Original Article

Development and Validation of a Questionnaire for Emotional Divorce Measurement: A Mixed Research on Family Mental Health Context

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Abstract

Background & objectives: Emotional divorce, seems to be a reducing factor in the quality of marital life and mental health. This study aimed to design, construct and validate an emotional divorce instrument.

Materials & Methods: This study was an applied, psychometric survey using a multi-stage sampling method conducted on 805 women living in Iran between 2015 to 2018. After determining the items in a semi-structured qualitative study, face, content, structure, and concurrent validity as well as the split-half and Cronbach's alpha coefficient methods for reliability evaluation were used. For all analyses, the SPSS19 software (IBM Corp, 2013) and for confirmatory factor analysis (CFA) LISREL 8.8 was used.

Results: 36.81% of the total variance was justified by 63 factors with Eigenvalues of less than 1 and 63.19% by the first 12 factors with an Eigenvalue of higher than 1. The final questionnaire consisted of 66 questions. The total Cronbach's alpha coefficient was 0.979. The exploratory factor analysis (EFA) resulted in five factors consisting of "love and interest in the spouse", "attention to the needs and practice the tasks", "controversy and misbehavior", "mental health", and "respect and appreciation". The results of the CFA confirmed model derived from the EFA (Chi-Square=7653.70, df =2503, P-value= 0.0000, RMSEA = 0.051).

Conclusion: The reliability of this questionnaire was high in two consecutive evaluations. The structural validity also led to the identification of the desired number of items. Hence, this questionnaire seems to be an appropriate tool for assessing emotional divorce as a feature of quality of marital life. However, further investigation is needed for tool efficiency assessment in different communities.

**Keywords:** Emotional divorce, Questionnaire design, Reliability, Validity

Introduction

The quality of marital life is a prevalent topic related to marriage life. Today, social damages are considered as a serious health threat. Factors such as urbanization growth, the quantitative and qualitative development of societies, the conflict of values and norms, as well as the disintegration of the interrelationships between individuals, and so on, have made it necessary to pay attention to social harms (1). One of the most important social harms is divorce. Divorce and its different forms including emotional divorce, are one of the most important social harms and among the causes of the destruction of the family center, which has many consequences and can be the source of many social harms such as sexual deviations, suicide, running away from home, robbery, addiction, beggary, tramp, and so on.

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Official divorce statistics do not indicate the quality of marital life, because, in addition, there are larger statistics on emotional divorce. In other words, some marriages do not end in divorce, but they lack love, companionship and friendship. As a result, the spouses only go with the flow of family life and spend time without love. This is called "emotional divorce"(2). Emotional divorce, according to Paul Bohanan's view, is the first stage in the process of divorce, and represents the declining quality of marital relationships in which intimacy is replaced with alienation (3).

There are almost no official statistics on the prevalence of emotional divorce, but there are many reports on the status of formal divorce. So that, evidence shows the progressive trend of divorce in European and American countries (4, 5). For example, 43% of all first-time marriages in the United States leads to divorce within 15 years (6). Also, in Eastern developed countries, divorce rates is rising (7-9). In Iran, we may consider the emotional divorce rates as twice as the legal divorce statistics (10). In recent studies in Iran it has been shown that about 50% of couples were in an emotional divorce phase (11). Currently, as mentioned earlier, due to the lack of documented sources, no official statistics on emotional divorce can be provided. If we cannot properly estimate this disorder, we may see an increasing rate of social harms such as addiction, infidelity, prostitution, and all kinds of mental disorders in family members (12-15). So, the official statistics of divorce do not fully reflect the failure rate of spouses in marriage, because a larger, but undiscovered statistics belongs to emotional divorce. The exact statistics for emotional divorces is not available and is likely to vary from country to country. In Western countries, mainly due to rapid socio-cultural changes, such as the importance of individualism versus collective traditions, increasing urbanization, the increasing trend of women's employment and independence (16), and the facilitation of divorce laws, couples will have legal divorce in case of dispute. Hence, the emotional divorce rate is not likely to be high. In Iran, we may consider the emotional divorce rates as twice as the legal divorce statistics (10). In recent studies, a research conducted in Iran showed that about 50 percent of couples were in an emotional divorce phase (11). Getting to the stage of emotional divorce, despite the fact that many couples started their marriages with love and passion, can have different causes, including excessive work, financial problems, having problem in sexual issues, having different cultural and educational backgrounds, having different hobbies, some personality traits such as pride, selfishness, pertinacity, diversity, and low self-esteem (17), urbanization, and increasing employment and financial independence of women (16, 18). Some researchers have argued that women's perceptions of spouse characteristics and the desirable marital relationship conflict with male cultural patterns. In other words, while the commonly held idea of a man's duty in marriage is to cover family expenses, today the intimacy component for women is of paramount importance and priority. That difference could be the cause of emotional divorce (19). For now, due to the lack of documented sources, no official statistics on emotional divorce can be presented. If we cannot properly estimate this disorder, we may witness an ever-increasing rate of depression, frustration, disappointment, loneliness, loss of life support, distrust of the spouse and many other social harms (12-15, 20). So, existing research revealed the lack of a coherent and comprehensive study on quantitative and qualitative dimensions of this disorder. One of the most important reasons for this, seems to be the lack of a scientific, documentary and sensitive instrument for recognition and diagnosis of emotional divorce. This study aimed to design a useful instrument to determine this disorder's coordinates, and provide a more detailed study of this phenomenon in order to reduce the risks of this social disorder in susceptible families and promote the quality of marital life through the use of tool in quality of marital life assessment studies.

Materials & Methods

Study design

This was an applied, psychometric and instrumentation survey investigating the design and construction of a researcher-made tool for the recognition of emotional divorce using multi-stage cluster sampling method in 805 women living in the cities of Khorasan Razavi, Fars and Kerman provinces from 2015 to 2018. The design consists of two parts: the phenomenology and explaining the experiences of susceptible individuals (qualitative phase), and then the psychometrics of the provided instrument in Iranian community (quantitative phase). The main inclusion criterion was the women who had been married for at least 3 years without any history of official divorce. Exclusion criterion was who were not willing to participate in the study.

Sample size and sampling processes

Participants were women referring to social emergency centers and social worker and family counseling clinics, and some scholars such as judges, psychologists, social and guidance deputy of police force and emergency social harms authorities to provide a primary bank of the instrument items for understanding experiences (flowchart in appendix).

Qualitative phase: Cities were selected by convenience sampling method due to their accessibility, as well as the high prevalence of official divorce in Iran, and the relative cultural diversity. Considering the convenience of the subjects, sample selection, as well as interviews, were performed in the centers. Purposeful sampling was performed as 12 interviews to reach the saturation threshold. In choosing qualified samples, being doubtful regarding emotional divorce by the expert in the centers according to individual's description of the situation was considered as the criterion. Finally, eligible women according to their consent for the interview were selected and an in-depth individual interviewing method was used. The interviews were conducted individually, openlyand in a semi-structured way using an interview guideline. The duration of the interviews varied from 30 to 75 minutes. The content analysis (structural analysis) method was used to analyze qualitative data. In the shortest possible time, the recorded information was listened to several times and then their texts were transcribed word by word. All the written transcripts were read and important phrases were extracted. The extraction process continued until code labeling. The codes were categorized into different classes according to similarities and differences. In order to evaluate the validity and accuracy of the results of qualitative data, the famous approach of "Guba and Lincoln" (21) was used. Immersion in data and follow-up observations, triangulation and external review, which was done by presenting the research process to colleagues as well as some samples, were the main stages of this approach. After extracting phrases, a Likert methodology was used to identify valid items and determine the most valid questions from "totally agree" to "totally disagree" Likert scales. After experts' confirmation, the items that had a higher correlation coefficient with the total score or higher prediction power were selected.

Quantitative phase: due to lack of evidence, the prevalence (p) was implicitly estimated to be 50%. Considering the maximum acceptable error of 0.05, the 95% confidence interval and the statistical power of 80%, a minimum sample size of 789 was determined. To increase the statistical power of the study and the reliability of the estimates, a total of 805 samples were examined finally. By multi-stage cluster sampling approach in each mentioned province, random sampling was used to select cities. Then, to obtain 805 samples using the convenience method, 255 samples in Khorasan Razavi province, 400 samples in Fars province and 150 samples in Kerman province were collected. If some samples were not cooperative, other samples would replace. The flow diagram of study steps is shown in Figure 1.

Figure 1. The flow diagram of study steps
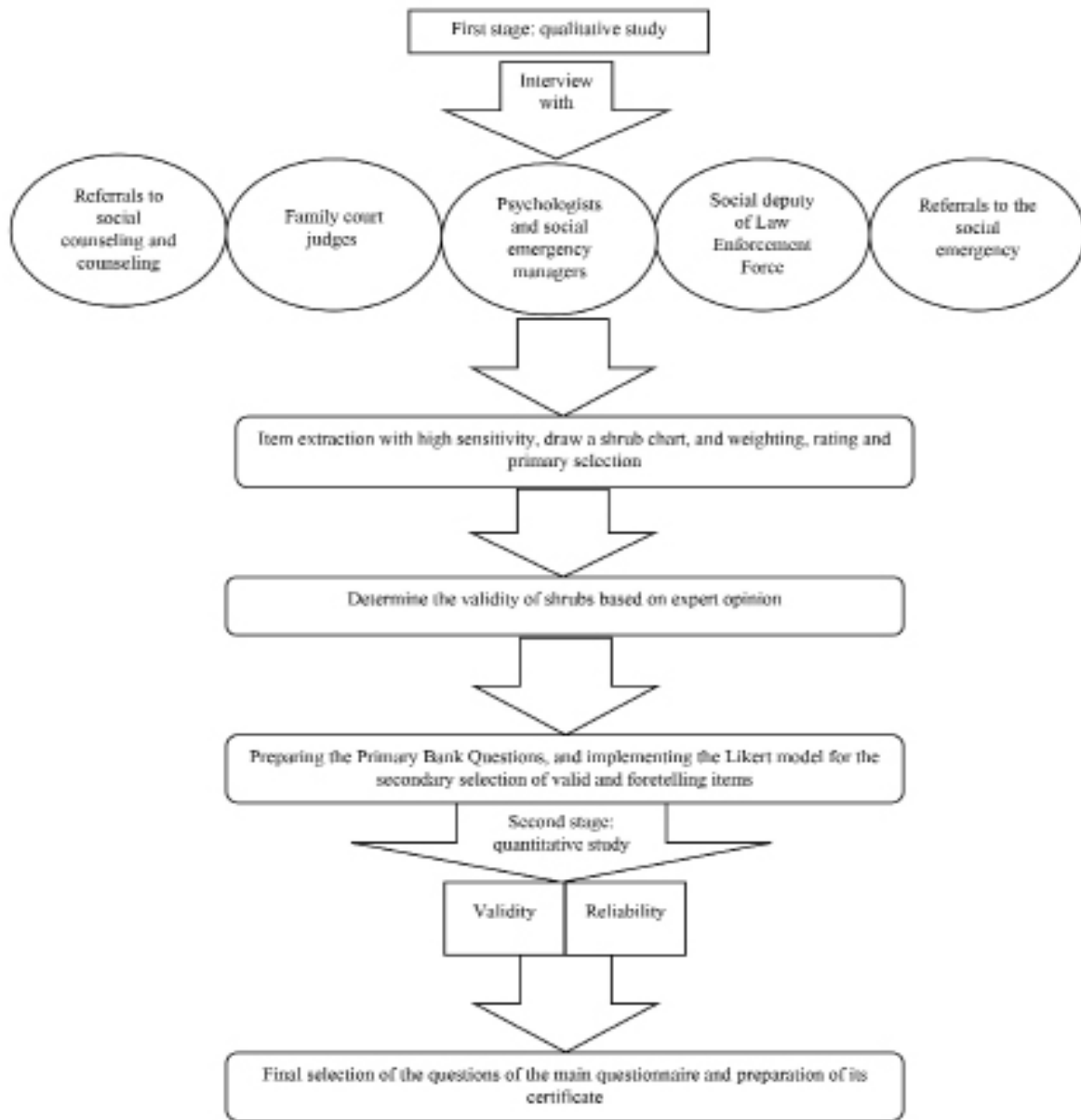
Setting up the primary format of the questionnaire

Before the interview, about the purpose of the study and the confidentiality of information, the right to withdraw from the research at any time of the interview and the right to view the texts written at the time of the interview or record the interviews and delete their recorded voice after the interview, were explained to the participating samples. Then, if the samples are willing to participate in the study, after recording the demographic information of the samples, the interview

first started with an open and general question such as "How do you assess the general situation of your life together?" Subsequent and follow-up questions were asked to clarify the concepts studied during the interview in proportion to the answers. Like "Please explain more about this?" Or "What do you mean?" Or even "Can you explain what you mean with a clearer example so that I can better understand what you are saying?"

After conducting interviews and reviewing the related items, a list of these signs and symptoms, as the clues for designing the questions, were first prepared with high sensitivity. After sorting them in the form of a tree-like table, the items were weighed and scored according to their importance. Based on the consultation with the experts, the validity of the tree chart was determined. In the next step, the question bank was prepared, and after going through the Likert model, the validity and reliability of the questionnaire and other specifications were measured.

Scoring: The questionnaire consists of seven-option items with a reverse scoring trend and in a closed-ended form, including "do not know=0", "very much=1", "high=2", "moderate=3", "Low=4", "Very low =5", "never =6". The "do not know" option in this questionnaire merely gave the participant the discretion to maximize her participation in completing the questionnaire and was not involved in the scoring. Whatever a person has a less marital problem, she was in a better situation and will obtain less score in terms of emotional divorce and vice versa. In designing the questions, the logical and recommended ordering of the questions was observed and their placement was arranged from simple to complex, as well as the questions that the participants might have been reluctant to answer, were placed at the end of the questionnaire.

Data analysis

For internal consistency evaluation, Cronbach's alpha coefficient, as well as the split-half method, was used. For face validity assessment,

the level of difficulty, ambiguity and suitability of the questions was examined by the expert opinions approach (10 experts). Also, the quantitative Item Impact Method was used to determine the effect score (Effect score = Importance × Frequency). The importance in this formula means the percentage that each option had concerning the total options among panel members. In addition, frequency also means the number of panel members who responded to each option. According to the existing evidence, if the score for each question was greater than 1.5, then the question was considered as appropriate. For content validity assessment, the Content Validity Index (CVI) and Content Validity Ratio (CVR) indices were calculated. Therefore, the initial questionnaire was sent to another 15 experts apart from 10 experts from face validity confirmation step with the same characteristics. If the CVR for each question was higher than 0.49, the content validity of the question was confirmed. The value of the CVI index had to be higher than 0.79 to allow the question to be verified. Exploratory factor analysis (EFA) in SPSS19 software was used for final selection of items and examination of structural validity with Varimax rotation. The value of 0.3 was considered as the minimum acceptable factor load. The confirmatory factor analysis (CFA) by LISREL 8.8 was used to validate the final version. Also, to verify the concurrent validity, the results obtained from the tool used in this study were compared with the Dyadic Adjustment Scale (22), because it is the closest tool to the concept as well as the purpose of this study. This tool can be used to measure the overall satisfaction in a sincere marital relationship (23). The reliability and validity of this tool were approved previously (24). To determine the cutoff points of the questionnaire, after determining the total scores, due to the lack of normal distribution of the scores, individuals were divided into groups with a low, moderate and high probability of emotional divorce using a percentiles plot. Subsequently, using the Delphi method, the distribution of the obtained scores was described for 10 experts and the

final cutoff points were determined based on a detailed review of the responses of the outlier samples. All the quantitative analyses were performed using SPSS19 software (IBM Corp, 2013). Also, the content analysis procedure was performed with MAXQDA.2018.1 software.

Ethical considerations

At the beginning of the interviews, the informed consent of the subjects to participate in the study was obtained, and they were assured about the confidentiality of their information and the group analysis of the questionnaires. Also, due to the questions raised about some private issues of the individuals, in case of the unwillingness of the participants to use tape recorders, all interviews were noted.

Results

Qualitative phase

Face-to-face interviews and the review of documentation and experts' opinions resulted in 108 items as the primary question bank. After consulting with the experts, the number of items was reduced from 108 to 85. Two questions had an effect score of less than 1.5, which were omitted from the questionnaire. Also, the panel members' consensus on one question indicated that the question was inappropriate, hence it was deleted. In CVR evaluation section, all questions, except two questions were scored higher than 0.49. Also, in the CVI evaluation section, the clarity and simplicity of three questions were not confirmed and they were removed from the questionnaire. After completing the content validity assessment process, 8 questions were excluded from the total of 85 initial questions and the semi-final questionnaire had 77 questions. Then a pilot study was conducted to eliminate the possible defects and examine the Likert scale. 16 questions were reviewed and corrected in this section. In continuation, Cronbach's alpha coefficient of the total questions was calculated as 0.97. Two questions had a correlation coefficient of less than 0.7 which were removed from the questions. Eventually, at the end of this stage, the questionnaire had 75 questions.

Quantitative section

EFA was performed on 75 items. The KMO index value was 0.973. Bartlett's test was significant with the value of 37769.367 at the level of $P < 0.0001$ (Table 1). Based on the total explained variance index, the predictive power of the model was 63.19%.

Table 1. The total variance explained for extracted factors

Comptonen	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	30.716	40.954	40.954	11.709	15.612	15.612
2	2.742	3.656	44.610	7.610	10.147	25.759
3	2.292	3.056	47.666	7.092	9.455	35.214
4	1.872	2.496	50.161	6.389	8.518	43.733
5	1.521	2.028	52.190	2.553	3.404	47.137
6	1.362	1.816	54.006	2.184	2.913	50.049
7	1.293	1.724	55.730	1.893	2.524	52.573
8	1.194	1.593	57.322	1.810	2.413	54.986
9	1.138	1.518	58.840	1.759	2.346	57.332
10	1.131	1.509	60.349	1.523	2.030	59.363
11	1.074	1.433	61.781	1.494	1.992	61.355
12	1.060	1.414	63.195	1.380	1.840	63.195

Also, according to the scree plot, 12 factors were identified. The first factor is shown with a higher score in comparison with the other 11 factors (chart 1); so that the highest percentage of the total variance (63.19) was obtained by the first factor (95.40) and the remaining percentage of the total variance (24.22) was explained by the remaining 11 factors. Also, among the total tool items of the total variance, 36.81% was justified by 63 factors with Eigenvalues of less than 1 and 63.19% by the first 12 factors with an Eigenvalue of higher than 1.

Chart 1. Scree plot diagram and components identification
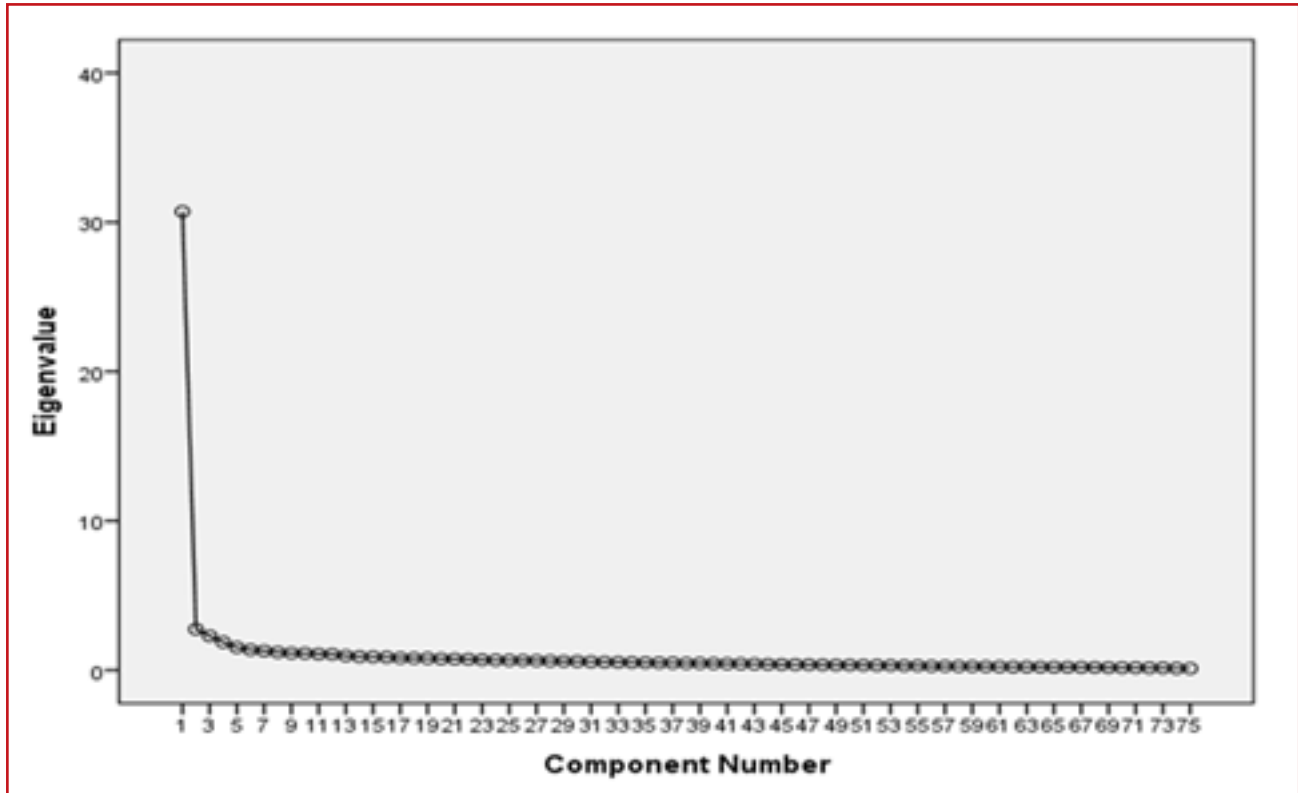
After the Varimax rotation, since the minimum factor load was considered as 0.3, 74 of the expressions were retained in 12 factors, and the eleventh expression was determined without any effective factor load.

The results of the CFA confirmed the 12-factor model derived from the EFA in terms of the level of validation of the model by fitting indices and the significance of the relationship between the related items. (Chi-Square=7653.70, df =2503, P-value= 0.0000, RMSEA = 0.051).

The Cronbach's alpha coefficient of the questionnaire was calculated and reported at a high level of 0.979. However, examination of the internal consistency of the questionnaire structure showed that only the first five factors had the desirable reliability and the Cronbach's alpha coefficients calculated for other factors were below the minimum acceptable value (0.7). Therefore, the internal consistency of the structures 1 to 5 of the emotional divorce questionnaire was verified at an optimal level, but the reliability of factors 6 to 12 was not confirmed. Hence, factors 6 to 12 were eliminated, and then the expressions that did not have factor load in any of the factors (11, 21, 25, 31, 37, 49, 51, 55 and 66) were removed from the total terms of the questionnaire. By eliminating these factors, there was no change in the total Cronbach's Alpha coefficient of the new questionnaire. Finally, the total number of expressions was reduced to 66, and the total Cronbach's alpha coefficient of the final instrument was again reported as 0.979 (Table 2).

Table 2. Cronbach's alpha coefficient reliability tests results

Factor	Cronbach's Alpha		N of Items	
	Before revise	After revise	Before revise	After revise
1	0.971	0.959	38	24
2	0.956	0.930	24	14
3	0.957	0.913	24	12
4	0.936	0.911	18	12
5	0.819	0.764	6	4

Finally, the latest validated questionnaire was prepared (appendix). After these steps, the CFA was performed again and the 5 selected factors were approved (Chi-Square=2253.20, df =856, P-value= 0.000, RMSEA = 0.053). To name the five factors, for common questions or expressions among the factors extracted from the exploratory factor analysis, the interesting expression in the factor that had the most loads was considered. Also, the largest value of factor load for each variable was determined in each factor, and the variable was merely considered in the naming process as the reference in that factor. To approach the main theme of the subject,

Accordingly, the first factor was called "love and interest in the spouse", the second "attention to the needs and practice the tasks", the third "controversy and misbehavior", the fourth "mental health", and the fifth factor "respect and appreciation". According to the scree plot, the first factor, namely love and interest in the spouse was identified as the most important factor among the extracted factors.

In the final questionnaire, the correlation coefficient index was obtained 0.931 using the split-half method, which confirmed the reliability of this questionnaire at a favorable level (Table 3).

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Table 3. the results of half - split Test of emotional divorce questionnaires

Reliability Statistics			
Cronbach's Alpha	Part 1	Value	0.958
		N of Items	33
	Part 2	Value	0.967
		N of Items	33
Total N of Items			66
Correlation Between Forms			0.879
Spearman-Brown Coefficient		Equal Length	0.936
		Unequal Length	00.936
Gottman Split-Half Coefficient			0.931

In concurrent validity assessment, the lambda correlation between the components of the emotional divorce questionnaire and the variables of the marital adjustment scale was calculated. The results showed a significant correlation between all the components of both instruments with the average contingency coefficient (= 0.59) in all dimensions ($p < 0.00001$).

The overall score reported in this study ranged from 30 to 379 with a median of 139. The mean and standard deviation of the scores were 154.35 ± 63.15. Regarding the percentiles, samples whose overall score was below 103 (the first percentile), were considered as people with low potential for emotional divorce (low), between 103 and 192 (between the first and third percentiles) as individuals with the moderate possibility of emotional divorce (moderate), and scores above 192 (third percentile) as people with a high risk for emotional divorce (high). The most commonly reported score was 100.

Based on the information obtained, it was also determined that the distribution of total scores has a skewed distribution to the right. On the other hand, by using the Delphi method, the distribution of scores obtained in the quantitative section is described for 10 experts in the social sciences and statistics and epidemiology, and for determining the final cutting points, after a careful and critical review of the 5% upper and lower answers, it was decided due to the closeness of the first percentile, i.e. 103 score to the value of the mode, i.e. 100 score, for classifications with 1 cutting point, the cut point 100 was used and for the triple divisions and determine the severity of the emotional divorce, the classification based on the first to third percentiles mentioned in the above paragraph was used. The finalized questionnaire is shown in appendix (Table 4).

Table 4. The final format of emotional divorce scale

Number & factors	Questions	do not know	very much	high	moderate	Low	very low	never
	Factor 1							
1	How much do you feel in your life and marriage left or forgotten by your spouse?	0	6	5	4	3	2	1
2	How much is your physical contact with your spouse (hug and kissing and caressing)?	0	1	2	3	4	5	6
3	How much hope do you have for your future life or the bright future that will create for you with your spouse?	0	1	2	3	4	5	6
4	How much do you fit your spouse to live with?	0	1	2	3	4	5	6
5	How much can you trust your spouse on different issues?	0	1	2	3	4	5	6
6	How much are you optimistic about different things in your life?	0	1	2	3	4	5	6
7	How much does your spouse care about his Adornment and cleanliness in your relationship with you?	0	1	2	3	4	5	6
8	If the conditions were such that you could go back to the past time and get married again, how could it be you married with your current wife?	0	1	2	3	4	5	6
9	With the knowledge that you have now about Yourself and your spouse, how much do you differ from your spouse?	0	6	5	4	3	2	1
10	How much do you talk with your spouse in your common life?	0	1	2	3	4	5	6
11	How much do you live with your spouse willingly and willingly now?	0	1	2	3	4	5	6
12	If there is a respectful relationship between you and your spouse, how much is this respect with love and affection?	0	1	2	3	4	5	6
13	At this moment, How much do you enjoy from your life with your spouse?	0	1	2	3	4	5	6

14	How concerned Your spouse with you on different life issues?	0	1	2	3	4	5	6
15	How much do you and your spouse desire to spend your time with each other?	0	1	2	3	4	5	6
16	How much time do you and your spouse spend together if you are not busy and have the opportunity?	0	1	2	3	4	5	6
17	How much your life is happy and healthy?	0	1	2	3	4	5	6
18	How much are you warm and intimate with your spouse right now compared to the first days of your marriage?	0	1	2	3	4	5	6
19	How important is it to you Being your spouse with you and your family?	0	1	2	3	4	5	6
20	How much does your wife make you relax and delight?	0	1	2	3	4	5	6
21	At the moment, in general, With the knowledge of your life and your relationship with your spouse, How satisfied are you with your life?	0	1	2	3	4	5	6
22	How much do you agree on your life with this statement: "You live just under one roof with your spouse but there is no emotional bond between you and you."	0	6	5	4	3	2	1
23	With the knowledge of yourself and your spouse, How much acceptability and Attractiveness do you have for your spouse?	0	1	2	3	4	5	6
24	With the knowledge of yourself and your spouse, How much is your spouse the same person who was At the beginning of life?	0	1	2	3	4	5	6
	Factor 2							
25	How much does your spouse pay attention to you and life and changes that you make in your life, like your makeup or home environment?	0	1	2	3	4	5	6
26	How much honest is your spouse with you?	0	1	2	3	4	5	6
27	How much does your spouse want to spend time with you and your family?	0	1	2	3	4	5	6
28	How much does your spouse pay attention to your and your family's needs?	0	1	2	3	4	5	6

29	How much does your spouse respect to your emotions and Feelings?	0	1	2	3	4	5	6
30	How much does your spouse understand you in different circumstances?	0	1	2	3	4	5	6
31	How responsible is your wife?	0	1	2	3	4	5	6
32	How much is your spouse loyal to you and your life?	0	1	2	3	4	5	6
33	How much does your spouse love you dearly and really?	0	1	2	3	4	5	6
34	How is your spouse competent in correctly communicating with you and others?	0	1	2	3	4	5	6
35	How satisfied are you of sexual intercourse with your spouse?	0	1	2	3	4	5	6
36	How much do your spouse Acting to give you daily living expenses?	0	1	2	3	4	5	6
37	How much does your wife appreciate about your work and efforts?	0	1	2	3	4	5	6
38	Given the knowing of the duties of a couple in common life, How much does your spouse perform his duties in life?	0	1	2	3	4	5	6

Factor 3

39	How much does your spouse aggression you in family disputes?	0	6	5	4	3	2	1
40	How much does your spouse deliberately upset you?	0	6	5	4	3	2	1
41	If your behavior is contrary to the views of your spouse, how much is it possible for your spouse to deliberately and retaliating against your views too?	0	6	5	4	3	2	1
42	How much unresolved problem is there between you and your spouse?	0	6	5	4	3	2	1
43	How much does your spouse fuss you?	0	6	5	4	3	2	1

44	How often do the controversy between you and your spouse happen?	0	6	5	4	3	2	1
45	How much is your spouse taking hard on you, So that This harshness will annoy you?	0	6	5	4	3	2	1
46	How much does your spouse is orgiastic in your life, and it blames you in different situations?	0	6	5	4	3	2	1
47	How much does your spouse do Unnecessary excuses?	0	6	5	4	3	2	1
48	How much does your spouse compare you with others and The positive aspects of others are drawn to your face and do not see your positive aspects?	0	6	5	4	3	2	1
49	If there is a problem or disagreement between you and your spouse, how much will your spouse accept and respect your opinion?	0	1	2	3	4	5	6

Factor 4

50	How much do you agree with this statement about yourself and your life: "I am so angry with God For my destiny"	0	6	5	4	3	2	1
51	How much alienation and distance is between you and your spouse?	0	6	5	4	3	2	1
52	How much do you compare the lives of others with your life and regret it?	0	6	5	4	3	2	1
53	How much do you need about having a Like-minded to talk to each other in life?	0	6	5	4	3	2	1
54	How much is your home just like a dorm Instead of being a safe and intimate place for a romantic life?	0	6	5	4	3	2	1
55	How much do you agree with this statement: "In a variety of situations, I will crush and be nervous about some of my wife's words and behaviors soon and I will show a quick behavior of myself. "	0	6	5	4	3	2	1
56	From the beginning of the common life to now, How much do you feel, in your relationship with your partner, fear, anxiety, restlessness, anxiety, stress and anxiety in different situations?	0	6	5	4	3	2	1
57	How much do you feel Indifference, fatigue, unlucky and unhealthy in your life?	0	6	5	4	3	2	1
58	How much do you feel Loneliness?	0	6	5	4	3	2	1

59	How much do you feel paltriness to yourself?	0	6	5	4	3	2	1
60	How much do you feel hated to live?	0	6	5	4	3	2	1
61	With the experiences that you have now about common life, If you returned to the past, how likely would you be You did not marry nobody never?	0	6	5	4	3	2	1
62	How much do you feel Undeclared and hidden angry about your life and your spouse?	0	6	5	4	3	2	1

Factor 5

63	How much do you expect your spouse to have an illegitimate relationship with someone else outside the family?	0	6	5	4	3	2	1
64	How much does your spouse abuse and harass you?	0	6	5	4	3	2	1
65	How much are you humiliated by your spouse In front of others?	0	6	5	4	3	2	1
66	How much does your spouse slander you?	0	6	5	4	3	2	1

Discussion

In this study, in the initial model created in EFA analysis, 12 factors were identified. The highest percentage of the total variance (63.19) was obtained by the first factor (95.40). The predictive power of the initial model was 63.19%. The final questionnaire created had 66 items. The total Cronbach's alpha coefficient of the final tool was reported to be 0.979. Also, the factor analysis led to the extraction of five factors. The first factor, love and interest in the spouse, was the most important factor among the extracted factors.

Nowadays, the issue of divorce is an integral part of societies. It has threatened the quality of marital life as well as foundation of the family (25). Among studies that were performed on the divorce inside and outside Iran, evidence on emotional divorce is very rare or not available. In fact, the issue of emotional divorce is one of the subjects that has recently attracted the attention of researchers, and occurs silently within families, and no accurate and official statistics are available for it. Major research in the field of divorce is dedicated to the legal divorce etiology and its distribution and frequency. In various studies, the psychological, sexual, cultural, social, economic, and violence causes have also been introduced as the most important causes of divorce (25-28). Kaiser in a study in 1996 (29) designed a self-reporting 21-item instrument to determine the level of reluctance to one of the couples, which had an optimal validity and reliability for the clinical assessment of one spouse's feelings to another. Compared to the results obtained in our study regarding the correlation coefficient between the marital adjustment scale and emotional divorce (0.59), they reported a higher value. It seems that the tools desirable

thematic closeness used in the Kaiser study to measure concurrent validity in comparison to the mere thematic closeness of the marital adjustment scale to the present study tool is one of the reasons for the higher concurrent validity correlation coefficient of his study compared to our study. Concerning the comparison of the reliability characteristics of the items in our study with the above-mentioned studies, the Cronbach's alpha coefficient obtained in our study was higher than the coefficients calculated in Kaiser and Snyder and Regts studies (30) in all dimensions. Also, in terms of the number of expressions in the instrument, the number of our questions was 66 items and in the Kaiser study there 21 items. Emotional divorce concept is related to widely researched concepts, such as marital or marriage unsatisfaction, couple unsatisfaction, low marital quality, low marital adjustment, marital unhappiness, and relationship dissatisfaction (31). The concept of emotional divorce seems to be something beyond all of these concepts. In fact, all of these concepts shape the process of emotional divorce that, depending on the cultural and social characteristics of each society, emotional divorce is the product of some or all of them. On the other hand, the relationship between these concepts and the issue of divorce has been shown in various studies (31-36). This may be the reason for some differences between our findings and other studies. However, emotional divorce represents a declining marital relationship that is replaced by feelings of alienation. Although couples may continue to be together as a social group, their attraction and trust in each other has disappeared (37). This subject may be used in different texts under different titles such as low marital quality, low marital adjustment, marital unhappiness, and relationship dissatisfaction, but are often used interrelated. At the same time, there are specific differences between these concepts that distinguish their structure from each other and the more prominent role of the concept of emotional divorce. Among them, we can mention to the couple's motivational structure, attachment style, forgiveness and sacrifice,

communication and intimacy, emotional intelligence, life skills, and sexual relations (31) as prerequisites for marital, marriage or couple unsatisfaction, which can eventually lead to the emotional divorce. However, it can be said that these concepts are the common concepts that are used to assess happiness and resistance in a marriage and often identified as a sense of satisfaction by the husband or wife when they consider all aspects of their marriage (38).

Gottman and Silver believe that the couples are officially married at the stage of emotional divorce, but feel emotionally isolated because they feel that there is no difference between living with their spouses and living alone (39). The most popular instrument for measuring emotional divorce is the Gottman Divorce Questionnaire (40). This scale has 24 questions and should be answered in a yes or no manner (41). In two studies, the Cronbach's alpha was mentioned for the reliability of this questionnaire. The content validity of the questionnaire was also reported desirable (42, 43). Bayat Mokhtari et al. also reviewed the psychometric properties and standardization of this tool (44). In their study, the questionnaire measures both emotional divorce as well as the feeling of loneliness. The questionnaire has 24 questions. The Cronbach's alpha value in this study was reported to be 0.91. In the study of Salayani and Asghari, Cronbach's alpha coefficient of Gottman questionnaire was reported 0.74 (41, 42, 44, 45). In all dimensions of the present study, the reliability coefficient in the Iranian population was higher than the values obtained on the Gottman instrument in the studies of Bayat Mokhtari, Salayani and Asghari. It seems that one of the reasons, is the wider area of the population studied in the present study compared to the above studies. In the present study, by selecting the samples from several provinces, it was tried to include the maximum ethnic diversity that could contain new information in this field, and even the probability of differences between them in different dimensions could be a factor in the distribution of emotional divorce between these provinces. However, such wide area has not been investigated in other studies recently.

Internal and external studies about emotional divorce confirm the effect of the factors that were introduced in our study as the main themes of emotional divorce. For example, in Kermani et al. (6), a significant relationship between the variables of interference of the families, the individual's family view of legal divorce, sexual dissatisfaction, duration of marriage and emotional divorce was observed. Among these, sexual dissatisfaction has had the greatest impact on emotional divorce. The sexual dissatisfaction was of the important items in designing the questions in our study. In Roshani et al.(19), four types of emotional divorce have been distinguished, in which they share the lack of intimacy in the relationship of the spouses and the continuation of the marital life, and their differences were in the amount of interest, verbal communication, sexual relation, desire to spend time with each other, feelings of belonging, and commitment of the spouses. These results were also in line with the theme of some of our tool items. Study in this field is rare outside Iran. In other words, there is less emotional divorce and silent life in advanced societies, because couples are officially divorced in the case of disagreement. In these societies, due to the broad social support of the widow or divorced children, there is no cause for continuity of a cold and silent life. On the other hand, the husband and wife do not see any reason for continuing the cold life because of familiarity with the rational culture and being away from the norms of traditional culture in such a way that the external pressures and desires of the people around them lead to the continuity of the silent life (10, 46). Hence, investigations on the general issue of divorce in other countries have largely focused on the issues and motivating factors behind the divorce process in families. For example, Ellison et al.(47) concluded in their study on 1500 people between the ages of 18 and 35, that parents who get more scores in terms of religion and spirituality, have a healthy, happy, and uncomplicated life. Momeni et al. (48) also showed that intimacy and protection of marriage are considered as strong predictor variables in marital satisfaction. The study of Mandemakers et al,

(49) also suggested that an incompatible family could lead them to divorce and depending on the circumstances, impose divorce anxiety, or prevent divorce based on their perception of their current situation. The outcome of all of these studies is in line with our study of the identification of the causes and factors leading to divorce decision and some kind of incompatibility in the family foundation.

Conclusion

It should be said that according to the desired values of reliability and validity of the questionnaire, it seems that, this instrument is a suitable tool for diagnosis and evaluation of emotional divorce disorder as a reducing factor of quality of marital life. Of course, achieving the desired consensus on the effectiveness of this instrument, requires the implementation of the questionnaire on a larger scale and in other ethnicities, both in Iran and in other countries.

Limitations

Due to the technical and methodological approach of the study, one of the limitations of this project was the impossibility of investigating the concurrent divergent validity of this instrument with a different instrument through inverse correlation, due to lack of appropriate tools. There are, of course, questionnaires on happiness, success, affinity and marital satisfaction, but the consensus with consulting experts was that, given the pros and cons of all these tools, the result of evaluating their concurrent validity with the tool in this study is not highly reliable. Also, one of the strengths of our study was the use of a large population with several different ethnicities which makes it (tool) easier to use. Of course, the results of this study can only be generalized to the population of the three surveyed provinces.

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Conflict of Interest

The author declares no conflict of interest.

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