Merz & Jak, 2013; Sabaß et al., 2022;) and self-compassion (Akin, 2010; Best, 2021; Er, 2020; Ergun-Basak, 2012; Lyon, 2015) are in parallel with the findings of the current study. As stated in the literature, since the early life negative experiences represent unmet needs (Peplau & Perlman, 1979; Felitti et al., 1998), it seems reasonable that these experiences are positively related to loneliness. In addition, these results are in line with the social needs approach, which suggests that people need to establish social connections and experience loneliness in the absence of these connections (Fromm-Reichmann, 1990; Heinrich & Gullone, 2006; Sullivan, 1953; Weiss, 1975; Weiss, 1987). When the current research results are analyzed from the framework of self-compassion, as Raque-Bogdan et al. (2011) state, increased self-compassion is associated with being more open to positive feelings of being valued by others rather than negative feelings. Accordingly, it can be considered an expected finding that loneliness occurs when someone is not cared for and recognized by others, and self-responsiveness is negatively related. In addition, the negative relationship between self-compassion and social-emotional loneliness can also be explained in the context of the cognitive inconsistency model. A person with low self-compassion may develop negative beliefs about themselves, leading to negative self-perceptions and feelings of insecurity. Consequently, they may experience increased loneliness in their relationships with others.

Another noteworthy finding within the scope of the study is that 17% of the change in social-emotional loneliness can be explained by early life negative experiences and self-compassion (see Table 2). These results are valuable in revealing the role of early life negative experience and self-compassion variables in predicting loneliness as a public health problem (Cacioppo & Cacioppo, 2018; D'Hombres et al., 2018) in female university students. However, when Model 1 in Table 2 is examined, 16% of the change in social-emotional loneliness is explained by early life negative experiences. When self-compassion is included in the model, the change increases to 17%. This result suggests that negative experiences in early life are a more critical variable than self-compassion in explaining social-emotional loneliness. Our findings also emphasize the importance of understanding and addressing early life experiences to reduce social-emotional loneliness. Consistent with the results of the current study, Merz and Jack (2013) stated that a reliable, supportive, close relationship during childhood is an essential predictor of loneliness in adulthood.

Similarly, McIntyre et al. (2018) pointed out that young people who experience adverse/traumatic events are likelier to feel anxious and lonely in college. The current study, when considered in light of self-compassion, echoes the findings of Besser et al. (2003), who noted that adults who are self-critical tend to distance themselves from others. A recent study determined that people with high levels of loneliness had a higher fear of being sensitive to themselves than people with low and medium levels of loneliness (Best et al., 2021). These results suggest that individuals with low levels of self-compassion may be more prone to loneliness. All these findings reveal the potentially decisive role of early life negative experiences in explaining social-emotional loneliness in the current study compared to self-compassion

Limitations and Future Research

The present study's findings should be interpreted within the framework of certain limitations. The study participants were female students from the Faculty of Physical Therapy and Rehabilitation, Faculty of Nursing, and Faculty of Health Sciences at a state university (See Procedure and Data Collection Process). As can be

seen, a sample representative of the population could not be reached, and this was considered an essential limitation of the study. Another significant limitation is that the evaluation was made only regarding the characteristics measured by the data collection tools. The fact that these data collection tools are based on self-report and the Early Life Experiences Scale was evaluated retrospectively brings disadvantages such as socially desirable responses and retrospective recall bias. In addition to all these limitations, it is essential to note that causality cannot be inferred based on this cross-sectional study.

The results obtained from this study have the feature of guiding new studies to be designed. Within the limitations mentioned above, it is recommended that students studying at universities in different geographies be worked with to obtain more comprehensive and generalizable results. Conducting these studies with heterogeneous groups of men and women and comparing the results with the results of a female population will contribute further to the literature. Longitudinal or experimental studies can be designed to determine the predictors of social-emotional loneliness. It is recommended that the model used in this study be tested in different developmental periods, such as adolescence, adulthood, and old age. This may help to understand whether the findings of this study are specific only to adulthood or whether they are also valid in different life stages. The data to be obtained in this way can provide a better understanding of the model's variability over time and its universal validity.

Results similar to the current study obtained in different developmental periods would support the finding that early life negative experiences and self-compassion are essential determinants of social-emotional loneliness and would contribute to developing a different perspective on the reflections of early life experiences on development of social life. This perspective is likely to guide early intervention studies in child development.

Finally, in this study, in which we discussed the role of early life negative experiences and self-compassion in explaining social-emotional loneliness, we concluded that these variables explained social-emotional loneliness by 17%. Therefore, the role of other variables not included in the study in explaining social-emotional loneliness, such as should parental attitudes, perceived social support, temperament, mindfulness, and optimism-pessimism, also be considered. New studies with these variables will likely to contribute to a better understanding of social-emotional loneliness.

The results obtained from the current study reveal the necessity of developing strategies to meet the needs of individuals and society to prevent or reduce social-emotional loneliness. Our findings can be used to make various inferences and suggestions for guidance and counseling. Firstly, specific intervention strategies can be developed for female university students with early adverse childhood experiences. These strategies may focus on increasing self-compassion-oriented approaches, which involve counselors encouraging individuals to be kind and understanding towards themselves in the face of difficulties in coping with the effects of past experiences. Also, clients can be supported in learning to be more self-compassionate and understanding during counseling and therapy. Community-based support programs can also effectively combat social-emotional loneliness. These programs can include strengthening women's social ties, supporting their participation in social activities, and providing therapeutic and supportive interventions to increase self-compassion.

Moreover, in family counseling and parent support programs, parents can be guided to recognize the potential role of early childhood experiences in their children's future lives. It's important to note that early childhood experiences can profoundly impact a child's future. By supporting children in increasing their positive childhood experiences early in their development, parents can help establish healthy social connections and reduce the risk of social-emotional loneliness. These recommendations can play an essential role in meeting the social-emotional needs of individuals and society by contributing to the effective implementation of research findings in the field of guidance and counseling. However, individual efforts alone are not enough. Establishing government policies to prevent and reduce social and emotional loneliness is also essential. Supportive programs and projects that are easily accessible to all segments of society can be created to strengthen the social and emotional bonds of young women in particular. At the same time, informative campaigns can be launched about women's negative experiences in early life and their self-compassion. Since individuals with early life negative experiences have a higher risk of social-emotional loneliness, more

attention should be paid to protecting and supporting children in society. Therefore, supportive programs such as childhood awareness-raising activities, protective services, and family counseling programs can be expanded. This collective action is crucial in our fight against social-emotional loneliness.

Statements

Ethical approval: The research project was approved by the Mersin University Social and Human Sciences Ethics Committee to proceed with data collection. (The decision was rendered on July 4, 2023, and bears the number 140). The procedures employed in this study were conducted in accordance with the tenets set forth in the Declaration of Helsinki.

Declaration of no conflicts of interest: The authors declare no competing interests relevant to the content of this article.

Data availability: Data generated and/or analyzed during this study are available upon reasonable request from corresponding author.

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RESEARCH ARTICLE

A New Concept in Psychology: Development of the Ecopsychological Sensitivity Scale and Examination of Its Psychometric Properties

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ABSTRACT

The main purpose of this study is to develop the Ecopsychological Sensitivity Scale (ESS) and analyse its psychometric properties. The data for the study was collected in four different stages. A total of 1070 individuals participated in the study. For the first stage, exploratory factor analysis (EFA), data was collected from a total of 416 people: 270 women and 146 men (Mage=31.51; SD=10.11). For the second stage, confirmatory factor analysis (CFA), data was collected from a total of 499 participants: 321 women and 178 men (Mage=27.59; SD=10.77). In the third stage, in order to test criterion-related validity, data was collected from a total of 110 people: 75 women and 35 men (Mage=26.39; SD=10.17). In the fourth stage, data was collected from a total of 45 people, 33 women and 12 men, in order to measure test-retest reliability (Mage=24.19; SD=9.17). As a result of EFA, a structure consisting of 14 items and two sub-dimensions was obtained. CFA results performed to verify the obtained structure showed that the fit indices of the scale were at an acceptable level. In criterion validity analyses, significant relationships were found between the ESS and similar scales. In the reliability analysis, the Cronbach alpha coefficient of the developed ESS was calculated as .94, the environmental sensitivity sub-dimension was .88, and the environmental integration sub-dimension was calculated as .91. In this study, it was concluded that the ESS, which was developed to measure the ecopsychological sensitivity levels of adult individuals, is a valid and reliable measurement tool. It is thought that it will be useful to researchers in terms of using it in future studies on ecopsychology.

The effects of the ecological world on human health have been one of the topics of interest in the psychology literature. People have been directly or indirectly affected by the healing effects of nature throughout their lives. As research on the healing effects of nature increases, its aspect of supporting mental well-being has begun to appear in the psychology literature in recent years. Based on this rationale, researchers interested in the subject have put forward hypotheses regarding the positive effect of ecology on psychology. Three theories have an impact on the literature regarding the healing effects of nature.

The first theory that discusses the impact of the ecological world on human health is the biophilia hypothesis. According to this hypothesis, which is based on the theory of evolution, humans' connection with nature is innate. This bond dates back to our earliest ancestors, before birth (Wilson, 1984). The second theory that deals with ecology is the attention restoration theory. Rachel Kaplan and Stephen Kaplan put forward this theory during their studies on attention in the United States. The third theory that examines the healing effects of nature is the psycho-evolutionary stress reduction theory. This theory suggests that the natural environment has an inherent aesthetic order, which positively influences human health by reducing stress. This aesthetic order has a healing effect on human health. In the hospital experiment, Ulrich (1984) laid the foundations of the psycho-evolutionary stress reduction theory by noticing that the length of hospital stay was shorter for patients whose room windows looked at natural beauties.

While researchers are looking into how nature may heal people, the harm that humans are doing to the environment has also gained attention in the social scientific community. The concept of ecopsychology was introduced to change human behavior that may cause ecological problems and to raise awareness of the healing effects of nature on people. The concept of ecopsychology, brought to the agenda by Roszak (1992), emphasizes that ecopsychological studies are important for the individual to establish a connection with nature. With the acceleration of industrialization and urbanization, man's connection with nature is gradually decreasing. The individual whose relationship with the ecological world weakens both negatively affects the environment and is negatively affected by it. To eliminate this problem, studies that will increase ecopsychological sensitivity in humans are needed (Roszak, 1992). Ecopsychology deals with the ecological crisis in the world and its psychological effects on individuals. In short, it aims to eliminate the problems in the nature-human relationship by focusing on them (Scull, 2008).

Global ecological problems impact all of humanity and influence individuals' sensitivity to nature. Additionally, these problems shape the ecological policies implemented by countries. People are becoming increasingly aware that the damage they cause to nature also harms their own lives (Gül, 2013). Humans experience psychological and physiological effects as a result of the damage they have done to nature. People need to be connected to nature and have a lifestyle in touch with nature, just as much as they need social relations, to maintain a healthy body and psychological structure (Weaver, 2015).

Human behavior lies at the root of global ecological problems (Caillaud et al. 2016). High ecopsychological sensitivity in individuals may contribute to the solution of ecological problems by eliminating these negative behaviors. Only when the individual identifies with nature may they act with a common identity and assume a more protective role (Kahn et al., 2012). Researchers emphasize that negative natural conditions caused by humans may lead to problems in the lives of individuals, such as health, education, and inequalities of opportunity. Therefore, ecopsychology aims to create a common discipline by combining ecology and psychology. In this way, it aims to prevent possible negativity by improving the ecopsychological sensitivity of individuals (Woodbury & Chalquist, 2012).

From the information provided, it may be concluded that engaging in ecopsychological activities is crucial for fostering individuals' ecopsychological sensitivity. Nature therapies may be counted among these activities, with their nature encouraging the client to take action along with outdoor physical activities. It is thought that new behaviors to be developed by the natural environment during the therapy process will increase the ecopsychological sensitivity of individuals. It is thought that various activities to be carried out in touch with nature will encourage individuals to develop technologies that are more compatible with nature. A measurement tool is needed to measure the ecopsychological sensitivity levels of individuals before and after these activities. When the literature is examined, it is seen that there is no measurement tool to determine the ecopsychological sensitivities of individuals. It is seen that measurements related to ecopsychology are measured with scales such as the nature-relatedness scale (Nisbet & Zelenski, 2013), the environmental paradigm scale (Dunlap & Van Lierre, 1978), ecospirituality scale (Suganthi, 2019), and the ecological intelligence scale (Akkuzu, 2016). Examining the characteristics of the measurement tools used in the literature reveals their aim to measure the impact of spending time in nature or ecopsychological developments

on the individual. However, ecopsychological sensitivity focuses on individuals' interest in nature and their instincts to protect nature. The purpose of the ecopsychological sensitivity scale is to measure interest and protectiveness toward nature. The ecopsychological sensitivity scale is expected to contribute to the literature as an alternative measurement tool that can be used when measuring the healing effects on individuals' psychology. Since ecopsychological sensitivity is a new concept in the psychology literature, there is no measurement tool to measure it. It is thought that, thanks to the developed scale, it will be easier to conduct studies on ecopsychological sensitivity. It is thought that the research will make a contribution to the literature in this respect.

Method

Participants

The sample group of the study consists of adult individuals. In the research, data was collected in four different stages. In the first stage, data was collected from a total of 416 participants (Mage=31.51, SD=10.11), 270 women (64.9%) and 146 men (35.1%) for exploratory factor analysis (EFA). In the second stage, data was collected from a total of 499 participants (Mage=27.59, SD=10.77), 321 women (64.3%) and 178 men (35.7%) for confirmatory factor analysis (CFA). In the third stage, data was collected from a total of 110 participants (Mage=26.39, SD=10.17), 75 women (68.2%) and 35 men (31.8%), in order to test criterion validity. In the fourth stage, data was collected from a total of 45 participants (Mage=24.19, SD=9.17), 33 women (73.3%) and 12 men (26.7%), in order to measure test-retest reliability.

Data Collection Process

Quantitative data for the research were collected through the Ecopsychological Sensitivity Scale, the Nature-Relatedness Scale (Sarıçam et al., 2015), and the New Environmental Paradigm Scale (Kuvaç, 2018). Necessary permissions were obtained by taking ethical issues into account when collecting data. Ethics committee approval was received from the [Blinded] Research Ethics Committee. The study was designed following the Helsinki Declaration. The data collection process was completed in 2022. Informed consent was obtained from each participant before data collection.

Procedure

Within the scope of the research, a scale development study was carried out to determine the ecopsychological sensitivity levels of adult individuals. Literature reviews regarding the development of the Ecopsychological Sensitivity Scale, item writing stages, arrangements made with expert opinions, and procedures regarding application and analysis are explained in detail below.

It is noteworthy in this section that the concept of ecopsychology is a new concept in the psychology literature. Although there are related studies in the literature on nature, it has been observed that there are a limited number of studies on ecopsychology, especially in Türkiye. In the development of the Ecopsychological Sensitivity Scale, a comprehensive literature review was first conducted on topics such as ecopsychology, nature therapies, adventure therapy, ecological intelligence, the ecopsychological self, and being related to nature. The items and manuscript of the scales developed on the above topics in the literature were examined in detail (Akkuzu, 2016; Kuvaç, 2018; Nisbet et al., 2009; Sarıçam et al., 2015; St. John, & MacDonald, 2007). Based on the examinations made, an item list consisting of 74 items was prepared by the research team. While preparing the items, differences in individuals' approaches to ecopsychology and nature were taken into account. These 74 items were shared with 1 professor, 1 associate professor, and 5 doctoral students who are experts in the field of psychological counseling and guidance, to be evaluated in terms of content and face validity. Experts were asked to evaluate the suitability and understandability of the items according to the theoretical structure. Experts were asked to express their opinions on each item as "appropriate," "should be corrected," and "should be removed". The items were then revised according to the experts' feedback, and the final version was prepared before data collection.

Measures

Ecopsychological Sensitivity Scale. It is a self-report scale consisting of 14 items and 2 sub-dimensions on a five-point Likert scale. The lowest score that may be obtained from the scale is 14, and the highest score is 70. A high score on the scale indicates that the person has a high level of ecopsychological sensitivity. The findings section includes EFA and CFA criterion validity and reliability analyses of this scale.

Nature-Relatedness Scale. It consists of six items of five-point Likert type and a single dimension. The scale developed by Nisbet and Zelenski (2013) was adapted into Turkish by Sarıçam et al. (2015). It may be interpreted that as the scores increase, the individual's relationship with nature increases. The Cronbach Alpha internal consistency coefficient of the scale was calculated as 0.89. In addition, it can be said that the fit values are within acceptable limits ($\chi2/sd$=1.97, RMSEA= .35, SRMR= .04, GFI= .96, AGFI= .96, CFI= .97, NFI= .96, NNFI= .97, RFI= .97, IFI= .96).

New Environmental Paradigm Scale. It was developed by Dunlap and Van Lierre (1978) to determine individuals' attitudes towards the environment. It was later revised by Dunlap et al. (2000). The Turkish adaptation study was carried out by Kuvaç (2018). The scale, which consists of 15 items in a five-point Likert type, has two sub-dimensions: anthropocentric and ecocentric. As the scores obtained increase, it may be inferred that the individual's tendency and awareness in that field are high. The Cronbach Alpha internal consistency coefficient was .79 for the ecocentric approach dimension; .73 for the anthropocentric approach dimension; it was calculated as .76 for the overall scale. In addition, it can be said that the fit values are within acceptable limits ($\chi2/sd$= 1.422, RMSEA= .061, SRMR= .075, CFI= .94, IFI= .94, NNFI= .92).

Data Analysis

In this context, the construct validity of the scale was tested with data collected from adult individuals. First, exploratory factor analysis (EFA) was performed to obtain results regarding the sub-factors into which the data was divided. In this way, the dimensional structure of the developed scale was discovered (Tabacknick & Fidell, 2013). Confirmatory factor analysis (CFA) was used to verify the structure obtained as a result of EFA. CFA is a method used to test scales whose structures have been previously determined. It is a type of analysis that provides important data to prove construct validity in scale development studies (Kline, 2015). After the CFA results of the Ecopsychological Sensitivity Scale were obtained, item analyses were carried out according to Item Response Theory to reveal item discrimination. In item response theory, α values calculated to reveal the distinctiveness of items are expected to be greater than 1.0 (Baker, 2001). In this method, the characteristic curves of the items are also examined for item discrimination. This curve reveals the relationship between the participants' ability level and correct responses (Hambleton et al., 1991). Item response theory is frequently used to evaluate the psychometric properties of scales developed in the current literature on educational sciences and psychology (e.g. Chalmers, 2012; Elemo et al., 2023; Koçyiğit et al., 2024; Kul et al., 2024; Satıcı et al., 2024).

To test the criterion-dependent validity of the Ecopsychological Sensitivity Scale, data were collected along with equivalent scales. The collected data were examined by correlation analysis. For the reliability analysis of the developed Ecopsychological Sensitivity Scale, Cronbach Alpha values were first calculated. Then, correlation analysis was performed to reveal the relationship between the sub-dimensions. To determine the item reliability of the scale, item analysis was used, and item-total correlations were examined. Finally, a test-retest analysis was conducted regarding reliability. SPSS 26, Stata, and Mplus 7.3 statistical analysis software were used to perform statistical analyses during the data analysis process of this study.

Findings

Findings Regarding Construct Validity

Exploratory Factor Analysis (EFA). Normality analysis of the collected data set was performed before EFA was performed. Extreme values that prevented the normal distribution of the data were removed from the data set by calculating Mahalanobis distances. The sample, which consisted of 435 people before the extreme values

were removed, decreased to 416 after the extreme values were removed and normality was achieved. The procedures for EFA were carried out using this sample of 416 people. When studies on the adequacy of the sample size are examined, it may be said that the number of participants is within the acceptable range (DeVellis, 2014; Tabacknick & Fidell, 2013). The Bartlett test and Kaiser-Meyer-Olkin test results, which were applied to test the EFA suitability of the scale to be developed, showed that the data set was suitable. The Kaiser-Meyer-Olkin value of the study was calculated as 0.93 and the Bartlett test value (χ^2=7626; p<0.001).

While conducting EFA, principal component analysis was performed to determine the sub-factors of the scale. This analysis aims to reveal the highest variance while gathering the measured variables under as few factors as possible (Tabacknick & Fidell, 2013). The direct oblimin method was preferred for factor extraction. This method, which allows for the explanation of interrelated factors, is more frequently preferred in scale development studies. Factors with eigenvalues above 1.00 were evaluated. The factor loading was calculated to be at least 0.32. Items that were found on more than one factor and had a loading of at least 0.10 were removed (Tabachnick & Fidell, 2013). Repeated analyses under these conditions led to the grouping of ecopsychological sensitivity under two factors. Eigenvalues and explained variance rates for the resulting factors were calculated. The first factor explains 49.232% of the total variance, with an eigenvalue of 6.893. The second factor explains 8.403% of the total variance, with an eigenvalue of 1.176. Together, these two factors explain 57.635% of the total variance.

Factor loadings of the items of the Ecopsychological Sensitivity Scale obtained as a result of EFA are given in Table 1.

Table 1. Item factor loadings of the Ecopsychological Sensitivity Scale

Item Number	Environmental Sensitivity	Integration with the Environment
1	**.857**	-.030
2	**.809**	.023
3	**.790**	-.179
4	**.695**	.092
5	**.660**	.227
6	**.585**	.149
7	**.605**	.222
8	-.056	**.808**
9	.039	**.766**
10	-.124	**.814**
11	.187	**.632**
12	.281	**.505**
13	.320	**.532**
14	.340	**.450**

Table 1 shows the item factor loadings of the final 14-item version of the Ecopsychological Sensitivity Scale. When the table is examined, it is seen that the first factor consists of 7 items. The factor loadings of the items forming the factor are between .58 and .85. When the content of the articles is examined, it is seen that there are generally judgments aimed at defending nature. For this reason, this sub-dimension was named "Environmental Sensitivity".

Second factor consists of seven items. The factor loadings of the items forming the factor are between .45 and .81. It was observed that the items included statements regarding the integration of the individual with the environment. With the suggestion of the thesis monitoring board at the thesis monitoring meeting, this dimension was named "Integration with the Environment".

As a result, it may be said that the Ecopsychological Sensitivity Scale consists of 2 factors and 14 items: "Environmental Sensitivity" and "Integration with the Environment". When the factor loadings for the items on the scale are examined, it is seen that the loadings vary between .45 and .85. The lowest score that may be obtained from the scale is 14, and the highest score is 70. No reverse-coded items on the scale. It may be interpreted that as the score increases, individuals' ecopsychological sensitivity levels increase.

Confirmatory Factor Analysis (CFA). As a result of EFA applying for the Ecopsychological Sensitivity Scale, a structure consisting of 14 items and 2 sub-dimensions was reached. DFA was performed to verify this structure. At this stage of the research, data was collected from 529 people, and as a result of normality assumptions, some data were discarded and analyses were carried out with 499 people. To comment on the adequacy of the fit between the data and the model, various fit indices obtained as a result of CFA are needed (Hoe, 2008; Keith, 2019; Kline, 2015; Meyers et al., 2006; Şimşek, 2007; Wang & Wang, 2012).

It was found that the first CFA process did not achieve the required fit in all values that showed the fit between the model and the data, except for TLI and SRMR ($\chi2$=448.045, p≤0.001, sd=76, $\chi2$/sd=5.89, CFI=0.92, TLI=0.91, SRMR=0.04, RMSEA=0.10). When the fit values were examined, modifications were made because the RMSEA, CFI, and $\chi2$/sd fit indices were not at a sufficient level. Item error covariances were correlated by taking the suggested modifications into account. While it is recommended that the modifications suggested as a result of CFA be made to strengthen the model (Çapık, 2014), it is also underlined that the modifications made should follow the theoretical infrastructure (Çokluk et al., 2014; Diamantopoulos et al., 2000). Based on this, the fact that the indicators of items 3 and 5 are theoretically in the same dimension (environmental sensitivity) has met the first condition for modification. When the structure of the items is examined, it is seen that they measure partially similar properties. Based on this, CFA was repeated by making a correlation between item 3 and item 5. When the findings obtained as a result of the new analysis were examined, it was seen that the model fit values were acceptable and excellent ($\chi2$=377.363, p≤0.001, sd=75, $\chi2$/sd=5.03, CFI=0.95, TLI=0.94, SRMR=0.04, RMSEA=0.08). The standardized item estimates of the Ecopsychological Sensitivity Scale created as a result of CFA are shown in Figure 1.

Figure 1. Factor Structure and Factor Loadings of Ecopsychological Sensitivity Scale
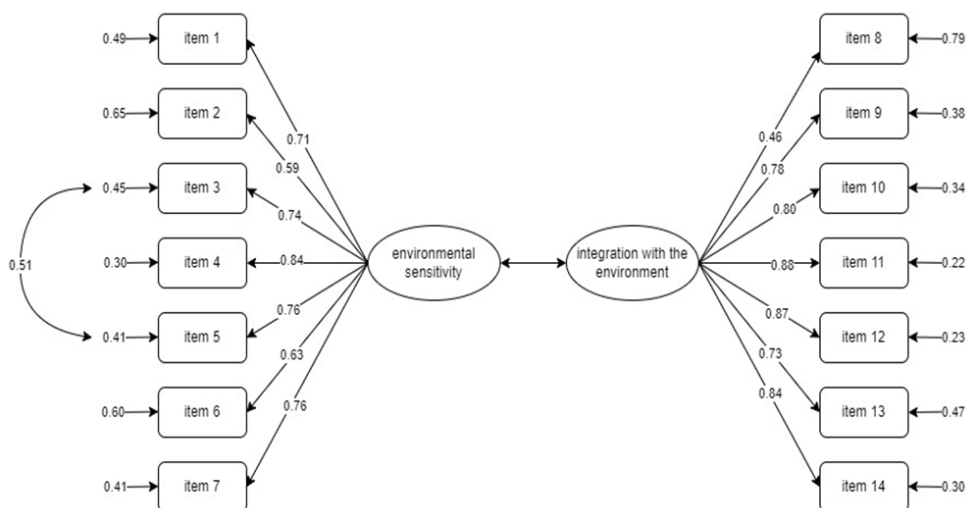
In Figure 1, each item on the Ecopsychological Sensitivity Scale was found to be a significant parameter predictor (p<.05). It is seen that factor loadings of items in the scale, which consists of 14 items and 2 sub-dimensions, are between .46 and .88. It is seen that the correlation coefficient between item 3 and item 5, whose error covariances are associated for modification purposes, is .51.

After the CFA results of the Ecopsychological Sensitivity Scale were obtained, item analyses were carried out according to item response theory (IRT) to reveal item discrimination. The analysis results in the context of IRT are given in Table 2.

Table 2. Item Response Theory estimates for the Ecopsychological Sensitivity Scale

Item Number	α	Std. Err.	[95% CI]	z	p > |z|
i1	1.98	.16	1.66-2.30	12.12	0.000
i2	1.64	.14	1.36-1.93	11.40	0.000
i3	3.94	.42	3.11-4.77	9.34	0.000
i4	2.68	.23	2.2-3.13	11.62	0.000
i5	3.82	.38	3.07-4.57	10.00	0.000
i6	1.35	.12	1.10-1.60	10.77	0.000
i7	1.76	.15	1.46-2.06	11.43	0.000
i8	1.15	.11	.92-1.37	9.91	0.000
i9	2.81	.23	2.36-3.26	12.20	0.000
i10	3.06	.25	2.56-3.55	12.09	0.000
i11	3.52	.29	2.95-4.10	12.07	0.000
Table 2 (continued)					
i12	4.05	.35	3.35-4.74	11.45	0.000
i13	2.38	.19	2.00-2.75	12.48	0.000
i14	3.26	.26	2.74-3.78	12.31	0.000

Note. Std. Err. = Standard Error, CI = Confidence Interval

As can be seen in Table 2, the item discrimination coefficient of all items on the developed scale is greater than 1.00. This finding reveals that all items on the Ecopsychological Sensitivity Scale have high discrimination power.

Findings Regarding Criterion Validity

In order to test the criterion validity of the Ecopsychological Sensitivity Scale (ESS), the Nature-Relatedness Scale (Sarıçam et al., 2015) and the New Environmental Paradigm Scale (Kuvaç, 2018) were used. Correlation analysis was performed to test the criterion validity of the Ecopsychological Sensitivity Scale. Results are presented in Table 3.

Table 3. Statistical Results Regarding Criterion Validity

	Mean	SD	1	2	3
Ecopsychological Sensitivity Scale (1)	62.17	6.11			
ESS Environmental Sensitivity (2)	31.56	2.65	.84**		
ESS Integration with the Environment (3)	30.61	4.12	.94**	.61**	
Nature-Relatedness Scale (4)	21.81	4.06	.63**	.43**	.65**
New Environmental Paradigm Scale - Ecocentric (5)	33.48	4.09	.22**	.18	.21**
New Environmental Paradigm Scale - Anthropocentric (6)	20.37	5.62	.13	.09	.13

Note. **p< .01; ESS = Ecopsychological Sensitivity Scale

According to Table 3, it was seen that ESS had a significant relationship with the Relatedness to Nature Scale (r=.63, p<.01) and with the ecocentric sub-dimension of the New Environmental Paradigm Scale (r=.22, p<.01). No significant difference was observed with the anthropocentric sub-dimension of the New Environmental Paradigm Scale. It was observed that environmental sensitivity, one of the sub-dimensions of ESS, had a significant relationship with the Nature-Relatedness Scale (r=.43, p<.01) and integration with the environment had a significant relationship with the Nature-Relatedness Scale (r=.65, p<.01). It was observed that integration with the environment, one of the sub-dimensions of ESS, had a significant relationship (r=.21, p<.01) with ecocentric, the sub-dimension of the New Environmental Paradigm Scale.

Findings Regarding Reliability

The Cronbach Alpha value obtained for the entire ESS was calculated as .942. When the results regarding the sub-dimensions of ESS are examined, the Cronbach Alpha value for the environmental sensitivity sub-dimension is .886; it was calculated as .911 for the integration with the environment sub-dimension. It may be said that the scale developed based on the data has reliable values.

Another analysis regarding the reliability of the ESS is the test-retest reliability analysis. The correlation coefficients obtained from the scales applied to the group two weeks apart are given in Table 4.

Table 4. Results Regarding Test-Retest Reliability

	Mean	SD	*r*	*p*
ESS – 1	63.11	3.94	.93	.001
ESS – 2	31.96	1.76		
ESS Environmental Sensitivity – 1	31.16	3.36	.84	.001
ESS Environmental Sensitivity – 2	62.29	3.93		
ESS Integration with the Environment – 1	31.62	2.05	.96	.001
ESS Integration with the Environment – 2	30.67	3.42		

Note. ESS = Ecopsychological Sensitivity Scale.

As seen in Table 4, there are highly significant positive relationships between the first and last measurement scores of the ESS and its subscales (p < .01).

Discussion and Conclusion

Based on the findings from the statistical analyses conducted, it can be stated that the Ecopsychological Sensitivity Scale is a reliable and valid measurement tool for adult individuals. The concept of ecopsychology was introduced to change human behaviors that could lead to ecological problems and to raise awareness of the healing effects of nature on humans (Roszak, 1992). Human behaviors towards nature can cause various ecological issues (Caillaud et al., 2016). To prevent such issues, it is essential for individuals to have high ecopsychological sensitivity. This sensitivity can be enhanced through various educational programs and nature therapy activities. A measurement tool may be needed to test the effectiveness of such programs. The Ecopsychological Sensitivity Scale has the potential to fill this gap in the literature.

In the analyses related to criterion validity, the Nature-Relatedness Scale (Sarıçam et al., 2015) and the New Environmental Paradigm Scale (Kuvaç, 2018) were used. The analysis results indicated that the Ecopsychological Sensitivity Scale and its subdimensions were positively correlated with the Nature-Relatedness Scale. Individuals with a high connection to nature are also highly sensitive to events occurring in nature. These individuals tend to take measures to protect nature and spend more time in it (Nisbet & Zelenski, 2013). Additionally, individuals with a healthy body and psychological structure need to be connected to nature and adopt a lifestyle intertwined with nature as much as they need social relationships (Weaver, 2015). This can explain why individuals connected to nature have high ecopsychological sensitivity.

Similarly, the Ecopsychological Sensitivity Scale and its subdimensions were found to have a positive relationship with the ecocentric subdimension of the New Environmental Paradigm Scale. No relationship was found with the anthropocentric subdimension of the New Environmental Paradigm Scale. This subdimension is human-centered rather than nature-centered (Dunlap & Van Liere, 1978). From this perspective, it is expected that there is no relationship with ecopsychological sensitivity. In summary, the findings of the study can be said to be supported by the literature. Increasing one's relationship with nature may increase ecopsychological sensitivity.

The development of ecopsychological sensitivity is important for protecting nature and benefiting from its healing effects. Educational environments based on ecopsychology, various psychoeducational activities focused on nature, and nature therapies can be counted among the activities that can develop ecopsychological sensitivity. Spending time in natural settings and internalizing behaviors suitable for nature during these activities can influence ecopsychological sensitivity. It is anticipated that individuals with developed ecopsychological sensitivity will develop more harmonious behaviors and technologies with nature. The Ecopsychological Sensitivity Scale has the capacity to measure all these positive effects. In conclusion, based on the findings obtained, the Ecopsychological Sensitivity Scale can be said to be a valid and reliable measurement tool. This scale can be used to measure individuals' levels of ecopsychological sensitivity, nature sensitivity, and ability to think about nature holistically. Additionally, it is thought to provide preliminary information about individuals' abilities to work harmoniously with nature.

Limitations

This research has some limitations. The first limitation of the study is that the sample group represents adult individuals. The fact that data were collected from adults may reduce generalizability. Therefore, the developed scale is suitable for use in adult samples. The second limitation is that the data represents adults in Turkish culture. Since Turks have had a nomadic lifestyle in the past, they may be more sensitive to nature. In this sense, it may be useful to conduct reliability and validity studies by adapting the scale to different cultures and languages. Another limitation of the study is that the scales used as data collection tools were developed based on self-report. It may be stated that the sample group predominantly consists of female participants. This imbalance may lead to sampling bias and potentially skew the results towards a female perspective. This can be considered another limitation of the study. Future research could pay attention to gender distribution while collecting data to enhance the generalizability of the findings.

Suggestions and Implications

Considering the findings of the current research, various suggestions and implications may be made. The scale developed in the research may be used to measure the ecopsychological sensitivity levels of adult individuals. In this way, adults' sensitivities about nature, their desire to spend time in nature, and their sensitivity to developing technologies and projects compatible with nature may be tested. It may be used to explore the individual's bond with nature, especially in studies on the healing effects of nature. Individuals in the education period are mostly in childhood and adolescence. During these periods, it may be necessary to measure the ecopsychological sensitivity levels of individuals participating in studies on nature education and the effects of nature on learning. Based on this, it is recommended that the scale be adapted by collecting data from individuals at different age periods. Additionally, using the scale in research will significantly improve its measuring power. The developed ecopsychological sensitivity scale can contribute to researchers by enabling the examination of the relationship between individuals' environmental attitudes and behaviors. The scale can be utilized to compare the ecopsychological sensitivities of sample groups with diverse demographic characteristics. Additionally, it can serve as a valuable resource for longitudinal studies to monitor how ecopsychological sensitivity may change over time. From a policy-making perspective, the scale can play a role in determining the effectiveness of environmental policies and programs on individuals and in designing strategic educational programs or campaigns to enhance levels of ecopsychological sensitivity. It may also contribute to the development of policies targeting communities with high ecopsychological sensitivity and promoting sustainable environmental practices in these areas.

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Ethics Approval and Consent to Participate. The study protocol has been approved by the Human Research Ethics Committee of Marmara University. The study was performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and its following updates. The ethical approval for this study was obtained from the Ethics Committee of Marmara University, Faculty of Educational Sciences, on 09.09.2022, with the approval number 07-17.

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RESEARCH ARTICLE

Psychosocial Motivations for Youth Engagement in Terrorist Acts: A Qualitative Study

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ABSTRACT

Terrorism poses a significant global threat, causing fear and devastation across borders. While understanding the consequences of terrorist acts is crucial, preventing these tragedies in the first place remains paramount. Qualitative research methodology was used to delves into the why behind terrorism, exploring the motivations that drive individuals towards such violence. Through content analysis of video clips produced by terrorists, their families, and individuals interested in extremism, researchers have discerned a correlation between terrorism, antisocial behavior, and cultural conflicts. This qualitative approach allows for a detailed exploration of the nuanced motivations and contextual factors that drive individuals towards extremist ideologies and actions. Analyzed video clips were chosen based on a set of criteria that included young participation, the occurrence of events in the Middle East at times of high activity, and the representation of many ethnic groups. This research proposes a model outlining the three-stage transformation that young people may undergo as they become radicalized. This model aims to identify crucial intervention points where counseling and support can potentially steer them away from a violent path. Finally, the analysis highlights common behaviors exhibited during each stage of this process. Understanding these factors allows authorities, families, and communities to better identify and support individuals at risk, ultimately promoting resilience against radicalization.

Terrorism has surely existed since before the dawn of recorded history (Friedland and Merari, 1985) and spread widely everywhere with different types (such as: dissent, religious, criminal terrorism) and rates. Terrorism has been of interest to specialists in the humanities and continue to receive considerable attention in the recent psychological and sociological literature (Laqueur, 1977; Jenkins, 2020). Not only that, but terrorism captures public attention regardless of their professional, educational, economic, cultural, and religious background.

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Despite the endeavors of numerous governments to combat terrorism through diverse strategies, its pervasive spread is evident globally, manifesting in various forms such as dissenter terrorism challenging political regimes, religious terrorism driven by extreme ideologies, and criminal terrorism pursuing financial gain or intimidation (GTI, 2023). It is not an overstatement to assert that no society is immune to the direct ramifications of terrorism, including loss of life and damage to public or private assets, as well as the indirect impacts like psychological infiltration into communities, including students and families (Saikal, 2023).

In addition to the immediate threats of terrorism to individual countries and the global community, it also poses a long-term danger by radicalizing ordinary people into committing extreme violence (like threatening, killing, or destroying) to achieve their (or their terrorist group's) goals. This becomes even more insidious when terrorism actively recruits from all segments of society, regardless of sex, age, social status, or income level (Jensen, 2018; Moskalenko & McCauley, 2020; Saikal, 2023).

The past and current situation motivates specialists across humanities and social sciences to study terrorism using various methodologies. This study aims to identify the psychosociological model underpinning the 'terrorist industry' and how it exploits young people. Using qualitative methods, we will identify behavioral indicators associated with the psychosociological changes induced by terrorist groups in targeted youth.

After 9/11, there was a surge in academic research on terrorism, particularly in political science, aimed at establishing a foundational understanding of this complex phenomenon. This focus on conceptualization arose due to the lack of reliable data and established theories on terrorism. The primary objectives of this initial research wave included defining terrorism by distinguishing it from other forms of violence, identifying the root causes that drive individuals or groups to such actions, analyzing the tactics employed by terrorist organizations, and categorizing these groups based on their ideology, motivations, and targets. Through these endeavors, researchers aimed to provide a comprehensive framework for understanding and addressing the complexities of terrorism in the modern world. (Frank & Gruber, 2012; Sandler, 2014; Lia & Skjølberg, 2005).

The root causes of terrorism are complex and multifaceted, making it unsurprising that research hasn't identified a single, definitive factor for domestic or international terrorism across different countries (Sandler, 2014). Discussions about these causes can be contentious because some view underlying grievances as justifications for violence. However, a dispassionate exploration of all significant factors influencing terrorist acts and their evolution is crucial for any study of terrorism and its potential future threats (Bjørgo, & Silke, 2018).

Terrorism transcends borders and contexts, striking in rich and poor nations, established democracies and less democratic regimes, developed and developing areas (Noricks, 2009). It can erupt during periods of transition or persist long after. Importantly, recent research sheds light on the gendered aspects of terrorism, challenging the traditional perception that violence solely motivates men. Women too can be drawn to terrorist groups, driven by personal motivations like revenge or a twisted sense of martyrdom (Mann & Brydges, 2017).

Terrorism stems from a complex interplay of factors, not just psychological ones. Radicalization can be provoked by a multitude of reasons: a political grievance, for instance, or a religious belief, or even a hard financial situation. These, of course, are not the only causes, and they don't always lead to radicalization. But when they do, we're not talking about one monolithic movement; rather, we're referring to a collection of very different groups that have very different reasons for coming together and acting out—very different in aims and in ideology. To comprehend them better, we need to understand them in the context of their particular cultures and the particular political, social, and economic conditions we share with them (Stern, 2010).

The unequal distribution of resources can lead to isolation and a lack of economic opportunity. For some people, this can result in a feeling of hopelessness, which may push them toward violent solutions. At the most basic level, a society's inequality can lead some of its members to engage in violence of extreme and hateful kinds (Bren, Zeman, & Urban, 2019). But inequality doesn't lead everyone to violence. Some individuals are more susceptible to that path, for reasons that some researchers attribute to genetics and others to the

socialization of individuals in families that have a long history of violent behavior (Newman & Newman, 2020).

Actions that break the established ways of behaving in society and negatively affect or injure others are classified as antisocial (Ellis et al., 2019; Peña & Graña, 2006). Antisocial behavior tends not to predict who will become a terrorist but does identify some individuals—specifically, some young men—as being at greater risk for becoming involved in terrorist activities. Dropping out of school, joining a gang, being unkind to animals, and vandalism are all examples of behaviors that hurt others and that some people find especially concerning when they are making an argument to say that we should worry about someone who is acting these ways.

A spectrum of serious psychiatric conditions encompasses those best known for antisocial and aggressive symptoms. These are the conditions that we—we in the field of child and adolescent psychiatry—most often seem to be at odds with. They are our usual "rivals." Yet they are part of a serious and disabling mental health problem that leads to a life of crime and/or suicide for many. Conduct Disorder (CD) occurs in 2-8% of youths (Poore & Waldman, 2018; Frick, 2018). Compared to other mental health conditions McLuaghlin et al. (2016) found that CD is associated with the highest rates of crime, violent crime, and a long lifetime of illegal behavior.

The effect of media on terrorism is intricate. Although some studies indicate a direct link between exposure to violent media and a rise in antisocial tendencies (Onat, 2016), the relationship is clearly more complicated and demands a closer look. For one thing, it seems necessary to not only consider what basing a society on certain images can do to the grassroots level and governance but also to take into account the virtual figure of authority. In a sense, this is also to consider the way society at large and its median individual react when faced with a society that seems "out of control."

Understanding terrorists in traditional ways is often too simplistic and too reductive. It treats them as if they were purely social phenomena—that is, why would an economically deprived person, someone living under a repressive political regime, not join a terrorist group? As obvious as this line of reasoning may sound, it's a rather shallow way to probe the causes of terrorism. Even when combined with statistically significant personality traits (for good or ill), social conditions fail to account for why so many people living under similar conditions never think of resorting to violence or doing so in a "culturally sanctioned" way that targets innocents. These analyses and our judgments based on them do not adequately respect the individuality of the terrorist.

Not all terrorists are mentally ill. Antisocial behavior, a psychological term for harmful and aggressive actions, is just one factor that can contribute to terrorism (Engelmann et al., 2019). Some antisocial individuals might be drawn to terrorist groups for the violence and sense of power it offers, potentially becoming the group's enforcers or bomb-makers (Meloy & McEllistrem, 1998). However, intelligence and cunning can also be present in these individuals, allowing them to rise to leadership positions within the organization (Miller, 2006). While the psychology of individuals plays a role, it's important to remember that terrorism is a complex issue with broader social and political roots.

Cultural grievances can be a significant motivator for terrorism, alongside psychological factors (Serafim, 2005). In some cases, the driving force behind terrorist acts may be social and cultural – a deep resentment towards Western influences, for example. This cultural dimension can be a powerful tool for extremists, who exploit it to justify violence. Religious terrorism is inherently intertwined with cultural identity, and some argue that contemporary terrorism is more rooted in cultural factors than ever before. For some, joining a terrorist organization can provide a sense of belonging and purpose, especially for those feeling marginalized or hopeless (Serafim, 2005). The cultural approach to terrorism, while not offering a single answer, can be valuable for identifying the underlying cultural tensions that contribute to violent extremism (Serafim, 2005). By examining both the root causes of terrorism and the cultural motivations that fuel it, we can gain a deeper understanding of why terrorist groups act the way they do. This knowledge can be crucial in developing effective counter-terrorism strategies. Cultural conflict is undoubtedly a significant factor. Trauma and cultural destruction can create breeding grounds for future violence (Nader & Danieli, 2005). But even a

straightforward "clash of civilisations" isn't easy (Neumayer & Plümper, 2009). Samuel Huntington (1993) posited a confrontation between the West and Islam, but the picture is more complex. Such tensions can be mitigated by cultural interactions and knowledge.

Background

This problem of the definition and classification of terrorism is particularly difficult for many reasons. For one thing, there's no clear definition, so it's hard to determine what terrorists are and how to fight against them. Second, terrorism comes in many varieties, motivated by ideologies ranging from religious fanaticism and nationalism to criminal motivation. Terrorist organisations are third, and their levels of organisation are variable, ranging from loosely integrated cells to tightly embedded hierarchies. If we can better understand terrorism by grasping these basic elements of the phenomenon.

Lack of a Universal Definition

The definition of terrorism is an unwieldy undertaking because there is no agreed-upon one (Jenkins, 2020). Violence and fear are hallmarks, but motives are also varied, and there are more than 100 definitions that studies have come up with (Lennquist, 2012). That's not even addressing the wide variety of actors who participate in a terrorist attack: political parties, religious groups, revolutionaries, and even state entities such as armies or intelligence services.

The multifaceted nature of terrorism is underscored by varied definitions and perspectives, such as those provided by the United Nations, which defines terrorism as criminal acts intended to instill fear for political objectives, and from a social standpoint, viewing it as the premeditated use of violence against civilians to achieve political, religious, or ideological aims (UN Security Council, 2004). While psychologists delve into the psychological motivations of terrorists, psychosociology offers a broader lens, framing terrorism as a strategic tool for achieving social and political goals rather than a mere manifestation of mental illness (Bell, 2013). Psychosociologists emphasize the impact of social interactions, ideology, resources, and internal group dynamics on terrorist behavior, drawing parallels between terrorist organizations and other social movements (Perera, 2008). Recognizing the complexity of human behavior, simplistic explanations fall short, emphasizing the need for a comprehensive framework like the psychosocial approach, which integrates individual psychological factors with broader social influences to understand terrorism's intricate interplay of individual motives and societal dynamics (De la Corte, 2007).

Diverse Types of Terrorism

Studying terrorism presents a challenge in classifying terrorist groups, as experts grapple with agreeing on a universal typology due to varying criteria used for categorization. One commonly utilized classification divides terrorism into domestic and international categories, based on the geographical scope of the attacks (Stepanova, 2008). International terrorism involves cross-border attacks or multiple countries' citizens, while domestic terrorism occurs within one country. These distinctions often blur as local groups may get support from transnational organizations. The focus is now on understanding a group's local, national, transnational, or global objectives, reflecting terrorism's interconnected nature today (Kurtulus, 2011).

In addition to geographical scope, another approach to classifying terrorism centers on motivations, with one common typology dividing terrorism into three broad categories based on dominant ideology: Political Terrorism, aiming to generate fear and achieve political goals distinct from revolution; Nationalist Terrorism, seeking independence for their national identity; and Religious Terrorism, driven by a dominant religious ideology (Kirk, 1983; Stepanova, 2008; Rothenberger et al., 2018). However, this motivational typology has limitations, as few terrorist groups adhere to a single, pure ideology. Many are propelled by a complex mix of motivations that can be challenging to decipher (Stepanova, 2008). Moreover, these motivations can evolve over time, with groups initially driven by religious ideology potentially adopting nationalistic goals as well.

The challenge of neatly categorizing terrorist groups arises from the diverse spectrum of motivations they encompass, as motivations often vary and interact in complex ways. This complexity makes it challenging to devise a single, comprehensive definition or classification system for terrorism, as different groups may be driven by a mix of political grievances, nationalistic aspirations, or religious extremism. To grasp the motivations of a specific terrorist group fully, it's essential to analyze it within its unique cultural, economic, political, and social context, considering the experiences, ideologies, and grievances that propel its actions. Consequently, generalizations about terrorism can be misleading due to its multifaceted nature (Crenshaw, 2010; Schmid, 2011; Weinberg & Peddle, 2007; Richardson, 2013). Redirecting our focus to a specific type of terrorism, such as Middle Eastern religious terrorist groups like ISIS and Al-Qaeda, allows for a deeper examination of the factors contributing to the rise of religious extremism and the specific ideologies driving their violence (Neumann, 2008).

Hierarchical Structures

Understanding terrorist groups goes beyond their motivations. Their organizational structures also play a crucial role in their operations. Many terrorist groups function with a rigid hierarchy (Florea et al., 2019). A senior leadership team, often including sponsors, leaders, and an executive committee, makes key decisions. A smaller group of middle leaders carries out these decisions, and a larger base of followers implements them on the ground. This structure offers continuity as senior leaders often remain in power for extended periods. Disrupting this leadership chain can be a critical strategy in countering terrorism.

Terrorist groups prioritize secrecy to protect themselves from infiltration and threats (Kilberg, 2012). Their internal dynamics, such as target selection, operational tempo, ideology, and goals, all contribute to shaping their structure. External factors like political rights, civil liberties, and government stability also play a role.

While the details of organizational structure can be complex, it's important to recognize that most terrorist groups have a large number of followers. Young individuals are frequently approached by recruiters who tap into their sense of isolation and provide them with a feeling of belonging and purpose while also offering justifications for actions (Florea et al., 2019). One of the reasons that drives terrorists is the longing to feel important. The need to be valued and respected within a community.

This study will concentrate on the demographic of male supporters in terrorist organizations due to their high numbers and the psychological aspects that drive their enlistment.

The current article is based upon three elements outlined in the context before it. These include embracing the rationale for terrorism as well as highlighting the activities of religious extremist factions in the Middle East with a specific emphasis placed upon their young male supporters.

Method

Studies on terrorism have started to emphasize the exploration of the reasons driving actions rather than just the actions themselves (Schuurman 2020). This change highlights the significance of investigating the motives of individuals involved in acts of terrorism.

While statistical analysis through approaches is utilized to some extent in research practices today (as discussed by Sageman in 2014), qualitative research continues to hold sway in the field. The qualitative methodology allows researchers to delve into the experiences and viewpoints of participants (as noted by Hiatt in 1986. Harwell in 2011). This approach proves beneficial for constructing theories and interpretations grounded in the insights shared by individuals.

The research emphasizes delving into the viewpoints and encounters of supporters in terrorist organizations; thus, opting for a qualitative research framework was deemed appropriate due to its compatibility with the available video footage data at hand.

Data Collection

To gain an understanding of how young male followers operate within organizations, this research will analyze video clips found on platforms like YouTube that are accessible to the public eye. The selection of these clips was based on their relevance to terrorism. Includes (1) Terrorist Attacks Footage that shows attacks will offer

direct perspectives on the motives and actions during such incidents. (2) Interviews from Prison Conversations with individuals who are in prison for their involvement in terrorism can provide insights into their reasoning and potential self-reflections. Exploring viewpoints from family members of individuals involved in terrorism can offer insights into their radicalization experiences and factors that may have influenced them before turning to extremism. Listening to accounts from terrorists who have abandoned violence can provide valuable perspectives on the journey of disengagement. Watching videos of individuals who once contemplated terrorism but chose not to pursue it can help uncover recruitment tactics and possible deterrent measures.

By analyzing video clips from these five distinct categories, this study aims to capture the multifaceted nature of terrorism and gain a deeper understanding of the experiences and perspectives of young male followers.

Using open-resource videos in our study helped no to violate the three core ethics principles: *Respect for Participants* (the autonomy of research participants is ensured, and the exploitation of their vulnerability is protected), *Beneficence* (participants have no psychological and social risks), and *Justice* (a fair distribution of the risks and benefits resulting from research is ensured).

Nonprobability Sampling (that does not involve random selection) is often associated with qualitative research. Purposive sampling technique was utilized to deliberately select particular persons to provide important and sensitive information about terrorism that cannot be obtained from other choices (i.e., the sample does not need to be representative) (Nyimbili & Nyimbili, 2024).

The Sample Size was determined based on resource availability (open-source video clips), reaching to study's objectives (identifying the psychosociological model of the terrorist industry, and listing behaviors associated with the psychosociological changes of the target youth by terrorism), and data sufficiency, which can be reached when new data no longer bring additional insights to the research questions. Three transcripts of video clips from each group of participants were written in detail, and the other related videos were listed in the references.

The Research Validity was checked by examining: *the moderators' qualification, samples quality, triangulation, respondent validation, and consistency.* The content of five samples of video clips from five different groups of participants were analyzed in this study. The various types and range of study participants involved in the research process are essential in determining its validity. Additionally, halting the collection of information from a group when no new insights are being obtained is crucial. Moreover, having consistent information across groups further strengthens the credibility of the research findings.

Data Analysis

This research will use video content analysis as a method to examine the implicit messages conveyed in video recordings (Huber 2020). This methodology enables us to investigate not the surface level information but the underlying significance portrayed in the videos and offers valuable insights into the motives, thoughts and feelings influencing human actions. Video content analysis serves as a flexible research technique that can be utilized in various fields, making it a fitting choice for this study (Huber 2020).

To reach our research objectives successfully, we plan to examine material sourced from video content.The videos will feature terrorists speaking before or, during attacks as interviews with incarcerated terrorists and their relatives. Additionally, the analysis will involve insights from terrorists and experts in the field of terrorism studies.

We will also incorporate narrative analysis theory, alongside video content analysis, into our approach to understanding individuals' stories about themselves and their encounters with terrorism (Langdon 2004). This theory delves into the composition of stories, including the characters depicted and the underlying themes expressed within narratives.

Summaries of subtitles from three video clips categorize five aspects connected to recruitment and are presented below for analysis purposes without any bias towards terrorism in particular or otherwise. These

shared elements aim to assist in developing a model that delves into the changes leading young individuals to become involved in acts of terrorism.

We've gathered video clips from sources such, as YouTube to explore terrorism from angles. Specifically, we have selected clips depicting terrorist actions, interviews with terrorists in prison, interactions with terrorists' families, footage of penitent terrorists, and videos involving individuals interested in terrorism and their management. The selection criteria for these video clips were based on several specific factors. First, the events depicted in the clips had to take place in the Middle East during peak periods of activity or conflict, ensuring that the content was relevant and timely. Second, the clips needed to involve young individuals, highlighting the role and experiences of youth in these events. Finally, the videos were chosen to represent a diverse range of nationalities, providing a broad perspective on the situations and emphasizing the international dimension of the events.

First: Terrorists' Video Clips Produced During Performing the Terrorist Action

Video clips that analyzed below are produced by terrorists during the execution of their attacks, capturing the events as they unfold and often showcasing their ideology, methods, and objectives through recorded footage of the terrorist actions.

A clip posted in February 2016 shows a Saudi young terrorist from the ISIS group at the time of killing his cousin, who was raised up with him in the same house. The victim was a soldier at the Saudi armed forces, and that was the reason to be killed. The terrorist said that "*The leader of ISIS ordered to make the disbelievers and protectors of the Crusaders Saudi soldiers homeless, kill them, or threaten them. Here I am obeying the leader's order for the sake of God and his prophet, and any disbeliever Saudi soldier will be killed as well, this is a lesson.*" (Al-Anzi, 2015).

Another clip posted in September 2015 shows a group of six Saudi young terrorists (one of them is a physician) from the ISIS group at the time of killing their cousin, who was a soldier at the Saudi emergency forces. One of the six terrorists said "*To the Muslim believer's Commander, Abu Bakr Al-Baghdadi Al-Qurashi (ISIS leader), may God protect him. We pledge allegiance to you for hearing and obedience at any time under any circumstances. We do not dispute the matter with its people unless we see clear disbelief with us in it from God as proof. You (talking to Saudi soldiers) are our target that will not miss unless you repent to God*" (Al-Rashidi, 2016).

In a related third video clip, where a group of Arab (but not Saudis) young terrorists from ISIS killed a group of Egyptian Copts were working in Libya in February 2015. The video shows their antisocial behaviors; they use threatening language to all people and the wearing common uniform of ISIS that indicates dissatisfaction of their culture. One of the terrorists said "*Thanks to God, the Strong, and the Enduring. Blessings and peace be upon who sent with the sword as a mercy to the world. O people, you have seen us here and there on the hills of the Levant, cutting heads that have always carried the illusion of the cross, and have imbibed hatred against Islam and Muslims. Today, we send another message from the south of Rome, from Libya the land of Islam, O Crusaders, that safety is your dream. As you kill us all, we will kill you all till the war is over, or Jesus, peace be upon him, goes down, breaks the cross, kills the pig, and imposes the tribute. Or we pollute the sea (where you throw the body of Sheikh Osama bin Laden in) with your blood*" (Alhayat, 2015).

A qualitative thematic analysis of the subtitles from the above listed videos, including those released by Al-Urduni (2014), Al-Jadeed (2014), Moroccans (2014), Maghribi (2014), Foley (2014), Al-Jazaery (2015), Tunisians (2015), and Al-Bekaa (2015), reveals a recurring pattern of antisocial behaviors. The analysis involved coding the subtitles for specific themes related to dress code, language used, and references to cultural conflict. These video clips were chosen due to their availability and representation of a range of terrorist groups active during the periods of conflict.

These behaviors are evident across different dimensions: (1) Dress and Appearance, characterized by a distinctive visual style often associated with extremist groups; (2) Disrespectful Language, marked by aggressive speech directed towards leaders, military personnel, and potentially opposing ideologies, encompassing threats, contempt, and ridicule; and (3) Engagement in Cultural Conflict, illustrating alignment

with a broader narrative of cultural or religious strife. These findings emphasize the importance of utilizing psychosociological models to comprehend the underlying causes of terrorism.

Second: Terrorists' Interview Video Clips in Their Prisons

In the following part, the content analysis of the video clips of the terrorists' interviews will be performed and will be looked at from the psychosocial perspective. Note that some of terrorists were interviewed before performing terrorist attacks and others after their arrest and trial. The outcome of this content analysis will help in obtaining an index (or set of indicators) that present (even if preliminarily) the psychosociological motives of terrorists behind their generally rejected behavior by their societies.

Al-Senani (2013) is Saudi young who was arrested on charges of supporting the Al-Qaeda organization. His video clip shows a few indicators that appear in his speech to indicate his hate for the Saudi government, religion, and society figures. Al-Senani said *"... in Saudi Arabia, there are lots of troubles, disbelief, and awful things that lead the country and its tyranny to worse than what in western world. Moreover, the evil that our Mujahideen brothers have does not reach a tenth of what cursed, and tyrant Saudi rulers have. The relationship between Saudi Arabi and USA is strategic and old. This relationship is an indicator of a disbelief of the Saudi rulers, whom they are proud of it without shyness or shame. The Saudi Islamic scholars (Sheikhs) are against the people of Saudi Arabia. Shaikhs should cursed the Saudi rulers and disbelieved in them if these Sheikhs are good. I am ready to be cut small pieces for this speech, and this speech is true and should be broadcast to people. The cursed and tyrant Saudi rulers communicate with their brother George W. Bush (the son), may God put Saudi rulers with the disbelievers' group in the Hell and misery of fate unless they repent and return to Islam. He described the head of Islamic scholars in Saudi Arabia as "The big liar" and the members of the "advisory committee of the Ministry of Interior" as "cheaters".*

In the Al-Absi (2013) clip presents Saudi young terrorist, who was arrested before joining al-Qaeda in Iraq, admitting that he was instigated by an antisocial person, said *" ... Ziad (a non-Saudi young who instigated Al-Absi) told me that all Saudi Islamic scholars are controlled by Saudi rulers, and he convinced me with his attitude. Al-Absi said that Saudi government, its allied, and its internationally well-known Islamic scholars are disbelievers. He admitted that he was planning to blow up the oil refinery in Jeddah, Saudi Arabia, because he hates America. Al-Absi also said that T.V. was not permitted in his house because it is forbidden, the only entertainment permitted in my house was the jihadist songs, my scientific specialty did not help me in terrorism, and I was ready to perform any suicide operation and die for the sake of jihad".* In the prison, Al-Absi changed his terrorist attitudes and declared his repentance.

Al-Faraj is a Saudi young man who was arrested for joining Al-Qaeda. He said "*I joined Al-Qaeda to support Islam through killing Americans who are staying in Saudi Arabia for political, security, or economic purposes. I have a desire to support Islam by my soul, my money, and anything I can give. Moreover, I believe that is the principle of jihad, and killing Americans in Saudi Arabia is jihad, which I showed sympathy and desire. I did not recruit young men to join the Al-Qaeda, rather I kept some of them in my house, delivered some of their documents, and coordinated between some of Al-Qaeda members".* Al-Faraj withdrew from Al-Qaeda and put in the prison (Al-Faraj, 2013).

Al-Mawlid is African-Saudi young and thinks that all Saudi people (including the interviewer) are disbelievers. Not only that, but he thinks all people (from date of 684 till 2014) are disbelievers. The following conversation took a place:

The interviewer: "*if you have a chance to kill me, would you?*".

Al-Mawlid: "*yes*".

The interviewer: "*seriously*".

Al-Mawlid: "*swear to God*".

The analysis of video clip subtitles, incorporating studies by Al-Qahtani (2012) and Al-Buqami (2012) along with other existing subtitles, reveals a nuanced relationship between terrorism and specific psychological and social determinants. These factors include expressing opposition, to the government and displaying attitudes towards groups like security personnel indicating anti social behaviors and engagement in cultural conflicts showing support for broader ideological struggles This aligns, with psychological and sociological theories that view terrorism as a combination of individual psychology which might involve traits of antisocial behavior and the social environment influenced by ongoing ideological conflicts that could give reasoning for violent actions. This study highlights the significance of grasping both elements and wider societal interactions in understanding the driving forces and actions of individuals involved in terrorist activities.

Analyzing the relationship, between terrorism and individual psychology alongside influences from a perspective reveals a complex interconnection rather than a singular "terrorist personality." It emphasizes the interaction between factors and societal influences while highlighting the influence of government sentiments and generalized antisocial attitudes as potential psychological factors contributing to terrorism activities.In focus is placed on the significance of context involving cultural clashes and wider ideological conflicts that could serve as justification, for violent actions. The analysis mentioned supports the idea that terrorism is influenced by a combination of psychology and societal factors that can enhance traits, like behavior and lead to violent actions being taken by individuals. The need to understand both the makeup of individuals and the broader social environment is highlighted as crucial in understanding why terrorists act the way they do. In the end of the day it shows that terrorism cannot be solely explained by psychology or social aspects. It suggests looking into how personal tendencies can be shaped and possibly driven to radicalization, by interactions such, as conflicts.

Third: Terrorists' Family Members Interview Video Clips

In the following part, the content analysis of the video clips of the terrorists' family members interviews will again help us to understand the cause of terrorism.

Al-Thubaiti (2008), the father of a Saudi young traveled to conflict zones and participated in the conflict, narrates the biography of his son before joining the terrorist group and after. He said "*I noticed the sudden change of my son in terms of his appearance, attitude, and friends. My son was not strict Muslim, was not accompanying strict Muslim friends, Islamic scholars, or sheikhs. My son was not even going frequently to the Mosque, rather he and his friends were following modern western fashion. Suddenly, he started to wear Islamic dress, released his beard, began to read books calling for jihad, and watching video clips showing events in the areas of conflict and fighting in Chechnya, Palestine, and the Philippines. I noticed my son left his former friends and made new ones with a jihadist orientation*".

Haram (2013), the mother of a Tunisian young terrorist who was arrested in the attempt to blow up the Bourguiba cemetery in Tunisia, narrates the biography of her son before joining the terrorist group and after. She said "*I noticed the change in my son in 2012. He cared about prayers, changed his clothes and appearance to be like terrorists, and began to talk about jihad in Syria. My son penetrated intellectually through the Internet and from here the intellectual problem began, as he tried to join the Syrian Islamic Front through Libya*". Note, the Tunisian young terrorist is a son of mid-income family, and was a good in school, and care about modern fashion before adopting the terrorist attitude.

Al-Dhalayn (2015), the father of a young Jordanian terrorist blew himself in Iraq, narrates the biography of his son before joining the terrorist group and after. The father said "*Muhammad was a medical student in Ukraine, who had the ambition to complete his higher degrees. He was a young normal Muslim man, not deeply involved in religion, not strict Muslim, and didn't adopt the jihadist ideology at all. After the first year in medical school, he married a non-Muslim Ukrainian lady, and she became Muslim a year before he blew himself up, and his wife learned Islam from the terrorist group, and influenced my son, and convinced him with the terrorist ideology*. The father also said, "*my son appeared to be radicalized after the last departure from Jordan, and he was subjected through his Mujahideen neighbors in Ukraine to "complete brainwashing" to the point that he called his mother a disbeliever. Mohammed also described the Jordanian Parliament as disbelievers who do not apply the law of God, is far from the Sharia (God's law), and applied man-made laws. My son exhibited*

the behavior of complete isolation, so he was not seen sitting with his friends or university colleagues and was confused and distracted.

A qualitative thematic analysis of subtitles from the aforementioned video clips and those releases by Al-Belihid (2008), Al-Harbi (2008), Al-Mutairi (2008), Haram (2013), and Al-Anzi (2015), uncovered a recurring pattern of antisocial behaviors. This analysis entailed coding the subtitles to identify specific themes related to dress code, language usage, and references to cultural conflict. These video clips were selected for their accessibility and representation of various terrorist groups active during the period of conflict

Based on content analysis described above, the results revealed two primary factors include: (1) Opposition to Governments: The videos often express dissent towards established authorities, (2) Antisocial Attitudes: There may be displays of hostility towards various groups. However, it's important to avoid overgeneralization. Terrorists are a diverse group with complex motivations. These observations are relevant to psychosociological models that consider terrorism as the outcome of interacting factors: (1) Individual Psychology: While not all terrorists have diagnosable personality disorders, some may exhibit antisocial tendencies, and (2) Social Context: Factors like cultural conflicts and grievances against governments can create fertile ground for extremist ideologies to take root.

Fourth: Video Clips of Penitent Terrorists

In the following part, the content analysis of the video clips of penitent terrorists will be presented.

Al-Khatha'ani is Saudi young penitent terrorist, who was affected by wrong information about the situation in Syria that led him to go and participate (without consulting his parents) in the conflict and war there, said "*Once I arrived in Syria, I started to hear an explicit criticism of the Arabian Gulf country rulers and their Islamic scholars. Terrorists describe them as disbelievers, loyal to disbelievers and loyal to America. Moreover, the terrorists told me (and all who like me) that the Islamic scholars are controlled by the disbeliever rulers, so they are disbelievers like them. The terrorists frequently send us wrong messages about our rulers to hate them and then to hate Islamic scholars (who are controlled by the disbelieve rulers). Once we reach the point of hating our scholars, we will like them and their attitude. Then, we are employed and controlled by the terrorist group. In the beginning, terrorists show us the pictures we have in our mind, then gradually destroy the good pictures about our rulers and Islamic scholars via hate messages. When I found that the real situation is not good, I took the advantage of the royal general pardon in Saudi Arabia, and scaped from Syria to Turkey*" (Al-Khathaani,2014).

Al-Sahli is also a Saudi young penitent terrorist, returned from Syria after participating in the armed conflict between the authority and the opposition, said "*As a result of following what was happening in Syria and watching the killing and destruction, I decided to join one of the active terrorist groups there with intention of Jihad. I was affected, so I went to Syria and joined the Al-Nusra Front, and then I joined ISIS. After a while of joining terrorist groups, I found out the terrorist groups' reality. I discovered that the terrorist groups believe all Syrians and Syrian revolutionaries are disbelievers and deserve to be killed and displaced. I also discovered that anyone who disagrees with the terrorists is a disbeliever and should be killed*" (Al-Sahli, 2015).

Al-Zaydi is also a Saudi young penitent terrorist, returned from Syria after participating in the conflict between the authority and the opposition, said "*I after arrived in Syria and stayed there for a while, the terrorist group positions me on the front lines to fight other terrorist groups, not Syrian government (who first described as an enemy and disbelievers). Moreover, I discovered that they are liars and anyone who does not obey orders will be killed*" (Al-Zaydi, 2014).

A comprehensive review of video clips by figures like Al-Huwaiti (2008) and Al-Omari (2014) uncovers recurring themes that illuminate potential motivations behind terrorism. These analyses, however, must acknowledge the multifaceted nature of this global threat.

One prominent theme evident in these videos is government opposition, reflecting varying degrees of dissent from frustration with perceived corruption to outright hostility towards established authorities. Feelings of

discontent can arise from concerns, like injustice, within the community or interference from outside sources or even a sense of not being adequately represented politically.

The analysis brings attention to behaviors in terrorists, like hostility towards different groups; however, it's important to acknowledge the shortcomings of this viewpoint. Terrorist organizations vary greatly. Are motivated by factors beyond psychological characteristics alone making antisocial personality disorder inadequate for a comprehensive understanding of their behaviors. Psychosociological frameworks provide an perspective highlighting the intricate interplay of elements such as grievances, isolation and shaping of identity, in the process of radicalization. In addition, to that point emphasized by these models is the influence of surroundings. Peoples beliefs about unfairness and involvement in disputes can help promote beliefs and make individuals prone, to radicalization.

Moving forward, developing effective counter-terrorism strategies requires a more nuanced understanding of terrorist motivations. Future research should delve deeper into not only the content of these videos but also the underlying social, political, and economic factors that contribute to the proliferation of terrorism. By acknowledging the complexities and eschewing simplistic explanations, we can progress towards dismantling the narratives that fuel violence and fostering a more peaceful world.

Fifth: Video Clips of Those Interested in Terrorism and Dealing with Them

In the following part, the content analysis of the video clips of those interested in terrorism and dealt with them will be presented.

Al-Lahim is a Saudi lawyer in terrorism cases, explains to parents the behavioral and intellectual indications of terrorism, saying "*the first important sign of terrorism is using the vocabulary of extremist belief such as rogue state, infidel state, tyranny leaders, the state support the cross believers and doesn't support the reformers and the Islamic scholars. The second sign of terrorism is criticizing the Islamic scholars by using words such as they do not fulfill the duty of preaching, defending Islam, and people who are trying to apply Islamic publicly. The third sign of terrorism is frequently using terms such as Infidel, immoral, prodigal, deceiver, enemy of God, heretic. The fourth sign is using discrimination terminologies against other Islamic groups to belittle them. The fifth sign is using hate vocabulary such as: State of the Cross, the Crusaders to describe western countries as non-Muslim countries. The sixth sign is using negative description when they are talking about the national day event, they describe it negatively as a non-Islamic event. The final sign is not saying the countries name, they classify the world as Muslim and non-Muslim countries. The terrorists believe that the countries' names come from the disbeliever western governments, so the names are not acceptable. Moreover, their country flag is just nothing more than a piece of fabric"* (Al-Lahim, 2016).

Youssef is an Islamic preacher, listed the most important features of terrorism thought. He says "*the terrorist easily accuse others with disbelief, describes the governments and security people as disbelievers and encourages their killing, criticizes every group that contradicts his group ideology and approach, likes any terrorist attack and thinks it a victory of God, calls and supports killing different ideological groups, is very strict towards women's rights, thinks women's role is limited to making food and sleeping with her husband, thinks religious curriculum in the public school are not good, thinks Muslims are strangers and Islam is stranger, wears clothes that contradict the customs of his society, diminishes the scientific success of the state, neglects and drops out from school, is very careful in dealing with others, considers calling for coexistence with religions a plot against Islam, criticize Islamic scholars and their atonement and favoring extremist scholars, migrates mosques because the Imam was appointed by the state*" (Youssef, 2015).

Al-Rehily (2016), an academic who specializes in Islamic studies, mentioned that the ideological extremism indicators are: *insulting the rulers and Islamic scholars and describing them as disbelief and misguidance, being away from their relatives and elderly people, and seeing the social status as dark and unclear.* The result is to convince the young man to leave and join one of the terrorist groups.

The researchers examined video clips by categorizing sections according to their content and recognizing themes such as resistance to authority and animosity towards specific groups. They interpreted these themes to understand motives while acknowledging that they may not be applicable across the board. This adaptable approach to analysis enabled the discovery of trends and significance within the information.

A study of video clips from filmmakers like Al Suhaimi (2014), Al Fawzan (2015), and Al Qari (2015) highlights themes such as resistance against authority figures with criticisms towards governments and instances of displaying negative behaviors targeting different groups in society. Nevertheless, it is crucial to refrain from making statements or assumptions and acknowledge that terrorists come from backgrounds with different reasons driving their actions. Simply attributing their behavior to antisocial personality disorder is not sufficient for understanding their motivations. These findings relate to theories that link terrorism to factors such as personal psychology. Recognizing that not all terrorists display antisocial behaviors universally. Social circumstances highlight grievances against authorities and participation in cultural disputes as contributors to creating environments conducive to extremist beliefs.

Analyzing video content explores the reasons behind actions from a psychological and social standpoint by focusing on content produced by terrorist groups. It identifies themes such as rebellion against authority and anti-social behavior in these videos. Emphasizing the importance of avoiding stereotypes, it rejects the idea that terrorism can be solely attributed to personality disorders and instead supports frameworks that highlight the interplay between individual psychology and societal influences. In the end, the writing highlights the importance of taking an approach that considers both personal psychological aspects and broader social influences to grasp terrorism fully.

Results

Exploring terrorism in detail involves studying video clips from situations to identify common patterns of antisocial behaviors exhibited by terrorists, like their clothing choices and disrespectful language use in cultural clashes contexts. In-depth discussions delve into the link between terrorism and certain psychological and social influences, such as government views and general antisocial beliefs, and stress the significance of psychosociological theories in grasping the root causes of terrorism. Understanding the variety within individuals involved in acts of terrorism and emphasizing the importance of steering of assumptions highlights the complex reasons behind their actions. Moreover, the examination recognizes its boundaries. Emphasizes the balance between personal psychology and societal surroundings that cultivates environments favorable to extremist beliefs. In essence, this examination delivers perspectives on the intricacies of terrorism, providing a nuanced grasp of its causes and adding to ongoing dialogues in this area. In addition, to that point about analyzing all the videos related to terrorism content reveals the words that terrorists use to blame others like leaders and Islamic scholars, as well as security forces and regular people, along with Americans and Westerners and different terrorist organizations. They often accuse their enemies using terms like "tyrant," "infidel," "supporter of infidels," " American," "lands of nonbelievers," "Crusader states," and "non Muslim nations."

Considering the findings from both the content analysis and literature reviews, two main factors emerge as significant in diagnosing the personality traits of young people susceptible to recruitment and employment in terrorist activities by middle or field leaders of terrorist groups via mass or social media.

The first factor encompasses behaviors exhibited by terrorists towards others, including initiating physical fights, bullying, lying, recklessness, stealing, vandalism, and acts of violence such as killing or destruction of property. These behaviors are indicative of antisocial tendencies, leading to the categorization of this factor as the antisocial factor shaping the personality of potential terrorists.

The second factor comprises behaviors related to cultural conflict. Terrorists often lack cultural empathy, demonstrate closed-mindedness towards differing ideologies or attitudes, exhibit little inclination towards social harmony or initiative, lack emotional stability, and display inflexibility towards dissenting opinions or rule violations. These behaviors align with a pattern of cultural conflict, leading to the designation of this factor as the cultural conflict factor driving youth participation in terrorist attacks.

Terrorist behavior can be understood as a progression through three distinct stages, as depicted in Figure 1. The duration of each stage varies depending on factors such as personality, social environment, family dynamics, and economic circumstances. The first stage is initiated by exploiting ongoing intellectual conflicts,

often rooted in cultural differences within a specific region. These conflicts are strategically linked to targeted individuals through geographical, religious, professional, nodal, or political connections. The selection of these links is meticulously tailored to match the target's personality traits, age, gender, nationality, education level, and economic status. The primary objective of this stage is to escalate the individual's antisocial tendencies, both on a national and international scale, or vice versa. In the second stage, efforts intensify to amplify antisocial behavior through various means, including misrepresentation of societal mistakes and negative reactions, derogation of political leaders, disparagement of scholars, and distortion of fundamental human concepts. The aim here is to transform the targeted individual into someone with a personality disorder, primed to engage in terrorist activities such as murder, property destruction, or infrastructure sabotage. Ultimately, the ultimate goal of the terrorism industry is to groom individuals who will unquestioningly carry out any task assigned to them, marking the culmination of the third and final stage.

Figure 1. The Suggested Model of Negative Psychological Transformation of Youth into a Terrorist
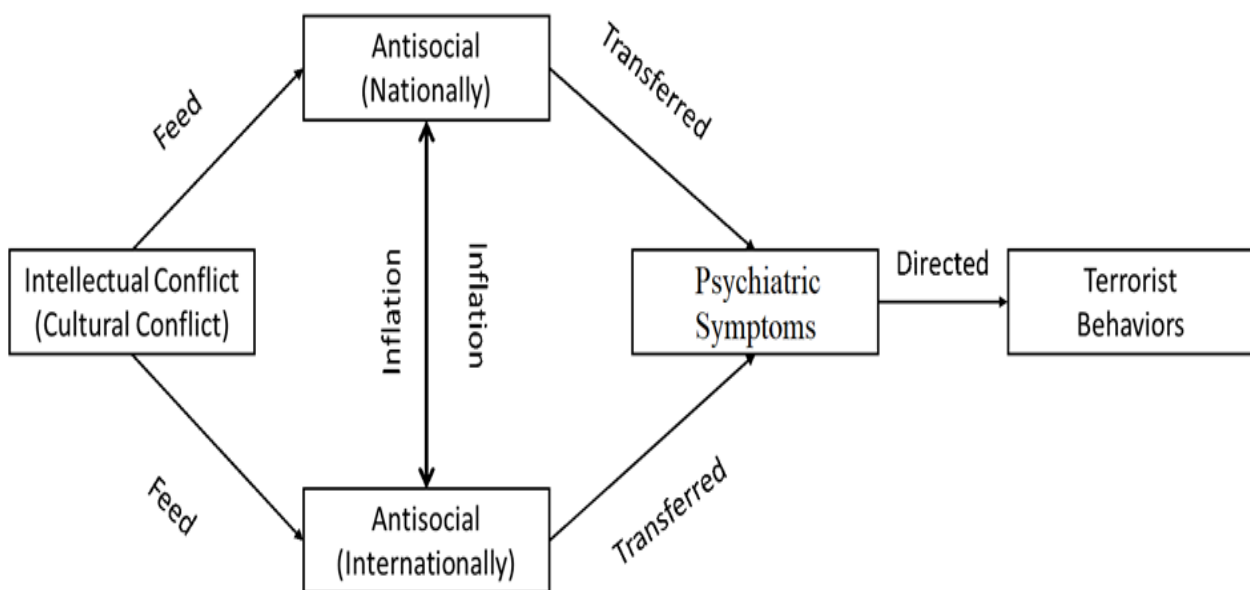
The model shows where the dangerous spots in the terrorist industry are. *The Negative Feeding Point* is the first point that can be used in diagnosis or counseling programs, where intellectual conflict is used directly to raise the national antisocial, then worldwide, or vice versa. The terrorist recruiter is trying hard at this stage to draw a cause-effect link between the rulers, scholars, or westerns and the region's war or violence to spread hate and enmity among them. Then, it becomes easy to convince the target young to participate in terrorist attacks nationally or internationally.

The Inflation Point is the second point that can be used in diagnosis or counseling. In this point, all mistakes and negative acts or reactions in the society that done intentionally or by rulers, scholars, normal people are inflated purposely to convince the target young of the bad situation and the need for radical and resolute change. *The Transferred point* is the third point that can also be used in diagnosis and counseling, but with using valid and reliable measurement tools. Here, where the target young person is put in a situation that destroys his normal personality and turns him into an individual with an abnormal personality that can control and direct him.

The final stage is the direction point, where the hired young man in ordered to perform a terrorist attack against predetermined target by the leader of terrorist groups. Here, diagnosis and counseling do not help parents, counselors, security people … etc. Rather psychological treatment is required.

Consequently, we can list all behaviors associated with each of the three stages of the negative psychological transformation model: *negative feedback, mistakes inflation, and transformation.*

The analysis of terrorist video clips aligns with this model by revealing recurring themes of opposition to governments, antisocial attitudes, and engagement in cultural conflicts. These themes manifest in various behaviors, such as distinct dress and appearance, disrespectful language, and adherence to broader ideological conflicts.

The proposed model's focus on specific intervention points within the radicalization process is a more targeted approach than broader literature models, which typically examine a wider range of socio-economic, political, religious, and cultural factors. Studying terrorism in depth involves analyzing video clips from scenarios to recognize recurring patterns of behavior displayed by terrorists, such as their choice of attire and disrespectful language during conflicts. Discussions that delve deeply into the connection between terrorism and specific psychological and social influences like government perspectives and general antisocial beliefs underscore the importance of theories in comprehending the underlying factors behind terrorism. Recognizing the diversity among individuals engaged in activities and stressing the need to avoid making assumptions underscores the motivations behind their behaviors. Furthermore, the assessment acknowledges its limitations. It highlights the interplay between psychology and societal influences that conditions conducive to extremist ideologies. Essentially, this evaluation offers insights into the complexities of terrorism, presenting a nuanced understanding of its origins and contributing to discussions in this field. Additionally, discussing the analysis of videos related to terrorist content uncovers the language employed by terrorists to shift responsibility onto others such as leaders, Islamic scholars, safety forces, civilians, Americans, and Westerners, as well as various terrorist groups. Their foes are frequently labeled with terms such as "infidel," "backer of infidels," "American," "territories of nonbelievers," "Crusader states," and "non Muslim nations."

Discussion

The causes of terrorism are complex and multifaceted, involving a myriad of interconnected factors. The literature on terrorism explores various influences, including religious extremism, political repression, economic deprivation, and social alienation, which often interact in intricate ways, making it challenging to pinpoint a singular root cause.

Terrorism emerges from a gradual escalation of commitment and opposition within a group, influenced by government actions. Psychological dynamics within terrorist groups, including factors like commitment, risk, solidarity, loyalty, guilt, revenge, and isolation, often discourage members from altering their course of action. This persistence may clarify why terrorism can persist even after changes in circumstances, such as addressing grievances or presenting alternative outlets for opposition. Ultimately, terrorism may persist until the terrorist group is physically eliminated (Crenshaw,1981).

There are at least three perspectives on the causes of terrorism. The first viewpoint suggests that terrorism is significantly influenced by religious and cultural factors, where religious texts are used to justify violence against those with differing beliefs, alongside feelings of cultural oppression or historical injustices. The second perspective argues that terrorism stems from authoritarianism, stagnation, and repression, advocating that democratic reform is essential to address systemic terror, also known as power terrorism. The third viewpoint posits that terrorism is driven by economic inequality and poverty (Hegay, 2006).

Çınar (2009) identified multiple causes of terrorism. These include historical factors, which reflect the evolution and development of terrorist activities shaped by political, social, economic, and ideological influences. Additionally, political causes stem from underlying motivations and grievances that drive individuals or groups to resort to terrorist tactics. Economic conditions and disparities contribute to the emergence and sustenance of terrorism, while societal and interpersonal factors play a role in the adoption and perpetuation of terrorist ideologies and activities. Furthermore, extremist ideologies and religious beliefs are used to inspire and justify terrorist actions, representing ideological and religious roots of terrorism.

According to Bjørgo (2018), terrorism can be organized by distinguishing between preconditions and precipitants. Preconditions set the long-term stage for terrorism, while precipitants are specific events or phenomena immediately preceding or triggering terrorist acts. This can be further categorized as follows: Structural causes (such as demographic imbalances, globalization, and rapid modernization) impact people's lives at an abstract macro level. Facilitator causes enable terrorism without being direct drivers, including advancements in media, transportation, and weapons technology. Motivational causes represent personal grievances that drive individuals to act, often influenced by ideology or political rhetoric that translates structural issues into personal motivations. Acts of terrorism are often triggered by incidents or political crises. Furthermore, the reasons behind terrorism can be classified according to factors at group, societal, national, or international levels.

The evaluation of factors contributing to terrorism, as mentioned earlier, shows shortcomings when only considering aspects such as religious extremism or financial hardships since it oversimplifies the root causes of terrorism that arise from a mix of social dynamics and political ideologies alongside economic and ideological influences working together intricately. While viewpoints like beliefs or political ideologies might shed light on the terrorist incidents at hand, they do not offer a complete comprehension because other underlying motivations are also present in the mix. Furthermore, the model of group dynamics that focuses on the psychology fails to consider the backgrounds and personal motivations of terrorist individuals and their grievances. Labeling causes as preconditions or precipitants might be seen as too rigid since these factors frequently intertwine and coincide in reality. The analysis also needs to take into account opposing viewpoints regarding factors like religion or poverty. Should distinguish between fundamental causes that are long-term in nature and immediate triggers that are crucial for developing effective counter terrorism plans.

These challenges have inspired us to reconsider the root reasons behind this issue in order to enhance our comprehension and construct an accurate framework for understanding the origins of terrorism.

The model was created based on analyzing video clips depicting terrorists and their famtowardilies behaviors toward teenagers. The proposed model examined terrorist activity as a production line that passes through three stages: *Negative Feedback, Mistake Inflation, and Transformation*.

Negative Feedback. At the beginning of this phase of development, young people may encounter criticism, from organizations or terrorist propaganda. Such feedback might express discontent with established standards, figures of authority, or cultural beliefs. They could also come across material that presents violence, hostility, or opposition as praiseworthy conduct.

During the *Mistakes Inflation* phase of development, adolescents or young adults can show signs of being strongly drawn towards beliefs or narratives related to terrorism and extremism strongly. They might start to view their errors or societal issues as being more serious than they are or find them unbearable; this could result in emotions like bitterness and frustration arising as well as a sense of disappointment. This stage is recognized by the increase in the prominence given to perceived unfairness and grievances, which could contribute to feelings of being victimized or disconnected from society.

The Transformation phase represents the stage of the radicalization journey for individuals who undergo substantial transformations in their beliefs and behaviors. They might embrace extremist ideologies and adopt a perspective that rationalizes violence or radical actions. During this phase, they could engage in activities, recruitment drives, or backing movements. Furthermore, they may demonstrate heightened animosity towards perceived adversaries and challenge norms.

Advancement, through these phases, signifies a movement, towards radicalization and the possibility of engaging in actions. Understanding and addressing the behaviors exhibited by targeted adolescents at each stage is crucial for prevention and intervention efforts aimed at countering violent extremism. Further elaboration on each stage is provided below:

The First Stage: Negative Feedback

At this point, employing the raging intellectual conflict that is taking place in a geographical area close to the targeted young man or that has a strong cultural connection with him to make him feel angry about what is

happening to a weak group as a result of this intellectual conflict. Moreover, to make him also feel angry about the weak reaction of his government and the international society against the unfair and unjust groups. Terrorist groups use mass media and social media to exert both directly as well as indirectly a psychological pressure on the young man to change his psychological, cognitive, and behavioral balance. The effects of these stimuli can be seen on the targeted youth in the following behaviors:

1. The focused follow-up to an intellectual conflict via mass media or social media.

2. Talking constantly about the near intellectual conflict in any family, working, or social occasions.

3. Exaggerated interaction with near-intellectual conflict, using expressions of anger and hatred against opposing groups, and using expressions of sympathy and sadness towards culturally compatible groups.

The Second Stage: Mistake's Inflation

At this point, mass media or social media are used to expose the targeted youth to psychological pressure by inflating mistakes and negative reactions of the international and local society. In addition to linking all those mistakes and negative reactions with the near intellectual conflict. The effects of the mistake's inflation can be noticed on the targeted youth in the following behaviors:

1. Constantly listening to the harsh criticism of youth society from the mass media or through social media.

2. Frequently listening to the tough criticism of international society, who probably has cause relationship with the near intellectual conflict, from the mass media or through social media.

3. Paying attention to critics of the local society or the international society that has a causal relationship to the intellectual conflict more than his rulers and scholars.

4. Criticizing society leaders, scholars, his parents, and his family members to the point of atonement and treason.

5. He shows stubbornness and indifference to all the traditions and values of his society, in contrast to his usual.

6. The young man argues a lot in any discussion aims to stop his from supporting inflation of the local and international societies' mistakes.

7. He does not show any form of discomfort about his society if it is exposed to negative events caused by groups or individuals who usually criticize his society.

8. He shows joy, support, or justification if his society is exposed to negative events caused by groups or individuals usually criticize his society and considering that as a victory from God.

9. Get himself into problems with his government in an unusual way for his age, his peers, his gender, and his education level.

The Third Stage: Transformation

At this point, the targeted youth feel psychological unstable as a result of the pressure he faces from friends, mass media, or social media, which is strong enough to use him to support or perform terrorist attacks locally or internationally. In this stage, the following behaviors are noticed on the targeted youth:

1. There are no things that interest him other than the intellectual conflict that is near and related to him.

2. He has focused difficulty on works or tasks was previously performing or was able to do.

3. Constantly, he feels unhappy, alienated, and saying: we are strangers and Islam has become strange.

4. Feeling sorry and regret the interaction of the local and international society with the intellectual conflict parties.

5. Physical and moral isolation of the family by avoiding talking and sitting with family on various occasions.

6. Physical and moral isolation of friends, scholars, rulers, social events, and avoiding interaction with positive and negative events.

7. Dealing with women tightly and strictly and limiting their movement and role between preparing food and sleeping with their husbands.

8. Developing new real and intellectual friendships with people that encourage criticism of local and international society.

9. Making a radical change in his appearance, clothing, vocabulary, and the way he speaks to be similar to groups he likes and supports.

The discussed model outlines the stages of radicalization, highlighting the importance of understanding and addressing behaviors exhibited by adolescents at each stage to effectively counter violent extremism and promote resilience. This staged approach suggests a progression where each phase builds upon the preceding one, making it essential to intervene early and consistently.

Addressing these behaviors at each stage is crucial because it allows for tailored prevention and intervention efforts. By paying attention to actions and emotional phases, in individuals' behaviors and experiences are better understood by professionals enabling the creation of improved tactics to connect with their needs and situations effectively This method has the potential to intervene in the radicalization progression at an earlier phase before it transitions into more complex and deeply rooted levels.

The model stands out from others due to its focus on the experiences and psychological changes that adolescents go through. This approach is significant as it looks deeper into the journey of teenagers than just considering broader factors like socioeconomic situations or community impacts when studying radicalization. By exploring the personal aspects of adolescents' experiences in this way the model offers a detailed insight into the process of radicalization, which is crucial for creating tailored intervention strategies.

Furthermore, this model enhances methods by providing a targeted and practical approach. While other models may give an outline of the factors that lead to radicalization, this model focuses on the stages of individuals, which is especially beneficial for professionals who engage with vulnerable young people directly. It enables the creation of interventions based on evidence that are customized to meet the requirements and situations of each teenager, thus boosting the overall success of prevention and intervention endeavors.

The model given centers around stages in the radicalization and recruitment process within the realm of terrorism: the "*Negative Feeding Point*," the "*Inflation Point*," and the "*Transferred Point*." These stages serve as opportunities for implementing interventions such as diagnosis evaluation, counseling, and psychological support.

Various models mentioned in existing literature present viewpoints regarding the root causes of terrorism, which encompass factors such as cultural impacts, authoritarianism, economic disparities, historical elements, political instigators, economic circumstances, societal and interpersonal dynamics, extremist beliefs, and the differentiation between underlying conditions and triggers of terrorism. Here, we delve into the commonalities and distinctions among these perspectives.

There are similarities between the model proposed and those found in existing literature across aspects. Both the model. Certain literature models acknowledge that radicalization and terrorism progress through stages. While the proposed model identifies junctures for intervention, literature models suggest stages shaped by factors like exposure to beliefs, economic circumstances, and political grievances. The proposed model emphasizes the shift in individuals, like how literature models delve into individual grievances and motivations that push them towards terrorism. Both models also recognize that feelings of critical feedback are factors in

the process of radicalization. The "*Negative Feeding Point*," as proposed by one model, aligns with the triggers and individual grievances emphasized in existing models.

The variances between the proposed model and the models outlined in existing literature can be seen in aspects. The model at hand focuses on evolution. Enlistment phases of persons, whereas literature models delve into a wider array of factors such as socioeconomic status, political environment, religious beliefs, and cultural impacts. Literary models analyze terrorism across individual, group, national, and global dimensions. The model given focuses on pinpointing aspects for diagnosis and counseling treatment plans while typical literature models tend to delve into scale systemic adjustments such, as democratic enhancements and efforts to alleviate economic disparities and political suppression issues are also highlighted by the model in terms of specific stages involved in recruitment procedures with a focus placed upon how individuals are singled out and influenced whereas literature models tend to explore the underlying reasons and facilitating circumstances that contribute to acts of terrorism The model given offers an account of behavioral shifts, at different stages compared to literature models that offer a more general perspective on the factors and settings that foster terrorism activity. In conclusion? The model stresses the importance of therapy in the stage, while literature models usually concentrate on preventive measures and systemic changes rather than individual treatment discussions.

The suggested model presents benefits compared to the models found in existing literature. It pinpoints stages within the radicalization process where intervention can occur, such as the "*Negative Feeding Point*," "*Inflation Point*," and "Transferred Point, " enabling an efficient approach to diagnosing, counseling, and providing psychological treatment. This precision aids in halting the advancement of radicalization. By delving into the steps involved in the hiring process, the model offers a comprehensive insight into how people are identified and influenced, which helps in creating strategies to thwart terrorist recruitment campaigns.

The model highlights the importance of the changes, in people which're essential for grasping their personal drives and complaints effectively This emphasis can result in more tailored and efficient approaches to intervention by tackling the underlying issues that drive radicalization at a personal level It presents a practical approach, to preventing and addressing radicalization by pinpointing specific phases and behaviors Practitioners can then create definite actions to combat these processes for quicker and more quantifiable results

Improved diagnosis and guidance become achievable through the model focus on areas, for detection and intervention that help reduce the likelihood of radicalization before it takes root and simplifies the process of rehabilitation. The suggested model enhances methods by addressing gaps in psychological shifts and enhancing the complexity of all-encompassing counter-terrorism tactics. Its adaptable design permits customization to diverse settings and individual instances—the model proves to be a resource for professionals working across a range of settings—, from community-oriented prevention plans to security efforts. In general, the suggested model precision, focused details, psychological emphasis, practical strategies, improved diagnosis and counseling capabilities, complementary aspects, and adaptability provide benefits, for addressing and intervening in the process of radicalization.

Derin and Öztürk (2023) delve into the effects of warfare and terrorism, on communities in the era and how they relate to long standing social wounds tied to family and societal relationships. They suggest that addressing parenting methods and societal injustices could help ease these wounds and deter disputes. On the hand our approach centers, on understanding the progression of terrorism by outlining the process of radicalization and highlighting key moments for intervention to curb extremist actions. The intertwining viewpoints highlight the connection, between influences and individual psychology when it comes to comprehending and dealing with terrorism and its impact, on society.

Derin and Öztürk (2020) conducted a study, on the increasing impact of terrorism and warfare in today's world with the influence of platforms causing social distress and affecting both personal and societal behavior patterns significantly. They emphasize the rise of cyber terrorism and its psychological impacts such as disorders and PTSD while recommending psychotraumatology methods to mitigate large-scale violence. In

our model proposal on changes, in terrorism stages, it presents tactics to combat radicalization effectively. The research highlights the relationship, between trauma and individual psychology, in addressing extremism and its wider consequences effectively.

In a study, by Ozturk and Derin (2020) the authors delve into the impacts of cyber terrorism and violent conflicts on both people and communities. Showing how these occurrences alter norms and political landscapes while inflicting significant psychological and social scars on individuals. The researchers pinpoint contributing factors to health issues linked to terrorism including demographic characteristics, cognitive traits, family dynamics, and psychiatric background. They emphasize the importance of interventions while shedding light on prevalent conditions, like PTSD, dissociative disorders and depression experienced by those affected by terrorism. Our model takes an approach by delving into the journey of terrorism perpetrators and outlining steps of radicalization while suggesting customized measures to counter extremist actions effectively. This method is, in line, with initiatives aimed at lessening the societal consequences of terrorism by comprehensively grasping personal behavioral changes and implementing successful preventive tactics.

Conclusion

In our society, today's interconnected world poses a challenge as terrorism spreads fear and destruction worldwide without discrimination based on nationality or beliefs. Governments and international bodies invest substantial efforts in addressing this intricate issue, but the key to averting disasters is in recognizing and assisting at-risk individuals before any violence occurs

This study delves into a method to reach this objective. It investigates videos and interviews through content analysis to create a preventive measure targeting the identification of vulnerable youths to radicalization by examining the interaction of antisocial actions and cultural clashes.

The study highlights a strategy employed by organizations. They strategically take advantage of conflicts – whether they are based on geography, religious beliefs, politics, or ethnicity – to influence the youth. By magnifying issues and individual frustrations, the terrorist groups aim to incite terrorist actions.

To tackle this approach, the authors propose a method of evaluating risk by observing how the behavior of individuals changes over time. Such changes could manifest as withdrawal or conflicts with family and society or a lack of respect for norms and values. By employing this evaluation method, parents, guardians, counselors, and teachers can spot individuals displaying behaviors. This could lead to the implementation of interventions like therapy or social assistance programs, which could help address these issues and potentially guide them away from radicalization.

To comprehend radicalization processes fully means acknowledging the phases involved and understanding how social environments play a part, in making people vulnerable to it. Even though certain instances may show signs of antisocial behavior traits in individuals being radicalized this doesn't apply universally to all cases. Developing methods, for preventing and intervening in extremism requires a thorough grasp of these aspects so that tailored approaches can be taken to minimize the risks associated with radicalization and strengthen societal resilience.

Limitations

Video analysis provides insights. May not fully grasp the entire context, leading to a potential lack of complete understanding of the situation at hand. Furthermore, the suggested model may not be suitable for all situations universally. Moreover, the text overlooks addressing narratives, counteraction, and the vital contribution of communities in radicalization. Acknowledging these constraints is crucial for fostering an understanding of the matter at stake.

Author Contributions. Haifa Al-Bokai and Ali Alsubaihi conceptualized the idea and developed the theory, while Abdulrahman Alsubaihi extracted and summarized the content of the videos to make them suitable for

analysis. All authors engaged in content analysis and discussions about the results and made contributions to the final manuscript.

Conflicts of Interest. The authors assert that the research was carried out without any commercial or financial affiliations that could be perceived as potential conflicts of interest.

Data Availability. The data supporting the findings of this study are available upon request from the frist author**.**

Ethicsal Disclosure. The research made use of video clips obtained from YouTube. This helped address any worries about the participants' rights and the privacy of their information.

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RESEARCH ARTICLE

Cross-Cultural Examination: Establishing Validity and Reliability of SRP 4 for Arabic Speakers

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ABSTRACT

The study was conducted to address the need for scales to measure traits, in individuals aged 18 and older in Saudi Arabia with a strong emphasis on cultural relevance in psychological assessments by examining the Arabic Version of the Self-report Psychopathy Scale (AV SRP 4). The validation and reliability tests were carried out on a group of 921 college students in Saudi Arabia as a step towards validating the tool, for use within this setting. The study's approach involved analysis to establish the accuracy and consistency of the AV SRP 4 tool. Confirmatory factor analysis (CFA) was used to evaluate the scale's validity. The CFA outcomes supported a four-factor model suggesting that the AV SRP 4 adequately represents the aspects of psychopathy as defined in the scale. This study looked at aspects like how people interact with each other and their emotions and behaviors, like unpredictability and antisocial actions that are important when evaluating characteristics thoroughly. Ensuring the dependability of the research was also an area of interest in this investigation. Researchers used both Cronbach's (α) and Guttman Split Half coefficient to assess how consistent the scale was internally. The outcomes showed a level of reliability for the AV SRP 4 scale which suggests that the results it yields are reliable, across uses. The strong dependability of this tool gives reassurance that the AV SRP 4 could serve as a method for evaluating tendencies in Arabic-speaking communities. This is especially relevant, in the context of Saudi Arabia.

Governments worldwide, including those in Arab nations, have shown a deliberate commitment to addressing violent behaviors. This dedication extends across both security and non-security sectors, utilizing systematic, intellectual, educational, and social strategies. There is a notable emphasis on encouraging civil society organizations and research centers to actively participate in the counter-violence domain, specifically by addressing and alleviating the effects of antisocial personality disorder among individuals within and across societies. One strategy to attain this goal involves advocating for alterations in educational curricula. This would entail incorporating the principles of moderation and tolerance in interpersonal interactions, whether within one's own community or when engaging with diverse societies. Additionally, there should be a clear stance against violence, both in thought and behavior.

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Hence, the Saudi Arabian government has embraced numerous reform initiatives and programs within the education system. This reflects a dedicated attempt to improve the outcomes of the entire education and training framework, aspiring to achieve international quality standards. These efforts involve educational, rehabilitative, and training programs that stay abreast of contemporary developments, cater to the demands of the era, and align with the fast-evolving needs of both local and global job markets.

The Ministry of Education, in Saudi Arabia has introduced programs to educate and safeguard students in schools against deviations and behavioral issues specifically designed to equip students with life skills like leadership to tackle cultural and ethical challenges in society effectively Their aim is also to improve their capacity for positive interactions with others by promoting virtues, like kindness tolerance compassion and forgiveness. Furthermore, these programs aim to inform students school personnel, and caregivers, about the nature of aggression its underlying reasons, and the signs that it may manifest.

Moreover, Saudi universities have initiated research initiatives and incentives to advocate for values of balance, tolerance, living together harmoniously, and discouraging violence, terrorism, and misguided beliefs. They have also organized global gatherings to delve into the complexities of violence and the underlying reasons, for its different forms, approaches, prevention, and its harmful impacts. Furthermore, establishing institutions dedicated to addressing hostility and launching educational programs promoting peace and nonviolence highlight their dedication to nurturing a peaceful and harmonious environment.

The Saudi Arabian government has been working diligently for, then twenty years through its establishments and security measures to foster a nurturing environment for students and families alike, with the goal of providing a secure and harmonious lifestyle for them. Additionally, it involves providing school staff and parents with appropriate preventive educational methods to reduce and address violent behaviors.

Hence, there is a pressing need for field research to explore the impact of all these initiatives carried out by the Ministry of Education and Saudi universities on public schools. This research is one of the academic the efforts to fight antisocial among youth in Saudi Arabia, considering gender and academic specialization differences. It is noteworthy that the majority (approximately 65%) of the Saudi Arabian population falls within the youth category, aged between 15 and 34 years, as reported by the General Authority for Statistics (2019).

The researchers' involvement (in line with their scientific specialization) is demonstrated in studying the validity and reliability of the antisocial scale in the Saudi Arabian context after its adaptation. This leads to the primary research question: What are the psychometric properties of the social alienation scale (Self-Report Psychopathy Scale-SRP 4) in the Saudi environment?

This research holds significance in tackling the absence of a widely recognized and psychometrically reliable scale for antisocial behavior, one that can be applied globally. Additionally, the study's outcomes play a crucial role in assessing the effectiveness of both educational and non-educational endeavors in Saudi Arabia aimed at curbing youth violence. The goal is to strengthen successful aspects and address shortcomings in these initiatives. Moreover, the research contributes to the advancement of psychopathy assessment by introducing a culturally pertinent and psychometrically validated tool. These findings not only deepen scholarly insights into psychopathic personality but also hold promise for practical applications in clinical and forensic settings, particularly within Saudi Arabia and potentially in similar cultural environments.

The SRP-4 has been translated into languages to ensure its accuracy and relevance, in cultural contexts. For instance, the full version and the abbreviated version (SRP-4 SF) of SRP-4 were found to have construct validity and align with the four-factor model of psychopathy in a study conducted with a community sample in Belgium (referenced as Gordts et al., 2017). The SRP-4 SF exhibited consistency in evaluating psychopathy within a population of inmates, in Mexico (cited as Sánchez-Bojórquez et al., 2022). In French-speaking Belgium, the extended version of the SRPI effectively identified aspects. Distinguished psychiatric individuals, from non-psychiatric ones (study by Ducro et al., 2016). In Latin America, the SRP-4 Short Form showed potential. Needs validation for consistent measurement (research, by Trajtenberg et al., 2023). Furthermore, in

a study involving UK prisons it was found that both the extended version and the abbreviated form of SRPs demonstrated consistency and ability to predict outcomes when compared to the Psychopathy Checklist Revised (conducted by Tew et al., 2015). By conducting validation studies in languages, it enhances the trustworthiness and applicability of research results resulting in accurate and meaningful conclusions.

Numerous research studies have looked into the effectiveness of psychopathy assessment tools, in a setting; however, no one has tailored the SRP-4 for the Arabic cultural context yet. For instance, Latzman and colleagues (2015) explored how well the Psychopathic Personality Inventory. Revised (PPI-R) holds up across cultures by studying data from the US, Egypt, and Saudi Arabia noting characteristics and consistent links to personality traits, under the Five Factor Model (FFM). Ghossoub and colleagues (2024) in their study, on the population outside of institutions validated the Levenson Self Report Psychopathy (LSRP) showcasing its validity and adding to the research on psychopathy in the Arab region. Megreya and team (2024) on the other hand determined that a three-factor structure including Egocentrism Callousness and Antisocial traits better portrayed the LSRP scale compared to its two-factor model. They noted reliability and similarities across cultures, in their findings. In a study, by El Keshky (2022) the Dark Triad Dirty Dozen was confirmed in Saudi Arabia with evidence supporting its three-factor structure and demonstrating internal reliability and validity across tests.

The PPI-R and SRP-4 are questionnaires that aim to measure traits in individuals but use methods for evaluation purposes. In a vein of comparison to the examples mentioned earlier in regard to psychopathy assessment tools such as LSRP and SRP-4 show variations not only in their theoretical underpinnings but also their structural components. Additionally, The Dark Triad Dirty Dozen alongside the SRP-4 focuses on capturing interpersonal tendencies albeit with differing extents of detail. The former provides a concise summary of characteristics while the latter presents a more in-depth analysis of psychopathic features.

The main objectives of the research include customizing and verifying the Self-Assessment Psychopathy Scale (SRP-4) to suit the environment and evaluating the measurement characteristics of the modified SRP–4 within the Saudi demographic group while also enrichening the limited field of studies regarding psychopathy, in Arabic-speaking nations. Moreover, the research endeavor seeks to guide and shape strategies and regulations for addressing conduct among young Saudis and deepening insights, into the elements that contribute to psychopathy in the cultural setting of Saudi Arabia. In aiming for these objectives¸ the research aims to offer perspectives into the occurrence and attributes of psychopathy, among individuals, in Saudi Arabia¸ consequently guiding the creation of prevention and intervention initiatives based on evidence.

The latest version of the Self-Assessment Psychopathy Scale (SRP-4) which contains 64 questions designed to identify traits while following the established structure of the Hare Psychopathy Checklist Revised (PCL) now also offers a condensed version, with 29 items, for cases where conducting the complete evaluation is not feasible or problematic (Paulhus et al., 2017). Both editions serve as self-assessment instruments tailored to evaluate characteristics in individuals aged 18 and older in environments (Roy & Neumann 2023).

The abbreviated version has shown an association, with the assessment (correlation coefficient of.92 as reported by Paulhus et al., 2017) and aligns with the four-dimensional structure proposed by Gordts et al. (2017). Both forms of SRP-4 psychopathy scales are increasingly used in research and practice despite criticisms that they may be susceptible to response distortion and bias (Knack, Blais, Baglole, & Stevenson, 2021). Therefore, we decided to translate the SRP into Arabic, adopt the AV-SRP 4, and examine its psychometric properties within the Saudi Arabian context.

The SRP-4 stands out among popular self-report measures of psychopathic personality due to several noteworthy strengths. Notably, the statistically supported and theoretically sound latent structure of SRP 4 is a significant advantage, setting it apart from other self-report psychopathy measures (Neumann & Hare, 2008; Roy & Neumann, 2023). SRP 4 demonstrates convergent validity (the extent to which responses on a test exhibit a strong relationship with responses on conceptually similar tests) with alternative measures of psychopathy and discriminant validity (when a test shows a lack of correlation with another measure whose underlying construct is conceptually unrelated) with associated constructs. Strong convergent correlations were identified between the facets of SRP 4 and two other psychopathy assessments: the Youth Psychopathic

Traits Inventory (YPI; Neumann & Pardini, 2014), and the Elemental Psychopathy Assessment (EPA, Lynam et al., 2011). The EPA is a psychopathy measure derived from the five-factor model of general personality (McCrae & Costa, 1990, as referenced in Lynam et al., 2011).

While the SRP 4 scales exhibited strong associations with the Impulsive Antisociality and Cold-heartedness scales of the Psychopathic Personality Inventory — Revised (PPI-R; Lilienfeld & Widows, 2005, as referenced in Miller & Lynam, 2012), as well as with the Meanness and Disinhibition scales of the Triarchic Psychopathy Measure (TriPM, Patrick, 2010, as cited in Sleep et al., 2019), they demonstrated small to moderate correlations with the Fearless Dominance and Boldness scales of these measures, respectively (Crego & Widiger, 2014). This finding was anticipated, given that the SRP 4 does not assess positive adjustment traits, which some researchers consider a fundamental aspect of psychopathy. Collectively, the connections observed between the SRP 4, SRP-SF, and other widely recognized measures of psychopathic traits suggest that these instruments share a common theoretical framework.

Concerning discriminant validity, studies indicate that SRP 4 scores cannot be entirely explained by general personality measures, as demonstrated by research conducted by Paulhus et al. (2016). Furthermore, the scores of SRP-4 also show connections with other negative personality traits like narcissism, Machiavellianism, and sadism in both self-reports and evaluations by peers. These results indicate that psychopathy identified through SR4 signifies a trait distinct from negative personality types (Paulhus et al., 2016).

In addition, to the known factor structure and results regarding consistency and distinctiveness validity presented in SRP-4 and SRP-SF; further evidence supporting the credibility of these measures can be seen in their connections with external indicators of psychopathy such as antisocial actions self-reported outward psychopathology, past criminal pasts, and forecasts of forthcoming criminal activities (Roy & Neumann 2023).

The latent correlations, representing statistical correlations between not directly observed variables, revealed varying degrees of correlation between SRP-4 and the Hare Psychopathy Checklist (PCL-R) suggesting a concordance between the two (Neumann et al., 2016). These correlations play a role in evaluating and improving equation models and provide a valuable understanding of how hidden variables interact with each other. Their findings help us better understand the framework and behavior of the validity of SRP-4 as studied by Roy and Neumann (2023).

The results of the reliability analyses showed that the total scores of SRP-III and SRP-SF demonstrated good reliability levels as per Gordts et al., (2017) findings. In addition to this, the internal consistencies of SRP-III subscales were found to range from acceptable to excellent (α =.69 to α =.90). The test-retest reliability for both scores was considered excellent while at the subscale level, it ranged from satisfactory to excellent based on bivariate test correlations. Test consistency over time declined for all subsections when using correlations. The correlation coefficients varied from r = 0.60, to r = 0.86 as noted by Gordts and colleagues (2017).

Terms revealed by this study show that the SRP scale is a tool, for evaluating psychopathic characteristics on a comprehensive basis as well as at a more detailed level of analysis; however, it is advisable to exercise some caution when interpreting scores in specific subscales due to potential effects, from other factors at play.

Governments, around the world have been working diligently to address behavior through approaches in countries like Saudi Arabia in the Arab region by implementing a combination of security and non-security strategies that emphasize educational improvements and collaboration, with civil society organizations and research institutions. In Saudi Arabia specifically, initiatives focusing on promoting moderation, tolerance and leadership among students have been implemented through programs while universities are actively involved in conducting research and organizing conferences to tackle issues related to violence and antisocial conduct. However, it is necessary to conduct on-site investigations to gauge how these programs are affecting schools with a focus on gender and academic concentrations in mind. This study aims to assess how well the Self report Psychopathy Scale (SRP-4) Holds up in the context of Saudi Arabia, addressing the lack of measures for antisocial behavior while also examining the success of Saudi Arabia's endeavors, in decreasing youth

violence. The SRP-4, which has been adapted into various languages and shown strong construct validity and reliability in different cultural settings, including Belgian, Mexican, and UK prison populations, has not yet been adapted for Arabic-speaking populations. This study aims to adapt and validate the SRP-4 for Saudi Arabia, enhancing understanding and addressing psychopathy in Arabic-speaking countries and contributing to the development of culturally relevant tools for clinical and forensic use.

Methodology

This section will provide comprehensive details regarding participants, data collection instruments, the methodology of data collection, and the statistical analysis procedures utilized.

Participants

The study aims to validate the Self-Response Psychopathy scale within the youth population in Saudi Arabia. The target population includes young individuals, both male and female, aged between 18 and 26 years, reflecting diverse cultural backgrounds. Convenience sampling was utilized to select units from the target population in a non-systematic manner, without systematic planning. This nonprobability sampling method is suitable for humanities research and is commonly employed in validation and reliability studies.

As outlined in the methodology, by Al Suhaihi (2003) a total of 1076 individuals participated in the study sample from the population group. The participants consisted of 567 men and 509 women as shown in Table 1 alongside their characteristics.

Table 1. Characteristics of The Sample.

		N	%
Gender	Male	567	52.7
	Female	509	47.3
	Total	**1076**	**100**
Age	18 – less than 20	230	30.3
	20 – less than 22	330	34.3
	22 – less than 24	170	22.4
	24 – 26	29	3.8
	Total	963	89.5
	Missing Data	113	10.5
	Total	**1076**	**100**
Academic Specializations	Scientific Colleges	449	41.7
	Humanities Colleges	627	58.3
	Total	**1076**	**100**

The study adhered to the American Psychological Association's guidelines for ethical conduct in psychological research, education, and practice. The researchers informed participants about the procedures for data confidentiality, which included minimizing the involvement of third parties in the data collection process, keeping adequate records to ensure service provision and compliance with legal and institutional requirements, discussing the potential need to disclose confidential information, maintaining records for an appropriate period, and securely disposing of records. Participants provided written informed consent after receiving comprehensive information about the study's purpose, procedures, risks, and benefits. They were assured of confidentiality and informed of their right to withdraw from the study at any time without penalty.

The research has the advantage of having a group of 1076 participants consisting of both men and women aged, between 18 and 26 years old selected from the people in Saudi Arabia The determination of the group size follows well-known methods that show methodological thoroughness. The variety of cultural backgrounds among the participants adds value to the study's discoveries. Boosts its applicability. Reporting details openly in Table 1 also bolsters the study's trustworthiness.

Around 11% of the age data was not available; however, we found that the remaining 89 percent of the 1076 participants (i.e., 963 individuals) provided a basis for thorough analysis and results evaluation. Hence, we chose not to use any imputation techniques or carry out sensitivity assessments.

In general, it appears that our sample is a reflection of the target population, for this study. This is likely due to the range of ages represented gender diversity, variation, in demographics a sizable sample size, and a suitable method of sampling.

Measures

The Self-Report Psychopathy Scale. The Self Evaluation Psychopathic Measure (SRP-4) is widely utilized for assessing characteristics in individuals over 18 in environments. is a well-known tool for self-assessment purposes The SRP-4 (Paulhus et al., 2017) comprises a total of 64 questions specifically designed to assess psychopathy traits. It is organized into four distinct facets of psychopathy. The four factors of SRP 4 are: (1) interpersonal factor (IPM) captures traits associated with a manipulative, deceptive interpersonal style, as well as tendencies towards pathological lying, (2) affective factor (CA) indexes disturbances in empathy and affiliative emotions toward others, (3) lifestyle factor (ELS) entails an impulsive and erratic behavioral approach, and (4) antisocial factor (CT) captures an inherent disregard for social and conventional norms such as delinquency and criminality (Massa, & Eckhardt, 2017). Each dimension was assessed using an equal number of items (16 for each), prompting participants to indicate, on a 5-point Likert Scale, the extent to which specific personality traits apply to them based on self-reporting, ranging from 1 (strongly disagree) to 5 (strongly agree).

Although there exists a robust correlation between the short form and the full-length measure of SRP 4 (r = .92; Paulhus et al., 2017), and it aligns well with the four-facet model (Gordts et al., 2017), we have chosen to validate the complete version of SRP 4. This decision is supported by several advantages offered by the complete version, including greater depth of assessment, specificity of measurement, criterion validity, comparative analysis, and alignment with research objectives. Therefore, despite the strong correlation with the short form, validating the complete version is deemed beneficial.

Personal information form. The questionnaire was designed to gather details of the participants, like age and gender. It also aimed to identify the interests of the participants for comparison with findings, from studies conducted in SRP-4 validation research.

Adaptation of the Arabic Version of the Self-Report Psychopathy (AV-SRP 4). The researchers followed the rules, for translating and adjusting tests as recommended by Hernández et al. (2020). Various other studies, like Beaton et al., (2000) Tsang et al., (2017), and Hambleton & Lees (2013).

Four main steps were used to convert SRP-4 into a language which involved. (1St step); Forward Translation in which a professional translator translated SR 4 from its language, into Arabic; (Step 2); Backward Translation where another proficient translator retranslated it back into the original language to confirm precision and uniformity; The Expert Committee Translation was executed by a group of specialists, in both languages and psychometrics who scrutinized both the forward and backward translations to spot any inconsistencies and guarantee linguistic and cultural parity. Finally, a preliminary pilot test was conducted on the translated version of SRP-4 by giving it to a group of Arabic-speaking individuals to assess understanding, clarity, and cultural suitability before completing the translation process. Participants in the pilot study were requested to offer explanations of how they understood each question and its respective answers. During the stage of translation known as the Forward Translation, in process, we acquired a rendition of the SRP-4 from a specialist well-versed in psychology who is proficient in both Arabic and English and has familiarity, with the Saudi cultural environment. In the Backward Translation step, we received English translations of the previously translated Arabic version of the SRP-4 from a different expert with similar qualifications. During the Expert Committee Translation phase, three experts with the same qualifications as the translators reviewed both the forward and backward translations to identify discrepancies, ensure linguistic and cultural

equivalence, and assess whether the translated items were culturally relevant and understandable to the target population. The final SRP-4 form includes only those items for which at least two out of three experts agreed on their quality. This form was then used in the Preliminary Pilot Testing Translation step to evaluate comprehension, clarity, and cultural appropriateness from the participants' perspective. Feedback from participants was collected and used to revise the final form based on the majority of their input.

Data Collection Process

The study employed a convenience sampling method to recruit participants, selecting college students due to their accessibility to the researchers. Convenience sampling, commonly used in the humanities, allowed the study to gather data from this readily available group. At first, the individuals were briefed on the objectives of the study before being requested to respond to SRP-4 inquiries utilizing a 5-level Likert Scale (ranging from 1 for strongly disagree, to 5 for strongly agree). Most participants spent around 10 to 15 minutes on average finishing the SRP-4 assessment thoroughly and comprehensively.

Data Analysis

The research team analyzed the data using SPSS 25 and AMOS 24 software tools confirming the AV SRP 4 structure, with Confirmatory Factor Analysis (CF A), in the AMOS 24 program.

After ensuring that the scales structure was both valid and reliable, through Confirmatory Factor Analysis (CFA) the assessment of validity employed in Confirmatory Factor Analysis (SEM) a part of structural equation modeling (SEM) focused on assessing measurement models and exploring the connections between observed measures (like test items or scores) and factors (Brown 2015). Before conducting CFA for the scale, in question, factor analysis assumptions (Ulman 2001). It was confirmed that there were no outliers and that there were no issues regarding multicollinearity or singularity. Furthermore, we did not find any values that could negatively impact the analysis.

To gauge the trustworthiness of the scales accuracy and consistency measures, like Cronbach's (α) and the Guttman Split Half Coefficient were computed for evaluation purposes in the following section that elaborates on the trustworthiness and dependability of the AV-SRP4 scale.

Results

This section includes descriptive statistics of the scale as well as findings regarding its validity and reliability.

Construct Validity Studies of the AV-SRP 4

Confirmatory Factor Analysis (CFA) plays a role in ensuring the validity of constructs by providing a method to assess and confirm the factor structure of a measurement tool accurately and reliably (Bollen & Long 1993). Before conducting CFA to validate the structure of AV SRP 4 various assumptions were checked which included outliers, multicollinearity, and singularity problems. Exceptionally unusual observations known as outliers stand out from the rest of the data points in Table 1 as there are no data points among the participants listed thereon. Likewise in Table 2 summary statistics regarding participants' scores, on the AV-SRP4 revealed no indication of outliers among them.

Table 2. Descriptive Statistics

Factor Name	Min	Mean	Max	SEM*	Std. Deviation
IPM	24	44.24	75	0.219	7.195
CA	20	41.64	62	0.212	6.944
ELS	12	39.69	80	0.262	8.604
CT	2	28.84	63	0.330	10.812
Total Score	74	154.41	246	0.81	26.577

* The SEM estimates the precision of the sample mean as an estimator of the population mean, the smaller value suggests that the sample mean is likely a more accurate estimate of the population mean (i.e., no outliers).

Multicollinearity arises when two or more test items exhibit high correlation with each other (e.g., r2 = 0.80 to 0.90) (Kim, 2019). Multicollinearity is not binary but exists on a continuum. As the level of multicollinearity increases, so does the likelihood of encountering its disruptive effects. In this study, descriptive statistics of the pairwise correlation matrix (r) of the scale items yield the following: Minimum (-0.31), Mean (0.101), Maximum (0.867), indicating the absence of multicollinearity issues among the items of AV-SRP 4. Singularity problems arise when there is a flawless linear relationship among AV-SRP 4 items, causing instability in estimating factor loadings. This occurs when one or more items are accurately predicted by a linear combination of other items. To assess the presence of singularity, an examination of the descriptive statistics of the correlation matrix is conducted. In this case, since no items exhibit a perfect linear relationship, there are no singularity issues.

The CFA was executed using procedure described by Leone, Van der Zee, Oudenhoven, Perugini, & Ercolani (2005). The procedure involved grouping items of the same factor into three sets using an appropriate mathematical function tailored to the scale's nature (median was employed here). The objective was to achieve more stable parameter estimates within CFA models and minimize errors when calculating observed indicators (Bagozzi, 1993; Bentler, 1990). Analyzing all items in CFA leads to less precise outcomes due to measurement error and sample specificity (Leone et al., 2001). The obtained results are detailed below and illustrated in Figure 1.

Figure 1: CFA of the AV-SRP 4
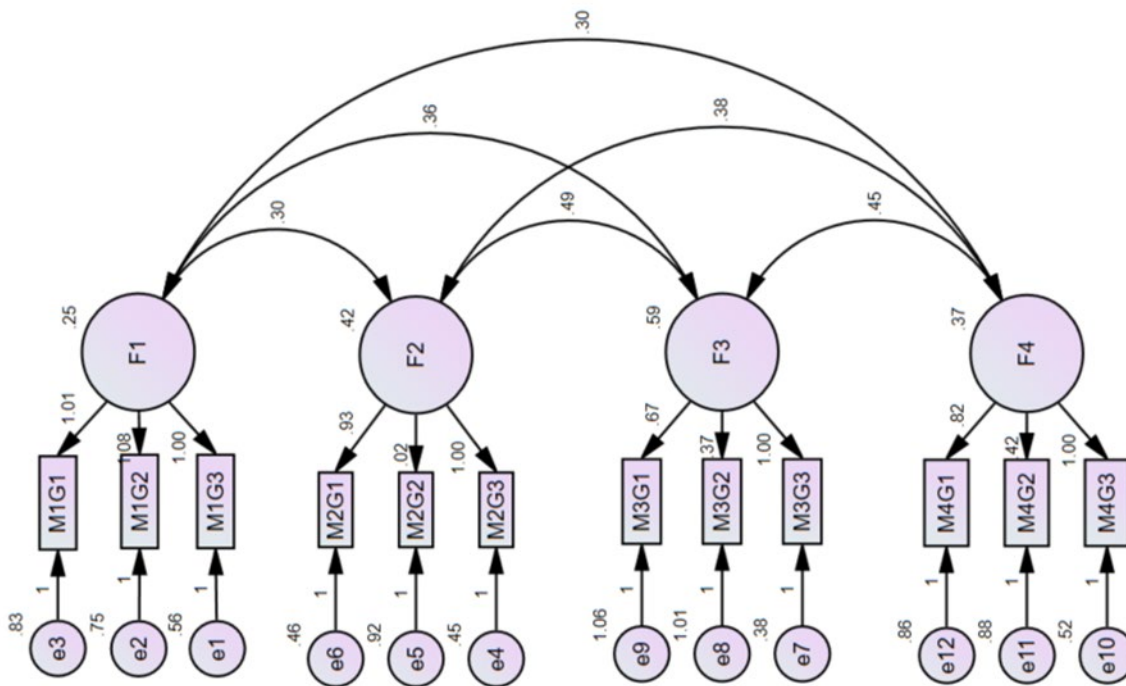
F1 = interpersonal factor (IPM); F2 = affective factor (CA); F3 = lifestyle factor (ELS); F4 = antisocial factor (CT)

The Confirmatory Factor Analysis (CFA) results suggest good model fit, supporting the scale's validity. To compare this study's findings with other validation studies, we assessed goodness-of-fit indices used in Leone et al. (2005). As shown in Table 3, the proposed model demonstrates a good fit to the data, indicating strong evidence for construct validity.

Table 3: CFA Indices Values.

Category Name	Index's Name	Acceptance Level	Calculated Level
Absolute fit (assess overall theoretical model against observed data)	Chi-square Mean	p value > 0.05	0.000
	The Root Mean Square Error of Approximation	RMSEA < 0.08	0.061
	Standardized Root Mean Square Residual	SRMR < 0.08	0.042
Incremental fit (used to evaluate how well a proposed model improves upon a more basic or null model)	Comparative Fit Index	CFI > 0.90	0.925
Parsimonious fit (is finding a balance between model fit and simplicity)	Chi-Suare/ df	$(\chi^2/df) < 2.0$	0.792
The minimum sample size required for a given model to achieve statistical significance.	Hoelter's	critical N >200	291

Overall: The table suggests the measurement model for the AV-SRP 4 scale has good fit, indicating it successfully captures the intended latent constructs with good validity. Next, the reliability of both the overall AV-SRP 4 and each of its sub-dimensions was evaluated. The following section will outline the specific results of the reliability assessments.

The Reliability of the AV-SRP 4

Reliability measures the degree to which the AV-SRP 4 yields consistent and precise outcomes across multiple administrations. Internal consistency reliability was evaluated using Cronbach's alpha (α), adhering to the widely acknowledged standard that a range of 0.6-0.7 indicates an acceptable level of reliability, while a value of 0.8 or higher indicates a very good level (Ursachi, Horodnic, & Zait, 2015).

To assess the internal consistency of the AV-SRP 4 and its sub-dimensions, we considered Cronbach's alpha values. Following Nunnally and Bernstein (1994), we interpreted the results as follows: α ≥ .70 considered acceptable consistency, α = .80-.90 demonstrates good consistency, and α ≥ .90 indicates excellent consistency.

The Guttman Split-Half Coefficient is another method used to assess the internal consistency reliability of an instrument in psychometrics. It involves dividing the instrument into two halves and comparing the responses between them. A Guttman Split-Half Coefficient of 0.70 or higher is typically considered acceptable for internal consistency reliability. While both Cronbach's alpha and the Guttman Split-Half Coefficient aim to evaluate the consistency of items within a measurement instrument measuring the same underlying construct, they differ in their calculation and evaluation of this consistency. Cronbach's alpha is often favored for its versatility and robustness in assessing internal consistency reliability. The internal consistency of the AV-SRP 4 is supported by Table 4, where both reliability measures surpassed the predefined thresholds. All individual sub-dimensions (IPM, CA, ELS) have acceptable Cronbach's alpha (α) values (> 0.70), the CT sub-dimension has a good α value (> 0.80), and the entire AV-SRP 4 scale (Total) has an excellent α value (> 0.85). The Guttman Split-Half Coefficient values are generally lower than the Cronbach's α values but follow a similar pattern: all sub-dimensions except CT have acceptable consistency, the CT sub-dimension still shows

relatively higher consistency, and the total scale maintains good consistency according to the Guttman coefficient.

Table 4: Cronbach's alpha (α) and The Guttman Split-Half Coefficient.

Factors	Number of Items	Cronbach's alpha (α)	The Guttman Split-Half Coefficient
IPM	16	0.77	0.731
CA	16	0.733	0.714
ELS	16	0.714	0.703
CT	16	0.813	0.725
Total	64	0.871	0.759

We may conclude from the data in Table 4 that the AV-SRP 4 scale has good internal consistency, meaning that all its items fall inside each sub-dimension and that the scale measures the intended constructs consistently. Our study's results are consistent with those of previous international studies. For example, research conducted by Lilienfeld Meier and Patrick (2017) demonstrated that in a community sample, the SRP-4 displayed test reliability (ICC = 0.80) along, with good internal consistency (Cronbach's α = 0.88). In another investigation, by Hart and Lilienfeld (2018) it was revealed that the SRP-4 exhibited a level of test reliability (ICC = 0.70-0.80) As well as a highly dependable score (Cronbach's α = 0.80-0.90). Carneiro et al. (2018) Echeverria et al. (2016). Williams et al. (2015) have also reported similar findings in their research.

Several studies conducted to assess the reliability of SRP-4 highlight its validity and reliability as a tool, for evaluating traits; however, it's important to consider that the reliability of any measurement can vary depending on the population and circumstances in which it is utilized.

Discussion Conclusion and Recommendations

The goal of this study was to evaluate the reliability and validity of the Arabic Version of the Self-Assessment Psychopathy Test (AV-SRP4). This modified version of the SRP-4 aims to measure four aspects of behavior. Given the research on the validation and consistency of AV-SRP4, existing literature materials infer that this adaptation investigation will significantly enrich the field. It is anticipated that this scale will prove useful for conducting studies on psychopathic personality, which is also known as antisocial personality disorder. Beyond assessing psychopathic traits, the scale holds promise for future research by enabling the development of models that explain the breakdown of psychopathic personality and inform interventions to reduce antisocial behavior in young people. Considering the significance of assessing antisocial behavior, which holds a pivotal role in terrorist operations and poses a threat to both local and international peace, the findings of this study will prove valuable in preventive, and therapeutic psychological counseling. Additionally, the AV-SRP 4 will stimulate further academic work in this field.

In order to evaluate psychopathy in non-forensic populations, the SRP 4 was created as a self-report equivalent of the Hare psychopathy checklist (PCL; Hare, 1985) and its revision (PCL; Hare, 1991, 2003). The Psychopathic Deviate scale from the Minnesota Multiphasic Personality Inventory (MMPI; Dahlstrom & Welsh, 1960 as cited in Hare, 1985) and the Socialization scale from the California Psychological Inventory (CPI: Gough, 1969) were two early measures of psychopathic personality that had weak associations with each other (r = 0.31 to 0.26) and the PCL (\r = 0.32 to 0.27). Hare (1985) developed the initial versions of both the SRP and PCL. Hare et al., 2018 combined sixty elements of the second edition (SRP-II) of the SRP to improve it, considering the PCL-R's two-factor stricture (Williams & Paulhus, 2004).

In order to overcome the shortcomings of the SAP-II, Williams, Paulhus, and Hare (2007) added multiple items that tapped into the four aspects of psychopathy and eliminated items that measured row anxiety. The end product was a 77-item measure known as the SRP-E. Support for a connected four-factor structure was discovered using exploratory and confirmatory factor analysis (Williams et al., 2007). The PCL-R and its derivatives' four-factor model is mirrored by the factors, which were given the names Interpersonal,

Manipulation, Callous Affect, Erratic Lifestyle, and Criminal Tendencies (Hare et al., 2018). With 16 items for each subscale, the 64-item SRP-Ill was further developed from the SRP-E. Furthermore, utilizing model-based measurement theory, a 29-item short form of the SRP-III was created, known as the SRP-SF (Paulhus et al., 2016).

The SRP-III full and short forms have strong internal consistency at the factor and facet levels in diverse samples (Paulhus et al., 2016), show overlap in predicting relevant psychopathy correlates (Gordts et al., 2017), and replicate the four-factor latent variable model of psychopathic personality based on PCL (Neumann et al., 2015).

The Self-Report Psychopathy Scale—fourth edition (SRP 4), a psychometrically similar refinement of the SRP-III with minor language modifications, was released in 2016 (Paulhus et al., 2016). It builds on the validation data of the SRP-III and the SRP-8F. In addition to scoring procedures and empirical support of the construct validity for both the full and short versions, the publication of the SRP 4 included a thorough manual that gives norms based on large community, university, and offender samples (Roy & Neumann, 2022).

The confirmatory factor analysis (CFA) revealed a four-factor structure consistent with the original scale. The fit indices demonstrated satisfactory results: χ^2/p-value = 0.00, RMSEA = 0.061, SRMR = 0.042, CFI = 0.925, χ^2/df = 0.792, and critical N = 291. These results indicate that the model you are evaluating has good fit indices.

Although criterion validity is crucial for establishing the validity of the SRP-4 instrument, the current study did not assess it due to time constraints. We recommend that future research address this aspect.

In this study, the Cronbach's alpha internal consistency coefficient for the AV-SRP 4 scale was calculated as $\alpha = 0.871$. The different factors demonstrated $\alpha = 0.77$ for the Interpersonal Factor (IPM), $\alpha = 0.733$ for the Callous-Affective Factor (CA), $\alpha = 0.714$ for the Emotionless Lifestyle Factor (ELS), and $\alpha = 0.813$ for the Coldhearted-Thrill-Seeking Factor (CT). Comparing these values with the internal consistency coefficient of the original SRP 4 scale, which ranges from 0.80 to 0.90, indicates strong internal consistency (Hart & Lilienfeld, 2018; Lilienfeld et al., 2017). Additionally, each factor typically exhibits Cronbach's alpha between 0.70 and 0.85, demonstrating good internal consistency within themselves (Neumann et al., 2016).

The discrepancy in Cronbach's alpha results from the original scale and the adapted scale may stem from cultural and linguistic differences (Hambleton & Li, 2005). However, since all Cronbach alpha values surpass the thresholds mentioned in the literature ($\alpha = 0.70$), this instills confidence in users regarding the reliability of the AV-SRP 4 scale for practical application.

The AV-SRP 4's validity and reliability are supported by evidence, indicating that it can be used in Saudi Arabian culture as well as other similar cultures. As it turns out, the scale is useful and simple to use, score, and administer. The research findings lead to several recommendations. Convenient sampling was used in the study to choose participants.

The results' generalizability could be improved by future studies employing a larger sample size and random sampling technique. We may be able to learn more about the scale's psychometric qualities by applying it to a wider range of research and sample sizes. Future research is expected to reveal more elements and frameworks associated with the idea of cultural conflict. Given that studies of validity and reliability rely on measurements, it would be advantageous to investigate the psychometric qualities of the AV-SRP 4 in the future using information from more diverse and sizable sample groups. Finally, further research is needed to assess the construct validity, criterion validity, and reliability of the scale. Such studies will contribute to the broader understanding of the topic, especially as research explores various aspects of multicultural personality in partnerships.

Understanding the cultural context is crucial for accurately interpreting research findings related to the Arabic adaptation of the SRP-4. Cultural factors influence the results, revealing culturally specific aspects and determining the applicability of findings to other settings. This insight aids in developing theories and models

tailored to Arabic-speaking populations and supports the creation of culturally relevant interventions and policies.

Different cultures have varying influences, on the manifestation and interpretation of behaviors and characteristics and are more subdued in societies that value cohesion compared to those that emphasize individualism where they are more prominent Cultural perspectives on morality and emotional display play a role, in detecting and handling psychopathy highlighting the importance of culturally aware evaluations and treatments.

Studying psychopathy can. Question cultural beliefs that are already in existence. Recognizing perspectives aids in dispelling overly simplistic ideas about psychopathy; however, if research results align with stereotypes, it's important to recognize the potential harmful impacts they may have. It's crucial to understand these influences in order to create measures for prevention and intervention.

Research results can help shape prevention and intervention programs that are tailored to cultures by identifying risk factors and improving early intervention efforts while also guiding policy development in the field. The understanding of nuances related to psychopathy enables researchers to develop programs that connect with the intended audience effectively by tackling stigma and minimizing tendencies.

The ethical considerations surrounding research, into psychopathy carry weighty importance since the outcomes could influence perceptions of health and impact the stigma associated with it as well as access to treatment services for those affected by it Research professionals must carefully weigh the potential impacts their findings may have on both individuals and society at large by upholding ethical standards in participant care informed consent procedures and safeguarding data privacy These actions not uphold principles but also pave the way, for beneficial societal shifts while safeguarding the wellbeing of study participants.

Limitations

This study is limited by convenient sampling, the lack of criterion validity assessment, and cultural influences on psychometric properties. As a self-report measure, it is prone to social desirability bias, and its cross-sectional design prevents assessing trait stability. Ethical concerns also arise regarding its association with antisocial behavior and terrorism, which may reinforce stereotypes. Further validation in diverse Arabic-speaking populations and external comparisons with clinical samples are needed to enhance its reliability and applicability.

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RESEARCH ARTICLE

Online Therapy in Turkey during the Covid-19 Pandemic: Examining the Experiences of Psychotherapists

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ABSTRACT

The Covid-19 pandemic affected many people worldwide, causing limited in-person interactions and restricted mobility. For, mental health professionals, this entailed replacing face-to-face therapy sessions with online settings. Although many studies have claimed that such online mental health services are effective, it was a new method in Turkey. Thus, this study examines psychotherapists' experiences while providing online therapy during the pandemic. Drawing on the phenomenological method, data were gathered through semi-structured interviews with 14 Turkish psychotherapists. Thematic analysis was employed to analyze the data. Three themes were identified: "technology," "therapy process," and "ethical issues." The findings indicate that the therapists had difficulties preserving clients'' confidentiality during online sessions and emphasized that a lack of training and supervision in online therapy contributed to ethical issues. Additionally, technical problems, including unstable internet connections, made it difficult to establish effective therapeutic relationships. The findings can help raise clinicians' awareness of the potential risks of online therapy and suggest precautions for a better service. Psychotherapists in Turkey should also acquire internet-based intervention skills to enhance their confidence and online therapeutic competence.

Individual psychotherapy sessions have a unique content due to the specific therapist-client interaction in each session. The definition of psychotherapy varies due to several factors, such as the number of individuals involved, the therapist's therapeutic approach, and the methods applied. Among unconventional psychotherapy practices, online sessions have recently become another increasingly common. Online therapy is defined as the provision of psychological support services through internet technology (Oktay et al., 2021). The Turkish Psychological Association's (TPD) Ethics Regulation (TPD, 2014) categorizes, online therapy under "non-traditional psychotherapy setting" as an approach applied to individuals who cannot receive face-to-face services. More specifically, it defines non-traditional psychotherapy settings as those in which "telephone,

email, mutual conversation in a computer environment ('chat'), video conferencing, etc., are used from the beginning of the psychotherapy relationship" (TPD, 2014). Non-traditional psychotherapy methods have been applied since the late 1960s, while their development has been observed worldwide.

Following the coronavirus outbreak in 2019, online treatments via digital devices became necessary, widely recognized, and used by mental health professionals (Markowitz et al., 2021; Xiang et al., 2020). Research has linked Covid-19 with anxiety and obsessive thoughts about contamination risks, severe illnesses, and potential or actual loss of life. Furthermore, social and physical restrictions and uncertainty about the future caused many people to experience intensified stress and lose their support system (Tanhan et al., 2020; Webster, 2020). This complicated situation created a greater risk of mental health problems for many individuals who had previously experienced no such problems while worsening the symptoms of those already struggling with mental health issues. These changes caused by the pandemic increased the need for mental health care and raised the issue of providing remote services.

Although e-health/telehealth services were already in use before the pandemic, many therapists had to shift to online platforms due to social distancing and lockdown measures (Xiang et al., 2020). This unexpected change to a "new normal" was stressful for both mental health professionals and clients, who were unprepared for this sudden change in the therapy setting. For instance, patients experienced anxiety due to the unexpected transition to online psychotherapy (Knight, 2020), while many therapists found it to be a significant challenge, highlighting the need for proper online training programs (Shklarski et al., 2021). Therapists also faced significant levels of stress, burnout, and self-doubt (AafjesVan Doorn et al., 2020; 2022), which reduced the effectiveness of therapy and lengthened the required course of therapy (Joshi & Sharma, 2020; Litam et al., 2021). In addition, connection difficulties because of technical problems disrupted online services, which weakened the therapeutic alliance and increased drop-out rates (Markowitz et al., 2021; Stoll et al., 2020).

Despite these challenges, online therapy can provide a valuable option for those who cannot attend in-person sessions or have concerns about leaving their homes. Thus, it has made psychotherapy more accessible, flexible, and cost-effective (Puspitasari et al., 2021; Stoll et al., 2020).

Design Online Therapy in Turkey During the Covid-19 Pandemic

Non-traditional psychotherapy practices have developed relatively late in Turkey (Bozkurt, 2013). Nevertheless, following the coronavirus outbreak in December 2019, as in many other countries, many psychotherapists in Turkey moved their sessions to online platforms in response to lockdown measures (Tuzgöl, 2020). Meanwhile, the stress, uncertainty, helplessness, fear, and despair experienced during this period also increased the need for psychological support in Turkey (Ulusoy & Çelik, 2020; Tuzgöl, 2020).

On the other hand, the pandemic presented an opportunity, with the emergence of various online platforms and applications offering therapy services (e.g., Hiwell, Terappin, and Evimdeki Psikolog). Although the Turkish Psychological Association (TPD, 2020) published a "Telepsychology Guide for Online Psychological Intervention and Practices," which was one of the most important steps to regulate the changes regarding providing online therapy, the effectiveness and safety of online therapy services in Turkey, both for therapists and clients, remains unclear. For example, Zeren et al.'s (2020) randomized controlled study showed no differences in the effectiveness of online counseling and traditional face-to-face counseling. More recent studies have revealed that confidentiality and technological issues have been major issues hindering the adaptation of online therapy for children and the elderly, while the inability to get nonverbal cues has been a handicap for the therapists during online sessions (Şen-pakyürek & Korkmaz-Yayın 2023; Teker, 2021; Tuna & Avcı, 2023).

Given that mental health care systems worldwide are evolving towards online services, remote treatments have become crucial solutions, especially during crises. Thus, it is important to understand and adapt to this relatively new change in Turkey to ensure the provision of high-quality, effective therapy services.

Present Study

Despite the increasing use of technology in psychotherapy services worldwide, particularly effective applications in response to the Covid-19 pandemic, this development has not been sufficiently studied in Turkey. Although the literature has addressed the advantages and disadvantages of online therapy, further research is needed that delves deeper into the common problems of mental health professionals and their coping strategies. Accordingly, the present study examines the main problems experienced by mental health professionals practicing online therapy and the coping strategies they develop to address these problems. The results will contribute to the field by enabling prospective therapists to identify potential disadvantages and develop appropriate coping strategies when starting online therapy.

This study is guided by the following three research questions:

a) How did psychotherapists experience the provision of remote services during the Covid-19 pandemic lockdown?

b) What were psychotherapists'' main difficulties in transitioning to online therapy during the Covid-19 pandemic?

c) How they overcome these perceived difficulties?

Methodology

The present study was designed using qualitative research method of phenomenology. Phenomenology aims to deeply examine phenomena (events, situations, or experiences) encountered in individuals' lives (Patton, 2014). Hence, the essence of the phenomenological method lies in individuals'' subjective experiences, perceptions, and the meanings they attribute to events. Phenomenological research aims to reveal how individuals perceive the facts about a situation (Patton, 2014). In the present study, the phenomenology method was chosen to reveal in detail the opinions and experiences of psychotherapists practicing online therapy during the Covid-19 pandemic in Turkey. This approach was deemed particularly appropriate because of its potential to understand the experiences of therapists who provided remote treatments during the Covid-19 pandemic. These experiences cannot be fully understood without taking the participants' individual perspectives and constructions into account.

Participants

The source of data in phenomenological research, is individuals who have experienced the phenomenon under investigation (Yıldırım & Şimşek, 2005). Accordingly, the present study selected mental health professionals who met the following four participation criteria: a) having graduated from a psychology or counseling psychology degree course; b) having completed supervised psychotherapy training; c) have actively practiced therapy for at least one year in their chosen psychotherapy approach; and d) having experience in both online and face-to-face therapy.

Given that phenomenological studies aim to gain deeper insights into the participants' experiences through detailed interviews, it is advisable to only recruit a few participants (Yıldırım & Şimşek, 2005). More specifically, three to fifteen interviews are considered sufficient for a good quality phenomenological analysis (Creswell, 2013; Smith et al., 2009). Accordingly, 14 participants were recruited for the present study, consisting of 11 females and three males. At the time of data collection, their ages ranged between 26 and 40 years. Eight were working in government institutions and six in the private sector while the length of their working experience ranged from four to fifteen years. The platforms used by the participants included Skype (7), Zoom (6), Google Meet (1), and also occasionally WhatsApp, depending on the situation. Twelve of the participants first started online therapy during the pandemic, while the other two were already using it. The participants reported working with three different groups: adults (7), couples and families (4), and children/adolescents (3). The participants used various therapy approaches in online therapy: cognitive behavioral therapy (4), schema therapy (3), psychoanalytic/psychodynamic (2), emotion-focused therapy (2),

solution-focused therapy (2), and EMDR (1). The participants' training across different therapeutic schools has made a significant contribution to the richness of the therapists' experiences.

Procedure and Measures

After obtaining ethical approval for the study from the University's Ethics Committee, electronic invitations for study participation were sent to the authors' acquaintances and associations related to mental health (e.g., EMDR, TPD, and ÇATED). Interested participants were then connected to the first author via email, who scheduled interviews at their convenience. An informed consent form was sent via email to each participant, who were also verbally informed about the purpose, procedure, confidentiality of their information, the recording process, voluntary participation principle, and their right to end the interview at any time. Once the participants agreed to participate in the study, their demographic information was collected online through a Google Form. The semi-structured interviews, which lasted 30-45 minutes, were conducted via Zoom and recorded with the participants' permission for transcription purposes. Each participant was assigned a number from 1 to 14 (P1, ...P14) to ensure anonymity.

Various measures were taken to ensure the participants' confidentiality. The data and informed consent forms were collected online while the interview data were transcribed. All data were stored in the first author's Microsoft Office account. During the research process, data were saved in a password-protected file on the first author''s password-protected computer. All records were erased following completion of the study.

Demographic Form

A demographic form was prepared to gather information for each participant, such as age, gender, workplace, length of service, and the age group they work with.

Semi-Structured Interviews

A semi-structured interview format was used, with interview questions covering topics related to participants'' experiences with online therapy, the challenges they encountered during sessions, and the coping strategies they employed. Example questions include: "What kind of difficulties did you experience during online sessions?" "How did you adapt the therapy model for which you received training to the online platform during this process?" "Did you encounter situations or incidents where ethical principles were violated?" The researchers initially prepared the semi-structured interview questions based on relevant literature and their own work experiences. The questions were then revised based on the expert opinions from two professionals working in the field. The experts were designed to avoid leading, negatively phrased, and binary questions. For instance, to capture a range of views, including those asserting that implementing online therapy for individuals in every age group is challenging, participants were asked, "Do you believe that online therapies are effective for all walks of life?" rather than "What are your experiences while working with different age groups?".

Data Analysis

The interview data were analyzed using the thematic analysis method. This enables the researcher to identify, analyze, and report themes, and then interpret the data from various perspectives (Braun & Clarke, 2019). Thematic analysis has six stages: (1) familiarization with the data and establishing relationships, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining themes, and (6) naming and reporting themes.

To enable the analysis, the interviews were recorded and then transcribed. The researchers first read the transcripts repeatedly to gain familiarity with the data before independently coding the data using a deductive approach. The researchers repeated this process until they could no longer identify any new codes. After identifying these initial codes, the relevant codes were categorized into meaningful groups to create the main themes. These themes were then refined based on the research questions and the researchers's judgment. This enabled the categories to be transferred into accurate themes. Once the main themes had been defined and

labeled, the researchers reviewed the final themes to ensure that the code extracts were valid and logical. Based on the researchers' consensus, some themes were combined, such that three final themes emerged.

Trustworthiness

Peer debriefing, member checking, and reflective journaling were used to improve the study's credibility (Yıldırım & Şimşek, 2005). For peer debriefing, the researchers and a female fellow researcher—a clinical psychologist experienced in qualitative researchmet to assess the transcripts, emerging themes, and final report. Member checking was performed by sending the final version of the findings to the participants via email to seek their confirmation that the findings accurately reflected their views. All participants responded, and none asked for changes in the findings. Lastly, the first researcher kept a reflective journal to become more aware about her thoughts and experiences during the data collection and analysis.

Results

This study aimed to investigate the challenges mental health professionals face conducting online sessions and their coping strategies. Interviews with 14 participants were analyzed, resulting in three main themes (technology, the therapy process, and ethical issues), which comprised a total of seven sub-themes (see Table 1).

Table 1. Summary of themes and sub-themes.

Themes	Sub-Themes
1. Technology	1.1 Connection Problems
	1.2 Online Applications
2. The Therapy Process	2.1 Therapy Environment
	2.2 Observation Area
	2.3 Therapy Techniques
3. Ethical Issues	3.1 Confidentiality
	3.2 Competency

Technology

The first main theme that emerged from the interviews was technology. This theme is divided into two sub-themes: connection problems and online applications.

Many participants reported experiencing connection problems during online therapy sessions, which evoked various emotions. One participant (P1) mentioned experiencing this problem frequently while practicing their adopted therapy approach and described it as distressing and stressful:

The most frequent and stressful part for me is when the internet disconnects because, at that moment, while I''m doing something for the client while talking while explaining something, the internet disconnecting is really distressing ... Please, let the internet not cut off because it''s such a stressful thing, especially for me, as someone who practices EMDR. If the internet cuts off while I''m triggering trauma in the other person, if it freezes while working on a traumatic memory, it seriously stresses me out." (P1)

Participants mentioned experiencing frequent interruptions during peak internet usage hours, leading them to repeat themselves multiple times. For example:

With the pandemic, internet usage intensifies during peak hours in the evening. Since everyone is engaged in online education and online meetings, the internet gets congested around 8-9 in the evening. Perhaps it''s something related to the country''s internet infrastructure, so there are frequent interruptions; it''s patchy. I find myself having to repeat things five times. I have encountered problems due to internet connectivity. (P2)

Some participants also mentioned experiencing anger when the connection problem occurred because it disrupted the process and made the session last longer.

As I became a better internet user, I started paying more attention to having a faster internet. Sometimes, I learned to be more flexible about it when it happens. Initially, I used to feel incredibly angry because the process was suddenly interrupted, which also caused issues with our schedule. Sometimes, we spend 10 minutes of the session dealing with connection problems. It could be because the person is in a spot with poor reception or performance drops when they connect via phone. (P12)

Another problem that the participants encountered was with online applications and platforms, which played an intermediary role in conducting the sessions. These problems mostly concerned their different usage features, with many participants highlighting accessibility features for users. For example, P2 stated, "Not everyone is very familiar with using the application, including myself at first. Skype is manageable, but it's disappointing that there is a time limit on Zoom." P9 suggested that "People over a certain age don't know how to use it, struggle with using the device, and ask for help from someone around them."

The presence of different features in applications and their usage by clients from different age groups increased the problems experienced:

Such platforms or applications have emerged for psychologists to conduct online sessions. These are more systematic or easily accessible. When I mention Zoom, the client is not available, when I say Skype, it doesn''t work. I need to switch to WhatsApp. There isn''t certain easy access for most clients. It''s not a problem for young or tech-savvy clients, but having a specific platform or accessible meeting network would be easier, I think. (P4).

Similarly, Participant 3 stated:

If the other person is not very familiar with technology, it creates a problem. Due to their age, downloading Zoom is difficult, and you want to switch to something easier. The fact that Zoom is in English is also a problem. We tried using Google Meet, but there can be issues like the internet lagging or sound cutting out, which makes things difficult.

The participants expressed different views on solving this problem. For example, according to Participant 10, "Connection problems and internet disruptions are something that significantly disrupts the session. Perhaps it would be good to develop applications more suitable for this interface.". Similarly, Participant 12 stated:

"I would have preferred an application like Zoom to be in Turkish. Some clients cannot set it up. In an online therapy site I am involved in, we don't have the chance to select the clients who apply to us; when the client selects us automatically on the site, we cannot choose, we are not informed about the client, it could be better if we were informed. It could be good to have a higher sense of reality. There is something called VR technology that can be integrated into therapies, making the reality higher."

Therapy Process

The second theme identified from the interviews was the therapy process. This theme encompassed three sub-themes: therapy environment, observation area, and therapy techniques. Both during the pandemic and under normal conditions, the main point emphasized in online sessions was delivering remote therapy. The participants encountered problems related to the environment regarding the reactions and problems experienced by their clients. Additionally, the participants drew attention to the ways participants and clients perceive the online environment. Participant 1 explained the reactions they received from their clients during the transition to the online environment:

They said that the face-to-face environment was different. They mentioned that they couldn't establish a connection there and that the online environment felt cold, but at the same time, they felt more comfortable in terms of managing their time because they were at home, but I didn't transfer many of my clients.

Participant 8 noted that some clients do not perceive the online environment as a therapy room and behave accordingly:

Some clients try to attend the session while lying down and reclining on the bed. It"s not something I would normally address in therapy sessions because of my dynamic background. You wouldn"t normally question why a client connected from their bed, but in online therapy, you need to address even that:, why they"re not sitting on a couch but rather lying down, slightly propped up or not propped up at all.

According to Participant 12, clients perceived various effects in online meetings, which may be contradictory, and create an inability to deepen connections:.

Not being able to fully access the consultant [in person] creates the opposite effect in some clients. The presence of a computer creates a border effect. If the first meeting is online, the client sees this as an advantage. They perceive virtual interactions as having less reality, allowing them to open up more. Sometimes, we can make rapid progress, but other times, it can be the opposite, and reaching the client can also be difficult. The virtual world indeed creates a bug, such as an inability to truly deepen connections.

Participants emphasized that clients may struggle to find a suitable environment for therapy or that there may be disrupting factors in their environment. They said that when clients come to an institution or office for therapy, they have a dedicated time and space for themselves; however, this may be interrupted or nonexistent during online sessions:.

When they come to the session room, we're alone. Online, there's someone else in the other room, the sound travels, and they can't be available at home. They speak softly or with unease, wondering if they'll be overheard ... Others [in the client's online location] aren't aware of this; they just barge in, leaving emotions unfinished or hindering exercises like creating a safe space or giving hypnotic suggestions. They can't get into that mode with the noise from inside. I would have preferred it to be more isolated and to change it. (P2)

You can be in a very noisy place. External noise can be overwhelming. A very "cathartic" moment can be ruined if a window is open and the call to prayer starts. When you're face to face, you can hear the call to prayer and it's not a problem, but when the sound comes so loudly through your headphones, it becomes striking and explosive. It takes you out of the real environment. (P7)

The participants also pointed out that they and their clients may view their environment from different perspectives. The participants suggested that experts adapt their surroundings to make them suitable for therapy, and advise beginners to arrange their environment"s decoration accordingly. For example, Participant 1 described this as a U- shape: "We spend a long time sitting and looking at the computer, during which time I suffer from eye, neck, and back pain, for example. If they have long sessions, they may need to pay attention to comfortable seating, even down to the screen's brightness. It's important to prioritize your comfort first." Similarly, Participant 8 suggested, "If I were in a session right now, I wouldn't leave the curtain like this. I've experienced this a lot; you need to prepare yourself in a place where you'll feel comfortable before entering the session. Sometimes, when you're inexperienced, you might not account for the sun and be over-exposed. Sometimes, you might find yourself in a place where you're freezing."

The second sub-theme concerns the observation area. That is, the participants reported having limited observation space or being unable to observe their clients'' body language. The participants emphasized that, during therapy, they pay attention not only to the verbal but also to the non-verbal messages of their clients. Hence, they conveyed the need to pay attention to the limited observation area:

You pick up on the client''s energy but must be very careful with their facial expressions. What reaction did they have, how did they move, how did their behavior change after what? In face-to-face sessions, we could also see their legs. But online, I only see a part of it. Are they shaking their leg anxiously there? Did they put their hands under the table? What are they doing? There''s no upper part. Body language is lacking in online therapy, especially regarding symptoms. We focused more on facial expressions. In face-to-face therapy, I used to watch very closely for movements like how they entered through the door, how they sat, and how they moved their arms, after which reaction, it seemed like they were getting into internal turmoil. You can''t understand that here [in online therapy], there''s nothing below here (pointing to the chest area), for example. (P5)

The third sub-theme concerns therapy techniques. The participants used various techniques based on their adopted therapeutic approach. In addition, due to the problems they encounter, their coping strategies, and how they adapt them to online platforms also vary. Some participants mentioned initially struggling to adapt CBT techniques to online therapy before eventually adapting, while others claimed that EMDR was more suitable.

Some materials, such as the whiteboard used in CBT, are utilized. We use that whiteboard face-to-face, but I didn''t want to use it online because it would feel too much like being a teacher. Instead, I wrote down the schemas, templates, or notes the other person needed to see on small pieces of paper and held them up to the screen. I digitized some of them and emailed them, including some scales, inventories, and exercises. They filled them out and sent them back to me via email. (P9)

[We connected] the EMDR device to the computer's microphone input and the other person wearing headphones. This way, we can easily transmit the signal to the other person. There are also apps for signal transmission. By installing it on the phone, we ensure that it processes itself in a bidirectional manner, allowing you to start and stop the application. Thirdly, for eye movement, we bring our hand to a distance of about 20 cm from the screen, similar to your distance, and guide it to the corners. It's unsuitable with the phone because the eyes can't follow it. Because EMDR offers multi-directional stimulation, we apply butterfly tapping. For those with a high dissociation probability, we instruct them to look at their knees and tap them physically. (P11)

Participants working in different approaches expressed difficulties in applying techniques. For example, Participant 5 mentioned that while they found it easy to implement schema therapy techniques face- to- face, they struggled to do so during online therapy. They suggested the following solution:

I struggled with the empty chair technique. Saying, "Bring three chairs for this session," isn't understood. It seems absurd for the client to suddenly bring a chair. Maybe a fourth person will come out from inside, and for that person, they'll bring in a chair from inside, etc. It disrupts the ambiance. There would already be chairs in face-to-face sessions, even if there were five or six sounds. We manage the process, but online, the client manages it. That was the disadvantage. Later, as I mentioned, I used a pen and eraser. For example, if we transitioned to the critical voice, we had them speak as if the right side represented the critical voice, and the left side represented the adult parent voice. We used this in the empty chair technique, but we adapted it like this. (P5)

Apart from these approaches, some participants highlighted the difficulty of working with families in online therapy. For example, Participant P11 stated, "I wouldn't take families. The situation suddenly disappears from the screen; you need to separate them into different rooms. Imagine two people trying to fit on the same screen yet don't even want to stand side by side. It's a challenging process. I couldn't handle it, so I wouldn't take them." Participant 14 reported a similar issue in online couples therapy:

Perhaps in couples therapy, it's crucial to intervene directly and actively stop highly conflicted couples. Some couples are not suitable; they don't listen to you. You can try a few sessions, but you should refer them to face-to-face therapy if it doesn't work. I also prefer not to work with such couples online.

Ethical Issues

The third emergent theme was ethical issues. The participants shared various experiences illustrating that ethical principles could be violated during online sessions due to its. This theme is divided into two sub-themes: confidentiality and competency.

The participants shared experiences where the principle of confidentiality was violated during online therapy sessions. They reported that it was not always easy to maintain ethical principles and highlighted the difficulty of this for both clients and therapists. For example, some participants mentioned the possibility of someone else either being present at the online session location or overhearing the voices:.

I had this concern as to whether you''re alone in the room right now or if your mother is listening to us. I experienced something like this with one of my clients, who is a teenager. They said, "I have things I want to tell you, but I'm uncomfortable because I'm at home. Would it be okay if I went to the park and we did the session there?" This situation was disadvantageous for the client. Curious parents could wonder what their child is telling us that they haven't told them. (P13)

Another issue related to confidentiality was storage of documents sent via computer. The participants reported experiencing anxiety in these situations and described the precautions taken:

We send forms to each other via email. How responsible are we for the security of this? I haven't had any issues with this, but the client''s name is written there. They provide answers. There's an ethical issue here: If it falls into someone else's hands and the email address gets hacked, what will happen? Secondly, even if we're not recording, we're conducting sessions through a platform. I use Skype. If it somehow records before the sessions, an agreement can be made through a platform stating that no recordings will be made in any way, that there are no cybersecurity vulnerabilities, and that neither party is responsible, similar to a privacy agreement. (P8)

The second sub-theme was competency. Online therapies, which mostly began with the onset of the pandemic, started with a sudden and unsystematic transition. Most participants stated that they did not receive any training or supervision support regarding online therapies. Additionally, they expressed the need for mandatory training on online therapy:

I believe there should be training on this because it has always been there. I graduated in 2016, and actually, it was never really addressed. It was briefly mentioned in a small part of the class during my undergraduate studies. It was brushed off with remarks like "There might be phone or online counseling." Now, it's almost coming back to this point, especially when we look at the private sector, considering that the pandemic could last a long time. For example, there could be direct training on how to approach this. (P3)

Another ethical issue that the participants encountered concerned boundary issues. They stated that the boundaries in online therapy were not the same as in face-to-face sessions. They mentioned encountering last-minute cancellations and reported that clients may not take online therapy seriously:

When it's online, last-minute cancellations are much easier to make. Typically, a last-minute session cancellation due to illness or an emergency is still charged for, whether it's in-person or online. However, when it's online, there's a greater sense of ease, thinking the therapist is also at home, just sitting there. They might say, "I can't make it," and last-minute cancellations can be challenging ... So, it's indeed easier to violate boundaries online. (P10)

On the other hand, the participants stated that boundaries need to be clearly defined, and that, if boundaries are established from the beginning, they will encounter fewer problems:

Preventive explanation, an informed consent form, and informative text are very valuable. That's the most effective. Similarly, when you outline the framework regarding payment, rules, and boundaries, you and the

other party are less likely to be victimized. The initial structuring process is the most effective. (P6)

Discussion

This study examinesd the difficulties experienced by therapists conducting online therapy and their coping strategies. To collect data, semi-structured interviews were conducted with 14 therapists practicing online therapy. The research findings identified three main themes: technology, the therapy process, and ethical issues.

The interviews revealed that connection problems affect the therapy process in many ways. Spending time to resolve connection issues during therapy, repeating verbal expressions due to misunderstandings, and interruptions at critical moments all aroused anxiety, stress, and anger among the therapists. Another factor exacerbating these problems was heavier internet usage at certain times and experiencing freezing or disconnection. The use of online meeting applications increased during the Covid-19 (Emmungil & Yılmaz, 2021). The therapists suggested that these issues could be solved by developing applications or platforms suitable for therapy, aside from the ones currently used. Clients and therapists have different perceptions of currently used applications like Zoom, Google Meet, WhatsApp, and Skype.

The interviews also revealed that online therapy was demanded by clients from diverse socioeconomic and cultural backgrounds. These differences led to various problems. For instance, older clients may encounter difficulties with technology-related issues, such as installation, connection, and the application language, due to their lack of knowledge and experience. Although therapists themselves faced occasional technology-related challenges, they learned to adapt over time by showing flexibility in response to connection problems. As online applications become more efficient through more accessible and user-friendly features, therapy outcomes are expected to improve.

The environment in which online therapy takes place is very important for the therapy process. During online sessions, daily life continues, so therapists or clients may not always have the limited time they set aside for themselves. While therapists may manage to create such an environment, clients sometimes express concerns about the possibility of their voices being overheard by third parties during sessions. For example, clients receiving therapy unknown by their families or partners wished to schedule sessions when they were alone, such as in the car, in a park, or at home. While there may be many reasons for keeping the session confidential, the main one is the client's negative perspective regarding therapy and fear of stigma. The transition of therapy to the home environment instead of a specific office or institution to some extent, reflects society''s perspective. Therefore, it is necessary to discuss how ready and acceptable it is for psychological support to be positioned in a particular place and integrated into society more easily through online therapies.

Another aspect where the therapeutic environment differs is the limited ability to observe the client in online therapy compared to face-to-face sessions. As indicated in previous studies, some individuals prefer face-to-face services due to their dissatisfaction with technology, considering it inadequate or citing the lack of responses other than verbal expressions (e.g., Erdem & Özdemir, 2020; Stoll et al., 2020). Beyond verbal expressions, gestures, facial expressions, and body language are also important in therapy. Although Borcsca and Pomini (2018) reported that families receiving online psychotherapy sometimes feel comfortable due to the sense of anonymity when sharing information, a difficulty arises in obtaining sufficient information and evaluating the information due to the limited observation area. This finding is supported by the present study regarding the challenges experienced by the interviewed therapists due to the limited observation area. They also reported problems such as two individuals not fitting within one screen in family or couple therapy or a lack of adequate technological devices in situations requiring separate screens. The interviews revealed various issues regarding the online session environment, particularly the comfort of the home environment, related to last-minute cancellations, lack of attention to detail compared to face-to-face therapies, and the possibility of certain behaviors encouraged by online therapy becoming session material. These all led to various consequences.

They lead to the perception that therapy boundaries can be relaxed in online therapy sessions. Therefore, the therapists emphasized the importance of setting clear boundaries at the beginning of the online sessions, which is critical to adhering to boundaries throughout the process. The interaction between therapist and client does not end with boundaries alone. However, the therapists also noted that problems encountered in online therapy can be overcome once the therapeutic relationship has been established. A strong therapeutic relationship between the client and therapist may help therapists navigate challenging situations more easily, such as difficult topics or technical glitches.

Another factor influencing the therapy process was the use of therapy techniques, which was important in online therapy. Therapists practicing different approaches adapted the techniques they use in face-to-face sessions to online therapy. For example, they converted the pencil-and-paper forms used in face-to-face cognitive-behavioral therapy into PDF format to share with online clients. Similarly, support they provided to online EMDR clients through applications.

However, while suitable environments can be provided for clients in face-to-face schema therapy under the therapist''s control, the interviews revealed that, in the online environment, this depends more on the client and their conditions. That is, roles, positions, and responsibilities are fundamentally changed in online therapies. The application or non-application of techniques also influenced the progress of therapy. Despite being seen as a disadvantage in online therapy, the inability to adapt techniques can provide an opportunity to observe the importance of therapy and its contribution when techniques are not applicable.

Another main finding related to ethical issues. Ethics is also of great importance in face-to-face sessions; however, the interviewees reported differences between face-to-face and online sessions, particularly regarding competence. The therapists'' training often did not adequately address online sessions or even did not address it at all. The lack of necessary information in training led some therapists to question their professional competence. This supports previous studies finding that experts may not consider themselves sufficiently competent in technical knowledge and skills (e.g., Yazıcı et al., 2021).

Confidentiality was another challenge that the therapists faced in adhering to ethical principles, with the merging of the work and home environments introducing many difficulties. For example, therapists reported feeling uneasy about their voice being heard by third parties during online therapy sessions and even doubted whether they were alone with their clients in the session environment. Another aspect of confidentiality concerned the applications and communication channels used as intermediaries. Doubts about whether the applications were recording, the possibility of unauthorized access to the user's account containing therapy-related information, and the theft, copying, and distribution of confidential information can constitute security breaches. Therefore, as Çetintulum-Huyut (2019) notes, to minimize the risk of being deceived or encountering abuse if clients' information were accessed, it is necessary to take strict security measures.

In the present study, the interviews revealed that the therapists had limited control which led to the experienced of threatening effects. In response, they developed various strategies to prevent such threats, such as using headphones to prevent third parties from hearing the conversation and locating the session to avoid transmitting the therapist''s voice to others than the client. The therapists suggested that it could be beneficial to inform clients about these measures.

Measures taken to ensure confidentiality included clients placing a warning note on the door during sessions to prevent interruptions and selecting an appropriate time and place for the session if they participate in the session secretly. Several coping strategies were observed for internet-based sessions that threaten confidentiality, particularly using pseudonyms in documents used to send or save the client's' information to ensure privacy and security (Bal et al., 2015). The security vulnerability of recording online therapies through the application or website threatens both the therapist and the client.

Another threat was the risk of the therapist''s account being hijacked through a sent link, leading to the leakage of information belonging to other clients. To address these issues, it was suggested to clarify the points for which both parties are responsible or not responsible in case of potential privacy and security vulnerabilities, or even to agree on a solution. The interviews showed that the solutions offered by experts are based on the

problems they encounter. Challenges can also bring along their solutions.

Clinical Implications

The results of this study carry important implications for mental health practitioners. In the current era of rapidly advancing technology and the widespread integration of artificial intelligence across various sectors, it is essential for professionals providing therapy services to remain informed about these developments. The present study underscores the importance of proficiency with technological devices and online platforms for the effective delivery of internet-based mental health services. While counseling and psychology students are traditionally trained in therapeutic techniques in schools, it is crucial to reassess and update training programs to encompass online therapy modalities, including the associated ethical and practical considerations. Additionally, these programs should educate trainers about potential challenges and emphasize the importance of supervision. Lastly, policymakers have a vital role in enacting legislation to prevent the misuse of technology and safeguard the safety and privacy of clients engaged in online therapy.

Limitations and Directions for Future Research

This study has certain limitations. First, the sample was non-homogeneous due to the diversity among the participating therapists in terms of approach, gender, department, and institution where they work. ASecond although a small sample size is adequate for phenomenological studies, the findings cannot be generalized until more research is conducted in Turkey. Thus, future studies should examine diverse therapy approaches among the wider population of psychotherapists.. Furthermore, studies should be conducted on therapy approaches that were not included but exhibit different distributions. Third, only families and individuals were represented as client groups. Hence, the effects of online sessions conducted for groups, children, and the elderly are not yet known for either therapists or individuals seeking services. Fourth, quantitative studies are needed using mediator variables to better understand online therapy's effects on clients and therapists. Fifth, longitudinal studies can reveal the effects of therapy in the long term. Regarding therapists'' experiences, this study demonstrated the importance of therapist-client interaction, even if conditions change. Therefore, it is believed that considering responses from the client''s perspective in online therapies can help develop and improve efforts in psychological support services.

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RESEARCH ARTICLE

Exploring the Relationship between PMS Symptoms and Sexual Satisfaction and Personality Traits in Women Aged 18-35

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ABSTRACT

Background: Menstruation affects women for approximately 30-35 years of their lifespan, recurring monthly and signalling fertility during the reproductive age. Premenstrual Syndrome (PMS) presents a complex of physical and behavioural symptoms in the second half of the menstrual cycle, significantly impairing women's quality of life. It is reported that 40% of women in their reproductive years experience PMS, with symptoms such as bloating, anxiety, tension, episodes of crying, depression, and fatigue.

Objective: This study investigates the correlation between personality traits and both PMS symptoms and sexual satisfaction among women aged 18-35. It also examines the influence of sociodemographic factors including age, marital status, economic condition, and education level on these relationships.

Methods: Utilizing a convenience sampling approach, this research focuses on a sample of 150 women residing in Istanbul. The sampling strategy is designed to facilitate the most accessible selection of participants based on time and availability.

Results: The findings suggest that personality traits are significant predictors of both Premenstrual Syndrome severity and levels of sexual satisfaction. Specifically, Neuroticism was identified as the most significant predictor, showing a strong positive association with the severity of PMS symptoms. Additionally, Neuroticism was positively associated with premenstrual symptoms like depressive affect, anxiety, fatigue, and irritability. On the other hand, Extraversion and Lying showed negative associations with both PMS severity and sexual satisfaction, with Extraversion emerging as the most significant predictor of lower sexual satisfaction. These results illuminate the intricate relationships between individual psychological characteristics, menstrual health, and sexual well-being.

Conclusion: The study underscores the importance of considering personality traits and sociodemographic factors in understanding the experiences of PMS and sexual satisfaction among women. By highlighting the role of individual differences, this research contributes to a broader understanding of women's health and well-being during the reproductive years.

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PMS is variably defined across cultural and scientific discussions, lacking a unified definition (Figert, 2005). It is identified as a concept manifesting in the late luteal phase of the menstrual cycle, recurring across many cycles, and characterized by symptoms that alleviate with the onset of menstruation and are absent during the follicular phase for at least one week (Adıgüzel, 2007). This syndrome, characterized by specific symptoms, includes significant depressive moods, anhedonia, anxiety, and functional impairment in academic or professional settings (Anson, 1999).

PMS symptoms not only decrease workplace performance and increase the potential for accidents but also adversely affect interactions within personal relationships and family dynamics; among adolescents, it negatively impacts social relations, academic achievement, and self-esteem (Demir et al., 2006). Addressing PMS symptoms involves both pharmacological and non-pharmacological treatments, with an emphasis on psychoeducation as a preliminary step before considering pharmacological approaches (Taşçı, 2006; Yücel, 2009). Warren and Baker (1992) have highlighted the effectiveness of developing a support system through stress reduction, anger management, regular rest, nutrition, and exercise programs, over pharmacological treatments.

Sexuality

Sexuality is defined through multiple components—physical, social, cognitive, and emotional—that influence an individual's levels of communication and love. It encompasses the right to engage in sexual activities for pleasure or reproduction and access related knowledge, affected by a wide range of factors including psychological, religious, historical, biological, cultural, and social influences (WHO, 2010). Biologically, sexuality's primary role is reproduction and the continuation of the human species. Psychologically, it is considered in terms of satisfying basic human needs such as pleasure in relationships, love, and being loved. Socially, it covers aspects of societal functioning, societal values, production, partner preferences, and marriage choices (İncesu, 1998). Sexuality also influences social structure, cultural values, art, law, production, gender roles, and marriage, determining an individual's mental health and place within society (Şentürk, 2006). The desire for reproduction and the experience of sexuality vary according to individual perspectives and are considered personal and diverse (Lipton, 2002).

In romantic relationships, sexuality plays a crucial role and often serves as a binding factor. A healthy sexual life strengthens intimacy and love between partners, reducing conflicts and tension. It fosters feelings of love, unity, and protection, allowing individuals to freely express their feelings and emotions, thereby renewing and deepening the bond within the relationship (Canel, 2012). The dynamics of romantic relationships are closely intertwined with personality traits, which influence how individuals perceive and engage in these relationships.

Personality

Before explaining or measuring personality, it is necessary to have a model and concepts to define it (Eysenck, 1991). Like many sciences, the study of personality traces back to ancient Greece, which highlighted the significant role of temperament in personality formation (Eysenk, 1991; Chamorro-Premuzic, 2008). Hippocrates, known primarily for his contributions to medicine, was the first to propose a theory of personality, later expanded by the physician Galen into the Hippocratic/Galenic temperament theory. This theory categorized temperament into four primary types, involving psychological and biological variations, significantly contributing to the field of psychology (Chamorro-Premuzic, 2008).

The concept of temperament has been explored through various lenses, leading to distinct categorizations. Sanguine temperament is described as individuals who are generally happy, optimistic, and enjoy life, typically in good health. Choleric temperament encompasses those who are irritable, impulsive, and prone to rapid emotional changes. Phlegmatic temperament is characterized by calm, cool, collected individuals who seldom display their emotions. Lastly, melancholic temperament refers to individuals who are prone to depression, pessimism, and sadness (Chamorro-Premuzic, 2008). While psychologists often generalize human behaviors, they also delve into the intricacies of individual differences, exploring why some people can achieve or cope with certain situations while others cannot (Lawrence, 2015).

Personality theorists examine the differences in individuals' perceptions and how these variations affect functionality in their lives. They aim to understand personality by studying the interactions between different

processes, emphasizing the importance of considering the individual as a whole, including their internal dynamics and observable behavior patterns (Lawrence, 1995; Cervone et al., 2001). Challenges arise in defining personality, as highlighted by Cooper (2002), who noted difficulties in interpreting and comparing descriptive terms for emotions and traits across different studies. This underscores the complexity of measuring personality dimensions and the limitations of current scales in capturing the entirety of an individual's personality.

Study Objective

Menstruation, a physiological event recurring monthly for approximately 30-35 years of a woman's life, signifies fertility during the reproductive years. PMS) is characterized by physical and behavioral symptoms that manifest in the latter half of the menstrual cycle, negatively impacting women's lives. It is estimated that 40% of women experience PMS symptoms, with a minority experiencing severe manifestations such as bloating, anxiety, tension, episodes of crying, depression, and fatigue, typically lasting about a week. The American Psychological Association recognizes the syndrome presenting these symptoms as Premenstrual Dysphoric Disorder (PMDD), suggesting a significant impact on quality of life.

According to Eysenck, personality is the individual's unique adaptation to their environment, encompassing character, cognition, physicality, and emotions. It is proposed that emotions and behaviors influence personality traits, which in turn affect individuals' sexual lives and satisfaction. Sexual life, representing the most intimate aspect of human relationships, includes themes of happiness, satisfaction, pleasure, and achievement.

Mutual expectations in sexual and other life areas significantly influence relationship dynamics. In romantic relationships, expressing needs and sensitivity to those needs enhances relationship motivation, indicating the influence of sexual life on relationship dimensions and individual psychological states. This study aims to investigate the effect of PMS symptoms and sexual satisfaction on personality traits among women, considering the impact of sociodemographic variables. The research is expected to contribute to the literature by providing insights into the relationships among these variables among women aged 18-35, exploring the association between their personality traits, sexual satisfaction, and PMS symptoms, and understanding how sociodemographic characteristics such as age, marital status, economic condition, and education level influence these relationships. Premenstrual Syndrome (PMS)

Methodology

Study Design

The research employs a relational screening model, a survey approach aimed at determining the presence of covariation among two or more variables. Within this model, the study seeks to ascertain whether variables change together and, if so, how this change occurs. The study was approved by the Istanbul Gelisim University Ethical Board, with approval number 2020-26 on 14.10.2020.

The study is guided by two primary hypotheses. The first hypothesis (H1) posits that there is a significant relationship between personality traits—specifically Neuroticism, Extraversion, and Lying—and the level of sexual satisfaction in women aged 18 to 35. The second hypothesis (H2) suggests that there is a significant relationship between these same personality traits and the severity of Premenstrual Syndrome (PMS) symptoms in the same demographic group. These hypotheses aim to explore the connections between psychological characteristics and both sexual and menstrual health in women.

Participants

The study population consists of women aged 18-35 residing in Istanbul. The sample includes 150 women within the same age range. Data collection was conducted through surveys distributed via Google Forms to individuals living in Istanbul, employing a convenience sampling method for data gathering.

Data Collection

The study utilized a Personal Information Form created by the researcher to gather sociodemographic data, along with the Eysenck Personality Questionnaire for personality analysis, the Premenstrual Syndrome Scale, and the Golombok-Rust Inventory of Sexual Satisfaction. These instruments were chosen to comprehensively assess the variables of interest in the context of the study's objectives.

Personality Analysis (Eysenck Scale)

The Eysenck Personality Theory initially encompassed the dimensions of neuroticism-stability and extraversion-introversion, with the dimension of psychoticism added later (Lewis et al., 2002). Extraversion represents sociability and impulsiveness, with individuals scoring high in this dimension being characterized as outgoing, communicative, and preferring the company of others over solitude. The neuroticism dimension indicates emotional instability or reactivity, suggesting that individuals scoring high may exhibit anxious, depressive, tense, shy, overly emotional, and low self-esteem traits. The dimension of psychoticism is associated with being cold, distant, aggressive, insecure, unemotional, peculiar, lacking in empathy, and prone to delinquency (Eysenck & Eysenck, 1975). The Eysenck Personality Inventory (EPI) introduced the "lie scale" (L) for the first time, aiming to identify subjects attempting to present themselves in a favorable light. The lie sub-scale serves as a control scale testing the validity of the entire test (Kilit, 2008). The Turkish validity and reliability of the scale were established by Karancı and others (2007). The questionnaire comprises 24 items assessing personality across four main factors: extraversion, neuroticism, lying, and psychoticism.

Premenstrual Syndrome Scale

Developed by Gençdoğan in 2006 according to DSM III and DSM IV-R criteria, this scale aims to measure the severity of premenstrual symptoms. Commonly used in Turkey, it includes 44 statements reflecting the individual's condition in the week preceding menstruation. The five-point Likert scale evaluates nine subdimensions: depressive affect, anxiety, fatigue, irritability, depressive thoughts, pain, appetite changes, sleep changes, and bloating. Scores range from a minimum of 44 to a maximum of 220, with subscale scores obtained by summing the items in each dimension, and the total PMS score being the sum of the subscale scores. Individuals with a total PMS score exceeding 50% are classified as PMS positive, with higher scores indicating more severe premenstrual symptoms. The original scale reported a Cronbach's alpha (α) of .75, with this study calculating an α of .95.

Golombok Rust Inventory of Sexual Satisfaction

The Golombok Rust Inventory of Sexual Satisfaction (GRISS), developed by Rust and Golombok, is a widely used tool for assessing the quality of sexual relationships and sexual functions (Rust & Golombok, 1986). The scale has demonstrated strong psychometric properties, with reliability and validity established through extensive analyses. The GRISS consists of two versions, one for men and one for women, each comprising 28 items across seven subdimensions. For the female version, the subdimensions include frequency, communication, satisfaction, avoidance, touch, vaginismus, and anorgasmia. Responses are rated on a 5-point Likert scale ranging from "never" to "always," scored from 0 to 4. Higher scores indicate greater impairments in sexual function and relationship quality. The total score provides an overall assessment of the relationship's quality, while subdimension scores offer detailed insights into specific aspects of sexual function and satisfaction.

The Turkish version of the GRISS was standardized, validated, and found reliable by Tuğrul et al. (1993). The Turkish adaptation retained the original scale's structure and psychometric robustness, with analyses confirming its reliability and validity in the Turkish population. The internal consistency of the Turkish version was found to be high, with Cronbach's alpha coefficients for the subdimensions ranging from 0.70 to 0.88, similar to the original scale's coefficients. The scale's validity was supported through confirmatory factor analysis, which demonstrated that the factor structure of the Turkish version closely mirrors that of the original scale.

Data Analysis

Prior to commencing the data analysis, collected data were digitized and statistically analyzed using the SPSS 25 software. The initial step of the analysis involved conducting a normality test, where skewness and kurtosis values were examined. Given that the skewness and kurtosis values ranged between -2 and +2, it was concluded that the data were normally distributed (George & Mallery, 2010). The skewness and kurtosis values for all scales are provided below.

Table.1 Skewness and kurtosis values for the premenstrual syndrome scale, eysenck personality inventory, golombok-rust sexual satisfaction scale, and their subdimensions.

	Skewness	Kurtosis
Premenstrual Syndrome Scale	0.018	-0,276
Depressive Affect	-0.12	-0.34
Anxiety	0.661	-0.125
Fatigue	0.02	-0.656
Irritability	-0.261	-0.77
Pain	0.071	-0.946
Appetite Changes	-0.112	-0.808
Sleep Changes	0.272	-0.838
Bloating	-0.396	-0.884
Extroversion	-1.148	0.446
Deception	-0.218	-1.071
Neuroticism	-0.249	-1.254
Psychoticism	0.475	0.255
Golombok-Rust Inventory of Sexual Satisfaction	0.775	-0.263
Frequency	0.518	-0.056
Communication	0.709	-0.133
Satisfaction	1.06	0.923
Avoidance	0.863	-0.078
Touch	0.966	-0.024
Vaginismus	0.43	-0.005
Anorgasmia	0.967	0.738

Given the data's normal distribution, it was decided to use parametric tests for analysis. The Independent Samples T-Test was applied to analyze the difference between two independent groups. One-Way Analysis of Variance (ANOVA) was utilized for analyzing differences among multiple groups. Pearson Correlation analysis was conducted to examine the relationships between two or more variables. Multiple Linear Regression analysis was applied to test the impact of independent variables on the dependent variable.

Results

This section contains the findings from the analysis of data collected with the Sociodemographic Information Form.

Table 2. Distribution of the sample group according to sociodemographic variables.

		n	*%*
Gender	Female	150	100.0
Having an active sexual life	Yes	150	100.0
Age	18-24	29	19.3
	25-35	121	80.7
Where have you spent the majority of your life (2/3 of it)?	Village	10	6.7
	District Center	37	24.7
	City Center	103	68.7

Table 2. *(Continued)*

Educational level	Middle School Graduate	3	2.0
	High School Graduate	12	8.0
	College/University Graduate	86	57.3
	Master's/Postgraduate	44	29.3
	Doctorate	5	3.3
Educational level of the household's primary income earner	Middle School Graduate	14	9.3
	High School Graduate	13	8.7
	College/University Graduate	36	24.0
	Master's/Postgraduate	69	46.0
	Doctorate	14	9.3
	Middle School Graduate	4	2.7
Current economic status	Good	40	26.7
	Average	78	52.0
	Poor	32	21.3
Current living situation	With parents or family members at home	115	76.7
	Alone at home	24	16.0
	With friends at home	10	6.7
	In a dormitory with friends in the same room	1	0.7
Marital status	Married (Officially Wed)	62	41.3
	Single	73	48.7
	Living together	9	6.0
	Divorced	6	4.0

As seen in the table, participants in the sample group are 100% female, 100% believe they have an active sexual life, 100% experience menstruation, 19.3% are aged between 18-24, 80.7% are aged between 25-35, 6.7% have spent the majority of their lives in a village, 24.7% have spent the majority of their lives in a district center, 68.7% have spent the majority of their lives in a city center, 2% have completed middle school, 8% have completed high school, 57.3% have a college/university degree, 29.3% have a master's/postgraduate degree, 3.3% have a doctorate, 9.3% of the households' primary earners have completed elementary school, 8.7% have completed middle school, 24% have completed high school, 46% have a college/university degree, 9.3% have a master's/postgraduate degree, 2.7% have a doctorate, 26.7% report a good economic status, 52% report an average economic status, 21.3% report a poor economic status, 76.7% are currently living with their family, 16% are living alone, 6.7% are living with friends, 0.7% are living in a dormitory with friends, 41.3% are married, 48.7% are single, 6% are cohabiting, and 4% are widowed/divorced.

Tablo 3. Distribution of the sample group according to sociodemographic variables.

		N	*%*
Do you smoke?	Yes	69	46.0
Table 3. *(Continued)*	No	81	54.0
Do you engage in exercise for at least 20 minutes, three times a week?	Yes	55	36.7
	No	95	63.3
Do you consume more than one cup of coffee daily?	Yes	106	70.7
	No	44	29.3

Table 3. *(Continued)*

Do your mother or sisters, if any, experience premenstrual complaints?	Yes	86	57.3
	No	64	42.7
Do you add salt to your food without tasting it first?	Yes	39	26.0
	No	111	74.0
Are you using birth control pills?	Yes	21	14.0
	No	129	86.0
Do you experience pain during your menstrual period?	Yes	110	73.3
	No	40	26.7

As shown in the table, among the participants of the sample group, 46% are smokers, 54% do not smoke, 36.7% engage in at least 20 minutes of exercise three times a week, 63.3% do not exercise, 70.7% consume more than one cup of coffee daily, 29.3% do not consume more than one cup of coffee daily, 57.3% have a mother or sister who experiences premenstrual complaints, 42.7% have a mother or sister who does not experience premenstrual complaints, 26% use salt without tasting the food first, 74% taste the food before adding salt, 14% use birth control pills, 86% do not use birth control pills, 73.3% experience pain during their menstrual period, and 26.7% do not experience pain during their menstrual period.

Table 4. Pearson Correlation Analysis Results for the Relationship Between Scores on the Premenstrual Syndrome Scale, Eysenck Personality Inventory, and Golombok-Rust Sexual Satisfaction Scale in the Sample

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. PMS Scale	-																				
2. Depressive Affect	.82**	-																			
3. Anxiety	.75**	.62**	-																		
4. Fatigue	.79**	.55**	.48**	-																	
5. Irritability	.85**	.71**	.47**	.64**	-																
6. Depressive Thoughts	.88**	.71**	.69**	.70**	.67**	-															
7. Pain	.69**	.42**	.51**	.50**	.54**	.53**	-														
8. Appetite Changes	.47**	.36**	.13	.27**	.41**	.29**	.28**	-													
9. Sleep Changes	.68**	.39**	.51**	.58**	.48**	.58**	.60**	.19*	-												
10. Bloating	.52**	.33**	.23**	.28**	.57**	.26**	.31**	.42**	.29**	-											
11. Golombok-Rust Sexual Satisfaction Scale	.25**	.28**	.16	.25**	.22**	.25**	.25**	.02	.17*	-.06	-										
12. Frequency	.19*	.23**	-.03	.10	.22**	.13	.26**	.20*	.13	.04	.59**	-									
13. Communication	.14	.16*	.17*	.14	.05	.14	.17*	.01	.09	-.10	.64**	.31**	-								
14. Satisfaction	.22**	.21**	.11	.24**	.19*	.26**	.17*	.07	.16*	-.10	.80**	.37**	.48**	-							
15. Avoidance	.14	.23**	.04	.14	.17*	.17*	.05	.04	.01	-.13	.75**	.47**	.38**	.53**	-						
16. Touch	.12	.12	.02	.22**	.10	.11	.12	-.05	.15	-.10	.83**	.37**	.56**	.61**	.61**	-					
17. Vaginismus	.27**	.24**	.22**	.22**	.27**	.18*	.26**	.01	.20*	.16	.58**	.19*	.31**	.29**	.31**	.40**	-				
18. Anorgasmia	.18*	.21*	.17*	.14	.12	.22**	.20*	-.10	.10	-.06	.78**	.46**	.33**	.59**	.49**	.58**	.28**	-			
19. Extraversion	-.12	-.17*	.00	-.17*	-.14	-.14	.01	-.04	.00	.02	-.24**	-.15	-.18*	-.13	-.32**	-.20*	-.10	-.16*	-		
20. Lying	-.19*	-.17*	-.20*	-.18*	-.13	-.18*	-.09	-.10	.20*	.02	-.19*	-.10	-.04	-.19*	-.14	-.08	-.16*	-.17*	-.04	-	
21. Neuroticism	.53**	.38**	.45**	.38**	.47**	.48**	.38**	.20*	.42**	.23**	.23**	.06	.20*	.19*	.10	.13	.30**	.14	-.27**	-.18*	
22. Psychoticism	.01	-.05	.14	-.10	-.05	.08	.04	.08	-.05	-.04	-.01	-.05	-.15	.06	-.01	-.04	-.15	.19*	.06	-.18*	-.03

**p<0,01,*p<0,05

The Pearson correlation analysis conducted to explore the associations between the Premenstrual Syndrome Scale and its subdimensions with the subdimensions of the Eysenck Personality Inventory yielded insightful patterns regarding relationships, rather than influences or effects, due to the cross-sectional nature of the study. A weak negative association was observed between the Premenstrual Syndrome Scale scores and Lie scores (r=-.19, p<0.05), indicating that individuals reporting fewer tendencies to lie also reported slightly more severe premenstrual symptoms. Additionally, a moderate positive association was found between the Premenstrual Syndrome Scale scores and Neuroticism scores (r=.53, p<0.05), highlighting a relationship where higher levels of neuroticism are associated with more pronounced premenstrual symptoms.

Specifically, Depressive Affect showed weak negative associations with both Extraversion (r=-.17, p<0.05) and Lie scores (r=-.17, p<0.05), and a moderate positive association with Neuroticism scores (r=.38, p<0.05).

These patterns suggest that individuals with higher levels of neuroticism, alongside lower tendencies to lie or exhibit extraversion, tend to experience more depressive symptoms in the premenstrual phase. Anxiety displayed a similar trend, with weak negative associations with Lie scores (r=-.20, p<0.05) and positive associations with Neuroticism scores (r=.45, p<0.05).

Fatigue's relationship mirrored this pattern, showing weak negative associations with Extraversion (r=-.17, p<0.05) and Lie scores (r=-.18, p<0.05), and a moderate positive association with Neuroticism scores (r=.38, p<0.05). This suggests a relationship between neuroticism and physical symptoms like fatigue during the premenstrual phase. Irritability also demonstrated a moderate positive association with Neuroticism scores (r=.47, p<0.05).

In examining the associations between the Golombok-Rust Sexual Satisfaction Scale and its subdimensions with the Eysenck Personality Inventory subdimensions, a distinct pattern was identified. The Golombok-Rust Scale was weakly negatively associated with Extraversion (r=-.24, p<0.05) and Lie scores (r=-.19, p<0.05), and weakly positively associated with Neuroticism scores (r=.23, p<0.05). This indicates that individuals with higher extraversion and lower honesty tend to report slightly lower sexual satisfaction, whereas a higher level of neuroticism is associated with a slight increase in sexual satisfaction.

Tablo 5. Findings from the linear regression analysis of the relationship between the eysenck personality inventory and the premenstrual syndrome scale.

	B	S.E	β	t	p	R^2	F	p
(constant)	98.91	11.47		8.63	0.000	0.27	14.62	0.000
Extraversion	0.40	1.44	0.02	0.28	0.780			
Lying	-1.69	1.26	-0.10	-1.34	0.181			
Neuroticism	8.53	1.24	0.51	6.90	0.000			
Psychoticism	0.05	1.81	0.00	0.03	0.980			

As indicated in the table, the subdimensions of the Eysenck Personality Inventory significantly predict the Premenstrual Syndrome Scale (R2=.27, p<.05). These variables account for 27% of the total variance in the Premenstrual Syndrome Scale scores. According to the beta coefficient values, the strengths of influence are as follows: Neuroticism (β=.51, p=.000) has the most significant positive impact, while Lying (β=-.10, p=.181), Extraversion (β=.02, p=.780), and Psychoticism (β=.00, p=.980) show minimal to no impact. This result indicates that Neuroticism is the variable that most significantly explains the scores on the Premenstrual Syndrome Scale.

Tablo 6. Findings from the linear regression analysis of the relationship between the eysenck personality inventory and the golombok-rust sexual satisfaction scale.

	B	S.E	B	t	p	R^2	F	p
(constant)	34.38	5.27		6.53	0.000	0.09	4.75	0.001
Extraversion	-1.69	0.66	-0.21	-2.56	0.012			
Lying	-1.23	0.58	-0.17	-2.13	0.035			
Neuroticism	0.97	0.57	0.14	1.71	0.090			
Psychoticism	-0.26	0.83	-0.03	-0.35	0.752			

As indicated in the table, the subdimensions of the Eysenck Personality Inventory significantly predict the Golombok-Rust Sexual Satisfaction Scale (R2=.09, p<.05). These variables explain 9% of the total variance in the Golombok-Rust Sexual Satisfaction Scale scores. Based on the beta coefficient values, the strengths of influence are as follows: Extraversion (β=-.21, p=.012) has the most significant negative impact, followed by Lying (β=-.17, p=.035), with Neuroticism (β=.14, p=.090) showing a positive but not statistically significant

influence, and Psychoticism (β=-.025, p=.752) having negligible impact. This result suggests that Extraversion is the variable that most significantly explains the scores on the Golombok-Rust Sexual Satisfaction Scale.

Discussion

This study explored the complex relationships between Premenstrual Syndrome (PMS) symptoms, sexual satisfaction, and personality traits among women aged 18 to 35. The findings reveal significant associations, particularly highlighting the roles of Neuroticism and Extraversion as predictors of PMS severity and sexual satisfaction, respectively.

The study found that Neuroticism, as measured by the Eysenck Personality Inventory, is a significant predictor of PMS severity. This finding aligns with previous research, which has demonstrated that individuals with higher levels of neuroticism are more susceptible to experiencing severe PMS symptoms due to their heightened emotional reactivity and vulnerability to stress (Gümüş et al., 2012; Woods et al., 1982). Neuroticism's influence on emotional instability may exacerbate the psychological and physical symptoms associated with PMS, leading to more pronounced experiences of this condition among women with higher neuroticism scores.

Extraversion was identified as a significant predictor of sexual satisfaction, with a notable negative association observed. This finding adds complexity to the existing literature, where the relationship between extraversion and sexual satisfaction has shown mixed results. While some studies suggest that extroverted individuals may experience higher sexual satisfaction due to their sociability and outgoing nature (Işık, 2020), our study indicates a negative association. This negative relationship may reflect cultural or societal expectations, where extroverted behaviors might conflict with prevailing norms about sexual relationships, potentially leading to dissatisfaction (Tunç, 2019). This divergence underscores the need for further research to explore how these dynamics vary across different cultural contexts.

The relationship between sexual satisfaction and the personality traits of Lying and Neuroticism also warrants attention. A weak negative relationship was found between sexual satisfaction and both Extraversion and Lying, while a weak positive relationship was noted with Neuroticism. These findings suggest that individuals who score higher on Neuroticism may experience lower sexual satisfaction due to their emotional instability, which can negatively impact their sexual relationships. Conversely, those who score higher on Extraversion and Lying may experience more conflicts or dissatisfaction in their sexual lives, potentially due to discrepancies between their behavior and societal or personal expectations.

The societal discomfort in discussing sexuality and women's menstrual cycles, influenced by cultural, social, and psychological factors, was reaffirmed. These subjects continue to be unchallenged or stigmatized taboos within society, posing difficulties for individuals lacking knowledge or comfort in discussing these topics (Özkan, 2014). This research segment illuminates the intricate relationships between PMS symptoms, sexual satisfaction, and various demographic and psychological factors among women aged 18 to 35.

In particular, the significant findings regarding the frequency subdimension of the Golombok-Rust Sexual Satisfaction Scale among younger women (18-24 years) suggest that puberty, adolescence, and early adulthood are periods of higher sexual satisfaction, potentially due to biological readiness for reproduction, health, and higher energy levels. This trend parallels Tunç's (2019) findings, where vaginismus also had a high score average among married individuals.

Further, the study revealed that marital status plays a role in sexual satisfaction, with significant differences observed in the frequency and communication sub-scores. Unmarried individuals reported higher frequency scores, while married individuals had higher communication scores. This suggests that being in a marital relationship might enhance communication but not necessarily the frequency of sexual activities. These findings resonate with the broader literature that suggests different aspects of sexual satisfaction are influenced by marital status (Csikszentmihalyi, 1997; İncesu, 2014).

The relationship between PMS symptoms and factors such as dysmenorrhea (painful menstruation) was profound, with a significant portion of women experiencing intense and debilitating cramps, primarily affecting the abdomen and lower back regions (Kızılkaya, 1994; Çıtak & Terzioğlu, 2002). These findings align with studies by Silva et al. (2006), Moos (1968), Woods et al. (1982), and Gökçe (2006), which highlight the varied prevalence and intensity of PMS symptoms across different age groups and suggest that hormonal fluctuations associated with the onset of menstruation may contribute to more severe symptoms in younger

women.

Moreover, the study confirmed that individuals with a family history of PMS symptoms reported higher average scores, underscoring the potential genetic or environmental influence on PMS (Michelle et al., 2006; Güneş et al., 1997). Economic status also emerged as a significant factor, with those in lower income brackets experiencing more severe PMS symptoms compared to their higher-income counterparts. This finding supports the idea that financial stability may play a role in the management or perception of PMS symptoms, possibly due to better access to healthcare or less stress related to financial concerns (Woods et al., 1982).

Overall, this study contributes to a deeper understanding of how personality traits, PMS symptoms, and sexual satisfaction are interrelated. The significant findings related to Neuroticism and Extraversion highlight the importance of considering personality in the context of women's health. By integrating these findings with existing literature, this study provides a more comprehensive understanding of the factors that influence women's experiences of PMS and sexual satisfaction, paving the way for more targeted interventions and future research.

The findings of this study should be interpreted within the context of Turkish cultural norms, where traditional gender roles and societal expectations around modesty and privacy significantly influence how women experience and report PMS symptoms and sexual satisfaction. The pressure to conform to these norms might exacerbate conditions like PMS, particularly among women with higher levels of Neuroticism, while also leading to conflicts for more extroverted individuals whose behaviors may not align with societal expectations. Additionally, the strong emphasis on family and marriage in Turkish culture may explain the observed differences in sexual satisfaction between married and unmarried women, with marriage often encouraging better communication but not necessarily increasing the frequency of sexual activities. The cultural taboos surrounding discussions of sexuality and menstruation may contribute to internalized stress, limited access to information, and increased severity of PMS symptoms, especially among those in lower income brackets. These findings suggest a need for culturally sensitive health interventions and educational campaigns in Turkey to address both the psychological and physical aspects of women's health within this cultural framework.

Overall, the findings of this study underscore the intricate interplay between personality traits, PMS symptoms, and sexual satisfaction, mentioning the importance of a culturally sensitive approach in both research and interventions aimed at improving women's health and well-being.

Limitations

This study acknowledges several limitations that may influence the interpretation of its findings. First, the Premenstrual Syndrome Scale used in this research was developed in 2006 based on DSM-III and DSM-IV criteria. Given the release of DSM-5 in 2013, there have been updates in diagnostic criteria that may not be fully captured by the scale utilized, which could affect the alignment of our results with the most current definitions and classifications of premenstrual syndrome. Additionally, the concept of neuroticism, as measured by the Eysenck Personality Inventory, is interpreted within the context of Eysenck's theoretical framework and does not imply a pathological condition. It is important to consider that neuroticism in this study refers to emotional reactivity and instability rather than a personality disorder.

Another limitation relates to the classification of marital status, which was broadly categorized as married, single, living together, or divorced. This approach may not fully capture the complexities of relationship dynamics, particularly the duration of relationships, which could have a significant impact on the study's findings. For instance, comparing individuals who are single but in long-term relationships with those who are newly married might introduce variability that was not accounted for in this study. Future research should consider incorporating relationship duration as a variable to provide more nuanced insights into how relationship status interacts with the variables studied.

Additionally, it is acknowledged that the conclusions drawn in relation to "Marriage" status may at times extend beyond the specific context of this study. While marital status was used as a significant variable, the broader implications and comparisons with other research examples may lead to inferences that are less directly tied to the specific data presented. Future research should aim to explore these relationships in more detail to ensure that conclusions remain tightly aligned with the study's data.

Furthermore, the study's sample is limited to women aged 18-35, which may restrict the generalizability of our findings to other age groups or populations with different cultural and regional backgrounds. The cross-sectional design of the study also limits our ability to draw causal inferences or observe changes in PMS symptoms, sexual satisfaction, and personality traits over time. Lastly, reliance on self-reported measures introduces the potential for biases such as social desirability or recall bias, despite the inclusion of a "lie scale" to control for response biases.

It is also important to consider that topics such as family, marriage, and sexuality are areas often influenced by gender inequality, which may have introduced demographic limitations in this study. The demographic information collected may not fully capture the complexities and nuances associated with these areas, potentially impacting the interpretation of the results.

Another limitation of this study is the definition and measurement of an "active sex life." While the term "active" typically refers to the frequency of sexual activity, our study does not specify a threshold or frequency that constitutes an active sex life. This ambiguity may affect the interpretation of results, as participants' perceptions of what is considered "active" can vary widely. Future research should aim to establish a clear and consistent definition of an active sex life to enhance the comparability and reliability of findings.

These limitations suggest areas for future research, including the use of updated diagnostic tools, longitudinal studies to assess changes over time, and broader sample populations to enhance the generalizability of the findings. Additionally, future studies might benefit from a more detailed examination of relationship dynamics, including relationship duration, to better understand the interactions between marital status and the psychological variables under investigation.

Implications

The findings of this study have several important implications for mental health, education, and future research. In the context of mental health, understanding the relationship between premenstrual syndrome (PMS) symptoms, sexual satisfaction, and personality traits can inform the development of more tailored interventions for women, particularly those in the 18-35 age group. Mental health professionals could use these insights to create more effective therapeutic approaches that address both the psychological and physical aspects of PMS, thereby improving overall well-being.

For educational purposes, this research highlights the importance of incorporating gender-sensitive content into curricula that address the biopsychosocial aspects of health. Educational institutions could benefit from integrating these findings into health education programs, which could help in raising awareness and reducing stigma associated with PMS and related issues.

In terms of future research, while this study utilized quantitative methods, there is a significant opportunity to explore the same or similar topics using qualitative and innovative research methods. We recommend future researchers consider using methodologies such as Online Photovoice (OPV), Online Interpretative Phenomenological Analysis (OIPA), and Community-Based Participatory Research (CBPR). These approaches allow participants to express their experiences with minimal manipulation, offering a more grounded understanding of the subject matter. Specifically, OPV, which has been recognized as an effective method for capturing the lived experiences of participants, could provide deep insights into the relationship between PMS symptoms, sexual satisfaction, and personality traits. Studies using OPV could explore themes such as "Understanding PMS through OPV" or "Exploring the Relationship Among PMS Symptoms, Sexual Satisfaction, and Personality Traits through OPV," offering a more nuanced view that complements quantitative findings

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RESEARCH ARTICLE

Investigating Views on Increasing Premarital Relationship Development Programs

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ABSTRACT

This study aimed to investigate the perspectives of students enrolled in the Premarital Counseling course regarding the expansion of premarital relationship development programs. Employing a focus group interview as a qualitative research method, data collection utilized a semi-structured interview form with two questions. The study comprised 25 undergraduate students in the Guidance and Psychological Counseling Program. Analyzing the data through content analysis revealed two primary themes: alternative strategies to increase the number of premarital relationship development programs and participant incentives, aligning with the study's objectives. Sub-themes under these themes were also identified. The research findings are anticipated to guide future developmental studies aimed at enhancing both the quantity and quality of premarital relationship development programs in Türkiye, encouraging broader participation in these initiatives. Participants mentioned acquiring knowledge and awareness about existing programs through the Premarital Counseling course. To expand this impact, advocating for the widespread inclusion of Premarital Psychological Counseling courses in Psychological Counseling and Guidance undergraduate programs is recommended. Furthermore, as suggested by participants, informing university students in other programs and departments about premarital relationship training could be achieved through diverse elective courses.

In young adulthood, it is developmentally and socially important for individuals to establish romantic relationships, maintain these relationships in a healthy way, and marry. In collectivist cultures, marriage is the most accepted social way of living together and forming a family. In 2022, the crude marriage rate in Türkiye was 6.76 per thousand, and 574 thousand 358 couples married (Turkish Statistical Institute [TURKSTAT], 2023). Expectations regarding marriage and family life change depending on cultural and social norms, technological developments, and the development of gender equality. In particular, it is important to consider the impact of increased use of the internet and instant communication over social networks through smart devices on romantic relationships and marriages. While the expectations from marriage a century ago were to ensure the continuation of the generation on the basis of commitment, today it has turned into a structure based on the equality of men and women, where attention and love are desired to be felt constantly.

Marriage brings about significant changes in the lives of individuals (new life roles, duties and responsibilities, etc.). These changes are felt most intensely in the first years of marriage and couples are expected to adapt to

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these changes quickly. However, couples may face difficulties, disappointments, and conflicts in this adaptation process (Terzi İlhan & Işık, 2019). In the literature, it is possible to find research results that divorces are intense in the first years of marriage (e.g. Dennison, Koerner, & Segrin, 2014; Dişsever & Dişçi, 2000; Neff & Geers, 2013; Uçan, 2007). According to the marriage and divorce statistics of TURKSTAT (2023), the crude divorce rate in Türkiye was 2.13 per thousand in 2022, with 180,954 couples divorced. 32.7% of these divorces took place within the first 5 years of marriage, 21.6% of them within the 6–10 years of marriage, and the number of children affected by divorces was recorded as 180,592.

Since the family is the smallest social unit, a problem in the family system has a direct impact not only on the family but also on the family's immediate social environment and public health. While family breakdown and divorce cause psychological, social, and economic difficulties, troubled marriages also involve similar difficulties. Therefore, it is important to support individuals to gain some knowledge and skills to review both themselves and their relationships and to strengthen their relationships before marriage takes place. Premarital counseling is one of the most important services that can prevent marital failures, divorce, and sexual and psychological disorders of couples. Relationship development programs within the scope of premarital counseling are one of the main preventive services aiming to improve marital relationships, healthy reproduction, and healthy parenting. In addition to strengthening individuals' ability to make informed choices, premarital relationship development programs provide individuals with the opportunity to acquire the necessary skills to solve problems that may arise in marriage. As a matter of fact, research supporting the effectiveness of premarital education programs can be found in the literature (e.g., Halford, 2004; Larson, 2004). When premarital education programs are examined, it is seen that they are classified into three types: theory-based (e.g. Gottman's strong relationship home model, emotion-focused therapy, and Imago relationship therapy), skill-based (e.g. Protect Your Marriage Before It Starts program–SYMBIS, Prevention and Relationship Development Program–PREP) and inventory-based (e.g. Premarital Individual and Relationship Assessment-PREPARE, Understanding and Facilitating Couple Communication–FOCCUS) (Ökten, 2022).

A happy and satisfied marriage requires the presence of two happy spouses. Seeking psychological counseling before marriage or participating in relationship development programs is emerging as an effective means for engaged and newly married couples to maintain relationship satisfaction (Carroll & Doherty, 2003; Silliman & Schumm, 2000). Despite researchers' growing interest in preventive approaches to marital distress, many couples do not yet realize the potential benefits of the programs and services that mental health professionals can provide. Even in the midst of severe marital distress, couples do not seek professional help and some studies show that more than 80% of couples who divorce do so without consulting a mental health professional (Blair and Córdova, 2009; Johnson et al., 2002). According to the Türkiye Family Structure Survey (2022), 43% of married couples reported that they consulted family elders when they had problems instead of seeking help from a specialist, while the rate of those who consulted a specialist was 5.2% for women and 4.3% for men. However, most of the research on premarital relationship development programs focuses on short-term effects in the early stages of a relationship. There is little research on the medium and long-term effects of relationship education on improving relationships or reducing separation. It is difficult to find education that supports couples during life transitions such as becoming parents, starting a family again, relocating, and retiring. Individuals may have few skills to cope with a crisis or challenges such as job loss and illness (Halford, 2000).

A study (Doss et al., 2009) examined the likelihood of receiving premarital education for 398 individuals currently in their second marriage and 1,342 individuals currently in their first marriage. Compared to those in first marriages, individuals in second marriages were significantly less likely to receive premarital education for their current marriage. This difference between first and second marriages was mediated by variables such as cohabitation before marriage, educational level, having children from previous relationships, and being married in a religious marriage. It is striking that in both first and second marriages, couples with the highest risk of subsequent marital problems and divorce were less likely to have received premarital education. This

gap has important research and policy implications, especially given that second marriages are more likely to end in divorce (e.g., Bramlett & Mosher, 2001; Kreider, 2005) and that children are involved during marriage.

Blair and Córdova (2009) investigated whether marital commitment predicts the intention to participate in premarital education programs in a study with 46 engaged couples. The results showed that marital commitment, spirituality, and health beliefs predicted women's interest in premarital education and intention to participate in premarital education programs, while men's intention to participate in premarital education programs was predicted only by women's interest in premarital education. However, 93% of the men and 100% of the women surveyed indicated that they already had the skills to deal with any conflict that might arise in their relationship. In particular, women were less likely to report an interest or intention to participate in premarital education if they perceived barriers to participation (Blair and Córdova, 2009). Thus, the more convenient and accessible these programs are, the more likely women are to participate, possibly with their husbands. In a similar study (Sullivan et al., 2004), perceived susceptibility to marital problems, perceived susceptibility to divorce, and perceived barriers were found to be significant predictors of women's intention to participate in a premarital education program. However, for men, after controlling for demographic variables, perceived barriers and expenditure were the only significant predictors of intention to participate. This research suggests that to the extent that policymakers, researchers, and educators can influence women's awareness of marital problems or their susceptibility to divorce, they can influence participation in premarital education programs.

While premarital education programs are frequently used in Europe and the USA, and even courses on romantic relationships are offered in high schools and universities, Türkiye has not taken consistent steps in this regard (Yıldız, 2016). When premarital relationship development programs in Türkiye are examined, it is only possible to find a limited number of studies conducted by ministries, universities, municipalities, private counseling centers, and non-governmental organizations (Ökten, 2022). It is very important to increase the number of premarital relationship development programs and to prepare them by taking cultural characteristics into consideration in order to reach wider target groups. On the other hand, reducing the cost, reducing the duration of the program, and making counseling as convenient as possible to increase participation in premarital relationship development programs are strategies that should be used to encourage more couples to benefit from premarital education programs. Many relationship development programs consist of committed couples. While the goal is to provide an opportunity for less committed couples to strengthen their relationship, premarital education also provides an opportunity for more committed couples to demonstrate their commitment. In order to increase engagement, along with the removal of barriers, educators should draw more attention to the importance of a commitment to the ongoing maintenance and development of the relationship (Sullivan et al., 2004; Blair & Córdova, 2009). In light of all this information, the aim of this study is to examine the views of the students who took the Premarital Counseling course at a foundation university in the fall semester of 2022–2023 on increasing the number of premarital relationship development programs. In line with this purpose, answers to the following questions were sought:

1. What can be done to increase the number of premarital education programs? What are your alternative ideas on this issue?

2. Assuming that the number of training programs is increased, how can participation in these programs be encouraged?

Method

Research Design

In this study, a qualitative research approach was utilized. The focus of qualitative research is on the process and the search for meaning; it views the world as people, situations, events and the processes that connect them (Maxwell, 2012; Merriam & Tisdell, 2015). Qualitative research is conducted to understand the context in which participants address a problem or issue (Creswell, 2013). In qualitative research, interviews can be conducted in different ways. The researcher can interview the participants face-to-face, by phone, by e-mail, or online (Creswell, 2013; Creswell & Creswell, 2017). In this study, focus group interview, one of the qualitative research methods, was used. A focus group interview is a technique that aims to collect data by

creating a polyphonic environment where participants do not feel the need to hide their true thoughts, usually with 4–12 participants with some common characteristics and similar experiences and a moderator. Focus group studies are frequently used because they are low-cost, data can be obtained quickly, they provide reliable information if the appropriate environment is provided, and they are the most suitable technique, especially for community research. Within this framework, in this study, focus group interviews were used instead of individual interviews in order to obtain more in-depth data, as it offers the opportunity to work with a large sample. Participants in a focus group interview listen to each other and respond to the views and opinions they hear. Therefore, participation in a group environment provides valuable information. In focus group interviews, the answers to the questions are enriched by the interaction of the participants with each other and allow for deep and detailed analysis. Thus, the possibility of collecting data cost-effectively, revealing different perspectives, improving the data quality of the interaction between the participants, and the fact that the subject under study is not personal and sensitive are among the factors that influence the choice of the focus group interview method in this study (Patton, 2015). The data of this study were collected through a semi-structured interview form consisting of two questions. Semi-structured interviews provide more systematic and comparable information from the participants (Yıldırım & Şimşek, 2021).

Study Group

The study group of the research consists of 25 undergraduate students, 20 female, and 5 male, studying in the Guidance and Psychological Counseling Program of the Faculty of Education of a foundation university in Ankara. In qualitative research, purposive sampling methods are used to study situations that are thought to have rich information in depth (Yıldırım & Şimşek, 2021). The Criterion sampling method, one of the purposeful sampling methods, was used in the study. In line with the criteria established by the researchers, students who took the Premarital Counseling course as an elective course in the fall semester of the 2022–2023 academic year constituted the study group.

Data Collection

The data were collected in December 2022 with a semi-structured interview form created by the researchers. An announcement was made to the students who were taking the course by the instructor who taught the course. Students who volunteered to participate in the study were asked to sign an informed consent form. After the dates and times of the interviews were determined, three separate focus group interviews were conducted by planning the location and technology. At the beginning of the interviews, the information in the consent form was summarized, and verbal approvals were obtained. After the first researcher explained the purpose and scope of the research to the participants as the group manager, the interview questions were asked from general to specific. Probing questions were used to obtain in-depth information where necessary. Examples of these questions include *"What topics should these programs cover?", "By whom and where should these programs be conducted?", "To whom should these programs be directed?", "When (at what stage of the relationship) should these programs be conducted?"*. The second researcher was assigned the task of controlling the recording device, noting important points, and fulfilling any needs that may arise. The first group consisted of 8, the second group of 10, and the third group of 7 participants. The interviews lasted approximately 45 minutes on average and were conducted in the group counseling room. The interviews were recorded with a tape recorder with the permission of the participants.

Data Analysis

Qualitative data analysis refers to the process of creating meaning from data (Merriam & Tisdell, 2015). The content analysis method was used to analyze the data. Conceptualizing the data and explaining the meaningful patterns between concepts through themes constitute the basis of this analysis. Content analysis focuses on an in-depth analysis of the collected data and the emergence of previously unclear dimensions (Yıldırım & Şimşek, 2021). Opinions on how to increase the number of premarital education programs and how to encourage participation in these programs if the number of education programs is increased include the steps of coding the data, finding themes, organizing the codes and themes, and defining and interpreting the findings. Each recorded interview was transcribed verbatim for data analysis.

Research Credibility and Ethics

In qualitative research, the role of the researchers and their interest in the subject matter are important in ensuring the credibility of the researcher (Patton, 2015). The integrity of qualitative research is related to the position of the researcher and how it affects the research process (Merriam & Tisdell, 2015). In this study, the researchers' past experiences, education, and research topics of interest are within the scope of the research. The first researcher's doctoral study involved the implementation of a premarital psychoeducation program with university students. At the present time, the researcher conducts research in the field of couple and family counseling and teaches courses at undergraduate and graduate level. The second researcher took master's level courses on the same subject. The interview form prepared by the researchers was sent to two experts in the field of Guidance and Psychological Counseling. The interview form was finalized in line with the expert opinions. Furthermore, purposeful sampling and direct quotations containing raw data while remaining faithful to the nature of the data contribute to the reliability of the research (Yıldırım & Şimşek, 2021). It can be said that the use of in-depth description in the transfer of findings contributes to validity (Creswell & Creswell, 2017). In studies where more than one researcher analyzes the data, a study on coding reliability is required (Yıldırım & Şimşek, 2021). Both researchers carried out coding in the analysis of the transcribed data. The agreement on codes and themes was determined as 84% according to the formula of Miles and Huberman (1994), which means there is an agreement between the coders (Creswell, 2013) and stability in the answers of more than one coder of the data set. Miles and Huberman (1994) state that the reliability of coding should be at least 80% agreement level for qualitative reliability. Accordingly, it can be said that the inter-coder consensus is at an acceptable level.

This research was conducted in accordance with ethical rules by adhering to the Scientific Research and Publication Ethics Directive of Higher Education Institutions. At the same time, this research was conducted with the approval of the Social and Human Sciences and Arts Research Committee of the higher education institution where the researchers work, dated January 23, 2023, and numbered 17162298.600-23. The participants were informed about the purpose and content of the research and their consent was obtained. The participants were informed that the data to be obtained would be used for scientific purposes and that no information that would reveal their identities would be presented. The participants were coded as P1, P2..., PN in the data analysis, and their personal information was concealed. The researchers avoided leading questions and reflecting personal impressions during the data collection process.

Findings

As a result of the data analysis, two main themes, alternative ideas for increasing the number of premarital relationship development programs and participant incentives were identified in line with the purpose of the study and the research questions. The first of these two main themes, alternative ideas for increasing the number of premarital relationship development programs, was grouped under four sub-themes. The first theme and its sub-themes are presented in Figure 1.

Figure 1. Alternative ideas.
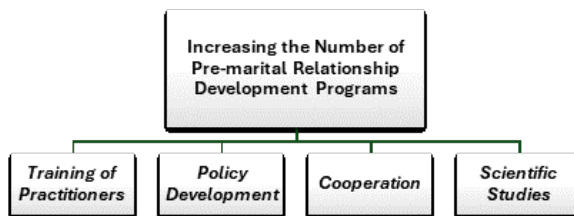
Alternative ideas for increasing the number of premarital relationship development programs were collected under the sub-themes of training practitioners, policy development, cooperation, and scientific studies. Examples of verbal data in these themes are presented below.

In the sub-theme of training practitioners, participants emphasized various field specializations. In this context, field experts such as academics, psychological counselors, psychologists, lawyers, etc. Are seen as having the competence to inform and train practitioners through education. For example P1 said "If ministries, etc. are interested in these pre-marriage programs, they should also be informed, because I think they don't give the necessary importance. If people who are experts in their field, such as university professors, inform them about the importance of this and how it should be done, they can prepare a program accordingly and then carry out a stage.". Another participant (P10) said "Actually, psychological counseling and guidance and psychology students could at least carry out studies to raise awareness. For example, there could be informational activities. Even we could enter a class at the faculty of engineering and make such a presentation, at least about the importance of the relationship. Those who study psychological counseling have a little bit of awareness because of our department, but maybe an engineering student does not even have an awareness of this." Statements in this theme often emphasize interdisciplinary collaboration in the development of programs and the training of practitioners.

In the sub-theme of policy development, participants were of the opinion that national and local policies should be developed to increase the number of premarital relationship development programs. For example P7 said, "Actually, when they go to get a wedding date, they have to fill out a lot of documents and they have to go through a lot of health stages. At least the informative part, I think we could make an informative session compulsory.". Another participant (P13) said "We need to go to the countryside. The programs need to reach the people who really need it, because people who have a certain status or have exceeded a certain level of culture can somehow access it. I think they have more opportunities and possibilities in this sense.". In addition to these statements, there are also statements that courses on romantic relationships and marriage can be added to schools, especially high schools and universities, and that politicians should also legally recognize premarital relationships.

In the sub-theme of cooperation, participants believe that increasing the number of premarital relationship development programs can be achieved through cooperation between various individuals, institutions, and organizations. Participants state that experts, national and local official institutions can come together and carry out studies. If the participant statements are given as examples, P13 stated that "I think stakeholders should work together, interdisciplinary work is needed. I think that the municipality and the health sector could come together and work could be carried out both to raise awareness of couples and to increase the accessibility of these studies." while P20 stated that "Academics could work together with national education and raise awareness of teachers. Starting with teachers, because it also includes the students in the Ministry of National Education, because this starts in high school, I thought such joint studies could be organized, projects could be done. I think non-governmental organizations could also work.".

In the sub-theme of scientific studies, participants think that various scientific studies should be conducted to increase the number of premarital relationship development programs. Participant statements regarding the sub-theme of scientific studies are presented below. For example P3 said "I think informative booklets could be prepared for the public, just like a newspaper is sold in grocery stores, magazines are sold in markets, I think informative booklets on certain topics could be prepared weekly or monthly, like the brochures we prepared within the scope of our course, or as young people, we live in the digital world more and more and this age is developing, we need to keep up with it, there could be informative posts on social media, podcasts, informative posts from regular accounts, these could also be important." and P11 ("Can we adapt content again, for example, in this case? Instead of completely importing it from abroad, we can really adapt it to our own culture") and P24 ("There were such programs abroad, they could actually be adapted here") emphasized that programs abroad can be adapted to the culture.

The second research question, how to encourage participation in premarital relationship development programs, was grouped into four sub-theme under the theme of participant incentives. The second theme and its subcategories are presented in Figure 2.

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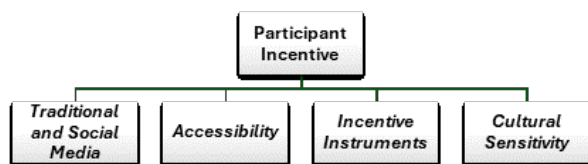**Figure 2.** Participant incentive.

Figure 2 shows that the themes of traditional and social media, accessibility, incentive tools, and cultural sensitivity are included in participant incentives. Examples of verbal data on these sub- themes are presented below.

In the sub-theme of traditional and social media, participants stated that traditional and social media can be used to encourage participation in premarital relationship development programs. They state that content such as TV series, movies, advertisements, news, etc. featuring premarital relationship development programs can be used in traditional media. Similarly, participants believe that chat programs on various social media platforms, content producers, and influencers mentioning premarital relationship development programs in their content will increase the incentive. P15 stated that "The first thing that came to my mind was actually television because there is a segment that is difficult to reach. Here, famous names could advertise this, and people could pay attention to such things. Such a very popular book could be written and become very popular, or it could be a television series or a movie." while P22 stated that "I've noticed something recently, if someone wants to make something famous, they get a brand to give an advertisement to an influencer without telling them it's a collaboration, and then everyone is after them.". P25 looked at it from a different perspective and stated that interviews could be conducted with those who had previously participated in similar premarital programs ("I also thought that if someone from the public said that they interviewed the people who received it in the news or something like that, it was short, but it was very useful for me, it would attract the attention of others and participation would increase.").

In the sub-theme of accessibility, participants emphasized that accessibility is important to encourage participation in premarital relationship development programs. Accessibility includes awareness, information, and guidance about the need for premarital relationship development programs. If we look at the participant opinions, P2 said "Apart from the platforms, for example, there could be all the places they go. For example, a 60-year-old man could go to the coffeehouse, such things could be placed there, someone working there could be informed and we are doing something like this... Or, I don't know, mosque exits, these could be the most hypothetical, I'm saying these places because they are the most unthinkable examples.". P6 stated "I think these guides should be minimized and sold, they should be open to the public, and they should be in easily accessible grocery stores and markets. I think free training about this should be given in all municipalities in all eighty-one provinces, including districts." and P19 added "Subways are the most used places by the public. In the subways, something like an informative public service announcement could be rotated on the screens or placed on the boards.".

In the sub-theme of incentive instruments, participants indicated that various incentive tools such as certificates, financial support, and employment would encourage participation in premarital relationship development programs. If we give some examples of participant statements for the incentive instruments sub-theme: "In order for communities to be formed on the basis of volunteerism, I think the state has a treasury, or even if there is no treasury, I think it should provide an incentive. I mean, as an incentive, as I said, a certain segment thinks about the money part, they say, I have an interest in this, let me go and learn, I will get something as a result. For example, in this program for university students, they could be given a direct

certificate that could be used in their future lives."(P5), and P15 stated "I think state support is important here again. Because I think one of the biggest reasons why men don't want it is the financial aspect. I think it would be easier to convince them if they at least knew that they would not spend a lot of money on it." In addition to these incentive instruments, there are also participants who emphasize that symbolic incentives (such as certificates) can also be important (for example P17 and P25).

In the sub-theme of cultural sensitivity, participants mentioned various cultural changes, such as changing prejudices and gender role stereotypes, to encourage participation in premarital relationship development programs. Some participant statements in this regard are: "Culturally, such issues are a bit behind in our society. Whether it is pre-marriage... some families may not accept pre-marriage, there were arranged marriages before that. Therefore, first of all, the administrators need to create this culture in the country, in the society, and make the society adopt it... Yes, prejudices need to be broken first. They need to explain that there can be a relationship before marriage, that the things that happened before marriage are also included in the relationship, and they need to make the society adopt this." (P6), P10 added "Things could be planned to break these myths. I mean, what is he thinking that he doesn't participate in these programs? Something could be done to turn these false beliefs into truth. Maybe in terms of gender, for example, when a woman tells a man to get such counseling, the man may feel guilty.", another participant points out the importance of differences of opinion between generations "I think the issue that should definitely be taken into consideration is that unfortunately, family, or in some cases relative, intervention in pre-marriage couples is very common in our country. We see that this is especially high in rural areas and I think that they are the ones who need this program the most, because I think that crisis moments or neglect and abuse situations may be more common in them." (P13).

Conclusion, Discussion and Recommendations

During young adulthood, developing romantic relationships before marriage, choosing a spouse, getting married, and starting a family are among the important developmental tasks (Havighurst, 1972; Levinson 1986). Considering that the first marriages take place during young adulthood in Türkiye and the average age of first marriage is 25.6 for women and 28.2 for men (TURKSTAT, 2023), the necessity of premarital services to be provided during this period becomes evident. Considering the effect of premarital relationship development programs on the realization of developmental tasks related to marriage and family building, this study examines the opinions of students taking the Premarital Counseling course on increasing the number of premarital relationship development programs. The data obtained as a result of the interviews with the students were collected under two main themes: increasing the number of premarital relationship development programs and participant incentives.

Under the theme of increasing the number of premarital relationship development programs, there are sub-themes of training practitioners, policy development, cooperation, and scientific studies. The findings in these themes show that the participants perceive premarital relationship development programs as professional support services and think that it is important for experts to take part in the preparation and delivery of pieces of training. In addition, national and local actors such as policymakers, ministries, and municipalities should take responsibility for increasing the number of premarital relationship development programs. It is known that there are not enough relationship development programs in Türkiye and most of the existing relationship development programs are limited to postgraduate studies (Kızıl Aslan & Nazlı, 2021). While the participants stated that there should be cooperation between stakeholders, different institutions, and experts who are thought to be related to the subject, they also emphasized scientific studies and stated that various publications should be prepared, and adaptation and development studies should be carried out. In light of these findings, when the premarital education programs carried out by the central government in Türkiye are examined, it is seen that the Ministry of Family and Social Services has been implementing the "Premarital Education Program" in cooperation with municipalities since 2012. This program consists of four modules: trainer's handbook, communication and life skills in marriage, family law guide, and marriage and health, and can be accessed free of charge on the official website of the Ministry within the scope of the Family Education

Program (https://aep.aile.gov.tr/#egitimicerik). The Ministry of Family and Social Services announced that more than 1 million 200 thousand people benefited from these trainings until 2021 and that the "Pre Marriage-Education Dissemination Project" was established by the General Directorate of Family and Community Services in 2020 in order to increase the recognition, public awareness, and preferability of the Pre-Marriage Education Program and to contribute to the formation of positive ideas about marriage and family institution (https://www.aile.gov.tr/athgm/haberler/evlilik-oncesi-egitim-programi-kapsaminda-1-milyon-200-   bini-askin-kisiye-egitim-verildi/). Since 2014, the Ministry of Health has been preparing a Pre- Marriage Counseling Guide to inform couples applying for a health report to get married (https://ekutuphane.saglik.gov.tr/Yayin/473). In addition to these ministries, the Ministry of National Education also organizes various pre-marriage preparation courses (Ökten, 2022). When the programs conducted through higher education institutions are examined, the first noteworthy study is the "Marriage School" project conducted by Istanbul University in 1998. Afterward, various theses and articles on premarital relationship development programs were published (see Kızıl Aslan & Nazlı, 2021; Kızıl Aslan, 2023).

While all these efforts show the importance given to premarital relationship development programs, on the other hand, considering the number of people who have benefited from these services to date, it also reveals that there is a need for collaborations and policies that aim to systematically reach all the couples who are getting married. In the literature, there are studies showing that couples participating in premarital education programs have happier and more satisfied marriages (e.g. Carroll & Doherty, 2003; Hahlweg & Richter, 2010; Fawcett et al., 2010; Stanley et al., 2006). In a study conducted before marriage, it was concluded that the Romantic Relationship Development Program developed based on the systemic approach increased the relationship satisfaction of young people in romantic relationships and this effect continued two months after the program ended (Deveci Şirin & Bayrakçı, 2020). These and similar research results provide important evidence about the effectiveness of premarital relationship development programs. Therefore, increasing the number of training programs and reaching wider audiences is a need rather than a desire. For example, in Terzi İlhan and Işık's (2019) study examining the premarital education needs of 10 married individuals between 1-5 years, the participants stated that they would like to have information about sexuality, spousal relationships, family relationships, married life, and splitting tasks and to participate in a premarital education program with their spouses if they had the opportunity before marriage.

In the theme of participant incentives, there are sub-themes of traditional and social media, accessibility, incentive toolsi and cultural sensitivity. In this theme, it is seen that most of the participants emphasized awareness and information activities related to premarital relationship development programs. In other words, according to the participants, participation in the programs is related to being aware of the need for the program. Participants stated that premarital relationship development programs should be accessible and encouraged by using various incentive tools and this should be done in a culturally sensitive manner. According to the participants, accessibility problems are an obstacle to participation in the programs. In parallel with these findings, Şen (2009) mentions some methods on how to encourage young people to participate in premarital programs. One of these methods, the bad scenario tactic, in which the high divorce rates are brought to the forefront, was found to be least effective in increasing participation; instead, methods such as reducing misperceptions, making training and counseling fees accessible, ensuring that the trainers are experts and reliable, explaining the benefits well, praising the trainings by people who have previously participated in these trainings, statements by well-known people in the society, and recommending these trainings to everyone with whom couples communicate during the marriage process were found to be more effective. In a study conducted by Hamamcı, Buğa, and Duran (2011), when the sources used by university students about marriage were examined, the top three were talking to friends, observing married individuals, and television programs. In another study, the resources that can be used for premarital education were expressed as the internet, books, elders or relatives and physicians, and it was stated that education can be provided in the form of seminars, practically or through a booklet or brochure (Terzi İlhan & Işık, 2019). On the other hand, considering that couples and families go through a process of change before marriage (Kalkan & Yalçın, 2021), the participants' views on changing cultural judgments and informing the families of the couples to be married are significant. It is known that cultural and demographic changes in Türkiye affect the premarital period and the time when the family will be established (Türkiye Family Structure Advanced Statistical Analysis, 2018).

The Eleventh Development Plan aims to formulate family policies with the participation of all stakeholders and to increase the quality and prevalence of services for the family. In this direction, among the measures to strengthen the family, there are targets to expand education and counseling services that encourage the continuity of marriages and to expand educational programs on marriage, family, communication within the family, etc. using visual and audio media (Presidency of Strategy and Budget, 2019). When premarital relationship development programs are considered as programs aimed at building a strong social structure and strengthening the family, it can be said that the participants' views on policy development, cooperation, and traditional-social media sub-themes are consistent with national goals.

As a result, it is thought that the findings of the study can be guiding in developmental and preventive studies to be carried out in order to increase the number and quality of premarital relationship development programs in Türkiye and to encourage more participants to benefit from these programs. In their opinions on awareness and information about the programs, the participants stated that they reached knowledge and awareness about the existing programs through the Premarital Counseling course. In this direction, it can be ensured that the Premarital Psychological Counseling course is made widespread in Guidance and Psychological Counseling undergraduate programs, and beyond that, as stated by the participants, university students studying in other programs and departments can be informed about premarital relationship education through various elective courses. In addition, all relevant ministries, institutions, organizations, universities, non-governmental organizations, and private counseling centers can work in cooperation on this issue and conduct needs analyses with broad participation. Support can be obtained from professionals specialized in the field of mental health in developing effective programs and resources in terms of duration and content, and in training trainers. In order to encourage participants, large-scale advertising activities can be carried out by taking cultural characteristics into account, and certificates, financial support or various gift packages can be created. This study consists only of students who have taken the Premarital Counseling course and volunteered to participate in the study. In similar studies, the study group can be expanded, participants of various ages and educational levels can be reached, and mixed methods using both quantitative and qualitative data can be preferred.

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RESEARCH ARTICLE

Career Engagement as Proactive Career Behavior: The Role of Core Self-Evaluation, Career Adaptability, and Negative Career Goal Feedback

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ABSTRACT

Understanding the relationships between proactive personality traits and adaptive behaviours to new and unexpected situations and negative career-related feedback can enrich explanations for the development of proactive career behaviours. In this context, the current study examined the relationships and mediating mechanisms of cognitive flexibility and negative career goal feedback between core self-evaluations and career engagement, an indicator of proactive career behaviours. A total of 334 (264 female, 70 male) university students aged 18-25 years participated in the study. The study found that career engagement was positively associated with core self-evaluation and career adaptability and negatively associated with negative career goal feedback. In addition, based on the parallel multiple mediator model analysis, career adaptability, and negative career goal feedback played mediating roles between core self-evaluation and career engagement. The results suggest that negative career goal feedback is a risk factor, whereas career adaptability is a protective factor for career engagement. Interventions that reduce this risk factor and increase this protective factor may help university students increase their career engagement.

Young adulthood or university years constitute a period when individuals move from school to work, which is an essential step in career development. This period between the ages of 18-25 is characterised as a period of indecision about work and education and a search for identity in work-related issues (Arnett, 2006; Kroger et al, 2010). Understanding the dynamics of career development during this significant period can make it easier for young adults to make a smooth transition and adapt to the organization upon starting working life. During this period, which is called the age of uncertainty (Blustein, 2019), understanding the career behaviours of individuals can contribute to overcoming the uncertainty and ensuring the flexibility demanded by working life. This can also help raise awareness about the working life and labor market, which will, in turn, help young teenagers invest in age-appropriate career skills that will enhance the likelihood of employment.

In today's world, job roles in working life are more flexible, while job tasks continuously change and develop as organizations encounter opportunities and demands (Sylva et al., 2019). The increasing uncertainty

prevailing in working life makes it even more critical for individuals to get prepared to meet the needs of changing and developing working life and to take an active role in directing their careers and lives (Rossier et al., 2017). Furthermore, employers now expect their employees to exhibit more flexible behaviours rather than clearly-defined task roles to adapt to global competition, rapid technological changes, and innovation (Sylva et al., 2019). At this point, these uncertainties and expectations in working life require individuals to exhibit proactive behaviours about their future careers.

Proactive career behaviors include exploring alternatives, setting a goal, planning a career, establishing a network, improving skills and talents to ensure competitiveness regarding future careers, and broadening experience to ensure future employment (Strauss et al., 2012: Zikic & Hall, 2009). Young individuals who have the chance to explore career opportunities at an early period go on making more sensible decisions about their careers in the future life (Flum & Blustein, 2000; Zikic & Hall, 2009). In this respect, examining career engagement as a proactive behaviour of young adults studying at university can give some important clues to help them make the right and wiser decisions during the transition from school to work. For this reason, we addressed career engagement in the current study.

As an indicator of proactive career behaviours, career engagement (Hirschi et al., 2014) is a concept that has been examined concerning job climate and organizational psychology in recent years, but with a limited number of studies. (Nilforooshan & Salimi, 2016). An important reason is that career engagement is assumed to have a reintegrative mechanism (Peng et al., 2021). It seems possible to state from this perspective that antecedent behaviours (e.g., career adaptability) will foster proactive career behaviours (career engagement), and individuals who exhibit proactive career behaviours will achieve positive outcomes about their future careers (e.g., career success). Literature review shows that studies mainly focus on career engagement outcomes, whereas few studies address the antecedents of career engagement (Nilforooshan & Salimi, 2016; Peng et al.,2021).

Undoubtedly, it is important to focus on the results of career engagement. However, sometimes a focus on results can lead to palliative solutions. Moreover, focusing on outcomes may lead to overlooking the antecedents and hinder early intervention opportunities. It may be easier to plan interventions that can strengthen an individual's career engagement if we can understand their perceptions of themselves and how these perceptions affect the individuals' coping with changes in work life. Similarly, if we can understand what kind of feedback perceptions (positive or negative) individuals have about their career goals, it may be possible to produce solutions that will increase career engagement for career practitioners. To sum up, determining the dynamics that may be related to career engagement can provide clues about what we should focus on to to make a smooth transition and achieve career success.

Therefore, this study focused on core self-evaluation, career adaptability, and negative career goal feedback as antecedents of career engagement and examined the role of these constructs.

Career Engagement

Hirschi et al. (2014) define career engagement as the degree to express one's career with various proactive career behaviors such as establishing a network, developing skills, career exploration, career planning, and volunteer participation. In other words, it refers to seeking information, identifying opportunities and constraints, initiating career planning, and making decisions (Chan, 2017). Hence, career engagement is considered a higher structure since it refers to exhibiting various career behaviours such as career self-management, career management strategies, career exploration, and career planning (Hirschi et al., 2014).

Previous studies show that career engagement is associated with personal qualities (Nilforooshan & Salimi, 2016), self-competence in deciding on a career (Kim et al., 2014), core self-evaluation (Yoo & Lee, 2019), goal clarity (Chan, 2017), career adaptability (Peng et al., 2021), dispositional hope, career planning and career decidedness (Hirschi, 2014). Though limited in number, these studies focus on both antecedents and outcomes of career engagement, and they show some relationships among the variables mentioned above. Within this

framework, we focused on the the relations between career engagement and core self-evaluation, career adaptability along with negative career goal feedback in the current study.

Examining the role of core self-evaluation, career adaptability, and perceptions about career goals in young adults' career engagement can guide career counselors in helping young adults who are going through a period from school to workexperience a smooth transition, look for a job, get the job they want and achieve the career success in the long turn. This way, young adults can deal with the uncertainties of working life by adopting a proactive approach to managing their careers. Also, defining the mechanisms that have a significant role in the career engagement of young adults who transition to work life and enhance career engagement is expected to contribute a new perspective to our current understanding.

Core Self-Evaluation And Career Engagement

Organizational psychologists have long been keen on the contribution of core self-evaluation to job variables such as commitment, job satisfaction, and career development. In recent years, research about careers has focused on individuals' self-management and proactive behaviours, emphasizing the need to have a sense of self-competence, self-efficacy, and control, and improve career-related issues. This focus is thought to be related to core self-evaluation (CSE) (Judge et al., 1998). CSE includes a comprehensive personality structure consisting of self-esteem, generalized self-efficacy, emotional stability, and control focus (Judge et al., 1998). It asserts that individuals' self-evaluation is linked to their career perceptions and behaviours (Tims & Akermans, 2017). CSE refers to being aware of one's feelings, self-esteem, one's belief in skills and capacity, staying away from anxiety as well as depressive situations, and taking control of what is going on around them, so it appears possible to state that individuals with higher CSE will participate in career behaviours more and will behave more proactively for their career. People with higher CSE focus on solving problems instead of avoiding them or using coping strategies more than others, and they are expected to exhibit more proactive career behaviours (Bakker et al., 2012). As people with higher CSE tend to establish internal control, exhibit behaviours of self-definition and self-control, and have a deeper understanding (Judge et al., 1998), they are more likely to exhibit proactive career behaviours. Similarly, people with higher CSE and higher self-esteem and self-efficacy are more confident in their skills, competence, and expectations than others; they have more explicit career goals and show more commitment. Previous studies in the literature support this view (e.g., Haynie et al., 2017; Yoo & Lee, 2019; Zhu et al., 2021).

Some earlier studies suggest that CSE can, directly or indirectly, affect career engagement. For example, Tims and Akkermans (2017) conducted a study concluding that core self-evaluation affected job commitment through autonomy, career competencies, job crafting, and social support. In a similar study, Stumpp et al. (2009) affected job satisfaction and organizational commitment via different job characteristics (e.g. career feedback, task identity), increasing life satisfaction. Some other studies in the literature have similar findings (e.g., Erez & Judge, 2001). In light of the related evidence, the first hypothesis we offered in the current study is as below:

Hypothesis 1 (H1): There is a positive relationship between core self-evaluation and career engagement and, it predicts career engagement directly.

Career Adaptability And Career Engagement

Savickas (2013) defines career adaptability, one of the main components of Career Construction Theory, as the attitude and competencies individuals use to adapt to a career or job that is appropriate for them. Career adaptability refers to proactively adapting to altering career conditions, and constructively addressing the stress of new or challenging career conditions (Hirschi, 2012). Career adaptability helps young people cope with career problems and the demands of working life, making it easier for them to adopt proactive behaviours such as career engagement. (Tladinyane & Van der Merwe, 2016). Researchers indicate that career engagement is an essential proactive behaviour for career adaptability (Strauss et al. 2012). They emphasize that it refers to practices such as planning a career, improving skills, and setting goals. When career adaptability is considered as the state of being ready to deal with foreseeable career tasks such as planning, getting prepared, and starting a job as well as unforeseeable demands such as rapid changes in working life (Klehe et al., 2011), individuals with higher career adaptability are more likely to show more engagement behaviours. Previous studies in the

literature disclose that career adaptability is associated with job satisfaction (Fiori et al., 2015), work engagement (Taber & Blankemeyer, 2015), career success (Zacher, 2014), and job-seeking strategies (Koen et al., 2010). Although limited in number, some studies support the link between career adaptability and career engagement. (e.g. Ochoco & Ty, 2022).

The current study used career adaptability as the mediating variable in the relationship between core self-evaluation and career engagement. One can presume that individuals with higher CSE approach issues related to their career more proactively tend to be more aware of their career, take responsibility for their behaviours, make decisions, and act in line with their skills, which will, in turn, lead to higher career engagement. Moreover, while exhibiting proactive career behaviours, CSE can activate individuals' positive evaluation and career adaptability, and thus it can encourage them to behave more proactively in their careers. In short, CSE can positively affect career adaptability and predict career engagement. Though limited in number, some studies (e.g., Nilforooshan & Salimi, 2016) show that personality traits predict career engagement with the mediating effect of career adaptability. In light of the related evidence, the second and third hypotheses we offered in the current study are as below:

Hypothesis 2 (H2): Career adaptability is positively related to career engagement.

Hypothesis 3 (H3): Career adaptability has a mediating role in the relationship between core self-evaluation and career engagement.

Negative Career Goal Feedback And Career Engagement

Setting goals for career is important for individuals to be active agents in modifying their behaviours to manage their careers. In this way, they can adopt certain practices about which steps to take in their career path and when and how to take these steps. However, setting goals and getting feedback about the sufficiency of these goals and the progress to reach them are essential (Hu, Creed et al., 2017). Hu, Creed et al. (2017) defined career goal feedback as "internal resources including emotions and ideas about the appropriateness of a career goal, the progress to reach this goal and the improvements and arrangements to reach it based on information gathered from external sources such as parents, teachers, and peers as well as intuition and social comparison that aim to direct and motivate self-regulation process for the sake of ensuring individuals to make a better progress towards their career goals" (p. 658). It is argued that the feedback (positive-negative) that individuals in the career decision phase receive about their career goals influences the subsequent career behaviour of the individual (Kerpelman & Pittman, 2001). Similarly, Hu, Creed et al. (2017) emphasize that feedback on career goals can come from both internal and external sources and that feedback is vital to implement or succeed in career plans. From this perspective, although receiving negative feedback does not always result in negative outcomes, it seems possible that individuals who frequently receive negative internal or external feedback about their career goals may not be competent enough to determine and exhibit behaviours to achieve these goals.

Lent and Brown (2013) state that when people are encouraged or supported by their environment, it is possible for them to engage in proactive career behaviours. Perceiving positive feedback about career goals and development can have a strong impact on an individual's career behaviors. Schuesslbauer et al. (2018) indicated that positive feedback received from significant others can encourage an individual's motivation to participate in career attitudes, resulting in career success. On the other hand, Johnston et al. (2014) state that negative career feedback can act as a restrictive function in career effort and career advancement, and therefore can reduce the career success of the individual. We focused on negative career goal feedback in our study because negative feedback limits people's effort to engage in goal-related activities, motivation, and well-being (Praskova & Johnston, 2021). Research shows that those who receive negative feedback about their career goals tend to have higher stress, anxiety, distress, and lower career expectation (Creed et al., 2015; Hu et al., 2018a; Ilies & Judge, 2005). Other studies have also found that negative career goal feedback is negatively associated with lower-level hope (Korkmaz, 2022), less adaptive behaviors, withdrawal from work performance, lacking confidence in achieving future career goals (Choi et al., 2018), and lower work effort (Praskova & Johnston, 2021).

The studies mentioned above suggest that when young individuals see that their career goals do not correspond to real life or when they receive feedback about not having realistic goals, they can have stress about their careers. They are less likely to exhibit career behaviours such as doing research, planning a career, joining activities, preparing a resume and job letters, or establishing a network. These shreds of evidence suggest that negative career goal feedback can be important for career engagement. Individuals who receive negative career goal feedback are uncertain about exhibiting proactive career behaviours. Therefore, understanding the career behaviours of individuals receiving negative career goal feedback will help them gain their career management skills. Those who receive negative feedback about their career goals can fail to exhibit proactive career behaviours.

The current study used negative career goal feedback as a mediating variable in the CSE-career engagement relationship. CSE is considered an antecedent to negative career goal feedback (NCGF), as it is considered a personality construct and is more stable than NCGF. As expected, individuals who have a positive self-evaluation of themselves and tend to be confident in their abilities are likely to engage in proactive career behaviors. However, it is not clear how negative evaluations of goals affect this relationship. The status of these individuals engaging in proactive career behaviors when faced with negative career goal feedback has not yet been clarified. Similarly, some studies show (e.g., Jawahar & Shabeer, 2021) that goal feedback is associated with career planning, which can be considered proactive behavior, and career goal disengagement due to inconsistency of career goals. Negative career goal feedback negatively affects individuals' participation in proactive career behaviors. This is why we considered NCGF an antecedent to career engagement in this study.

Some studies show that CSE is bidirectionally related to both positive and negative career behaviors. For example, Tims and Akkermans (2017) showed that individuals with higher CSE were more likely to evaluate their career competencies more positively, and it was positively related to job commitment. On the other hand, some studies reveal that CSE is negatively related to career indecision (Jaensch et al., 2015) and difficulties in making career decisions (Koumoundourou et al., 2011). These explanations suggest that negative career goal feedback may affect the relationship between CSE and career engagement. Therefore, we propose the following hypotheses:

Hypothesis 4 (H4): Negative feedback on career goals is negatively associated with engagement in the career.

Hypothesis 5 (H5): Negative career goal feedback plays a mediating role in the association between core self-evaluation and career engagement.

Study Purpose

Previous studies reviewed in the current study show the role of core self-evaluation, negative career goal feedback, and career adaptability in predicting career engagement. Results from some studies (e.g., Hirschi et al., 2011) show that early career engagement is associated with later career outcomes (e.g., job search, employment, career changes). Therefore, examining components that may influence career engagement can guide shaping subsequent career outcomes, both for the individual and professionals providing career assistance.

Furthermore, when reviewing the literature in the context of Türkiye, there are some studies that examine the relationship between career engagement and other variables (e.g Çarkıt, 2022; Kara, 2024; Korkmaz et al., 2020; Tunç et al., 2022). However, although there are various studies on career engagement, it is a very new issue to be researched in Türkiye. Therefore, studies on career engagement of young adults in Türkiye are considered very important in terms of providing a new perspective on their career development.

Because of this reason, we aimed to present empirical evidence to the career engagement literature and examined if there were relationships among core self-evaluation, career adaptability, negative career goal feedback, and career engagement. We also investigated whether career adaptability and negative career goal feedback play a mediating role between core self-evaluation and career engagement. The mediation model is given in Figure 1.

Figure 1. The hypothesized parallel multiple mediator model in predicting career engagement. [Core Self – Evaluation: CSE; Career Adaptability: CA; Negative Career Goal Feedback: NCGF; Career Engagement: CE.]
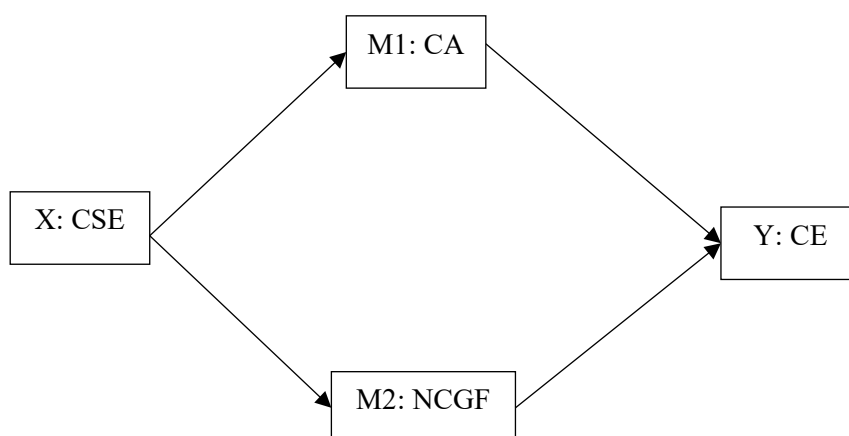
Method

Procedure

First of all, we received the necessary ethical permission to gather the study data. In this regard, data collection tools and permissions were requested from the researchers. Ethical approval was then obtained from Gazi University Ethics Committee. After receiving legal permission, data were collected online via Google Forms from university students older than 18 studying at various universities. Before starting the implementation, all the participants submitted Informed Consent to confirm their voluntary participation. The informed consent form includes information that the research is for scientific purposes, no personal information will be requested, and that participation is voluntary. Participants were not compensated in any way during the data collection process.

Measures

Core Self-Evaluation Scale (CSES): The CSES scale developed by Judge et al. (2003) is a 5-point Likert-type scale consisting of 12 items. It was adapted by Kisbu (2006). The scoring of the scale varies between one (completely false) and five (completely true). Six of the items in the scale (2,4,6,8,10,12) are reversed items. Examples of statements include 'Sometimes I don't feel competent in what I'm doing' and 'I complete tasks successfully'. The Cronbach alpha reliability coefficient was calculated as .70 for the original study and .85 for the current study.

Career Adapt-Abilities Scale-Short Form (CAAS-SF): The CAAS-SF was developed by Maggiori et al. (2017) and adapted into Turkish culture by Işık et al. (2018). It consists of 12 items and four dimensions (worry, control, curiosity, and confidence) with a 5-point Likert scale. The high score indicates a high level of professional adaptability. A 4-week test-retest analysis was conducted to have evidence of reliability and the Pearson coefficient was .82 for the full scale. The Cronbach alpha reliability coefficient of the instrument was .90 in the original study and .87 in the current study.

Career Goal Feedback Scale (CGFS): The CGFS was developed by Hu, Creed et al. (2017) and adapted into Turkish culture by Korkmaz and Kırdök (2019). It is a 5-point Likert-type scale composed of 24 items. The scale measures the level of perception regarding the internal-external negative feedback about three dimensions: improvement, goal suitability, and current career progress. A high score refers to a high level of

negative career goal feedback. The test-retest correlation coefficient was .77. The Cronbach alpha reliability coefficient of the instrument was .88 in the original study and .87 in the current study.

Career Engagement Scale (CES): The CES was developed by Hirschi et al. (2014) andKorkmaz et al. (2020) adapted to Turkish culture. This 5-point Likert scale consists of 9 items and is unidimensional. A high score on the scale indicates highly proactive career behaviour. Test-retest conducted with an interval of four weeks resulted in a middle-level and statistically significant correlation ($r = .67$, $p < .001$). The Cronbach alpha reliability coefficient of the instrument was .88 in the original study and .90 in the current study.

Demographic Information Form: The DIF consists of questions about gender, age, grade level, and perceived economic status.

Data Analysis

The study data gathered with the aforementioned data collection tools were analysed via statistical techniques appropriate for the situations given in the hypothesis. IBM SPSS version 24 was used to conduct basic statistics (mean, standard deviation, correlations, normality tests, etc.). In addition, process macro model 4 (Hayes, 2018) was used to determine the mediating role of the variables and to test the parallel multiple mediator model with career adaptability and negative career goal feedback as mediators of the link between core self-evaluation and career engagement. Indirect effects were tested using 5000 bootstrap samples with 95% confidence intervals.

Results

Preliminary Analyses

There were no missing data as the data was collected online. The data set was analyzed in terms of outliers. In line with Tabachnick and Fidell (2013), univariate outliers were detected by visualization of score plots, and box plots, and also by analyzing z-scores for each variable. As a result of these investigations, 9 cases were excluded from the study, and further analyses were conducted with 334 cases. In addition, it was examined whether there was a multicollinearity problem. Since it was seen that the tolerance values were greater than .10 and the VIF value was less than 10, it was understood that there was no multicollinearity problem.

Descriptive, Normality, and Correlational Analyses

Before data analysis, each measurement tool was analyzed in skewness and kurtosis, Q-Q and histogram graphics, and normality. The results showed that none of the variables had a skewness and kurtosis value within the intervals of -1.0 and +1.0 (Kline, 2011), and Q-Q and histogram graphics displayed a normal distribution. It was demonstrated that the distributions were normal and that all the data were retained. Subsequently, the researchers computed the descriptive statistics and correlations among the variables (see Table 1).

Table 1. Normality Analysis, Descriptive Statistics, and Correlations

Variables	1	2	3	4	M	SD	Skew.	Kurtosis
1. CSE	-	.38	-.40	.41	38.34	7.12	-.525	.024
2. CA		-	-.55	.62	47.99	6.47	-.370	.021
3. NCGF			-	-.55	56.27	15.69	.320	-.017
4. CE				-	29.02	7.07	-.133	-.191

All correlations are significant at $p < .001$ level. Note: [Core Self–Evaluation: CSE; Career Adaptability: CA; Negative Career Goal Feedback: NCGF; Career Engagement: CE.]

As Table 1 shows, all correlations between variables are statistically significant. Career engagement was found positively related to core self-evaluation (r=.41; H1), and career adaptability (r=.62; H2), and negatively related to career goal feedback (r=-.55; H3). Career adaptability also directly predicts career engagement (B=.456,

p<.001; H1) (see Figure 2). These results support H1, H2 and H3. The aforementioned relationships indicate that these variables are suitable formodel testing (Tabachnick and Fidell, 2013)

Parallel Multiple Mediation Analysis

In the parallel multiple mediator model, the X variable was the core self-evaluation, the Y variable was the career engagement, the M1 variable was the career adaptability, and the M2 variable was the career goal feedback. All paths in the model from core self-evaluation to career engagement are shown in Figure 2, and the indirect effects are shown in Table 2.

Figure 2. The proposed parallel multiple mediator model. N = 334. The non-standardized coefficients were shown and total effect was shown in pranthesis. *p < .001.
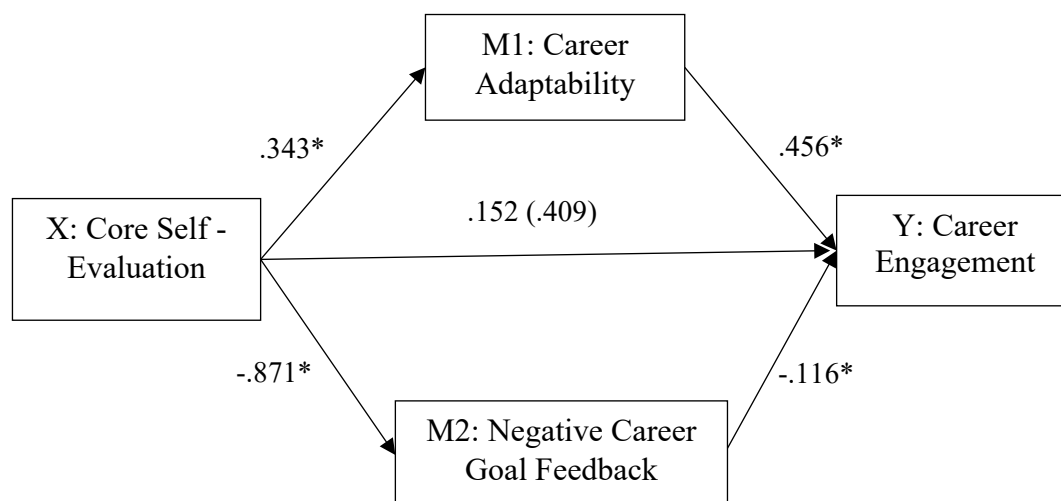
When Figure 2 is examined, the result showed that CSE was positively associated with CA and CE and was negatively associated with CGF. Therefore, H1 was supported. At the same time, results demonstrated that CA was positively associated with CE, and CGF was negatively associated with CE. Thus, H2 and H4 were supported.

Table 2. *Indirect Effects*

Indirect Effects	Boot. Coef.	Boot. SE	95% CI	
			Lower	**Upper**
CSE → CA → CE	.156	.041	.087	.248
CSE → NCGF → CE	.101	.033	.046	.174
Total	.257	.065	.148	.398

Note: [Core Self-Evaluation: CSE; Career Adaptability: CA; Negative Career Goal Feedback: NCGF; Career Engagement: CE.]

As seen in table 2, the mediating effect of CSE on CE via CA was significant (B=.156, boot SE=.041, boot 95%CI[0.087, 0.248]) which confirmed H3; and the mediating effect of CSE on CE via CGF was also significant (B=.101, boot SE=.033, boot 95%CI[0.046, 0.174]) which supported H5 (see Table 2). All variables in the model together explained 46% of the variance in CE (R^2 = .461, $F(1,332)$ = 94.340, p = .000). According to these results, it can be deduced that both CA and CGF mediate the effect of CSE on CE, and the mediated effect via CA is stronger than the mediated effect via CGF. As a whole, the hypothesized parallel multiple-mediator model in predicting career engagement was supported.

Discussion

The study investigated the associations among career engagement, core self-evaluation, negative career goal feedback, and career adaptability. The initial objective was to examine the mediating role of CA and NCGF in the relationship between CE and CSE. In line with the expectations, the study findings indicated that career engagement was positively related to core self-evaluation and career adaptability and negatively related to negative career goal feedback. Considering the study findings, career adaptability and negative career goal feedback mediated the effect of core self-evaluation on career engagement.

The current study makes two important contributions to the literature about career engagement. Firstly, the outcomes of career engagement have been the main focus of previous research. (e.g. Chan, 2017; Smale et al., 2019). Besides, some of these studies focused on job-related outcomes to explain career engagement. Even though these studies broaden our perspective in our efforts to understand career engagement and make significant contributions, this research focuses on the antecedents of career engagement, exploring the effect of core self-evaluation, career adaptability, and negative career goal feedback on career engagement, and enriches the related theories and research studies. The present research suggests that core self-evaluation, career adaptability, and negative career goal feedback are likely to impact young adults' career engagement significantly. Secondly, although previous studies reveal that career engagement is associated with various career constructs (e.g., Kim et al., 2014; Nilforooshan, 2020; Ochoco & Ty, 2022), these studies are few. The current study puts an emphasis on the gap in the literature and contributes to it this way.

The results of the present study indicated that CSE was associated with career adaptability and career adaptability had a mediating effect between CSE and career engagement. The possible reason might be that young adults feel encouraged to adapt more to career changes as well as expected and unexpected developments in working life when they perceive themselves more positively, control undesirable conditions, think that results of some incidents are indeed a result of their activities and believe that they can overcome any difficulty they face. This also suggests that individuals with a positive sense of self are more likely to have the necessary psychosocial resources to handle changes (Savickas, 2013). Higher CSE people are less likely to have anxiety, addiction, and lower self-esteem (Judge et al., 1998), and their sense of control and trust can increase (Nilforooshan & Salimi, 2016). Therefore, they can get more interested in their future career, be more prepared for the future, and be more willing to learn more about themselves and new experiences. When individuals have positive feelings about themselves and their careers, they are likely to engage in practices that enhance their repertoire of personal resources, and this will can guide individuals towards positive behaviours such as proactive career behaviour. Such interactions might affect career engagement. This finding is consistent with previous studies in the literature (Haynie et al., 2017; Taber & Blankemeyer, 2015; Sou et al., 2022; Spurk et al., 2020).

Another possible reason for the relationships between students' career adaptability and proactive behaviours might be that there are more activities on and out of the campus. Brown et al., (2021) performed a study with university students and conducted focus group interviews. They concluded that participating in proactive career behaviours or being willing to participate in such behaviours was related to career adaptability. The students reported that acquiring new skills via internships, short training, or micro skills specific to the sector, participating in voluntary work, and networking were all related to career adaptability. Namely, the findings of the study above suggest that proactive career behaviours are associated with career adaptability, which supports the current study finding.

In brief, considering the studies that emphasize the importance of identifying barriers that can restrict individuals' positive experiences and meaningful career behaviours (Gutman & Schoon, 2012; Zikic & Hall, 2009), the current study shows that having high CSE and acquiring the behaviour of dealing with uncertainties in working life can increase their likelihood to participate in proactive career behaviours. Thus, they can construct their future career more consistently. Those individuals with high CSE, consider themselves competent, and take the initiative about their career problems can act more about their future career and join more activities that present appropriate career opportunities, such as career planning, career search, and networking. This is likely to increase individuals' career engagement.

The current study findings showed that CSE was associated with NCGF and had a mediating effect on career engagement. Put another way, as hypothesized, the results showed that CSE was negatively associated with NCGF, which may lead to a lower tendency to engage in proactive behaviors. The possible reason for this is that individuals who see themselves as less competent, have low self-esteem, are more anxious, and are more prone to an external locus of control tend to have more negative career feedback perceptions and, as a result, tend to show less proactive behaviors. The current research supports the view that regulatory processes have a stronger influence on career-related behaviour than personal tendencies (Lent et al., 1994).

Fonteyne et al. (2018) state that negative feedback can negatively affect both cognitive discrepancy and the individual's ability to act. Bandura (1991) argues that negative feedback reduces the individual's expectations of success and distracts their focus from the target. Similarly, Hu, Creed, et al. (2017) state that negative feedback can cause individuals to struggle with their career goals and move away from their existing career goals. When these explanations are considered, individuals who perceive negative career goal feedback might tend to give up or move away from their career goals, which can negatively affect proactive career behaviours. Negative feedback about the goal can trigger moving away from the goal (Hu, Creed et al., 2017), which might have negatively affected career engagement.

When these results are evaluated in terms of Turkish context, they can be explained via cultural characteristics. Negative feedback is considered an unwelcome situation for Turkish society (Hofstede, 1984; Kagitcibasi, 1970), which partially exhibits collectivist cultural characteristics. In collectivist cultures, negative self-perceptions may serve to give importance to one's effort to meet others' standards (Jawahar & Sahabeer, 2021), and by strengthening the perception of negative feedback, it can negatively affect the participation of individuals in proactive behaviors and reduce their career engagement. In addition, unemployment and employment rates in Türkiye can be regarded as another factor. The employment rate in Türkiye was 48.3%, and the 15-24 unemployment rate was 17.4%. (Turkish Statistical Institute, 2024). These rates may increase the anxiety of young individuals who receive negative feedback about their careers, become hopeless, and reduce their motivation to manage their careers, thus negatively affecting their career engagement. The results of the current study are also consistent with previous studies in the literature. (e.g., Erez & Judge, 2001; Hu et al., 2018c).

Limitations And Implications For Future Research And Practice

The current study has some limitations. The present study is correlational and focuses on the relations among study variables. In view of the fact that there are not many studies on career engagement, a correlation study is very important. However, the current study can be conducted again with a longitudinal design. Then it can be possible to understand if career engagement involves permanent effects or relations. The current study showed negative relations between career engagement and negative career goal feedback. However, it did not address sources of feedback (internal-external). Future studies can focus on the sources of negative career feedback to see which source is more influential on career engagement. In this way, it can be possible to identify the source to intervene in terms of feedback to improve young adults' career engagement. In terms of participants, there are more women than men in the study. This proportion could be considered a limitation of the research. It may be useful to take this into account when generalizing. To address this, it would be beneficial to ensure that the ratio of female and male participants is equal in future studies, thus eliminating this potential limitation.

The current study provides some evidence about the role of core self-evaluation, career adaptability, and career goal feedback in career engagement with a sample of young adults. Further research can be conducted with a sample of employees with the same variables. In this way, it would be possible to contribute to the construction of career interventions at both organisational and individual levels. The current study mostly focuses on career engagement as well as positive tendencies and behaviours. Further studies can focus on negative tendencies and behaviours of career engagement such as neuroticism, career distress, difficulties in deciding on a career, indecision, or career perfectionism. Thus, it would be possible to get some clues about how many negative tendencies are influential on career engagement and make early career interventions.

Providing students with a learning environment that allows them to participate in activities both on and off campus, as well as volunteering opportunities, can help them to overcome uncertainties, set career goals, and engage in proactive behaviours such as planning their future careers, doing research on it, networking and preparing a portfolio. Such practices can also give some clues to employees about students' improving their professional skills and can increase the likelihood of employment (Brown et al., 2021). Furthermore, students can have a more positive perception of their goals if they are taught how to develop realistic career goals during courses in career planning and provided with in- and out-campus events on setting career goals. Such events can be increased in and out of the campus to support their proactive behaviours.

Conclusion

Having flexible careers (Briscoe et al., 2006; Savickas, 2013) and transferring career management from individual to organization (Pope, 2015) means that focusing on a single feature or competency cannot be enough to support career development. When considered from this perspective, the current study reveals that while making career interventions, especially while trying to improve proactive career behaviours such as career engagement, it is essential to help individuals gain behaviours such as self-control, self-competence, positive self-evaluation, setting realistic goals and dealing with uncertainties in working life. Moreover, the current study asserts that when young individuals have a low sense of self and receive negative feedback about their career choice and behaviour, they can deviate from actions that will bring them to their career goals. In contrast, individuals with a positive sense of self can make use of adaptability sources better to overcome uncertainty in working life. Thus, they can take part in more acts to achieve their goals.

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RESEARCH ARTICLE

The Effect Of Post-Divorce Adjustment Program On Life Satisfaction, Adjustment To Divorce And Psychological Symptoms Of Divorced Individuals

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ABSTRACT

This study examined the effectiveness of the Post-Divorce Adjustment Program (PDAP) on individuals' adaptation to divorce, life satisfaction, levels of depression, anxiety, and stress. The research employed a pre-test, post-test, follow-up, and control group quasi-experimental design. The research group consisted of 20 divorced individuals aged between 25 and 45. These individuals were divided into two groups: 10 in the experimental group and 10 in the control group. In the experimental group, participants received the PDAP individually, consisting of six sessions held once a week. This study utilized a mixed research approach employing a parallel embedded design, where qualitative data complement quantitative data. Therefore, in addition to quantitative data collection tools, semi-structured interview forms developed by the researchers were used to collect qualitative data. To determine the effectiveness of the PDAP in the experimental group, statistical analyses including the Mann-Whitney U Test and Wilcoxon Signed-Rank Test were conducted. Furthermore, a clinical significance assessment was carried out to determine individual changes within the experimental group throughout the PDAP application. Qualitative data were summarized and interpreted using various analytical techniques, including structural, descriptive, and longitudinal analysis methods. Findings indicated that the PDAP significantly contributed to improving divorced individuals' adaptation to divorce and their overall life satisfaction, while concurrently reducing levels of depression, anxiety, and stress. Additionally, the qualitative analysis of data derived from semi-structured interviews revealed that the PDAP facilitated positive transformations in participants' lives. It was found that the individuals in the experimental group took the initial steps to reorganize their lives and began applying the skills acquired from the program to their daily lives. The findings were discussed within the context of relevant literature, and recommendations were presented.

The term divorce holds varying interpretations among researchers in the field. Some view it as a legal procedure (James & Friedman, 2009), while others regard it as a challenging phase of transition (Sakraida, 2005). Yet, for some, it represents a transitional crisis (Uçan et al., 2005). Broadly defined, divorce can be

understood as the transition from living with diverse family members to a solitary existence or with specific family members, or in its simplest form, as the legal, social, emotional, and psychological dissolution of a marriage (Demo & Fine, 2010; Friedman, 1984).

When scrutinizing the changes in divorce rates, it is notable that there has been a noticeable increase in recent years. The crude divorce rate, denoting the number of divorced individuals per 1,000 individuals in a year, has doubled in numerous countries within the Organization for Economic Co-operation and Development (OECD) since the 1980s (OECD, 2022). This surge in divorce rates is also evident in data provided by Eurostat Statistics Briefs (Eurostat, 2024) and the Turkish Statistical Institute (TÜİK, 2023). According to these data, the collective crude divorce rate for the 27 European Union member nations stands at 2.0. Eurostat (2024) data further reveal that the countries with the highest crude divorce rates include Latvia (2.9), Lithuania (2.6) and Sweden (2.1). Noteworthy changes in crude divorce rates are also observed in the United States. Although this rate decreased from 4.0 in the early 2000s to 2.9 in the 2020s and 2.6 in 2022, it remains higher than in many other countries (CDC/NCHS, 2022). These findings underscore the fact that millions of people go through divorce each year.

Given the emotional, psychological, social, and financial challenges that arise from divorce (Mikolai & Kulu, 2018), it can be asserted that millions of people experience long-term adjustment issues after divorce. A decline in life satisfaction is one of the problems individuals face after divorce. Research conducted on the post-divorce process, recognized as a demanding life event, supports this notion (Lucas et al., 2003; Luhmann et al., 2012). Longitudinal studies conducted in different countries have shown a connection between divorce and decreased life satisfaction, indicating that life satisfaction tends to decrease after divorce (Clark & Georgellis, 2013; Lucas, 2005). A similar longitudinal study uncovered substantial fluctuations in life satisfaction among individuals in the period following divorce, underscoring the profound impact of the divorce process on individuals (Denissen et al., 2018).

Another circumstance encountered during the post-divorce period is the occurrence of psychological issues. Some divorced individuals continue to grapple with significant psychological issues, even years after the divorce, making their adaptation to the process more arduous (Perrig-Chiello et al., 2015). Within the context of post-divorce adjustment, prevalent psychological maladjustments encompass depression, anxiety, stress, emotional distress, and feelings of isolation (Birnbaum et al., 1997). Kalmijn and Monden (2006) posit that divorce profoundly affects both parties involved, with a pronounced prevalence of depressive symptoms during this process. A longitudinal study conducted with 1,856 divorced individuals yielded similar results, indicating a significant increase in psychiatric symptoms after divorce (Hald et al., 2020). Furthermore, research conducted by the National Institute of Mental Health (NIH) in the United States has reported a correlation between divorce and early mortality, depression, anxiety, stress, and mental disorders (as cited in Afifi et al., 2006).

The post-divorce period is a transitional phase in an individual's life characterized by significant changes (Vukalovich & Caltabiano, 2008). This phase entails divorced individuals changing their old habits and adapting to a new way of life, which often brings about feelings of tension. This underscores the pivotal importance of post-divorce adjustment. Post-divorce adjustment encompasses positive transformations, which can be determined through various indicators such as psychological well-being, positive emotional states, overall happiness, life satisfaction, and coping abilities. It also includes the relative absence of physical or mental health symptoms (Kramrei et al., 2007). Factors that disrupt post-divorce adjustment include diminished self-esteem, a decrease in problem-solving and coping skills, challenges related to emotional awareness and management, disruptions in social relationships, particularly within the family, and changes in occupational and economic aspects of life (Perrig-Chiello et al., 2015; Sakraida, 2008). Such impairments not only complicate the process of post-divorce adjustment but also contribute to diminishing life satisfaction. They particularly exacerbate psychological issues, such as depression, anxiety, and stress (Wilder, 2016).

It is noteworthy that such problems are particularly apparent within three years of divorce. According to Korkut (2003), after divorce, individuals may have reactions that go beyond their usual reactions and it may

take 1-3 years for the emotions felt during these reactions to 'stabilise'. Similarly, Monden et al (2015) found that depression, anxiety and stress levels increased after divorce, with a corresponding significant increase in antidepressant use in the three years before and after divorce. Furthermore, divorced individuals were found to have higher rates of hospitalisation, suicide and death in the three years following divorce (Corcoran & Nagar, 2010; Nielsen et al., 2014; Sbarra, 2015). Based on these findings, it can be said that the three years after divorce are more challenging and problematic.

The extent of encountered difficulties, coupled with individual traits like emotional regulation, access to social support, and problem-solving abilities, significantly influences the magnitude of psychological challenges experienced during this transitional period. If an individual's coping strategies prove inadequate in navigating the challenges arising after divorce, they may struggle to regain their previous levels of well-being and life satisfaction (Chan Lai Cheng & Pfeifer, 2015). Taking into account these factors that impact an individual's post-divorce adjustment, activities aimed at mitigating the influence of potential risk factors and enhancing an individual's adaptation to these challenging situations are recognized as preventive measures. Thomas and Ryan (2008) have underscored that despite divorce often being marked by unwanted emotions like anger, unhappiness, and resentment, with adequate support, it can be transformed into a period of new beginnings. Such findings emphasize the importance of protective support services in the context of divorce.

In the sphere of post-divorce support services, it is apparent that the development of programs commenced in the United States during the 1970s. Over time, these programs have evolved to encompass support groups, adjustment programs, educational seminars, and parenting education initiatives (Fisher, 1977; Graff et al., 1986; Kessler, 1976; Stone et al., 1999). Subsequent years witnessed a notable surge in divorce rates, prompting numerous researchers to develop preventive programs for the post-divorce period. For example, Geasler and Blaisüre (1999) reported that 1,516 counties and cities in the United States have parenting programmes for divorced parents, an increase of 180% over the results of a 1993-1994 study in which 541 counties had programmes. Geelhoed et al. (2001) reviewed 81 different parenting programmes offered by 67 courts in the United States of America to children whose parents were divorced. Positive results were found for these programmes, which consisted of one or two sessions and lasted an average of 4 to 5 hours. In addition, Velderman et al (2018) compared the effectiveness of a culturally adapted post-divorce programme for Dutch children aged 4-8 years with findings in the US, highlighting the positive effects of the programme.

Research, including similar studies, has consistently shown that these programmes improve the adjustment of divorced people, and especially their children, and produce positive outcomes (Blaisure & Geasler, 2000; Quinney & Fouts, 2004). When scrutinizing the landscape of post-divorce support services offered internationally, it becomes evident that these services primarily concentrate on understanding emotions, coping with negative emotional states, fostering a sense of belonging, shaping a new identity, addressing post-divorce loss and the grieving process (Kessler, 1976; Vukalovich, 2004; Walker, 1979), elevating overall well-being levels (Øygard et al., 2000), bolstering self-esteem, improving communication skills, facilitating post-divorce adjustment, while concurrently alleviating the burden of depression (Barlow, 1982; Lee & Hett, 1990).

When these post-divorce counseling programs are examined, benefits such as making sense of divorce, regulating emotions, problem solving, and developing interpersonal relationship skills come to the fore (Alpaslan, 2018; Alvarez et al., 2024; Rasti & Mohammadi, 2024). It is reported that integrating these elements into psychological counseling significantly helps individuals cope with the complexities of life after divorce. A comprehensive understanding of the post-divorce process helps individuals set realistic expectations and prepare for the emotional and practical challenges ahead (Rasti & Mohammadi, 2024). This awareness facilitates better decision-making and encourages a proactive approach to post-divorce adjustment (Hagemeyer, 1986). Examining this awareness in the post-divorce process has been shown to help individuals understand the consequences of divorce, allowing for more informed choices and potentially smoother transitions (Wegscheider-Cruse, 2012). Emotion regulation is necessary to manage intense emotions such as anger, sadness, and fear that underlie psychological problems such as depression, anxiety, and stress associated with divorce (Alvarez et al., 2024). Effective emotion regulation strategies can prevent negative behaviors and promote psychological well-being (Houben et al., 2015). Post-divorce support services emphasize the

importance of understanding and managing emotions to improve personal adjustment and relationship dynamics (Frisby et al., 2012; Saini & Corrente, 2024).

Problem-solving skills enable individuals to deal with the practical challenges that arise during and after divorce, such as co-parenting arrangements, financial decisions, and daily life adjustments (Shahabi vd., 2021). Developing these skills through counselling can support more effective coping mechanisms and greater control over one's circumstances. The stress associated with divorce can negatively affect thinking and decision-making (Proulx, 1991). Problem-solving skills help individuals approach problems in a logical and systematic way, minimizing the impact of heightened emotions (Shahabi vd., 2021). Effective problem solving develops a sense of control and mastery over one's circumstances. This contributes to resilience, allowing individuals to adapt to their new reality and maintain life satisfaction (Yap et al., 2020). Divorce counseling often focuses on improving communication and problem-solving skills to facilitate a smoother transition. After divorce, individuals may need to renegotiate relationships with ex-partners, children, and social networks (Beck & Beck, 2014). Developing interpersonal skills is essential for communicating effectively, setting boundaries, and building new relationships. Counseling can provide a safe space to practice and improve these skills, promoting healthier interactions and reducing the likelihood of conflict (Afifi et al., 2015). Improved interpersonal skills contribute to better co-parenting relationships and overall social support. Bringing these concepts together in counseling provides a holistic approach to post-divorce adjustment (Krumrei et al., 2007). By addressing emotional, cognitive, and interpersonal issues, counseling can provide comprehensive support tailored to the individual's unique needs. This integrated approach can be expected to facilitate personal development, resilience and a more positive adaptation to life after divorce. Based on these findings, it can be argued that therapeutic interventions that combine divorce meaning making, emotion regulation, problem solving, and interpersonal skills training will be effective in helping individuals navigate the complexities of life after divorce.

When analysing the studies on the divorce phenomenon in Turkey, it can be seen that the reasons for divorce and the post-divorce processes are examined in terms of different variables. For example, Gökce (2020) examined the reasons for divorce of divorced parents and found that they were severe incompatibility, economic problems, infidelity, domestic violence and lack of communication. According to the results of the research conducted by Güven and Köroğlu (2023), it was concluded that the most important reasons for divorce were infidelity and irresponsibility towards the spouse-child, and disagreement and incompatibility between spouses were also among the important reasons for divorce. When examining the variables that influence the post-divorce processes in Turkey, it is analysed that these are factors such as gender, socio-economic status, education level and regional differences. Specifically, it has been found that women's socioeconomic status and education level are determinants of divorce rates and that divorce rates are higher among women with higher education levels and economically independent women (Özekin & Süküti, 2023). In addition, it is found that divorce rates are higher in regions with high socioeconomic development levels and divorce decisions are easier to make due to the high education and income levels of women in these regions (İğdeli & Ay, 2021). Furthermore, studies on the difficulties faced by women in the post-divorce process show that divorced women experience problems such as economic difficulties, social pressures and child custody. It is found that women with low socio-economic status in particular face more difficulties in the post-divorce period (Can & Aksu, 2016). It is noteworthy that the phenomenon of divorce in Turkey is generally analysed by focusing on women.

Looking at studies on support programmes to enhance post-divorce adjustment in Turkey, one of the pioneering initiatives in this area is attributed to Öngider (2013). The study aimed to investigate the effectiveness of Cognitive Behavioural Therapy (CBT) for divorced women by comparing the levels of depression, anxiety and loneliness perception of divorced women before and after CBT. As a result of the study, it was found that the levels of anxiety, depression and loneliness of divorced women decreased statistically significantly after CBT. Following this study, researchers such as Bulut-Ateş (2015), Canbulat (2017), Karadeniz-Özbek (2019), Halisdemir (2020) and Güzel (2020) developed different programmes on divorce. It is worth noting that these studies generally focus only on women and children. When these studies are examined, it is found that such studies are effective in reducing the parental stress levels of divorced

women, increasing the levels of acceptance and empathy, and helping mothers gain benefits for themselves, their children, and the mother-child relationship. In addition, it was found that divorcees' emotional awareness increased and their level of adjustment to divorce increased. It is noteworthy that most of these studies used a quasi-experimental design with a pretest-posttest control group. While some of the studies used mixed methods, others used quantitative research methods. The common suggestion of the studies was to include men in the study, to provide individual counselling and to develop short term post-divorce adjustment programmes.

It is notable that studies conducted in Turkey in recent years, except for Güzel and Çeçen-Eroğul (2022) research, have exclusively targeted women and children. Moreover, despite the existence of group sessions catering to both divorced women and men, there is no evidence of any experimental studies conducted in individual sessions. The inherent variability in the post-divorce process, wherein each individual experiences unique changes and responds differently, essentially rendering divorce a profoundly personal journey for each person (Asanjarani et al., 2018), underscores the imperative need for personalized support services to facilitate post-divorce adjustment. Given the favorable outcomes of internationally validated programs addressing divorce adjustment, it is strongly suggested that the development of such programs in Turkey, particularly within dedicated units, would significantly elevate the quality of support services provided.

Group-based approaches are often generic and may not fully address the unique challenges faced by individuals (Cella et al., 2002), making individualized interventions critical. Individual sessions may lead to more significant post-divorce adjustment outcomes by allowing therapists to address specific emotional and cognitive patterns related to self-compassion and emotional acceptance (Stangier et al., 2003). In addition, individual CBT-based programs have been found to significantly reduce grief reactions, separation distress, and anger (Holden, 2021) and improve self-esteem and emotional regulation after divorce (Gargari et al., 2024). In addition, individual counseling provides tailored emotional support and allows for a depth of focus that cannot be achieved in group sessions (Rose & Ishak, 2019). This individualized approach addresses the multifaceted emotional, psychological, and practical challenges that individuals face during and after divorce (Symoens et al., 2014). Individual sessions are dynamic and adaptive in nature and offer several methodological advantages over group-based approaches. Counselors can modify interventions in real time in response to client feedback and evolving needs (Chen & Giblin, 2017). In addition, the private setting allows clients to feel safe discussing personal issues without fear of judgment or stigma, which can be a concern in group therapy. There is an advantage to rewriting personal stories in an individual setting (Kendra et al., 2014). This can support significant reductions in distress and psychological well-being. Given the diversity of experiences and challenges that individuals face after divorce, the importance of individual counseling in this process is better understood.

The analysis of psychological help services after divorce shows that different philosophies and different therapy approaches are tried. However, it was found that Humanistic Philosophy and Cognitive Behavioural Therapy (CBT) were the most preferred of these approaches (Abdollahpour et al., 2022; Noroozi et al., 2018; Poureghbal et al., 2023; Tucker & Smith-Adcock, 2017). Humanistic philosophy and CBT are two different but complementary approaches to psychotherapy. Both frameworks may be preferred in post-divorce adjustment programmes due to their emphasis on personal development and adaptive coping mechanisms (Bourdon et al., 2021; DeRobertis & Bland, 2020). The humanistic approach, based on the principles of self-actualisation and unconditional positive regard, emphasises the individual's intrinsic capacity for growth and self-healing (Scott, 2003). Rooted in the work of Carl Rogers and Abraham Maslow, this approach sees individuals as innately capable of overcoming difficulties through self-awareness, acceptance and the realisation of their potential (Singh, 2023).

Humanistic philosophy is particularly favoured in divorce counselling because it promotes an environment of unconditional acceptance, enabling clients to regulate their complex emotions and reshape their self-concept (Tucker & Smith-Adcock, 2017). On the other hand, CBT, developed by pioneers such as Aaron Beck, is a structured, problem-focused therapy that emphasises the interplay between thoughts, feelings and behaviours (Beck & Fleming, 2021). By addressing cognitive distortions and promoting adaptive coping

strategies, it provides clients with tools to effectively manage stressors (Ebrahimi et al., 2024). This improves emotional regulation and decision-making (Leahy, 2012). This theoretical approach is effective in post-divorce support programmes because it helps participants restructure maladaptive beliefs and develop practical solutions to difficulties associated with the divorce process (Noroozi et al., 2018). According to these findings, humanistic principles provide the foundation for emotional healing and self-acceptance, while CBT strategies offer pragmatic tools to address the concrete challenges of life after divorce.

In conclusion, the literature review highlights the increased emotional, social and psychological vulnerability and adjustment difficulties of divorced individuals. In this context, protective support services for the post-divorce period, similar to a risk factor, are ready to reduce risks, strengthen adjustment, protect mental well-being and increase life satisfaction of divorced persons. Although there are numerous international programmes aimed at reducing the impact of potential risk factors and enhancing post-divorce adjustment, it is clear that such programmes are remarkably scarce in Turkey. Given the increasing divorce rates in Turkey (TÜİK, 2023), mental health professionals are likely to benefit from access to rigorously designed and empirically validated programmes. In this context, this study aimed to evaluate the effectiveness of PADEP, which was designed to enhance the post-divorce adjustment of divorced individuals. Based on a review of the relevant literature, this programme was developed with the aim of providing content that facilitates understanding of divorce, regulation of emotions, development of problem-solving skills and enhancement of interpersonal relationship skills. Given the success of humanistic philosophy and CBT in this area, the infrastructure of the programme has been prepared according to these approaches.

Method

Research Design

This study utilized a mixed research approach employing a parallel embedded design, where qualitative data complement quantitative data (Yin, 2006). Within this framework, the researchers examined the changes in post-divorce adjustment, life satisfaction, depression, anxiety, and stress levels of both the experimental and control groups before and after the implementation of the PDAP using quantitative measurement instruments. Additionally, they investigated the perspectives of individuals in the experimental group regarding their experiences before and after the PDAP through qualitative assessment tools. The quantitative aspect of this research adopted a 2X4 research design, encompassing experimental and control groups, incorporating pre-test, post-test, and follow-up measurements, along with a control group. This design is commonly used in psychological and educational research where randomised controlled trials are not feasible due to ethical, practical or logistical constraints (Cook & Campbell, 2007). By using a matched control group and assessing outcomes over time, this approach allows researchers to infer causal relationships between the intervention and observed changes.

Analysis Of Individual Sessions

Individual sessions allow interventions to be tailored to meet the specific needs of participants, thereby increasing the validity of the results. This is consistent with the flexibility inherent in quasi-experimental designs, which are often used to study real-world applications of interventions (Reichardt, 2019). The use of consistent pre- and post-assessments ensures that individual-level changes can be attributed to the intervention, rather than external factors. This is consistent with the methodological rigour recommended for quasi-experimental designs when analysing individualised treatments (Campbell & Stanley, 2015). The analysis of individual sessions within quasi-experimental designs has been supported by research in clinical and educational settings, where interventions are often adapted to the individual circumstances of participants (Boruch, 1997).

Participants

The sample included 20 individuals who were recruited based on the following inclusion criteria: (1) legally divorced, not remarried, and within a three-year post-divorce period; (2) individuals who expressed

dissatisfaction with their post-divorce circumstances; (3) individuals who provided informed consent by signing the consent form. Moreover, individuals currently undergoing psychological counseling and those with any psychiatric diagnoses were excluded from the study. Among the participants assigned to the experimental group, six are female and four are male, with an average age of 31.8 (sd=4.86). In the control group, there are six females and four males, with an average age of 31.5 (sd=4.81). Table 1 presents the information about the participants' educational backgrounds, number of children, and the duration since their divorce.

Table 1. Demographic information of the participants

Variables	Level	Experimental Group (f)	Control Group (f)	Total (f)
Gender	Female	6	6	12
	Male	4	4	8
	Total	10	10	20
Age	25-30 Years	5	5	10
	31-35 Years	3	2	5
	36-40 Years	1	3	4
	40-45 Years	1	-	1
	Total	10	10	20
Education Level	Primary education	-	1	1
	High School	3	3	6
	Two-years college	4	2	6
	Bachelor's degree	3	3	6
	Master degree	-	1	1
	Total	10	10	20
Number of Children	No Child	5	7	12
	1 Child	3	1	4
	2 Children	2	2	4
	Total	10	10	20
Time Since Divorce	0-6 Months	1	1	2
	7-12 Months	-	3	3
	13-18 Months	1	3	4
	19-24 Months	2	1	3
	25-30 Months	5	2	7
	31-36 Months	1	-	1
	Total	10	10	20

$\chi^2=35.444$; df =19; p =.012

The Post-Divorce Adjustment Program

The PDAP was structured in two phases, following the stages outlined by Nazlı (2016):

Phase 1: Development of the Program

The infrastructure of the PDAP was prepared by taking into consideration the philosophical and theoretical underpinnings from existing literature on post-divorce assistance programs, as well as the socio-economic and socio-cultural context of the targeted region. In addition, five academics, who are experts in the field and have studied divorce, gave their opinions and suggestions on the infrastructure, content and implementation of the programme. The PDAP was founded on a humanistic philosophy and a cognitive-behavioral approach. While preparing the infrastructure of PDAP, components related to understanding and accepting divorce, emotion regulation, problem-solving, and improving social relationships were added to the program based on studies conducted with divorced individuals (Bowers et al., 2014; Schramm et al., 2018). The PDAP was designed to consist of six sessions, to be conducted once a week, considering that short-term counseling processes are more effective in exploring relevant solutions (Corey, 2012) and the low participation rate in long-term assistance services (Bloom et al., 1982). Additionally, due to the differences in the experiences of divorced individuals and the recommendation for interventions to be individualized (Halisdemir, 2020; Monder et al., 2015), the PDAP was created as individual sessions. The utilization of semi-structured programs not only provides a

balance of standardization and adaptability but also lends itself to social science research by offering greater flexibility (Türnüklü, 2000). Such flexibility allows sessions to follow a predefined protocol, ensuring a more systematic and comparable delivery of information (Yıldırım & Şimşek, 2021). Consequently, the PDAP was planned as semi-structured sessions.

Phase 2: Defining the Four Components of the Program

The PDAP involved four key components: objectives, content, process, and evaluation. The objectives were structured in accordance with Wellman and Moore's taxonomy. Within this framework, the specific knowledge, skills, and attitudes to be acquired were outlined as the program's goals (Nazlı, 2016). The objectives were formulated at the "perception" and "comprehension" levels, aiming to empower divorced individuals to comprehend the divorce process, actively employ emotion regulation skills, and engage in functional problem-solving, while also organizing their social relationships and building social support networks.

The PDAP consisted of a total of six sessions, conducted once a week, with each session lasting approximately 90 minutes. The initial session focused on introductions, structuring, and exploring the divorce situation. The second session delved into the understanding of divorce, while the third session centered on emotion regulation. The fourth session focused on problem-solving, and the fifth session addressed interpersonal relationships and family-of-origin relationships. The final session encompassed an evaluation of the program's outcomes and explores the changes that have occurred in the participants' lives in line with the program's objectives. Additionally, homework assignments provided at the end of each session enabled participants to apply the acquired knowledge and skills to their daily lives.

Procedure

In this context, pamphlets and flyers announcing the study were prepared for the formation of the study group. The necessary legal permissions were obtained from the ……. Governor's Office and the …… Provincial Police Directorate in order to distribute the prepared leaflets. The leaflets were delivered to various institutions, organisations and residential areas, and individuals who volunteered to participate in the study were reached. In addition, the programme was announced by sharing the prepared brochures online through social media. As a result of the publicity, a total of 28 people, 11 male and 17 female, volunteered to take part in the study. The researcher conducted a preliminary interview with these 28 people, and in this preliminary interview the participants were given general information about the PDAP sessions. The participants were also asked to sign the informed consent form. As a result of this application, it was determined that three male and five female participants did not meet the inclusion criteria of the study and were excluded from the research group. The blind coder administered quantitative pre-tests to the remaining 20 participants in the study group. Individuals who met the study inclusion and exclusion criteria were randomly assigned to the experimental and control groups according to the pre-test results. This resulted in an experimental group of 10 participants, four men and six women, and a control group of 10 participants. In this way, the pre-test scores of the experimental and control groups were equalised and an attempt was made to ensure that the study group was homogeneous.

The study's qualitative interviews were conducted by a blind coder, an expert in the field of psychological counselling, who had been previously trained by the researcher. These interviews were conducted in ……. Municipality's Family Counseling Center and lasted approximately 40-45 minutes. The qualitative pre-interview information collected by the blind coder was filed, and then PDAP was applied to the experimental group. The practical phase of the research took place at the ……. Municipality's Family Counseling Center, with prior authorization obtained from the ……. Municipality Mayor's Office. The implementation of the PDAP, which was conducted in six individual sessions, began in July 2020 and the individual sessions, which totalled 60 sessions, were completed in March 2021. There were no dropouts or losses among the participants throughout the study. Approximately 10 days after the completion of the PDAP implementation process, the blind coder conducted a qualitative interview with the individuals in the experimental group using a semi-structured final qualitative interview form, and the opinions of the individuals in the experimental group about the changes that occurred in their lives after the PDAP implementation were obtained. As the qualitative

interviews were conducted to analyse the changes in the lives of individuals in the experimental group after PDAP implementation, no qualitative interview was conducted with the control group. Following the implementation with the experimental group, the PDAP was also applied to voluntary individuals from the control group.

PDAP Session Contents

Session 1

Outcome:

- Understand how the post-divorce adjustment programme works.

- Recognise the problem areas associated with divorce.

- Identify their thoughts and attitudes about divorce.

Process: In the first session of the study, the aim was to structure the sessions to be held in the future, to present the programme to be implemented to the client, to determine the purpose of the client's participation in the programme and to raise awareness about life after divorce. In this context, after getting to know the client, the history of the marriage and the divorce was taken and the evaluation of the terminated relationship was emphasised. This session also worked on helping the clients to express themselves emotionally, to feel understood and listened to, and to develop awareness of the situation they were in. The failure of the relationship, the factors that contributed to this failure, the decision to separate, the emotions and reactions experienced as a result of the separation, i.e. divorce, were discussed. In addition, the stress of the divorce, the difficulties after the divorce, the losses experienced, the emotional reactions to these losses, in short, the mourning process of the divorce were shared. To facilitate this sharing, an attempt was made to create a safe space in the counselling setting. At the end of the session, the participants were asked to clarify the goals of the counselling and to write a letter about the end of the marital relationship as homework.

Session 2

Outcome:

- Recognise dysfunctional thoughts and attitudes about divorce.

- Make sense of divorce in a functional way.

- Recognise their feelings about divorce.

Process: In the second session of the study the focus was on making sense of the divorce and the aim was for the client to make sense of this process in a realistic way and to accept this process. In this context, the client was asked to read the letter about the end of the marriage given at the end of the first session, and the parts that needed to be emphasised were worked on. The second session involved the process of restructuring the client's thoughts, feelings and behaviours about the divorce. In line with the aim of the session, various themes in the client's letter, such as guilt, rejection, exclusion or the perception of oneself as a social object to be gossiped about, were addressed within the framework of the 4D cycle of CBT. At the end of the second session, the 4D Cycle of CBT worksheet prepared by the researcher was given as homework to help the client better understand the relationship between situation, thoughts, emotions and behaviour.

Session 3

Outcome:

- Recognise the role of emotions in human life.

- Have knowledge of emotion regulation skills.

- Identify healthy ways of dealing with unwanted emotions.

Process: The aim of the third session was for the client to acquire emotion regulation skills and to learn how to cope with unwanted emotions. In this context, the third session of the study discussed emotions and

emotional reactions arising from the divorce situation and allowed the participants to touch on these emotions. In this way, it was attempted to create an awareness of the existence of these emotions and how they are expressed. In particular, situations and people that triggered certain emotions were identified and new strategies for approaching these situations and people were developed. It was also emphasised how these emotions and emotional reactions affect oneself and others. Emotional regulation skills focused on 'separation anger', which is particularly common after divorce. In this context, work was done with the client on accepting and expressing anger appropriately in order to reframe anger as an emotion rather than a behaviour. Finally, work was done on how to use emotion regulation skills in situations that upset her and how to express emotions constructively. In this context, the work on expressing emotions with the 'I language' and the work on expressing emotions with the 'I language' were given as homework as well as relaxation exercises.

Session 4

Outcomes:

- Identifies how to deal with problems that reduce quality of life.

- Understands methods of problem solving.

Process: The aim of the fourth session was to develop problem solving skills and to deal with uncomfortable situations after divorce. To this end, the homework given in the previous session was worked on. It was emphasised what and how the adaptation to the post-divorce period, which is one of the most important transitions in a person's life, is affected, and the problem-solving schema created by the researcher on this topic was studied. The problem-solving schema was used to identify the areas in which the client had the most problems and to set short-term, medium-term and long-term goals in order to deal with these problems in a healthy way, and then an experiential plan was created and the person was helped to organise his or her daily life. In addition, the client was made aware of the resources and risks associated with the plan. Finally, the problem-solving scheme created by the researcher was given as homework. This scheme was asked to be elaborated and developed.

Session 5

Outcomes:

- Understand how to manage problems in social relationships.

- Understands how to organise his/her family of origin and social relationships.

Process: The aim of the fifth session was for the client to understand his family of origin and his social relations. In this direction, first of all, the homework given in the previous session was evaluated. How to deal with problems related to interpersonal relationships was assessed in the context of the problem-solving skills emphasised in the previous session. In addition, the situations that the client wanted to change in his family of origin and in his social relationships were highlighted, and help was given to identify the resources that he could use to achieve these changes. In summary, this session tried to help the client to identify the relatives, friends and groups of friends from whom he/she could get support when needed and to get help from the right people when needed. In other words, it tried to raise awareness of how to build appropriate support networks. At the end of the session, they worked on how to improve the individual's social support networks and this topic was given as homework.

Session 6

Outcome:

- Recognises the changes in his/her life during the programme process.

Process: The last session of the programme aimed to identify the changes brought about by BSUP in the client's life and to evaluate the programme process. The last session started with an analysis of the homework given in the previous session. The session began by highlighting the client's thoughts about the divorce in general.

Changes in the client's understanding of divorce were identified. Then the feelings after the divorce were highlighted, especially the feelings of anger. Changes in the client's methods of coping with intense emotional states were noted. Then, when the client had a problem, the client's abilities to cope rationally with the problem were assessed and changes in these abilities were noted. Finally, the client's social relationships were analysed and the change in relationships with other people was highlighted. In this way, an attempt was made to determine both the changes that had occurred in the client during the process and the contributions of the programme to the client. The last session ended with a general summary of the process.

Data Collection Tools

Adult Divorce Adjustment Scale (Adult DAS)

The Adult DAS, developed by Nazlı et al. (2021), serves the purpose of assessing the adjustment levels of individuals going through or legally divorced. It consists of 17 items and has three subscales: psychological adjustment, social relationship adjustment, and family-of-origin relationship adjustment. The internal consistency coefficients, measured through Cronbach's alpha, for these subscales and the overall scale are as follows: .883 for the overall scale, .835 for psychological adjustment, .856 for social relationship adjustment, and .90 for family-of-origin relationship adjustment (Nazlı et al., 2021). In this particular study, the calculated Cronbach's alpha coefficients were .886 for the overall scale, .797 for psychological adjustment, .776 for social relationship adjustment, and .733 for family-of-origin relationship adjustment. Higher scores achieved on the Adult DAS indicate a heightened level of adjustment within the specific domain it evaluates.

Satisfaction With Life Scale (SWLS)

The SWLS, developed by Diener et al. (1985), measures an individual's self-assessment of life satisfaction based on their self-determined criteria. Comprising a single factor and structured on a 7-point Likert scale, this scale consists of five items and was adapted into Turkish by Köker (1991). The validation and reliability study for the adult version of this scale was conducted by Dağlı and Baysal (2016), resulting in a Cronbach's alpha coefficient of .88. Within the context of this study, the Cronbach's alpha coefficient for the SWLS was computed as .877.

Depression Anxiety Stress Scale (DASS-21)

The DASS-21, developed by Lovibond and Lovibond (1995), measures adverse emotional states associated with depression, anxiety, and stress. This scale encompasses three subscales, namely depression, anxiety, and stress, with each subscale comprising seven items, summing up to a total of 21 items. The Turkish adaptation of the DASS-21 was carried out by Yıldırım et al. (2018). Elevated scores on each of the subscales signify an increased presence of symptoms tied to that specific domain. The Cronbach's alpha coefficients for the scale range between .87 and .90. In the present study, the Cronbach's alpha coefficients for the DASS-21 were determined to be .889 for depression, .887 for anxiety, and .906 for stress.

Semi-Structured Interviews

The researchers developed semi-structured interview questions to collect qualitative data during the pre and post-interviews of the study. These questionnaires were designed based on the Cognitive-Behavioral Theory, which emphasizes how individuals interpret their experiences and the impact of these interpretations on their current experiences (eg. What is divorce to you? What is it like to be divorced?), rather than merely analyzing the situations themselves (Beck, 1993). In addition, qualitative interview questions were formulated using the opinions and suggestions of two field experts who had previously worked on qualitative data collection. Taking a Cognitive-Behavioral Therapy (CBT) approach to the divorce process, the researchers drew upon the functionality of questions used in similar studies, like those conducted by Spillane-Grieco (2000), to formulate questions aimed at assessing how individuals interpret and make sense of the divorce process. The questions, rooted in CBT principles, are intentionally open-ended, allowing participants to express their thoughts and reveal their perceptions regarding various aspects of their lives, including daily life skills, making sense of divorce, life satisfaction, emotional well-being, problem-solving abilities, and interpersonal relationships (eg. How do you spend a weekday from the time you get up in the morning to the time you go to bed at night? What would you change in your life if you could? Why?). The interview questionnaires were structured

following the guidelines recommended by Creswell (2014), encompassing introductory queries, content-related questions, closing inquiries, supplementary prompts, and concluding instructions.

Data Analysis

Analysis of Quantitative Data

Non-parametric analysis techniques were utilized due to the absence of a normal data distribution and the inadequate sample size for parametric tests (Büyüköztürk, 2011). Consequently, the Wilcoxon Signed-Rank Test was employed to assess whether significant disparities existed between the pre-test and post-test scores among the groups. Additionally, the Mann Whitney-U test was applied to investigate variations between the pre-test and post-test scores across groups. Subsequently, to determine the effect size upon identifying significant distinctions between the scores, the formula $r = z/\sqrt{N}$ was applied. The resulting "r" value was then interpreted, with .1 signifying a "small" effect size, .3 indicating a "medium" effect size, and .5 denoting a "large" effect size, as per the categorization suggested by Coolican (2014).

Clinical Significance

Clinical significance, which centers on individual changes, is assessed through the computation of the "reliable change index" (RCI) and/or the determination of specific cutoff points associated with the utilized measurement instrument (Jacobson & Truax, 1991). This approach seeks to ascertain the reliability of changes observed in participants. In this study, clinical significance was evaluated employing the subsequent formula (Bauer et al., 2004; Jacobson & Truax, 1991):

$$RCI = \frac{x_{pre} - x_{post}}{S_{diff}}, S_{diff} = \sqrt{2(Sh)^2}, Sh = Ss_x \quad \sqrt{1 - r_x}^4$$

In the assessment of changes occurring in participants, an RCI exceeding ±1.96 signifies that the change is independent of the standard error attributed to the scale, affirming the reliability of the change. Conversely, an RCI less than ±1.96 indicates that the change is a result of the standard error linked to the measurement tool, signifying the unreliability of the change.

Analysis of Qualitative Data

The qualitative data underwent a content analysis process comprising four stages: i) data coding, ii) identification of relevant themes, iii) organization of codes and themes, and iv) interpretation of findings (Yıldırım & Şimşek, 2021). Initially, to ensure coding reliability, the data transcripts were independently coded by both the researchers and a qualified academic expert in qualitative research (Creswell et al., 2007). When disagreements in coding arose, discussions were held to achieve consensus regarding the interpretation of these concepts, with a focus on attaining a high level of agreement. Based on patterns observed in the responses, key concepts were established, followed by the formulation of codes. The coding of qualitative data was performed using both first and second cycle coding methods (Saldana, 2017).

During the first cycle coding, a structural coding approach was initially applied to categorize the data. Data were further organized in alignment with predetermined themes using descriptive coding. These themes were developed with consideration for problem areas frequently encountered by divorced individuals, as identified during the literature review, encompassing aspects such as daily life skills, making sense of divorce, life satisfaction, emotional state, problem-solving skills, and interpersonal relationships. Moreover, descriptive coding was employed to prepare for the second cycle coding and subsequent interpretation (Wolcott, 1994). Second cycle coding, an advanced analytical method, was used to reevaluate data previously coded in the first cycle, particularly when adjustments were necessary. It allowed for the identification of variations, increases, decreases, and instances of unchanged conditions within a process (Saldana, 2017). In this study, a longitudinal coding process was undertaken by comparing participants' expressions during initial qualitative interviews with those obtained during the final qualitative interviews.

The coding process considered not only the predetermined themes identified during the literature review but also newly emerging themes, such as self-perception, which became evident during the experimental process. Qualitative data were independently analyzed by the researchers and a recognized academic expert in the field. Ultimately, these data were synthesized in the study's conclusion section.

Validity and Reliability

The researchers conducted training sessions for two expert psychological counselors, who were designated as blind coders, regarding the research's data collection instruments. These blind coders collected both qualitative and quantitative data. Furthermore, diversity among researchers was ensured by involving various experts in the stages of data collection, analysis, and interpretation, following the principles outlined by Johnson (1997). Additionally, the criteria recommended by Büyüköztürk (2011) were taken into consideration. To enhance the applicability of the research findings, participants were provided with minimal yet sufficient information about the study to minimize any potential "expectancy effects." Pre- and post-measurements were conducted both before and after the experimental procedure to effectively manage any "time and treatment effects." Furthermore, a follow-up test was administered approximately 10 days after the conclusion of the experimental procedure to mitigate the influence of time and treatment effects. A purposive sampling method was employed when forming the study group, with all individuals responding to the research announcement being rigorously evaluated based on the stipulated inclusion and exclusion criteria, thereby effectively fulfilling the "subject selection" criterion. Additionally, the study group was thoughtfully composed of individuals sharing similar life experiences to ensure that the "subjects' history" criterion was met. Lastly, with regard to the "data collection instrument" factor, it's worth noting that the same measurement instruments were consistently administered in the same predetermined sequence during all measurements. Furthermore, all measurements were meticulously carried out in a consistent manner, taking place in the same location and being overseen by the same blind coder.

During the development of the qualitative research design for this study, both internal and external reliability factors were carefully considered. To bolster "credibility," the criteria of participant verification and expert examination, as suggested by Holloway and Wheeler (1996), were diligently addressed as follows: Data collection was conducted in separate 90-minute sessions during pre- and post-interviews. The researchers conducted an average of seven sessions, each lasting around 90 minutes, with each participant in the experimental group, thus ensuring "long-term interaction." The "participant verification" criterion was met by not sharing research findings with the participants. Additionally, the "expert examination" criterion was met through the evaluation of the research process by an academic expert in the field of Psychological Counseling and Guidance, who possesses prior experience in utilizing qualitative research methods in their own work.

Considering the "dependability" criterion, the researchers employed triangulation strategies (Denzin, 1978). For meeting the "data source triangulation" criterion, the researchers conducted interviews with ten different divorced individuals. Furthermore, research data were collected by two expert psychological counselors serving as blind coders, while data analysis and interpretation were carried out by the researchers and an academic expert in the field of Psychological Counseling and Guidance, ensuring the "researcher triangulation" criterion. Lastly, both quantitative and qualitative data, researcher observations, and a review of the existing literature were employed to satisfy the "method triangulation" criterion.

To enhance "confirmability" (Holloway & Wheeler, 1996), the researchers presented detailed information about the study, including the use of voice recording devices, field notes, diaries, research methods, study objectives, purposes, expectations, and how research measurements were conducted. For "transferability" (Houser, 2015), the researchers provided comprehensive information about the study group, participant characteristics, and the study process.

While presenting qualitative findings, a direct quotation technique was utilized. To adhere to privacy guidelines, participants within the experimental group were assigned random numbers ranging from 1 to 10. Quoted participants were identified using "P" followed by their respective numerical order. For instance, "P1" represents the first participant, while "P6" corresponds to the sixth participant. The statements made by participants during the pre- and post-interviews were labeled as "Pre" and "Post." For example, "P2-Pre"

indicates the response of the second participant during the pre-interview, while "P7-Post" signifies the response of the seventh participant during the post-interview.

Data Collection Procedure

Following the implementation with the experimental group, the PDAP was also applied to voluntary individuals from the control group. Before the PDAP, all participants underwent a pre-test (T1) administered by an expert psychological counselor who was a blind coder. Following this, qualitative pre-interviews were conducted with the experimental group. After the researchers administered the PDAP to the experimental group, the blind coder administered a post-test (T2) and qualitative post-test, as well as a follow-up test 1 (FT1) three months after the application and follow-up test 2 (FT2) six months after the application. For the control group, only the T2 assessment was administered, followed by the FT1 evaluation three months later. A summary of the measurement procedures conducted for the study group can be found in Table 2. The data collected through these procedures were analyzed using a combination of qualitative and quantitative analysis methods.

Table 2. Measurement procedures applied to the participants

	Pre-Test (T1)	Qualitative Preliminary Interview	Final Test (T2)	Qualitative Final Interview	Follow-up Test 1 (FT1)	Follow-up Test 2 (FT2)
Experimental Group	+	+	+	+	+	+
Control Group	+	-	+	-	+	-

Results

Quantitative Findings

Table 3 presents the averages and standard deviation values for the scores obtained by the participants at T1, T2, FT1, and FT2

Table 3. Mean and Standard Deviation Values of Adult DAS, SWLS, and DASS-21

Variables	Groups	Pre-test		Final test		Follow-up 1		Follow-up 2	
		$\bar{X}$	S	$\bar{X}$	S	$\bar{X}$	S	$\bar{X}$	S
Adult DAS	Experimental	52.40	8.70	76.00	6.03	72.80	6.03	70.50	7.59
	Control	55.50	8.04	57.00	8.00	52.80	10.62	-	-
	Total	53.95	8.37	66.50	7.01	62.80	8.32	70.50	7.59
SWLS	Experimental	10.50	2.83	18.10	2.76	17.40	3.62	18.20	2.52
	Control	11.00	1.33	10.30	3.09	11.20	2.61	-	-
	Total	10.75	2.08	14.20	2.92	14.30	3.11	18.20	2.52
DASS-21	Experimental	10.90	3.07	3.20	2.89	3.80	2.82	3.40	2.50
Depression	Control	8.90	5.25	10.40	4.81	10.30	4.42	-	-
	Total	9.90	4.16	6.80	3.85	7.05	3.62	3.40	2.50
DASS-21	Experimental	9.50	5.10	3.30	3.12	3.10	3.21	3.50	3.06
Anxiety	Control	6.90	4.48	8.70	4.44	8.40	3.53	-	-

Table 3 *(Continued)*

	Total	8.20	4.79	6.00	3.78	5.75	3.37	3.50	3.06
DASS-21	Experimental	11.30	4.42	5.00	2.66	4.20	2.61	4.70	3.36
Stress	Control	9.00	5.63	9.90	5.44	11.20	4.68	-	-
	Total	10.15	5.02	7.45	4.05	7.7	3.64	4.70	3.36

Note: n= 20 (Experimental Group= 10, Control Group = 10); Adult DAS: Adult Divorce Adaptation Scale;

SWLS: Satisfaction With Life Scale; DASS-21: Depression Anxiety Stress Scale

Anxiety Stress

The researchers examined whether there was a difference in the pre-test scores of the participants between the groups and reported no significant difference among all T1 scores of the experimental and control groups (UYBUÖ= 37.50, p> .05; UYDÖ= 41.50, p> .05; U Depression = 37.50, p> .05; UAnxiety= 34.50, p> .05; UStress= 32.00, p> .05; Tablo 4).

Table 4. Mann Whitney U Test Results for Pre-Test Scores of Experimental and Control Groups in Adult DAS, SWLS, and DASS-21

	Groups	*n*	Rank Mean	Rank Total	*U*	*p*
Adult DAS	Experimental	10	9.25	92.50	37.50	.344
	Control	10	11.75	117.50		
SWLS	Experimental	10	9.65	96.50	41.50	.510
	Control	10	11.35	113.50		
DASS-21	Experimental	10	11.75	117.50	37.50	.343
Depression	Control	10	9.25	92.50		
DASS-21	Experimental	10	12.05	120.50	34.50	.238
Anxiety	Control	10	8.95	89.50		
DASS-21	Experimental	10	12.30	123.00	32.00	.169
Stress						

Note: Adult DAS: Adult Divorce Adaptation Scale; SWLS: Satisfaction With Life Scale; DASS-21: Depression Anxiety Stress Scale

Post-Divorce Adjustment

Participants in the experimental group exhibited significantly higher Adult DAS scores at T2 compared to T1, with statistical significance (z= -2.80, *p*< .05; as shown in Table 5). Furthermore, the FT1 scores for the experimental group were notably higher than their initial T1 scores (z= -2.80, *p*< .05), and their FT2 scores similarly exceeded their FT1 scores with statistical significance (z= -2.81, *p*< .05). Conversely, there were no statistically significant differences between the control group's T2 and T1 scores (z= -1.70, *p*> .05), nor between their FT1 and T1 scores (z= -.76, *p*> .05). In this context, it can be confidently asserted that the PDAP effectively contributed to the enhancement of post-divorce adjustment for participants, and this positive impact persisted over time.

Life Satisfaction

There was a statistically significant improvement in life satisfaction among participants in the experimental group, with their T2 scores surpassing their T1 scores (z= -2.81, *p*< .05; as shown in Table 5). Moreover, substantial differences were observed between their T1 and FT1 scores (z= -2.80, *p*< .05) and between their T1 and FT2 scores (z= -2.81, *p*< .05), favoring the latter. Conversely, no statistically significant variations were identified in the corresponding T1 and T2 scores for the control group (z= -.93, *p*> .05). Additionally, no

significant distinctions were found between T1 and FT1 scores ($z= -.42$, $p> .05$). These findings robustly suggest that the PDAP effectively heightened life satisfaction among divorced individuals, and this difference persisted over time.

Depression, Anxiety, and Stress

The participants in the experimental group had significantly higher scores in DASS-21 at T2 compared to T1, and the difference had a wide effect size (zdepression = -2.81, $p< .05$; zanxiety= -2.82, $p< .05$; zstress= -2.80, $p< .05$; see Tablo 5). Similarly, there was a significant difference between T1 and FT1(zdepression = -2.82, $p< .05$; zanxiety= -2.81, $p< .05$; zstress= -2.80, $p< .05$) and between T1 and FT2 (zdepression= -2.81, $p< .05$; zanxiety= -2.82, $p< .05$; zstress= -2.81, $p< .05$) scores, all in favor of T1. These findings underscore the functionality of the PDAP in reducing participants' depression, anxiety, and stress scores while effectively maintaining these improvements over time.

Contrastingly, within the control group, no significant distinctions emerged in DASS-21 depression scores between T1 and T2 (zdepression= -1.74, $p> .05$). Nonetheless, there was a notable difference in favor of T2 concerning anxiety and stress T1 and T2 scores (zanxiety= -2.20, $p< .05$; zstress= -1.98, $p< .05$), indicating an increase in anxiety and stress levels over time. In the subsequent follow-up study, no significant variations were evident between the control group's DASS-21 T1 and IT1 scores.

Table 5. Wilcoxon Signed-Ranks Test Results for Pre-Test and Final Test, Pre-Test and Follow-up Test 1, Pre-Test and Follow-up Test 2 Scores of Experimental and Control Groups

Scales	Groups			Final test – Pre-test						Follow-up 1 – Pre-test						Follow-up 2 – Pre-test				
			n	SO	ST	Z	p	$r(\eta^2)$	n	SO	ST	Z	p	$r(\eta^2)$	SO	ST	Z	p	$r(\eta^2)$
Adult DAS	Experimental	Negative	0	.00	.00	-2.80	.005*	.88ᵃ(.28)	0	.00	.00	-2.80	.005*	.88ᵃ(.28)	.00	.00	-2.81	.005*	.88ᵃ(.28)
		Positive	10	5.50	55.00				10	5.50	55.00				5.50	55.00			
		Equal	0	.00	.00				0										
	Control	Negative	2	5.50	11.00	-1.70	.088	-	4	4.63	18.50	-.76	.446	-	-	-	-	-	-
		Positive	8	5.50	44.00				3	3.17	9.50								
		Equal	0						3										
SWLS	Experimental	Negative	0	.00	.00	-2.81	.005*	.88ᵃ(,28)	0	.00	.00	-2.80	.005*	.88ᵃ(,28)	.00	.00	-2.81	.005*	.88ᵃ(.28)
		Positive	10	5.50	55.00				10	5.50	55.00				5.50	55.00			
		Equal	0	.00	.00				0										
	Control	Negative	5	3.90	19.50	-.93	.351	-	4	4.75	19.00	-.42	.668	-	-	-	-	-	-
		Positive	2	4.25	8.50				5	5.20	26.00								
		Equal	3						1										
DASS-21 Depression	Experimental	Negative	10	5.50	55.00	-2.81	.005*	.88ᵃ (.28)	10	5.50	55.00	-2.82	.005*	.89ᵃ (.28)	5.50	55.00	-2.81	.005*	.88ᵃ (.28)
		Positive	0	.00	.00				0	.00	.00				.00	.00			
		Equal	0	.00	.00				0	.00	.00				.00	.00			
	Control	Negative	2	5.25	10.50	-1.74	.080	-	2	6.00	12.00	-1.60	.109	-	-	-	-	-	-
		Positive	8	5.56	44.50				8	5.38	43.00								
		Equal	0						0										
DASS-21 Anxiety	Experimental	Negative	10	5.50	55.00	-2.82	.005*	.89ᵃ (.28)	10	5.50	55.00	-2.81	.005*	.88ᵃ (.28)	5.50	55.00	-2.81	.005*	.89ᵃ (.28)
		Positive	0	.00	.00				0	.00	.00				.00	.00			
		Equal	0	.00	.00				0	.00	.00				.00	.00			
	Control	Negative	2	2.00	4.00	-2.20	.028*	.69ᵃ(.22)	3	2.33	7.00	-1.84	.064	-	-	-	-	-	-
		Positive	7	5.86	41.00				6	6.33	38.00								
		Equal	1						1										
DASS-21 Stress	Experimental	Negative	10	5.50	55.00	-2.80	.005*	.88ᵃ (.28)	10	5.50	55.00	-2.80	.005*	.88ᵃ (.28)	5.50	55.00	-2.81	.005*	.88ᵃ (.28)
		Positive	0	.00	.00				0	.00	.00				.00	.00			

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Table 5 *(Continued)*

		n	Mean Rank	Sum of Ranks	Z	p	r	n	Mean Rank	Sum of Ranks	Z	p					Mean Rank	Sum of Ranks
	Equal	0	.00	.00				0	.00	.00							.00	.00
Control	Negative	1	2.50	2.50	-1.98	.047*	.62ª(.19)	3	3.17	9.50	-1.19	.231	-	-	-	-	-	-
	Positive	6	4.25	25.50				5	5.30	26.50								
	Equal	3						2										

Note: Adult DAS: Adult Divorce Adaptation Scale; SWLS: Satisfaction With Life Scale; DASS-21: Depression Anxiety Stress Scale, * = *p* < .05; ª = Large impact size

Table 6. Distribution of RCI Results for Pre-Test and Post-Test Scores of Experimental and Control Groups in Adult DAS, SWLS, and DASS-21

Variables	Groups	Positive change		Negative change		No change	
		n	*%*	*n*	*%*	*n*	*%*
Adjustment to Divorce	Experimental	10	100	-	-	-	-
	Control	-	-	-	-	10	100
Life Satisfaction	Experimental	10	100	-	-	-	-
	Control	1	10	3	30	6	60
Depression	Experimental	10	100	-	-	-	-
	Control	-	-	2	20	8	80
Anxiety	Experimental	10	100	-	-	-	-
	Control	-	-	1	10	9	90
Stress	Experimental	8	80	-	-	2	20
	Control	-	-	-	-	10	100

Note: Adult DAS: Adult Divorce Adaptation Scale; SWLS: Satisfaction With Life Scale; DASS-21: Depression Anxiety Stress Scale

Clinical significance

In the experimental group, all participants experienced notable improvements in divorce adjustment, life satisfaction, depression, and anxiety scores at T2, meeting the RCI criteria (see Table 6). Remarkably, eight participants within this group also demonstrated significant improvements in stress scores that fulfilled the RCI criteria. Conversely, the control group showed no positive changes meeting the RCI criteria. Surprisingly, a few participants in the control group exhibited negative changes that met the RCI criteria, which included three individuals in life satisfaction, two in depression, and one in stress.

Qualitative Findings

The qualitative data underwent a meticulous content analysis technique, resulting in a systematic and descriptive coding process. Subsequently, these codes were organized under distinct thematic categories, namely: "Daily Activities," "Reactions to Divorce," "Emotional State," "Problem Solving," "Interpersonal Relationships," and "Self-Perception."

Daily Activities

Within the dataset, expressions related to the positive or negative rituals and responsibilities undertaken by individuals in the experimental group during their daily lives were identified and codified. These codifications were then grouped under the overarching theme of "Daily Activities." Upon a comprehensive analysis of these codes, it became evident that they could be further subcategorized into two distinct sub-themes: "Functional Activities" and "Dysfunctional Activities," concerning the behaviors and activities individuals engaged in throughout the day. Under the sub-theme of "Functional Activities," the codes encapsulated a range of activities, including hobbies/pet care, physical exercise/sports, engagement in art and cultural endeavors, income-generating pursuits, as well as efforts directed towards personal development and childcare responsibilities. These activities were seen as functionally contributing to aspects such as physical health, cultural and social enrichment, personal growth, economic stability, and nurturing children. Conversely, the sub-theme of "Dysfunctional Activities" encompassed codes that depicted behaviors characterized by self-isolation, disengagement from social circles, irregular employment patterns, and struggles with sleep. These activities were considered dysfunctional.

> P9-Pre: "I am at home... I spend the whole day at home. TV, phone, nothing else…"

> P3- Post: "I go to the gym. I've just started exercising. It makes me feel productive…"

During the second round of coding, a longitudinal analysis was conducted to discern shifts in participants' daily activities between their initial and final qualitative interviews. Across all participants in the experimental group (n=10), a consistent trend emerged, showcasing a decline in codes related to dysfunctional activities and a corresponding rise in codes linked to functional activities over the course of time.

> P8-Pre: "Throughout the day, I mostly look at my phone, try to read a book, but it doesn't work, more phone, the virtual world…"

> P8- Post: "I walk regularly when I have time... there is a park nearby, and I take my coffee there to watch the trees. I've also started knitting and selling my creations..."

When evaluating the participants' sharing during the initial and final qualitative interviews, a notable trend emerged. Activities such as withdrawing from social interactions, avoiding contact with others, irregular employment, and disrupted sleep patterns decreased. Conversely, there was an increase in engaging with friends, participating in cultural activities, and pursuing income-generating work. This observation suggests that the intervention effectively contributed to improving the participants' daily functional activities.

Reactions to Divorce

Participants' statements regarding their emotions, thoughts, and behaviors related to divorce were coded, and these codes were grouped under the theme "Reactions to Divorce." Within this theme, expressions associated with remorse over the divorce, feelings of guilt, catastrophic thinking, concealing the divorce, experiencing a sense of meaninglessness or emptiness, and mistrusting others were grouped under the sub-theme "Negative Reactions to Divorce." On the other hand, responses related to accepting the divorce, embarking on a fresh start, freeing oneself from troubled relationships, making future plans, and discussing divorce openly were clustered under the sub-theme "Positive Reactions to Divorce." Below are examples of these coded statements:

P5-Pre: "…I perceive divorce as a failure."

P1-Pre: "An empty box. I'm unsure; I couldn't find the words to express it. I feel like I'm in a void."

P3- Post: "…if two people can't get along and there's a serious problem, it's not the end of life; it can be a new beginning, something good for both sides…"

P2- Post: "I started preparing for the exam to become a civil servant. Maybe I will be assigned to a good place."

During the longitudinal analysis of reactions to divorce, it was noted that while negative reactions to divorce codes diminished qualitatively in three participants, such as mistrusting others, in the final interviews, they increased in codes related to functional daily activities. As an illustration, the responses of P9 can be presented:

P9-Pre: "I can't trust people anymore. When I divorced, I realized people are not trustworthy. I don't talk to anyone about this; I feel ashamed."

P9- Post: "Yes, divorce is a bad thing, but if there's a serious problem, it's not the end of life; you can start over…"

Furthermore, positive reaction codes like embarking on a fresh start, making future plans, and discussing divorce openly increased in seven participants during the final interviews.

P7- Post: "I used to get angry when they asked me something about divorce, but these words don't hurt me anymore. I used to be unbearable."

P3- Post: "That period happened, and at the end of that period, I asked the following questions: What can I do now? What can I do for myself? What can I do for my life? I'm shaping my future. I'm comfortable now openly sharing that I divorced; it doesn't bother me when discussing it..."

When analyzing the final interview responses of the experimental group, a noticeable trend emerges wherein their perceptions and reactions towards their divorce experience become more harmonious and accepting in comparison to their initial interviews. In the initial qualitative interviews, expressions of shame, life falling apart, bankruptcy, and feeling trapped were predominant. In the qualitative final interviews, however, expressions and thoughts indicating recovery after a challenging period, acceptance of the current situation, and embarking on a new life were more prevalent. This reflects the evidence of the positive changes experienced by individuals during the experimental process. Below are some participant responses as examples of this phenomenon.

P5-Pre: "You feel like you've committed a sin, like you've done something shameful…"

P6-Pre: "I found myself in a game, a trap; my spouse and their family set a trap for me…"

P1- Post: "…after all, this is not the end of the world; it's two people who couldn't get along ending their relationship…"

Emotional state.

In the qualitative portion of the study, findings related to the ability to manage emotional intensity and control emotional responses were coded. These codes were grouped under the theme of "Emotional State." Within this theme, the expressions and findings are categorized into two sub-themes: "Emotional Regulation Flexibility" and "Emotional Regulation Rigidity." Within the sub-theme of "Emotional Regulation Rigidity," the coded expressions encompassed aspects such as the suppression or non-disclosure of emotions, repetitive contemplation, abrupt emotional fluctuations, the prevalence of negative emotional experiences, depressive reactions, and the expression of negative emotions through aggressive behavior. Conversely, within the sub-theme of "Emotional Regulation Flexibility," the coded expressions revolved around practices such as utilizing relaxation exercises, redirecting attention, experiencing a heightened frequency of positive emotions, enhancing emotional awareness, and maintaining control over one's behavior during intense emotional states.

P4-Pre: "Recently, I've been grappling with intense loneliness. However, I make a conscious effort not to reveal this to anyone, as it feels like an even heavier burden on me…"

P10-Pre: "…Lately, I've been experiencing bursts of anger for reasons I can't quite pinpoint, and it often brings me close to tears."

P5- Post: "…I've gained better control over my emotions. In one instance, when I felt angry, I decided to take a deep breath and reminisce about a moment when my mother and I shared tea in our garden. This helped me regain my composure."

P6- Post: "…My recent experiences have left me feeling happier, and I find genuine joy in laughter.".

The longitudinal coding analysis regarding the theme of emotional state revealed that during the initial interviews, participants were making efforts not to make their emotions noticeable to others, expressed aggressive reactions to topics they wouldn't normally react negatively to, experienced sudden changes in their emotions, and had difficulty controlling their reactions. However, in the final interviews, there was a qualitative decrease in such emotional issues. Participants demonstrated an increase in emotional regulation skills, including emotional awareness, understanding of their emotions, acceptance of emotions, practicing relaxation exercises when experiencing emotional intensity, and controlling impulsive behaviors. Additionally, it was found that all participants in the experimental group (n=10) initially experienced negative emotions such as anger, loneliness, resentment, anger, sadness, and helplessness, but in the final interviews, they reported feeling positive emotions such as happiness, peace, self-confidence, and hope. This change during the intervention process indicates an improvement in participants' emotional awareness and their ability to express their emotions. Sample responses illustrating this transformation are provided below:

P9-Pre: "I'm angry with everyone around me, and I'm hurt too. They don't even realize it because I act like I'm happy. Does a person have no value at all?"

P5-Pre: "After the divorce, they took the house's belongings... I got very angry, punched doors, and furniture."

P5- Post: "I don't honk in traffic anymore. Yesterday, the traffic light turned green, but the car in front of us didn't move. I swear I didn't say a word. I would have been angry before. I'm more in control now."

P9- Post: "Lately, I feel loved, valued, cared for, and respected. Before, I felt unimportant, undervalued, or at least, that's how it seemed to me. Now, I can find happiness in small things."

Problem Solving

The qualitative interviews in the research encompassed participants' expressions related to problem-solving, including the identification of problem areas, gathering information about the problem and its resolution, determining a solution, implementation, and evaluating the outcome. These discussions were categorized under the overarching theme of "Problem Solving." Within this theme, two distinct sub-themes were identified: "Functional Attitudes in Problem Solving" and "Dysfunctional Attitudes in Problem Solving." Under the sub-theme of "Functional Attitudes in Problem Solving," the coded expressions encompassed the ability to define the problem, search for and apply alternative solutions, seek social support, and evaluate the outcome of the solution. Conversely, the sub-theme of "Dysfunctional Attitudes in Problem Solving" encompassed behaviors such as avoidance of the problem, evading behavior, and exhibiting aggression. Here are illustrative excerpts reflecting these coded expressions:

P8- Post: "…now I'm thinking about what else can be done if that doesn't work, and I've truly seen that there are other options."

P5- Post: "When I'm alone and feeling down at night, I hop in my car and drive up to that mountain across, admire the view, and call a friend. We chat and have conversations."

P7-Pre: "…during this period, I started drinking alcohol, but that didn't work. Now, I look at my phone until my brain goes numb; that's how I try to forget."

P6-Pre: "When I encounter issues with people and want to put an end to a conversation, I often respond with a harsh tone."

The longitudinal analysis of qualitative data indicates a qualitative decrease in rigid emotional regulation attitudes, such as denying emotions, failing to express them, rumination, experiencing abrupt emotional shifts, and struggling to control reactions, between the initial and final interviews. Conversely, there is a qualitative increase in flexible emotional regulation attitudes, including emotional awareness, the ability to understand

and accept emotions, using relaxation exercises, directing attention, experiencing positive emotions, and exhibiting controlled behavior during intense emotional states. This change suggests that participants enhanced their emotional awareness and learned to express their emotions during the intervention program. Sample participant responses that illustrate this shift are provided below:

> P5-Pre: "I don't typically consume alcohol. I even tried that to see if it would help me numb my senses. It didn't. Then, I attended a self-defense course for six months, trying to get myself beaten up. None of it worked."

> P5- Post: "…I no longer sit around contemplating the same issues; I actively seek solutions. Moping around and feeling sad doesn't change anything in my life. That's why, to resolve the problem, you need to take action, find a way to overcome these obstacles. Trying and struggling are essential."

> P7-Pre: "Concerning these hardships, I withdrew from people, I didn't want to engage much; I didn't want to interact. I initially turned to alcohol, but that didn't work. Now, I immerse myself in religious texts. I've shut my doors to people."

> P7- Post: "When I encounter difficulties, my first instinct is to think about a solution and try to act thoughtfully. I try to find a solution. If I can't find a solution on my own, I seek help from those around me. I ask them to look for solutions."

Interpersonal Relationships

Participants in the experimental group shared their experiences regarding interactions with others, which have been categorized under the "Interpersonal Relationships" theme. These expressions have been further divided into two sub-themes: "Effective Attitude/Behavior" and "Ineffective Attitude/Behavior." Within the "Effective Attitude/Behavior" sub-theme, the coded expressions encompass spending quality time with friends, fostering positive family relationships and interactions, assertively terminating negative relationships, and demonstrating empathy. Conversely, the "Ineffective Attitude/Behavior" sub-theme includes behaviors such as limited or minimal interaction with individuals, decreased self-disclosure, self-isolation or withdrawal from social contexts, heightened sensitivity, lack of trust, and strained family relationships or interactions. Here are sample statements illustrating these coded expressions:

> P1- Post: "I'm trying to spend more time with my mother now. We have more fun together, spend time, and laugh. When I face difficulties, my mother is there."

> P2- Post: "….I distanced myself from people who harm me, now there are happy people in my life."

> P3-Pre: "…After the divorce process, I generally preferred to be alone. I usually hang out alone."

> P7-Pre: "…during this process, I trusted many people, and I took significant blows, so now I can't trust anymore."

Longitudinal coding analysis revealed that during the initial interviews, participants had limited and distant interactions with others. They struggled to open up, displayed a tendency to withdraw from others, behaved quite sensitively, and faced trust issues with people, especially after divorce. In the final interviews, there was a qualitative decrease in their distrust of others, but it still persisted. Participants were observed to view other individuals as a potential threat or risk and did not have sufficient confidence to open up to people around them. Although there was an increase in sharing daily life experiences, they still avoided close relationships. Sample expressions in this regard are as follows:

> P10-Pre: "I'm fed up with the pressure from other people, I don't trust anyone anymore."

> P9-Pre: "People treat us as if we're contagious; they exclude us. It's like they think we'll take their husbands away because we're divorced. So, I'm excluding them, closing myself off."

> P9- Post: "I joined a few associations, like the one for street animals, Yeşilay, etc. I constantly meet with friends there. It's nice to be engaged with people all the time. I don't have anyone to share my troubles with, but we engage in activities."

> P10- Post: "…We can't say all people are bad, but my trust in people has dwindled. I can still have a good time with a few colleagues, but I don't have the same level of trust in people anymore."

Within the experimental group's dataset, participants notably emphasized their relationships with their nuclear families. While three participants exhibited a qualitative reduction in their negative attitudes toward their nuclear families during the final interviews, traces of these attitudes still persisted. For seven participants, there was a qualitative increase in their attitudes towards their nuclear families.

> P9-Pre: "…this guy who didn't even remember being a father until now is insisting that this girl is his daughter. So, my father still doesn't look at my face. I endure it for my mother's sake. But, because of him, I can't see my mother and siblings."

> P9- Post: "I spend time with my mother and siblings. We go on picnics and outings. They are my biggest supporters, and I can feel their support better now. My relationship with my father has not been good since my childhood, and it still isn't."

> P5-Pre: "My family wants to spend time with me a lot, but I can't go out much. I'm more alone."

> P5- Post: "I packed my things and put them in my parents' basement. I moved in with my parents. Living with them is very good. I often take them out, and they're happy, and so am I."

The qualitative reduction in ineffective attitudes and behaviors concerning interpersonal relationships, such as social withdrawal, reduced self-disclosure, isolation, heightened sensitivity, lack of trust, and strained family interactions, coupled with the corresponding increase in effective attitudes and behaviors, suggests that the program implemented had a positive impact on participants' interpersonal attitudes and behaviors. Nevertheless, the lingering issues related to trust and avoidance of close relationships, particularly trust in others, may indicate the need for more extensive and sustained interventions in this area.

Self-perception

The expressions of individuals in the experimental group concerning themselves have been categorized under the theme of "Self-Perception." The theme of self-perception consists of two sub-themes: "Positive Self-Perception" and "Negative Self-Perception." Under the sub-theme of "Negative Self-Perception," coded expressions include not feeling a sense of belonging, making excessive sacrifices to gain acceptance, feeling worthless, experiencing powerlessness/helplessness, and guilt. On the other hand, the sub-theme of "Positive Self-Perception" comprises codes related to feeling valuable, self-acceptance, and feeling adequate/empowered. Here are some sample statements:

> P1-Pre: "…I don't even consider myself worth talking to. It's as if I'm nothing."

> P9-Pre: "Who am I, and what's my purpose? I toil away, going to work, coming home, earning money, all just so that others will like me. I'm still useless."

> P7- Post: "…I exist now, I love myself, I am valuable. In the past, I would always say it's for the kids, and I would exhaust myself."

> P4- Post: "…My self-confidence has increased; I feel like I can do anything. I create, I make handicrafts, and I sell them. It turns out I can."

In the initial interviews, participants in the experimental group tended to blame themselves more and used expressions indicating feelings of powerlessness, helplessness, and obligation towards others. In the final interviews, participants were found to have gained self-awareness regarding themselves and their lives. They began producing new and different solutions, which increased their self-confidence. They shifted from being other-centered to self-centered in their thoughts and actions. Another noteworthy finding is that despite using more negative expressions about themselves in the initial interviews, participants reported feeling stronger, more valuable, and freer in the final interviews. In addition to these expressions, an increase in statements related to future goals, aims, desires, self-confidence, feeling valuable, and self-directed actions during the program further supports the idea that participants' self-perception was positively affected by the intervention. Here are some sample participant responses illustrating these changes:

> P3-Pre: "I feel worthless. Nobody values me. Being a divorced woman is shameful in the eyes of people."

> P3- Post: "I started doing sports. Sports make me feel productive. I feel valuable."

P1-Pre: "Being divorced makes you feel like you've been pushed away by people. You feel like an undesirable thing. I feel very strange about myself. Like I'm guilty, like I'm sick."

P1- Post: "Now I don't allow others to shape my future. I want to manage my life myself. To do that, I think and do what makes sense to me. I spend my days doing what I want."

P8- Post: "I will become a civil servant, I will work hard, I will succeed…"

Discussion

Based on the findings of this research, individuals who underwent the PDAP exhibited significant improvements in their divorce adaptation and life satisfaction compared to the control group. Simultaneously, their levels of depression, anxiety, and stress saw significant reductions. When applying the RCI, it becomes evident that within the experimental group, all participants experienced clinically significant and positive shifts in their divorce adaptation, life satisfaction, depression, and anxiety. Eight individuals within the group also showed such improvements in their stress levels. These quantitative outcomes are substantiated by qualitative data. Upon the completion of the intervention, participants reported increased active involvement in their daily lives. They expressed a decrease in negative thoughts associated with divorce, enhanced emotional regulation capabilities, improved problem-solving skills, more open and communicative interpersonal relationships, and an augmented sense of self-worth. These qualitative findings align with prior research highlighting the efficacy of support programs offered to individuals navigating the challenges of divorce (Arbuthnot & Gordon, 1996; Criddle et al., 2003; Strouse & Roehrle, 2011).

Previous research in the Turkish context has also indicated that post-divorce support services can mitigate adverse consequences and foster better adaptation following divorce (Güzel & Çeçen-Eroğul, 2022; Halisdemir, 2020; Karadeniz Özbek, 2019; Kiye, 2022; Öngider, 2013). Notably, the majority of prior studies in Turkey have primarily employed group settings and have predominantly focused on women. In contrast, this study diverges from past Turkish research as it incorporates individually-tailored programs, which have demonstrated heightened effectiveness (Monden et al., 2015). Furthermore, it employs a multifaceted approach to assess program effectiveness, integrating various evaluation methods (Chambless & Hollon, 1998), and includes male participants within its target demographic. Furthermore, it's crucial to mention that apart from one study (Kiye, 2022), none of the previous Turkish studies have utilized the RCI. Moreover, none have applied advanced analytical methods like qualitative longitudinal analysis. These outcomes underline the necessity for more comprehensive research initiatives in Turkey across diverse levels to better understand the post-divorce process.

One explanation for the effectiveness of PDAP may be that it is based on humanistic and CBT principles. The humanistic approach would be expected to create a supportive environment and encourage participants to process their emotions constructively and rebuild their sense of self. In addition, the integration of humanistic principles may have promoted participants' autonomy and personal development, fostering a sense of agency that was crucial in the difficult post-divorce period. This idea is consistent with research suggesting that unconditional positive regard increases emotional resilience and self-awareness (Rogers, 1961; Ross, 2019). In addition, the CBT elements of the programme may have played a role in equipping participants with the tools to identify and challenge their cognitive distortions, such as catastrophic thinking about divorce, thereby reducing psychological distress (Beck, 1993). The programme examined CBT's emphasis on the interplay between state, cognition, emotion and behaviour, with a particular focus on making sense of divorce, emotional regulation and problem solving. This study may have reduced maladaptive responses by promoting adaptive strategies. This idea is consistent with findings that structured interventions targeting the dynamics of states, thoughts, emotions and behaviour make a significant contribution to life satisfaction (Hofmann et al., 2012).

In short, in the early PDAP sessions, participants shared their feelings and experiences about divorce and felt unconditionally accepted during these discussions. This may have reduced their distorted beliefs about divorce by enabling them to identify and restructure their feelings, thoughts and behaviours about divorce. It is known that distorted beliefs about a situation can influence negative attitudes towards that situation (Dattilio, 2017).

The associated PDAP sessions may have reduced distorted beliefs about divorce and enabled participants to perceive the situations associated with divorce as more likely. In particular, the reduction of catastrophic and extraordinary expressions related to divorce may have positively affected their reactions to divorce, emotional regulation skills and interpersonal relationships by making the divorce situations seem more realistic to the participants.

Additionally, during the PDAP sessions, participants may have enhanced their emotion regulation skills by becoming more aware of their emotions related to divorce and working through them. Considering that individuals commonly experience significant emotional challenges during the divorce process (Mikolai & Kulu, 2018), the improvement in emotion regulation skills could be seen as contributing to the positive changes in divorce adaptation, life satisfaction, depression, anxiety, and stress. Especially when coping strategies for emotional distress are insufficient in dealing with the challenges that arise after divorce, it can impact an individual's ability to regain their pre-divorce life satisfaction and adapt to the process (Chan Lai Cheng & Pfeifer, 2015). Similarly, the role of emotion regulation features is important in decreasing high abnormalities, stress and anxiety (Sbarra et al., 2011) that may occur in intense emotional states (Young et al., 2019).

Another explanation for the positive changes observed in divorced individuals following the PDAP could be an improvement in their problem-solving skills. The sharing of problem-solving scenarios during the fourth PDAP session, in particular, may have supported individuals in actively, rationally, and concretely addressing the challenges they face post-divorce. Effective problem-solving in dealing with these challenges may have reduced individuals' discomfort, thereby enhancing their adaptation to the process and life satisfaction while also potentially mitigating depressive, anxious, and stressful reactions during challenging situations. This notion is consistent with previous research findings. For example, a meta-analysis conducted by Hawkins et al. (2008) demonstrated the effectiveness of problem-solving skills in divorce adaptation. Furthermore, Baitar et al. (2012) found that problem-solving behaviors were associated with post-divorce well-being. These findings suggest that support services like PDAP, which foster problem-solving skills, contribute to positive post-divorce changes in individuals.

Another explanation for the change in divorced individuals may be related to their social lives. The sessions in the later stages of the PDAP program, which focused on interpersonal relationships and communication, might have prompted individuals who were previously isolated and often spent their time alone at home to enhance their communication skills and become more socially engaged. The improved communication and social skills could, in turn, be expected to contribute to better adjustment to divorce and increased life satisfaction. This perspective is supported by Baitar et al. (2012), who reported that improved communication skills supported positive post-divorce changes. Furthermore, as emphasized by Wilder (2016), interpersonal communication has been shown to predict divorce adjustment and life satisfaction, encompassing relationships with friends, family of origin, and ongoing connections with ex-spouses. Drawing from similar findings in the existing literature (Makidon, 2013; Quinny & Fouts, 2004), it can be suggested that enhanced interpersonal relationships reduce participants' levels of depression, anxiety, and stress, thereby fostering better adjustment to divorce and higher life satisfaction.

A noteworthy finding in this study is that some divorced individuals did not experience the intended level of change, particularly concerning their relationships with their families of origin. While quantitative measurements indicated significant positive changes in various aspects for these individuals, qualitative analyses of pre- and post-interviews unveiled negative expressions, particularly in relation to their families of origin. One plausible explanation for this phenomenon could be the erosion of trust resulting from not receiving the anticipated support from their families of origin during the challenging divorce process. Weigel's (2007) research lends support to this notion, as it reveals that messages conveyed by families of origin are intertwined with romantic relationships and their outcomes. Similarly, Colletta (1979) observed that low-income divorced women predominantly expected and received support from their families of origin. This situation can be considered a contributing factor negatively impacting interpersonal relationships, including those with their families of origin, for divorced individuals who did not receive the expected support from this source.

Lastly, although not the primary focus of the PDAP, the observed shifts in participants' self-perception during the intervention process may offer another explanation for the noted positive changes. The process of reshaping

one's self-concept is considered a vital psychological mechanism that indirectly influences favorable post-divorce transformations (Larson & Sbarra, 2015). In this context, the indirect influence of the PDAP sessions on participants' self-esteem might have exerted a positive impact on their mental well-being. This indirect impact could have operated through participants' interpersonal relationships since self-esteem is closely intertwined with an individual's ability to form and sustain healthy social connections (Baum, 2004). Furthermore, the improved problem-solving skills of individuals might also account for the positive changes in their self-esteem (Dumont & Provost, 1999). Finally, the professional counseling environment, characterized by unconditional acceptance, likely contributed to participants feeling understood, thereby reinforcing their positive self-perceptions (Baitar et al., 2012). Consequently, participants with supported self-esteem likely became more adaptable throughout the divorce process as they recognized their own significance.

Another noteworthy finding in this study is that while none of the control group participants exhibited a significant positive change meeting the RCI criteria, some participants demonstrated a significant negative change meeting the RCI criteria (Life Satisfaction 3, Depression 2, Stress 1). This revelation suggests that individuals who did not avail themselves of any form of support services following divorce experienced an increase in their mental health complaints. Existing literature similarly indicates that individuals who forgo seeking assistance after divorce may experience an exacerbation of their complaints due to the influence of certain variables (Wanberg et al., 2023; Zimmerman et al., 2004). Furthermore, in the control group, anxiety and stress levels were found to increase for a certain period and then not significantly differentiate for another period. This fluctuation may be attributed to the variable course of mental health issues following divorce. In other words, individuals who did not receive professional support after divorce may experience periods of increased complaints while other periods remain unchanged.

Limitations of the Study and Future Research Directions

This study's findings highlight that receiving professional support services following divorce increases divorced individuals' adaptation to divorce, life satisfaction, and concurrently reduces complaints such as depression, anxiety, and stress. In this context, it is important for future studies to develop structured programs for such professional support services. This research underscores to professionals working with post-divorce individuals the significance of helping them construct a realistic and rational view of divorce, regulating their emotions, enhancing problem-solving skills, strengthening interpersonal relationships, and fostering positive self-perceptions. This study was conducted in individual sessions, and active participation by the participants was observed. Incorporating individual sessions into professionals' practices can facilitate clients' active engagement in the process and better expression of their needs. Especially when working with individuals facing intensive problems, individual sessions can be beneficial, while group sessions may prove useful for individuals with moderate to lower levels of problems. Therefore, it is important to tailor post-divorce programs to individuals' needs and risk levels, test the effectiveness of such staged programs, and then disseminate them accordingly.

The PDAP, which spans a total of six sessions, demonstrates that effective results can be achieved in a short period. Finally, the fact that there was no participant attrition during the PDAP process, which involved six female and four male participants, suggests that men also require professional assistance during this process, just as women do. In this regard, encouraging and persuading divorced men to seek professional support is crucial. All these factors emphasize the importance for professionals in this field to incorporate individual sessions, develop sessions that cater to both genders, keep the number of sessions low, and focus on key elements such as restructuring, emotion regulation, problem-solving, and interpersonal relationship development. Future research can be conducted with these considerations in mind. Additionally, alongside individual sessions, the effectiveness of incorporating group sessions can be tested. Furthermore, future studies could investigate the effectiveness of involving divorced individuals with children in sessions attended together with their children.

This study has several limitations. One of the limitations is that it does not meet the assumptions of parametric statistics. Future research can focus on studies that meet the assumptions of parametric statistics. It is known

that certain societal factors, especially, reduce men's willingness to seek help after divorce (Baum, 2004). The PDAP was implemented in a community-oriented culture, and a similar situation was encountered in this study. Ten participants took part in the PDAP, consisting of six women and four men. In future studies, attention can be paid to achieving equal gender ratios among participants.

The third limitation of this study is that data examining whether the effect of the PDAP persists after the intervention were collected for three months in the control group and six months in the experimental group. Future studies can contribute by including longer-term follow-up studies to assess the effectiveness of post-divorce support interventions. Fourthly, the study group was selected from individuals who did not have a clinical diagnosis but reported problems after divorce. Subsequent studies can compare findings by including individuals who have received clinical diagnoses after divorce. Finally, one of the characteristics of evidence-based intervention programs is that the effectiveness of the program is determined by different researchers (Chambles and Hollon, 1998). Therefore, different practitioners can evaluate the effectiveness of the PDAP. An important strength of this study is that it provides an intervention tool aimed at preventing post-divorce problems in the Turkish literature. The PDAP, in this regard, is a semi-structured, short-term, individual program with proven effectiveness that can be utilized by mental health practitioners, guidance and psychological counseling professionals, family counselors, and divorce process counselors.

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

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