

# Evaluating Reliability of Theory of Planned Behaviour Questionnaire for Withdrawal of Divorce Petition

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## Abstract

**BACKGROUND:** Given the increased rate of divorce, it is important to analyse the characteristics of divorce applicants. The theory of planned behaviour (TPB) can provide a suitable framework to predict, explain, and/or change the behaviours. In Iran, no instrument can be found, based on health education models, to investigate divorce petition filing as a behaviour.

**AIM:** This study was conducted to design a questionnaire on withdrawal of divorce petition based on the TPB and estimate its validity and reliability.

**MATERIAL AND METHODS:** A qualitative study was conducted in 27 participants involved in the divorce process using directed content analysis. The face and content validity of 58 items, drawn from the qualitative study, were evaluated by 10 experts. The reliability was estimated using Cronbach's alpha coefficient. The SPSS version 16 was used to analyse data.

**RESULTS:** Estimates of the face and content validity (quantitative and qualitative), revealed that of the 58 items, 48 were valid based on four of the constructs of the TPB. Cronbach's alpha coefficient was also derived greater than 0.6.

**CONCLUSION:** The designed questionnaire, whose validity and reliability was confirmed in this study, can be used in similar studies. However, the social and cultural differences and their related effects should be considered.

## Introduction

Divorce is one of the problems that impose stupendous costs on both the community and individuals [1]. Researchers have suggested several factors as causes of divorce such as marital dissatisfaction, extreme differences in beliefs, personality differences, cultural differences, financial problems, addiction, betrayal, lack of attention to gender identity and sexual orientation, and couples' families differences and meddling [2] [3].

Despite the increased rate of divorce across the globe, certain exceptions have been observed in different societies over time, such as decreased divorce rate and increased marriage length in some

countries [4]. To solve couples' problems and reduce the divorce rate, different approaches have been proposed including education and counselling as well as qualitative and quantitative studies [5]. One approach is to investigate social problems is the use of models and theories of health education that can help provide effective communicative strategies to use suitable strategies and theories [6]. Fishbein and Ajzen's theory is based on two presumptions; according to the first one, people make decisions based on their logic and reasonable analysis of available data and the second one states that they consider the consequences of their behavior, Fishbein and Ajzen's theory of planned behavior (TPB) has been used to resolve different social and personal problems [7]. It seems reasonable to select the TPB

and its constructs to analyse behavioural intention of couples to withdraw divorce petition because the withdrawal of divorce is a behavior. The first factor affecting behavioral intention is attitude resulting from positive and negative beliefs about performing a behavior (divorce). Other factor is subjective norms which refer to the influence of the other people who are important to the individual, such as parents, family members, and relatives. The perceived behavioral control refers to one's beliefs regarding personal control over the performance of the behavior and one's belief in their own ability to succeed in performing the behaviour [8]. The perceived behavioral control may be improved by education and skill training, which affects the behavioral intention and behavior change (withdrawal of divorce petition).

To conduct a more comprehensive study and design an appropriate measuring questionnaire, it is recommended to use qualitative methods and obtain a correct perception of experiences [9] [10]. The scales of the TPB should be prepared by a pilot study to ensure the psychometric properties [11]. Despite the need for a valid questionnaire based on the TPB, no study has yet been conducted in Iran to investigate the validity of such a questionnaire.

Because the validity and reliability are affected by changes in the society, the present study sought to design a questionnaire using the results of a qualitative study, leading to a better understanding of withdrawal of divorce. This study is part of a larger study on the use of the TPB in the withdrawal of divorce petition.

## Methods

Necessary data were collected in a qualitative study using directed content analysis based on the TPB to design an efficient questionnaire. The study population of the qualitative study included 27 people, 10 of whom were couples who had been referred to the Family Counseling Center, seven were family members of the couples, four were counselors, three were social workers of the Family Counseling Center, and three were Judges and their advisors in the Family Court of the Judicature. The participants were selected by purposive sampling. The only inclusion criterion was providing consent to be interviewed and to collaborate with the study. The exclusion criterion was withdrawing from the interview. Table 1 shows the demographic characteristics of participants. (The qualitative section of the study is going to be published)

In interviewing different groups of samples during the qualitative study, items on the constructs of the TPB or those of the questionnaire were extracted. The pilot questionnaire included 58 items classified as

follows: 16 on attitude, 24 on perceived behavioural control, 10 on subjective norms, and 8 on intention). The items were rated on a 5-point Likert scale (from Absolutely agree = 5 to Absolutely disagree = 1), to evaluate the validity, including face and content validity.

Validity refers to the extent of covering the concept a test aims to measure. There are various methods to estimate validity which determine the relationship between a concept (variable) and operative indices selected to measure it. The fundamental methods to evaluate validity are face validity and content validity. Qualitative face validity indicates whether a questionnaire is appropriate to the study purpose and content area, based on respondents' viewpoints [12]. Participants were first asked to estimate the face validity.

Item clarity: Item clarity addresses the question of how much a test is valid based on respondents' opinions? The pilot questionnaire was filled out by 21 individuals referring to the Family Counseling Center who did not participate in the main study.

After the pilot study, participants were asked to identify any item that was difficult to understand or confusing, express their viewpoints regarding the appropriateness of phrases concerning the questionnaire dimensions, and identify ambiguous items. In the next step, certain items were revised or deleted, or some items were added.

To determine the importance of each item, the item impact method was used. For this purpose, 21 respondents were asked to evaluate the importance of items using a 5-point Likert scale (from 1 to 5):

$$\text{Impact score} = \text{Frequency (\%)} \times \text{importance}$$

Item score indicates the score derived by the item impact method; frequency refers to the percentage of respondents attaining a score of 4 or 5, and importance refers to the average score of the item based on the Likert scale. According to the above formula, those items that attain an item impact score of 1.5 or more remained. According to results, no item was deleted in this step.

The pilot questionnaire was assessed by 10 experts including six university teachers of health education, two university teachers of sociology, and two university teachers of epidemiology. They were asked to examine the questionnaire for grammatical structure, vocabulary, phrases, scoring, and necessity of items, and to see whether it is necessary to add further items. The structure and wording of some items were changed according to experts' comments. Also, the theme of some items was changed, e.g. three items under the intention theme were transferred to the theme of behavioural control.

To determine the CVR, the experts (10 experts participating in the previous part) were asked

to judge the necessity and usefulness of all items. The formula used by the experts to calculate the CVR was as follows:  $CVR = (n - N_e/2) / (N_e/2)$ .

Where N represents the number of experts judging the items as necessary, and  $N_e$  represents the number of evaluators. The CVR greater than .62 was confirmed by Lawshe's table. Items were confirmed or rejected according to the protocol as follows:

If the item CVR were equal or higher than .62, the item would be confirmed; if the CVR was between 0 to 0.62 and the impact ratio was higher than 1.5, the item would be confirmed; if the CVR was less than 0 and the impact ratio was higher than 1.5, the item would be rejected. At the end of this step, 6 items were deleted, and 51 remained. Table 2 shows the CVR scores, numerical means for judgments, and acceptance or rejection of each item.

CVI, which showed the generalizability of judgments made by the 10 experts, indicated the validity of the applicability of the final version of the questionnaire: Simplicity and understandability: 1. The item is not simple; 2. The item is relatively simple; 3. The item is simple, 4. The item is highly simple. Relevance: 1. The item is not relevant; 1. The item is relatively relevant; 3. The item is relevant; 4. The item is fully relevant. Clarity: 1. The item is not clear; 2. The item is relatively clear; 3. The item is clear, 4. The item is fully clear. CVI was estimated by the formula below:

$$CVI = n/N_e \geq 0.79$$

The CVI was calculated as the sum of scores 3 and 4 divided into the total number of scores. Items with CVI more than .79 were accepted, items with CVI between 70% to 79% were considered vulnerable and to need revision, items with CVI less than 70% were not considered acceptable and therefore deleted. The content validity of the questionnaire was confirmed if the CVI scores were acceptable.

By using reliable instruments, we can obtain more dependable results and also similar conclusion if we replicate the study. To estimate reliability, the Cronbach's alpha coefficient was used. Concerning similar studies, the least number of samples to conduct a pilot test to estimate Cronbach's alpha coefficient is 20. The pilot questionnaire was filled out by 21 samples. Because the literacy levels were different in this phase, the interviewer asked the questions and filled out the questionnaire. According to the results, internal reliability was determined by Cronbach's alpha coefficient.

## Results

Table 1 shows Personal Characteristics of participants of the qualitative study.

**Table 1: Personal Characteristics of participants of the qualitative study**

Participants	N (%)	Gender N (%)		Age N (%)		Occupation N (%)		Education N (%)		
		Female	Male	31 <sup>≤</sup>	= 30	Unemployed	Employed	BM and more	Diploma to bachelor	Primary
Couples	10(37)	4(40)	6(60)	7 (70)	3(30)	2(20)	8(80)	3(30)	1(10)	6(60)
Parents	7(25.9)	6(85.7)	1(14.3)	7(100)	0	6(85.7)	1(14.3)	0	0	7(100)
Counselor and social workers	7(25.9)	5(71.4)	2(28.6)	7(100)	0	0	7(100)	5(71.4)	2(28.6)	0
Family judges	3(11.1)	1(33.3)	2(66.7)	3(100)	0	0	3(100)	2(66.7)	1(33.3)	0
Total	27	16	11	24	3	8	19	10	4	13

Of the 52 items, 48 were selected. CVR for each item was estimated (Table 2).

**Table 2: CVR scores, the numerical mean of judges, acceptance of items**

Acceptance	CVR	Number of confirmation	Attitude	
Accepted	1	10	To continue a stressful marriage may have negative effects on children	1
Accepted	0.86	9	To continue a stressful marriage may cause physical damages to me.	2
Accepted	0.64	8	To continue a stressful marriage may cause financial losses for me.	3
Accepted	0.64	8	To continue a stressful marriage may cause mental suffering.	4
Accepted	0.64	8	For me, divorce is the last solution to my life problems.	5
Rejected	0.22	6	For me, divorce menace erasing my previous mistake in selecting my spouse	6
Accepted	0.64	8	Thinking on divorce is stressful.	7
Accepted	0.86	9	Divorce is a problem and damage to the society.	8
Accepted	0.64	8	Divorce is a barrier on the way of my progress.	9
Rejected	0.22	6	Divorce is not a beautiful word.	10
Accepted	0.64	8	Society has a negative attitude toward the divorced individuals.	11
Accepted	0.64	8	For me, to think about divorce is also annoying.	12
Accepted	0.64	8	For me, to accept divorce is annoying.	13
Accepted	0.64	8	I think divorce means loneliness and perplexity.	14
Accepted	0.86	9	Divorce is a sort of freedom from the difficulties of the past life.	15
Accepted	0.64	8	To continue a stressful marriage may have negative effects on our children	16
Perceived behavioural control				
Accepted	0.86	9	The problem between my spouse and my parents made reconciliation impossible.	1
Accepted	0.86	9	Since our families are involved in the conflicts, we cannot reconcile.	2
Rejected	0.43	7	Being the only child of the family made for me impossible to decide reconciliation.	3
Accepted	0.86	9	Without meddling of a family of my spouse, I can reconcile.	4
Accepted	0.86	9	Without the help of a family of my spouse in solving our problems, I cannot reconcile.	5
Accepted	0.86	9	After suspicious cases of communicating with the opposite sex, I cannot continue my marriage.	6
Accepted	0.64	8	Dowry and using it as a powerful means, filing a divorce petition by women becomes easier and more possible.	7
Accepted	0.64	8	It is impossible to continue my marriage because my spouse is a pessimist.	8
Accepted	0.86	9	I cannot continue my marriage since my spouse cannot decide independently.	9
Accepted	0.86	9	I cannot continue my life with a spouse who is not responsible for marital life.	10
Accepted	0.86	9	It is impossible to reconcile due to sexual reluctance and coldness of my spouse	11
Accepted	0.86	9	I cannot continue my marriage since my spouse does the violent behaviour.	12
Accepted	0.64	8	I cannot continue my marriage with the one who takes me to court and sends me to the jail.	13
Accepted	0.64	8	Due to the long absence of my spouse, I can not continue my marital life.	14
Accepted	0.64	8	I cannot continue my marital life since my spouse is imprisoned.	15
Accepted	0.86	9	If my spouse changes his/her behaviours, I can continue my marital life.	16
Rejected	0.43	7	Due to appropriate education and counselling, it becomes possible to continue our marriage	17
Rejected	0.22	6	By receiving appropriate counselling and education at other organisations like NGOs, drug rehab centres, etc., it becomes possible to continue our marriage.	18
Rejected	0.43	7	Because of an opportunity to think during the divorce process in Family Counseling Center, I can better think about reconciliation.	19
Accepted	0.64	8	Although I reconciled once by counsellors, I cannot reconcile again.	20
Accepted	0.64	8	As a member of the new generation, I will not tolerate problems in marital life like those belonging to the past.	21
Accepted	0.64	8	Having a forced marriage, I cannot tolerate my marriage.	22
Accepted	0.64	8	Because of my spouse' severe chronic addiction, I cannot continue my marriage.	23
Accepted	0.64	8	Because of my spouse betrayal, I cannot continue my marriage.	24
Accepted	0.86	9	Due to the unchangeable behaviours of my spouse, I cannot continue my marriage.	25
Subjective norms				
Accepted	1	10	Watching inappropriate satellite programs and misuse of social networks, made adultery more acceptable for my spouse.	1
Accepted	1	10	Increasing the rate of divorce made it easier to decide to divorce.	2
Accepted	1	10	My religious beliefs encourage me to tolerate life problems.	3
Accepted	0.86	9	Counsellors of the Family Counseling centre support me to reconcile.	4
Accepted	0.64	8	My sexual partners encourage me to divorce.	5
Accepted	1	10	My parents support me to divorce.	6
Accepted	1	10	Mothers-in-law have a great influence on encouraging the wife to divorce.	7
Accepted	1	10	My spouse' family encourages my spouse to divorce.	8
Accepted	0.86	9	My spouse' family support us to reconcile.	9
Accepted	0.86	9	My family encourage me to reconcile	10
Accepted	0.64	8	I want to reconcile although we decide to divorce together.	1
Accepted	0.86	9	I intend to reconcile since I decide to divorce in a hurry.	2
Accepted	1	10	I intend to reconcile while emotion subsides after a quarrel.	3
Accepted	0.86	9	To reconcile, I intend to be more patient.	4
Accepted	0.86	9	Although my family disagrees, I want to reconcile.	5
Accepted	1	10	I file the divorce petition to punish my spouse.	6

Content validity was confirmed by an estimated CVI of 0.79 according to the above formula.

Table 3 shows the Cronbach's alpha coefficients of the constructs. If the alpha coefficients were equal or higher than 0.6, it was considered appropriate. In this step, three items (items 2, 8, and 10 of subjective norms) were deleted. Finally, 48 items were selected.

**Table 3: reliability of items according to constructs**

Consistency	Number of items	Themes of questionnaire
0.73	14	Attitude
0.84	21	Perceived behaviour control
0.63	7	Subjective norms
0.91	6	Intention

## Discussion

Increased rate of divorce petition filing is a social problem that has forced certain organisations such as the Judicature and Welfare Organization to attempt to reduce. As with some studies, the current study is also theory-based [13] [14]. Although some studies on the questionnaire of marital or family satisfaction have been done in Iran [15] [16] [17] no study has yet been conducted on withdrawal of divorce based on health education models, especially the TPB. This study sought to develop an instrument on withdrawal of divorce petition based on the TPB and to estimate its validity and reliability. To determine the content validity, the designed questionnaire was evaluated by 10 experts of health sciences, sociology, and counselling. However, in the simple cases, fewer experts are involved [18] [19]. Because of the complexity of divorce as a social phenomenon, 10 experts were involved. The expert panel and their different viewpoints, due to differences in their fields of study, made it possible to use their viewpoints in evaluating the qualitative content of the questionnaire. It is noteworthy that this study data were collected in a qualitative study including primary interviews, encoding, and directed content analysis.

Moreover, codes were drawn by interviewing different groups of people involving in divorce, and different experts participated in the evaluation and estimation of the instrument's face and qualitative content validity. In previous studies, fewer experts were involved in validity evaluation [15] [16] [17]. In the studies on marriage satisfaction, CVR and CVI were not taken into account. The present study was first to use these methods to determine people's status, including aspects of attitude, perceived behavioural control, subjective norms, and divorce intention and divorce withdrawal.

The results showed that the designed questionnaire was relatively reliable. Reliability refers to the consistency and coincidence within the constructs of an instrument [20]. In a study conducted

in 5 countries, the internal consistency of the TPB was obtained from 0.52 to 0.89 [21] [22]. The results showed that three constructs were significantly reliable, but under the theme of subjective norms, the estimated alpha was 0.63. Although this alpha coefficient represents reliability, it can also be interpreted that probably in different social and cultural contexts, the factors affecting people's subjectivity and decision making are also different and effectiveness of other factors on subjectivity is more apparent.

To evaluate the face validity, people dealing with divorce were asked to fill out the questionnaire in two sections: First, items on four constructs of the TPB; second, 35 items on demographic characteristics. Then, they were asked to detect the inappropriate items. They were also asked to mention the items that seem ambiguous and unnecessary and to introduce new items that they felt they are necessary. To evaluate face validity, quantitative method of impact score was used, as with many other studies [23].

Having reviewed the literature on validity and reliability extensively, we found no questionnaire on divorce and divorce withdrawal. As a limitation of this study was purposive convenience sampling. To obtain better measures of validity and reliability, random sampling can be used. Also, construct validity not estimated because the qualitative method was applied and a limited number of samples participated. In additional studies, more samples should be enrolled to measure this type of validity. Because of drawing items via qualitative interviews and use of personal experiences, some items were deleted after various steps of reliability and validity measurement.

In conclusion, our results showed that the questionnaire drawn by the qualitative method and directed content analysis based on the TPB is relatively valid and reliable. It is a suitable tool to evaluate behavioural intention and may be used to explain divorce behaviour, considering social and cultural differences.

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