



# Developing and validating the deadly habits in marriage scale: a choice Theory-Based measure of destructive relational behaviors

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## Abstract

This study developed and validated the Deadly Habits in Marriage Scale (DHMS), a Likert-type scale grounded in Choice Theory, which posits that behaviors are self-determined to meet innate psychological needs (e.g., love, power, freedom). Deadly habits—destructive behaviors stemming from external control psychology—undermine marital relationships. Using two independent samples of married individuals in Türkiye ( $N=483$ ;  $N=314$ ), the DHMS was developed in Turkish through item generation, content validation, exploratory factor analysis (EFA), confirmatory factor analysis (CFA), reliability assessment, and criterion-related validity evaluation. From an initial 45-item pool, EFA identified a five-factor structure—criticizing, blaming, complaining, threatening, and punishing—collapsing seven theoretical habits (including nagging and rewarding to control) into 37 empirically validated items due to overlapping behavioral patterns (e.g., nagging merged with complaining). CFA confirmed this structure, with internal consistency coefficients ranging from 0.74 to 0.90 for subscales and 0.94 overall. The DHMS showed convergent and discriminant validity and negative correlations with marital satisfaction ( $r=-0.43$ ,  $p<0.001$ ) and dyadic trust ( $r=-0.54$ ,  $p<0.001$ ). This reliable and valid tool assesses destructive relational patterns in Turkish marriages, offering applications in clinical practice, marital counseling, and social psychology research. Its potential for cross-cultural adaptation enhances global relevance, with future validation needed for diverse populations. The DHMS provides a robust framework for understanding and addressing maladaptive behaviors in marriage, advancing Choice Theory’s empirical application.

**Keywords** Marital relationships · Choice theory · Destructive behaviors · Scale development

## Introduction

According to reality therapy, which is based on Glasser’s choice theory, human behavior is driven by individual choice rather than external control (Glasser, 1999). All behaviors—whether adaptive or maladaptive—aim to

satisfy five universal psychological needs: survival, love and belonging, power (or self-worth), freedom (or independence), and fun (Corey, 2015). When these needs are adequately met, individuals experience greater well-being and reduced psychological distress (Karaman & Arslan, 2024). Among these needs, love and belonging is considered central, as it facilitates the fulfillment of the others and involves both receiving and expressing affection (Peterson, 2000; Glasser, 1999).

Difficulties in fulfilling the need for love and belonging are among the primary sources of emotional distress (Karataş & Yavuzer, 2018). This need is typically met through close relationships with family and friends, with marriage serving as a key context in which it is satisfied (Glasser, 2003; Peterson, 2000). However, because it requires mutual cooperation, love and belonging is considered the most challenging basic need to fulfill (Corey, 2015). Satisfying relationships are essential for psychological well-being, while relational disruptions lie at the root of many long-term psychological

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issues (Wubbolding, 2015; Xu et al., 2023). According to choice theory, external control psychology fosters conflict by pressuring individuals to act against their will (Glasser, 1999). This dynamic often manifests through “deadly habits”—criticizing, blaming, complaining, nagging, threatening, punishing, and rewarding to control—which undermine relational bonds and overall well-being (Glasser, 2013). These habits, according to Glasser and Glasser (2009), not only hinder the fulfillment of psychological needs such as love, freedom, and fun but also threaten physical health. As relationship bonds deteriorate, individuals become more vulnerable to serious issues including substance use, violence, and partner abuse, all of which severely impact mental health.

Researchers have examined the behavioral indicators of *deadly habits* as conceptualized by Glasser (1999), highlighting *criticizing* as the most destructive form—defined as judging others, attributing negative intentions to them, and expressing this judgment (Rapport, 2007; Sohm, 2004). *Blaming* involves holding the other person responsible for an action or inaction and expressing this in a reproachful manner. *Complaining* refers to voicing dissatisfaction and disappointment toward someone perceived as responsible. When these behaviors—*criticizing*, *blaming*, *complaining*, and *threatening*—are repeated persistently, they form the pattern of *nagging*, which generates ongoing relational tension. Individuals may also use *rewarding to control*, attempting to manipulate their partner’s behavior through gifts or favors that serve as a form of bribery. Although such rewards may appear positive at first, they often lead to resistance and resentment over time. In *threatening*, one partner seeks compliance by implying psychological or physical harm. *Punishing* involves deliberately causing pain or disadvantage to external control.

Deadly habits, used to control others, are particularly common in marriage, where individuals impose their desires on their spouses (Glasser, 2013). Studies suggest that spouses often criticize each other to enforce their perspective on the relationship, driven by the need for power, with criticism linked to depression and marital conflict (Smith & Peterson, 2008). Complaining and criticizing emerge as dysfunctional communication patterns in dissatisfied marriages (Fincham & Beach, 2006). Nagging is perceived as a personal insult, rather than a discussion of differences, contributing to poor communication (Bienvenu, 1970). As Glasser (1999) and Glasser and Glasser (2009) note, individuals often escalate from bribery to threatening and punishing to control their partner. Consequently, criticizing, complaining, and nagging provoke conflict and increase stress, triggering depressive symptoms in married individuals (Dabo et al., 2015).

If a spouse exhibits undesirable behavior, the other may resort to punishing them to control the behavior.

These habits, products of external control psychology, are detrimental to marriage. Relationship problems are among the primary causes of marital dissatisfaction and divorce. Glasser (2013) suggests that many married individuals remain in unsatisfying marriages or experience divorce at least once. A happy and fulfilling marriage is a strong determinant of life satisfaction across cultures (Obi-Keguna et al., 2019). Marital satisfaction is enhanced when spouses communicate effectively and meet each other’s needs, fostering mutual expectations and satisfaction (Kara & Ümmet, 2021). The relationship dynamics between spouses are crucial for both the couple and their children. Okoye (2016) emphasizes that healthy marital relationships also support child development. This can be achieved by replacing deadly habits with nurturing behaviors. Couples must recognize their habits and identify those that may hinder a lasting marriage. Thus, studying and measuring deadly habits in marriage is essential. These habits may intersect with socioeconomic factors (e.g., financial stress exacerbating blaming behaviors) and gender roles (e.g., societal tolerance for criticizing in patriarchal structures). Future research could integrate psychological, sociological, and economic frameworks.

Despite their impact, validated tools to measure deadly habits in marriage are scarce (Karaman & Arslan, 2024; Mohamadi & Pirkhaefi, 2014). Mohamadi and Pirkhaefi’s (2014) 77-item scale, while grounded in Choice Theory, lacks rigorous psychometric validation and was developed in a different cultural context, necessitating a new, culturally tailored instrument for Turkish marriages. This study addresses this gap by developing and validating the Deadly Habits in Marriage Scale (DHMS), a psychometrically sound tool grounded in Choice Theory. By operationalizing deadly habits as a measurable construct, the DHMS extends Choice Theory’s application to empirical marital research, with potential applications in clinical, social, and personality psychology. Its development also lays the groundwork for cross-cultural validation, given varying marital dynamics across collectivist and individualist societies (Sadeghi et al., 2012).

This study hypothesized that the DHMS would yield a multi-factor structure reflecting Choice Theory’s seven deadly habits (criticizing, blaming, complaining, nagging, threatening, punishing, and rewarding to control), with strong internal consistency (Cronbach’s  $\alpha$  and McDonald’s  $\omega > 0.70$ ) for each subscale. Additionally, we expected the DHMS to demonstrate convergent and discriminant validity, as well as criterion-related validity through negative correlations with marital satisfaction (measured by the Marital Life Scale) and dyadic trust (measured by the Dyadic Trust Scale), given that destructive habits undermine relational quality (Glasser, 1999; Rapport, 2007).

## Methods

The study aims to develop a reliable and valid scale to assess deadly habits in marriage. The scale development and validation process followed five key steps: (1) Item development and evidence of content validity, where items were generated based on Choice Theory's seven deadly habits and reviewed by experts for relevance and clarity; (2) Factor evidence based on the internal structure of the scale, using exploratory factor analysis (EFA) on Sample 1 ( $N=483$ ) and confirmatory factor analysis (CFA) on Sample 2 ( $N=314$ ) to establish the scale's factorial structure; (3) Convergent and discriminant validity, assessed through average variance extracted (AVE) and composite reliability (CR); (4) Reliability analysis, using Cronbach's alpha for subscales and stratified alpha for the total scale; and (5) Criterion-related validity evidence, evaluated through correlations with the Marital Life Scale (MLS) and Dyadic Trust Scale (DTS). Sample 1 was used for EFA, and Sample 2 was used for CFA, reliability, and validity analyses. Incomplete or inappropriately completed forms were excluded, resulting in final sample sizes of 483 (Sample 1) and 314 (Sample 2).

### Item development and content validity

In developing the scale, we first detailed the theoretical structure of the variable and related factors, then created an item pool. The item pool was based on the theoretical framework of Choice Theory (Glasser, 1999, 2003, 2013) and items from a questionnaire designed in a different cultural context (Mohamadi & Pirkhaefi, 2014). Additionally, qualitative interviews with couples and the researchers' experiences with married individuals informed the item development. The initial pool consisted of 51 items: eight for criticizing, seven for blaming, eight for complaining, six for nagging, seven for threatening, eight for punishing, and seven for conditional rewarding.

We organised the items in a five-point Likert scale format and asked experts to review them. We also received the opinions of at least five experts for content validity. The items were evaluated by one expert in the field of Measurement and Evaluation in Education and four experts in the field of Guidance and Psychological Counseling. We calculated the content validity index (CVI), an index based on expert ratings, for each item based on the content appropriateness or representativeness of the instrument. The content validity index can be calculated for each item in the measurement tool (I-CVI) and for the entire measurement tool (Ave-CVI) (Almanasreh et al., 2019). In the related analyses, we found out that the I-CVI values of the 51 items of the scale were between 0.40 and 1. Polit et al. (2007) suggest revising items when I-CVI values are slightly lower than

0.78. Accordingly, 6 items with I-CVI values of 0.40 were removed from the item pool, and items with I-CVI values of 0.60 were reorganised by making necessary revisions. Acceptable limit values of Ave-CVI vary in the literature and vary between 0.80 and 0.90. Davis (1992) states that the acceptable value of Ave-CVI should be at least 0.80. The Ave-CVI value of the developed scale increased from 0.83 to 0.86 after item revisions according to expert opinions and I-CVI values, and this ratio can be accepted as evidence of the scale's content validity. Then, after making the necessary changes and adjustments, 6 items were removed from the scale form, resulting in the final 45-item application scale, which was administered online to the first sample group using the snowball sampling method.

### Participants

We recruited two independent samples of married individuals in Türkiye to validate the DHMS, with all participants completing the scale in Turkish via an online survey. The first sample was used for exploratory factor analysis (EFA), and the second for confirmatory factor analysis (CFA), internal consistency, convergent and discriminant validity, and criterion-related validity. Demographic characteristics, including age, gender, education level, length of marriage, and family structure, are presented in Table 1.

**Table 1** Demographic characteristics of participants

	Sample 1 $N=483$	Sample 2 $N=314$
<b>Gender</b>		
Male	133 (27.5%)	87 (27.7%)
Female	350 (72.5%)	227 (72.3%)
<b>Age</b>		
Male	40.03 (SD=9.02)	39.63 (SD=8.30)
Female	38.83 (SD=8.71)	36.37 (SD=9.27)
<b>Level of education</b>		
Primary School	18 (3.7%)	7 (2.2%)
Secondary School	13 (2.7%)	9 (2.9%)
High School	54 (11.2%)	40 (12.7%)
Associate Degree	33 (6.8%)	13 (4.1%)
Bachelor's Degree	254 (52.6%)	197 (62.7%)
Master's Degree	111 (23%)	48 (15.3%)
<b>Marriage year</b>		
0–5	129 (26.7%)	107 (34.1%)
6–10	98 (20.3%)	62 (19.7%)
11–15	73 (15.1%)	37 (11.8%)
16–20	69 (14.3%)	35 (11.1%)
21–25	74 (15.3%)	37 (11.8%)
26 years or more	40 (8.3%)	36 (11.5%)
<b>Family</b>		
Nuclear Family	416 (86.1%)	284 (90.4%)
Extended Family	67 (13.9%)	30 (9.6%)

For Sample 1, the scale was administered to 501 married individuals using snowball sampling. After removing incomplete or inappropriately completed forms, analyses were conducted with data from 483 individuals. For Sample 2, the scale was administered to 343 married individuals, with analyses conducted on data from 314 individuals after excluding incomplete or inappropriate forms. The sample sizes ( $N=483$  for EFA;  $N=314$  for CFA) were deemed adequate based on psychometric guidelines recommending 5–10 participants per item for factor analysis (Kline, 2011; Worthington & Whittaker, 2006). With an initial 45-item pool for EFA and a final 37-item scale for CFA, the sample sizes provided sufficient power to detect stable factor structures and reliable model fit estimates, exceeding the minimum threshold of 5 participants per item (45 items  $\times$  5 = 225 for EFA; 37 items  $\times$  5 = 185 for CFA).

## Measures

### Deadly Habits in Marriage Scale (DHMS)

In the first stage, participants responded to the 45-item DHMS, whereas in the second stage, they completed the 37-item DHMS derived from exploratory factor analysis (EFA). The scale uses a 5-point Likert-type format ranging from 1 (Not Appropriate at all) to 5 (Fully Appropriate), with no reverse-scored items. The final 37-item scale yields scores from 37 to 185, with higher scores indicating greater perceived exposure to deadly habits in marriage. An example item is: “I criticize my spouse for not spending enough time with me.”

### Marital Life Scale (MLS)

The MLS, developed by Tezer (1996) for married Turkish individuals, consists of 10 items assessing marital satisfaction on a 5-point Likert-type scale (1 = Not Appropriate at all, 5 = Fully Appropriate). Items 2, 4, and 5 are reverse-scored, with total scores ranging from 10 to 50; higher scores indicate greater marital satisfaction. Example items include: “My spouse is also a good friend to me” and “I never get bored when we are alone together.” The scale’s validity and reliability were established with 208 married Turkish individuals, showing a test-retest reliability of 0.85 and internal consistency of 0.91 (Tezer, 1996). In this study, the internal consistency was 0.90. As the MLS was specifically developed and validated for married Turkish individuals, and this study applied it to a similar population, additional confirmatory factor analysis (CFA) was not deemed necessary.

### Dyadic Trust Scale (DTS)

The DTS, originally developed by Larzelere and Huston (1980) and adapted to Turkish culture by Çetinkaya et al.

(2008) for married Turkish individuals, comprises 7 items on a 7-point Likert-type scale (1 = Strongly Disagree, 7 = Strongly Agree). Items 1 and 2 are reverse-scored, with total scores ranging from 7 to 49; higher scores reflect greater trust in the relationship. Example items include: “My spouse is completely honest and sincere with me” and “My spouse primarily considers their own well-being/comfort” (reverse-scored). The Turkish adaptation demonstrated an internal consistency of 0.89 and two-half reliability of 0.86 (Çetinkaya et al., 2008). In this study, the internal consistency was 0.88. Given that the DTS was validated for married Turkish individuals and applied to a comparable sample in this study, further CFA was not considered necessary.

Both the MLS and DTS were previously developed and validated for married Turkish individuals, aligning with the population of this study (Tezer, 1996; Çetinkaya et al., 2008). As these scales were applied to a similar demographic without modifications, additional CFA was not conducted to confirm their factor structures, consistent with psychometric practices for established instruments in matched populations (Sorgente & Zumbo, 2025). This approach ensured focus on validating the novel DHMS while leveraging the established psychometric properties of the MLS and DTS for criterion-related validity.

## Procedure

The study was conducted with two independent samples of married individuals in Türkiye, with all participants completing the Deadly Habits in Marriage Scale (DHMS) in Turkish via an online survey platform. Data were collected online between March 2024 and July 2024 using snowball sampling, where initial participants were recruited through social media and professional networks and encouraged to share the survey link with other eligible married individuals. Ethical approval was obtained from [Kırşehir Ahi Evran University Protocol Number: 2022.04.18], and informed consent was secured from all participants prior to data collection. Participants were informed of the study’s purpose, confidentiality measures, and their right to withdraw at any time.

The study employed a multi-step approach to develop and validate the Deadly Habits in Marriage Scale (DHMS), including item development, content validity, exploratory factor analysis (EFA), confirmatory factor analysis (CFA), reliability analysis, and criterion-related validity evaluation. All statistical analyses were conducted using Jamovi (Version 2.6) for EFA and descriptive statistics, and FafA the R Shiny application (v0.3; Kılıç, A. F., 2025) for CFA. Model fit was assessed using indices such as  $\chi^2/df$  (<3 for good fit, <5 for acceptable fit), RMSEA (<0.08), CFI (>0.95), TLI

(>0.95), and SRMR (<0.08), following established guidelines (Kline, 2011; Schermelleh-Engel et al., 2003).

**Exploratory Factor Analysis (EFA)** *EFA was performed on Sample 1 (N=483) to explore the scale's factor structure using the initial 45-item pool. Prior to EFA, assumptions were checked, including missing data (<5%, handled via listwise deletion), multicollinearity (tolerance and Variance Inflation Factor [VIF] within acceptable ranges), and multivariate normality (Mardia's test,  $p < 0.05$ , indicating violation). Principal Axis Factoring with Oblimin rotation was used as the extraction method, suitable for correlated factors in scales yielding a total score (Floyd & Widaman, 1995). Factor retention was determined by Kaiser-Meyer-Olkin (KMO > 0.6), Bartlett's test of sphericity ( $p < 0.05$ ), scree plot, and parallel analysis. Items with factor loadings  $\geq 0.30$  were retained, and those with loadings < 0.32 or cross-loadings on multiple factors were removed (Worthington & Whittaker, 2006).*

**Confirmatory Factor Analysis (CFA)** *CFA was conducted on Sample 2 (N=314) to confirm the factor structure identified by EFA. Assumptions were checked, with missing data (<5%, listwise deletion) and multicollinearity (tolerance and VIF acceptable) addressed. Due to non-normal data (Mardia's test,  $p < 0.05$ ), Diagonally Weighted Least Squares (DWLS) estimation was used for robust estimates with ordinal Likert-scale data (Schermelleh-Engel et al., 2003). Model fit was evaluated using  $\chi^2/df$  (<3 for good fit, <5 for acceptable fit), RMSEA (<0.08), CFI (>0.95), TLI (>0.95), and SRMR (<0.08) (Kline, 2011). A second-order CFA was conducted to assess whether the five factors formed a single construct (Deadly Habits).*

Structural Equation Modeling (SEM) beyond CFA was not employed in this study due to the exploratory nature of the initial scale development, which prioritized establishing a robust factorial structure in a novel cultural context (Turkish marriages). CFA was deemed sufficient to confirm the measurement model, aligning with contemporary psychometric practices that emphasize iterative factor analysis for new instruments (Sorgente & Zumbo, 2025). SEM, which is often used to test complex theoretical relationships, was not necessary at this stage, as the primary goal was to validate the DHMS's internal structure and psychometric properties. Future studies may employ SEM to explore relationships between deadly habits and external variables (e.g., marital satisfaction, trust) once the scale's structure is established.

**Validity and reliability** The validity and reliability of the DHMS were rigorously evaluated. Convergent and discriminant validity were assessed using average variance

extracted (AVE > 0.50) and composite reliability (CR > 0.70), adhering to established psychometric standards (Fornell & Larcker, 1981). Criterion-related validity was examined through Pearson correlations between DHMS scores and the MLS and DTS, confirming relationships with theoretically relevant constructs. Reliability was evaluated with multiple indices to ensure robust evidence. Cronbach's alpha ( $\alpha$ ) and McDonald's omega ( $\omega$ ) were calculated for each subscale ( $\alpha \geq 0.70$ ,  $\omega \geq 0.70$ ). While Cronbach's alpha assumes tau-equivalence, meaning that all items contribute equally to the latent construct, McDonald's omega is based on a congeneric model that allows items to have different loadings. This makes omega a more realistic and less biased estimator of internal consistency, particularly in multidimensional or heterogeneous item sets (Dunn et al., 2014; Hayes & Coutts, 2020). In addition, stratified alpha was computed for the total scale. Unlike Cronbach's alpha, stratified alpha is specifically designed for multidimensional instruments composed of subtests. By accounting for both the reliability of each subtest and the correlations among them, stratified alpha provides a more accurate estimate of overall test reliability (Cronbach et al., 1965).

## Results

Firstly, we conducted exploratory factor analysis (EFA) to reveal the structure of scale items based on the data gathered from the first sample group. According to the KMO results (KMO=0.94) and Bartlett Sphericity test results ( $\chi^2=9017.402$ ;  $p < 0.001$ ) for the exploratory factor analysis, we concluded that the study data were suitable for factor analysis (Sharma, 1996). The model fit indices also show that the established model was suitable for factor analysis (RMSEA=0.05; TLI=0.90;  $\chi^2/df=2.13$ ;  $p < 0.01$ ) (Kline, 2011; Schermelleh-Engel et al., 2003). In the exploratory factor analysis, we decided to use principal axis factoring as the factorization method, and we chose oblimin, one of the oblique rotation methods, as the factor rotation method. Oblique rotation methods (e.g. Promax, directoblimin) are based on the idea that factors are correlated with each other. These correlations shouldn't be very low in measurement tools that are expected to give a total score. Therefore, oblique methods should be preferred instead of orthogonal rotation methods (Floyd & Widaman, 1995).

In EFA, factor loadings are required to be above 0.30 (Floyd & Widaman, 1995; Tabachnick & Fidell, 2007). In addition, Stevens (2002) states that factor loadings should be over 0.512 when the sample size is around 100, and over 0.298 when the sample size is greater than 300. In line with these views, we took the items with factor loadings of 0.30 and above into consideration when evaluating the factors.

Also, Worthington and Whittaker (2006) state that researchers should delete items with factor loadings less than 0.32 or higher cross-loadings on two or more factors. The first EFA we removed eight items (items 8, 14, 16, 17, 26, 27, 36, 38) following the guidelines discussed above (Worthington & Whittaker, 2006) and the second EFA with 37 items, yielded 5 factors as parallel analysis suggested, explaining 50.8% of the variance in the EFA. Figure 1 below gives the scree plot and the results of the parallel analysis. As is seen in Fig. 1, as we had created the items pool based on seven dimensions, the scree plots of the parallel analyses suggested five factors.

The study analyses show that the DHSM has a five-factor structure, and the factors can be listed as criticizing, blaming, complaining, threatening and punishing. Table 2 below gives the results of factor analysis.

In the next stage, we conducted confirmatory factor analysis (CFA) to determine the construct validity of the scale and to confirm the structure among the scale items based on the study data gathered from the second sample group. Table 3 below shows the ranges for the evaluation of the goodness of fit indices (Schermelleh-Engel et al., 2003) as well as the values for the model obtained in the study.

After the first-order CFA analysis, we examined item factor loadings. As is seen in Table 3, the indices used in the evaluation of model fit were within the acceptable criteria. Therefore, it is possible to state that the established model is valid for the factor structure previously determined by EFA.

When the correlations between factors are above 0.30, an overall total score can be obtained from these factors. As the correlations between the five factors in the DHMS were examined in Table 4, it was observed that the correlations between the factors were greater than 0.30 except for two of them. Thus, we conducted a second-order CFA to see if the five factors in the DHMS formed a single factor

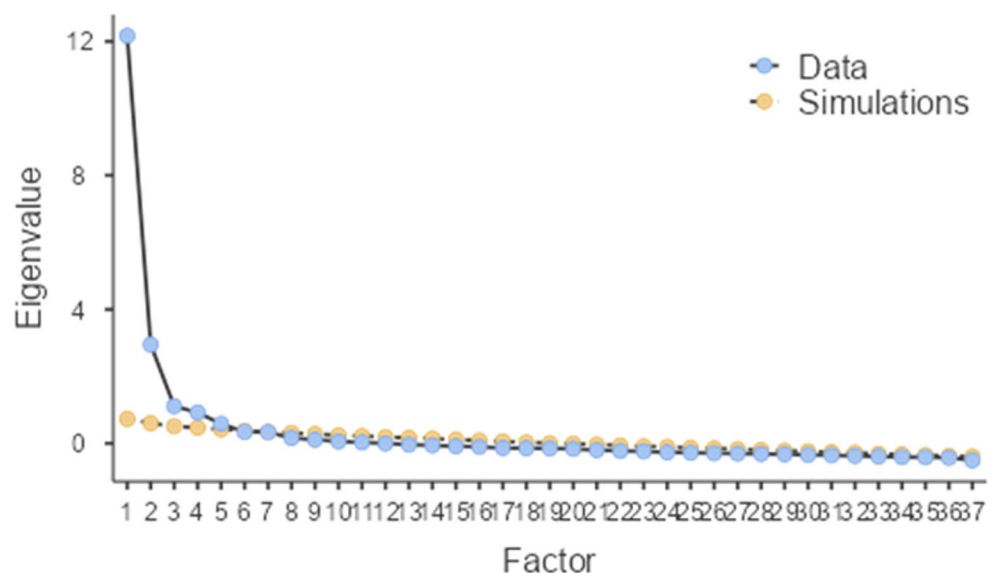
(Deadly Habits) or not. According to the results of the second-order CFA analysis, the fit indices were as below:  $\chi^2/df=2.46$ , RMSEA=0.07, TLI=0.98, CFI=0.98, RFI=0.96, SRMR=0.09. The results showed that these values were at an acceptable level.

### Convergent and discriminant validity

Convergent validity, according to Fornell and Larcker (1981), is demonstrated when a latent construct explains at least half of the variation in the indicators that are linked to it. The average variance explained (AVE) and composite reliability (CR) were used to assess convergent validity to determine whether a significant percentage of variation is shared by indicators of a specific subscale (Hair et al., 2019). If the AVE is larger than 0.5 or the CR is above 0.7, convergent validity is considered to be established (Fornell & Larcker, 1981; Hair et al., 2019). As seen in Table 1 it can be stated that the convergence validity is ensured since the AVE value for the criticizing factor is close to 0.50 and other factors' AVE values are above 0.50 and all the composite reliability values are above 0.70.

For the discriminant validity of the measurement model, the shared correlations between the square root of the AVE values and the factors of the scale were compared (Fornell & Larcker, 1981). Table 4 shows the correlation between the factors of the scale and the square roots of the AVE values. In Table 4, all square roots of AVEs' (points in bold type across the cross) are higher than the corresponding non-crosstalk elements in the same row and column. The results show that the measurement model has sufficient discriminant validity. All square roots of AVEs (points in the bold font across the cross) are higher than their non-crosstalk neighbours in the same row and column. The results indicate that the measurement model has appropriate discriminant validity.

Fig. 1 Scree plot



**Table 2** Factor analysis for DHMS

Factor	Factors exacted in EFA					5-Factor model examined in CFA				
	CR	BL	CO	TH	PU	CR	BL	CO	TH	PU
2 I criticize my spouse’s behavior towards my family.	0.81					0.78				
1 I tell my spouse that I do not like the way he/she talks to me.	0.68					0.57				
7 I criticize my spouse for trying to impose his/her truth on me.	0.56					0.75				
4 I tell my spouse his/her qualities which I do not like.	0.49					0.33				
3 I criticize the way my spouse gets dressed.	0.45					0.65				
5 I criticize the way my spouse expresses her/his love for me.	0.35					0.76				
11 I see my spouse as the cause of unhappiness in our marriage.		0.86					0.73			
9 I blame my spouse for the disagreements we have in our marriage.		0.64					0.79			
13 I blame my spouse for the problems we have in our sexual life.		0.53					0.85			
18 I complain about my spouse’s dissatisfied behavior in our marriage.		0.44					0.64			
10 I tell my spouse that my health problems are his/her fault.		0.41					0.84			
12 I blame my spouse when he/she does not have good relations with my family.		0.34					0.80			
21 I nag at my spouse when he/she ignores my feelings.				0.76					0.85	
19 I complain to my spouse that he/she does not spare enough time for our marriage.				0.75					0.83	
25 I nag at my spouse about spending too much time on screen (TV, phone, computer, etc.).				0.67					0.71	
20 I complain to my spouse that he/she is not there when I need him/her.				0.66					0.83	
24 I often nag at my spouse because he/she does not fulfill his/her responsibilities at home on time.				0.64					0.71	
15 I complain to my spouse when he/she does not listen to me.				0.62					0.66	
6 I criticize my spouse for doing other things in our shared free time.				0.60					0.60	
22 I nag at when my spouse ignores the effort I put into our marriage.				0.54					0.86	
23 I nag at my spouse when he/she forgets special days in our marriage.				0.46					0.60	
30 If my spouse makes a mistake against me, I tell him/her that there will be a price.					0.75					0.87
29 If my spouse continues to do something I do not want, I tell him/her that I will give him/her a tough time.					0.75					0.91
28 When my spouse hides things from me, I tell him/her that I will make him/her pay for it.					0.70					0.86
35 I do not let my spouse hug/touch me when he/she does not do something I want.					0.46					0.92
34 When my spouse behaves in a way I don’t want, I do not answer his/her calls and texts.					0.45					0.88
31 I threaten my spouse indirectly by giving examples of negative relationships around us.					0.41					0.84
39 I have mistreated my spouse’s family members to hurt my spouse.						0.81				0.96
40 I have punished my spouse by preventing him/her from seeing close friends.						0.77				0.85
32 I tell my spouse that he/she cannot see his/her family if he/she does not act according to my wishes.						0.70				0.73
42 I buy gifts for my spouse to have him/her do what I want.						0.68				0.57
37 I punish my spouse by not meeting his/her family.						0.67				0.92
33 If my spouse does something I do not want, I humiliate him/her in front of others (family, friends, neighbors, etc.).						0.59				0.71
43 If my spouse does something I want, I have sexual intercourse with him/her.						0.57				0.69
45 I support my spouse’s family only when he/she supports my family.						0.55				0.63
41 If my spouse fulfills my wishes, I allow him/her to act freely.						0.47				0.68
44 If my spouse does not fulfill my wishes when I am offended, I do not make up with him/her.						0.40				0.77
% of Variance			12.87	8.95	7.98	6.83				
	14.19									
% of Cumulative Variance	14.2	27.1	36.0	44.0	50.8					

**Table 2** (continued)

Factor	Factors exacted in EFA					5-Factor model examined in CFA				
	CR	BL	CO	TH	PU	CR	BL	CO	TH	PU
Cronbach's alpha ( $\alpha$ )	0.78	0.84	0.89	0.87	0.89					
McDonald's omega ( $\omega$ )	0.79	0.84	0.89	0.87	0.90					
Construct Reliability (CR)	0.93	0.92	0.95	0.90	0.81					
Average of variance extracted (AVE)	0.58	0.57	0.78	0.60	0.43					

\* The DHMS uses a 5-point Likert scale (1 = Not Appropriate at all, 5 = Fully Appropriate), with a total score range of 37–185 and no reverse-scored items. Higher scores indicate greater perceived exposure to deadly habits in marriage. Only factor loadings  $\geq 0.30$  are shown. CR = Criticizing,

BL = Blaming, CO = Complaining, TH = Threatening, PU = Punishing

Only loadings  $\geq 0.30$  in the items are shown in the table

**Table 3** Goodness of fit indices

Fit Indices	Perfect Fit Values	Acceptable Fit Values	Model Values
$\chi^2/df$	$0 < \chi^2/df \leq 2$	$2 < \chi^2/df \leq 5$	2.12
RMSEA	$0 < RMSEA < 0.05$	$0.05 \leq RMSEA \leq 0.08$	0.06
SRMR	$0 < SRMR < 0.05$	$0.05 \leq SRMR \leq 0.10$	0.08
RFI	$0.90 \leq RFI \leq 1$	$0.85 \leq RFI \leq 0.90$	0.97
CFI	$0.97 \leq CFI \leq 1$	$0.95 \leq CFI \leq 0.97$	0.98
TLI	$0.95 \leq NFI \leq 1$	$0.90 \leq NFI \leq 0.95$	0.98

**Table 4** Discriminant validity

	1	2	3	4	5
1. CR	0.760				
2. BL	0.350**	<b>0.746</b>			
3. CO	0.364**	0.602**	<b>0.880</b>		
4. TH	0.278**	0.559**	0.528**	<b>0.778</b>	
5. PU	0.176**	0.520**	0.303**	0.564**	<b>0.659</b>

\*\* Correlation is significant at the 0.01 level

Abbreviations: CR, criticizing; BL, blaming; CO, complaining; TH, threatening; PU, punishing

## Internal consistency

Reliability analyses for the DHMS demonstrated strong internal consistency across both samples. For Sample 1 ( $N=483$ ), Cronbach's alpha ( $\alpha$ ) and McDonald's omega ( $\omega$ ) values were as follows: criticizing ( $\alpha=0.783$ ,  $\omega=0.786$ ), blaming ( $\alpha=0.841$ ,  $\omega=0.844$ ), complaining ( $\alpha=0.891$ ,  $\omega=0.892$ ), threatening ( $\alpha=0.865$ ,  $\omega=0.869$ ), and punishing ( $\alpha=0.894$ ,  $\omega=0.905$ ). For Sample 2 ( $N=314$ ), the values were: criticizing ( $\alpha=0.744$ ,  $\omega=0.749$ ), blaming ( $\alpha=0.814$ ,  $\omega=0.818$ ), complaining ( $\alpha=0.885$ ,  $\omega=0.888$ ), threatening ( $\alpha=0.850$ ,  $\omega=0.859$ ), and punishing ( $\alpha=0.854$ ,  $\omega=0.876$ ). The stratified alpha coefficient for the total scale was 0.94 for both samples, indicating high overall reliability (Wells & Wollack, 2003). These results confirm the DHMS's robust internal consistency across its five subscales.

## Criterion-related validity

For criterion-related validity, we examined the correlations between the scores of the DHMS and the scores of the DTS and MLS. Analysis shows that the scores of the DHMS were moderately and negatively correlated with the scores of the DTS ( $r = -0.54$ ;  $p < 0.001$ ) and the scores of the MLS ( $r = -0.43$ ;  $p < 0.001$ ). High scores on the DTS indicate high levels of trust between individuals, and high scores on the MLS indicate high levels of satisfaction in marital relationships. Trust is defined as a constructive habit defined by Glasser (1999). It is seen that in relationships where the sense of trust is fully felt, cooperation, correct conflict resolution and the interest of the relationship are considered (Balliet & Van Lange, 2013). Trust acts as a filter in evaluating relationship quality. Prejudice and suspicion damage trust in bilateral relations. A person who feels threatened has difficulty establishing relationships and becomes lonely (Tarhan, 2016). Marital satisfaction, on the other hand, refers to the individual's perception of the degree to which his/her needs are met within the marital relationship and a high score on the scale indicates the presence of marital satisfaction (Tezer, 1996). Considering these, the negative correlation between the scale scores of the DTS and the MLS can be considered as evidence of concurrent validity.

## Discussion

This study developed and validated the DHMS, a psychometrically robust Likert-type tool grounded in Choice Theory to assess destructive relational behaviors in Turkish marriages. The DHMS evaluates marital discord and lays the groundwork for exploring how deadly habits influence broader family dynamics, such as parent-child relationships or intergenerational patterns. For example, criticizing

behaviors between spouses may replicate in parenting, potentially affecting children's emotional development (Bloch et al., 2014).

Exploratory factor analysis (EFA) identified a five-factor structure—criticizing, blaming, complaining, threatening, and punishing—collapsing Choice Theory's seven theoretical habits into 37 empirically validated items, explaining 50.8% of the total variance, which is adequate for social sciences (Büyüköztürk et al., 2017). This collapse was reasonable both empirically and theoretically. Empirically, EFA showed high shared variance among nagging items (e.g., "I nag at my spouse when he/she ignores my feelings" [item 21], "I nag at my spouse about spending too much time on screens" [item 25]) and complaining items (e.g., "I complain to my spouse that he/she does not spare enough time for our marriage" [item 19], "I complain to my spouse that he/she is not there when I need him/her" [item 20]), alongside one criticizing item ("I criticize my spouse for doing other things in our shared free time" [item 6]), forming a unified complaining dimension due to their recurring expressions of dissatisfaction. Theoretically, nagging is conceptualized as persistent complaints, blames, and criticisms aimed at compliance, overlapping with complaining's fault-finding and criticizing's judgmental dissatisfaction, creating ongoing relational tension (Rappoport, 2007; Sohm, 2004).

Likewise, punishment items (e.g., "I tell my spouse that he/she cannot see his/her family if he/she does not act according to my wishes" [item 32], "I punish my spouse by not meeting his/her family" [item 37], "If my spouse does something I do not want, I humiliate him/her in front of others" [item 33]) clustered with conditional reward items (e.g., "I buy gifts for my spouse to have him/her do what I want" [item 42], "If my spouse does something I want, I have sexual intercourse with him/her" [item 43], "I support my spouse's family only when he/she supports my family" [item 45], "If my spouse fulfills my wishes, I allow him/her to act freely" [item 41], "If my spouse does not fulfill my wishes when I am offended, I do not make up with him/her" [item 44]) due to shared variance emphasizing control-oriented consequences. Theoretically, both punishing (intentional harm for control) and conditional rewarding (incentives as manipulation) evoke resentment and aim to enforce behavior through contingencies, aligning with Choice Theory's external control framework (Rappoport, 2007; Sohm, 2004).

Confirmatory factor analysis (CFA) validated this structure, with first-order fit indices ( $\chi^2/df=2.12$ , RMSEA=0.06, SRMR=0.08, RFI=0.97, CFI=0.98, TLI=0.98) and second-order indices ( $\chi^2/df=2.46$ , RMSEA=0.07, SRMR=0.09, RFI=0.96, CFI=0.98, TLI=0.98) indicating good fit (Kline, 2011; Schermelleh-Engel et al., 2003). Convergent and discriminant validity were supported by

average variance extracted (AVE: 0.43–0.78) and composite reliability (CR: 0.81–0.95) (Fornell & Larcker, 1981; Huang et al., 2013). Reliability was high, with Cronbach's alpha and McDonalds omega values of 0.74–0.90 for subscales and stratified alpha of 0.94 for the total scale (Wells & Wollack, 2003). Criterion-related validity was evidenced by negative correlations with marital satisfaction ( $r=-0.43$ ,  $p<0.001$ ) and dyadic trust ( $r=-0.54$ ,  $p<0.001$ ), aligning with Choice Theory's view that deadly habits erode relational bonds (Glasser, 1999).

The final 37-item DHMS, with subscales of criticizing (10 items), blaming (9 items), complaining (6 items), threatening (6 items), and punishing (6 items), yields scores from 37 to 185 on a 5-point Likert scale (no reverse-scored items), where higher scores indicate greater exposure to deadly habits. While comprehensive, a shortened version prioritizing high-loading items ( $>0.60$ ) could improve clinical utility.

## Practical implications

The DHMS offers direct applicability in clinical and policy contexts. It can be integrated into marriage education programs to prevent relational deterioration or evaluate counseling outcomes. Psychological counselors, social workers, and mental health professionals working in the field of marriage and couple counseling may use the scale to identify high-risk behaviors during intake assessments, detect underlying problems in the relationship, and assess the effectiveness of interventions, or to design intervention-based studies. Moreover, the scale can be employed in research aiming to uncover the underlying dynamics of relationship habits among married individuals. The scale also serves as a valuable tool in research examining deadly habits as predictors of marital outcomes. While the 37-item DHMS provides a comprehensive assessment, a shortened version prioritizing high-loading items (e.g., factor loadings  $>0.60$ ) could enhance clinical practicality.

## Limitations

This study developed a psychometrically robust scale to measure deadly habits in marriages, but several limitations must be acknowledged. First, the use of snowball sampling and the predominance of female participants (72.3%) may limit generalizability, as male perspectives and less accessible populations (e.g., those without internet access) were underrepresented (Kayabol et al., 2023; Spreng et al., 2009). This gender imbalance, common in marital research, may skew findings, as men may perceive or report deadly habits differently due to cultural or socialization factors. Second, the reliance on online snowball sampling, while practical, likely biased the sample

toward more educated, urban, or higher socioeconomic status (SES) populations. For instance, the sample's demographic profile (Table 1) shows a majority with university degrees, which may not reflect lower-educated groups where deadly habits, such as blaming or punishing, could be exacerbated by socioeconomic stressors like financial instability or limited access to relational resources. Similarly, unmeasured SES factors (e.g., income, employment) may further restrict the scale's applicability to lower-SES couples, where external pressures could amplify relational conflicts. Third, the study focused solely on spousal relationships within a Turkish cultural context, limiting its applicability to other relationship types or cultural settings. Fourth, reliability analyses were limited to internal consistency (Cronbach's alpha), without assessing test-retest reliability to evaluate the DHMS's temporal stability. Fifth, subgroup analyses (e.g., by gender, marriage length, or education level) and sensitivity analyses (e.g., to assess factor structure robustness across response patterns) were not conducted due to sample size constraints and the exploratory nature of the study, limiting insights into demographic influences on deadly habits. Finally, self-report biases, including social desirability (underreporting destructive behaviors) and acquiescence (consistent agreement), may inflate validity; future work should include bias controls like social desirability scales.

### Future research

To overcome these limitations, future research should validate the DHMS in diverse, balanced samples, including rural, lower-SES, and less-educated groups. Cross-cultural studies in collectivist versus individualist societies could reveal how cultural norms shape deadly habits (Sadeghi et al., 2012). Longitudinal designs with test-retest reliability would evaluate stability and long-term marital impacts. Developing a shortened DHMS version, selecting high-loading items ( $>0.60$ ), would boost clinical feasibility. Mixed-methods integration of DHMS scores with qualitative interviews could deepen insights into behavioral experiences. Subgroup analyses by demographics (e.g., gender, marriage length, education, SES) and sensitivity analyses for factor robustness across subgroups or response patterns would identify moderators and enhance validity. Finally, testing the DHMS in domestic violence screening or reality therapy interventions could broaden its practical scope.

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**Data availability** The datasets used in the study are available from the corresponding author on request.

### Declarations

**Ethical Statement** The authors affirm having followed professional, ethical guidelines in preparing this work. These guidelines include obtaining informed consent from human participants, maintaining ethical treatment and respect for the rights of the participants. Permission for this study was obtained from the local ethics committee (Kırşehir Ahi Evran University Protocol Number: 2022.04.18).

**Conflict of interest** The authors declare that they have no conflict of interest. No authors reported any financial or other conflicts of interest in relation to the work described.

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