



Psychological predictors of emotional divorce: A structural equation approach

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General Note



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ABSTRACT

Introduction: The aim of current study was to predict emotional divorce based on emotional schemas attachment styles and with the mediating role of Gottman four factors (contempt, criticism, defensiveness, stonewalling) in married people. *Method:* The type of study was cross-sectional. by multistage cluster sampling 336 (female 204, male 132) subjects were recruited to participate in the

study. Gottman Four Horsemen of Apocalypse questionnaire, emotional divorce questionnaire, emotional schemas questionnaire and attachment styles questionnaire were administered. Collected data were analyzed using structural equation modeling approach. AMOS software package and SPSS applied to doing so. *Results:* Findings showed a good model fit indices with removing emotional schemas construct. Emotional schemas couldn't play a predicting role in association with other study variables. And had no significance relationship with emotional divorce through mediating role of Gottman Four Horsemen of Apocalypse. But attachment styles and Gottman Four Horsemen of the Apocalypse constructs (contempt, criticism, defensiveness, stonewalling) could predict emotional divorce and had a good model fit indices (RMSEA: 0.05, CFI: 0.986, NFI: 0.952, GFI: 0.973). *Conclusion:* based on our results attachment styles through Apocalypse constructs (contempt, criticism, defensiveness, stonewalling) can have a significant role on emotional divorce. Thus, for improving the relationship between couples and reducing emotional divorce psychotherapists and couple therapists could implement effective psychotherapies or couple therapies for improving destructive effect of these variables. Contempt, criticism, stonewalling and defensiveness are deleterious factors that can damage marital relationship.

Keywords: Gottman Four Horsemen of Apocalypse, emotional divorce, emotional schema, attachment styles, structural equation modeling

1. INTRODUCTION

Bad marriages can give rise to physiological and psychosocial problems including mood disorders, high blood pressure, addiction to alcohol and drugs, relational problems, heart disease, violence, suicide and so on (Gottman & Silver, 2015). One of the destructive consequences of bad marriage and conflicting relationship between couples is emotional divorce that can have deleterious effects on children and partners (Gottman, 2014). Bohannon posited that divorce is an individual and social phenomenon that involves six stations of overlapping experiences that center on the emotional divorce, legal divorce, economic divorce, co-parental divorce, community divorce, and psychic divorce (Barzoki, Tavakoll, & Burrage, 2015). Before legal divorce usually emotional divorce occurs, but majority of couple's relationship persists in an emotional divorce (Kaslow, 2012).

Emotional divorce is a type of divorce that couple live together but no emotion would exchange between them (Gottman, 2014). Emotional divorce has not only one certain reason, it may be as consequence of different factors (Amato & Previti, 2003). This phenomenon has been investigated from various perspectives such as psycho-social, economic and demographic (Sahebihagh, Khorshidi, Atri, et al, 2018). Of paramount important factors in divorce and especially emotional divorce are what Gottman has called as the four horsemen of the apocalypse (Lute, 2015). The Four Horsemen of the Apocalypse is a term or metaphor that depicts the end of times in the New Testament. Each of these horsemen describes conquest, war, hunger, and death respectively. Gottman use this metaphor to describe communication styles that, according to his research, can predict the end of a relationship (Lisitsa, 2013). These four variables or concepts can strongly predict the dissolution of a marriage, particularly when they combine. This four horsemen of the apocalypse from the least to most dangerous in rank are: criticism, defensiveness, contempt and stonewalling (Fowler & Dillow, 2011). Two other approaches that are gaining more attention in the field of divorce and marriage are emotional schemas theory developed by Leahy and attachment styles. Leahy defined emotional schema as "*plans, concepts, and strategies employed in response to an emotion (Leahy, 2002, p.179)*" (Gottman & Levenson, 2002). Greenberg maintains that emotional schemas are fundamental and underlying units of self (Mears, 2012). Emotional schemas influence perceived quality of marital relationship some research has linked emotional schema to satisfaction in romantic relationship (Besharat, Dehghani, & Tvallaeian, 2014; G. S. Mears, 2012). Attachment theory, developed and coined by Bowlby to describe human bonding, has profound consequences and implications for conducting and adapting psychological therapies. Several studies has showed that Attachment styles also play an important role in marital relationship (Fitton, 2012).

Although these aforementioned factors (emotional schemas, attachment styles, and Four Horsemen of the Apocalypse) and other variables have been associated with emotional divorce, but existing findings on this issue are inconclusive and underlying mechanisms are not well understood. In previous studies these factors or variables have not been explored simultaneously. Also few studies have used structural equation modeling to assessing the relationship between emotional divorce and aforesaid constructs. So, with regard to these literatures and background the primary goal of this study is to testing and developing a meta-theoretical model that associate posited constructs to emotional divorce. And answer to this question that does our meta-theoretical hypothesized model can predict emotional divorce? The conceptual model indicated in Figure-1. We used SEM to test the measurement model.

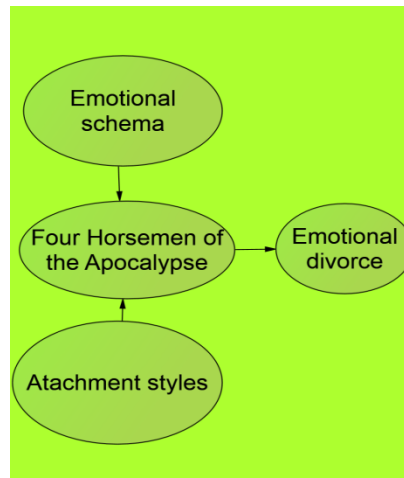


Figure 1 conceptual model

2. METHODS

The design of current research was cross-sectional, and the study population involved all married people who lived in the city of Tehran. They were chosen using multistage cluster sampling. For doing so, at first from 22 municipalities district 5 district was selected (each from north, west, south, east, and downtown). Then by random from these 5 areas some streets were specified. Finally, from these streets and their allies' apartments with odd number plaque were randomly chosen and married individuals who lived in these apartments were asked to participate in the study. For determining a proper sample size, Free Statistics Calculator Software was applied. Estimated sample size by this software was 336 participants (204 females, 132 male). After taking written informed consent and clarifying goals of study to them they accepted to take part in this study. Afterwards they filled out a package of questionnaires consisting emotional schema questionnaire, character strengths questionnaire, Gottmans four horsemen of the apocalypse questionnaire and Gottman emotional divorce questionnaire. After checking any missing data in scales, in case of any missing, the sampling process continued to meet required estimated sample size.

Four horsemen of the apocalypse questionnaire

The four horsemen of the apocalypse questionnaire were designed by Gottman to help clinicians and researchers in the field of couple therapy. This scale is a 33-item true/false questionnaire for measuring and assessing the presence of the four horsemen. It has four subscales including criticism, contempt, defensiveness, and stonewalling. Higher scores in these subscales indicate presence of a greater level of these destructive patterns. Apocalypse Questionnaire has shown adequate reliability and validity in multiple studies (Lute, 2015).

Gottman emotional divorce questionnaire

Gottman developed this questionnaire in the form of 24 items of two options of Yes [1] or No. The cut-off-point for the scale is 8. If the scores of participants are equal to or more than 8, it is a sign of emotional divorce. The Alpha Cronbach reported by Mummy and Askari for this scale was 0.83. In another study the internal consistency coefficient was 0.87 by Jazayeri. The validity and reliability of the questionnaire has been explored and explored by Gottman and this coefficient seems to be satisfactory (Sahebihagh et al., 2018).

Emotional schema questionnaire (LESS)

LESS is originally a 50-item self-report tool that was designed in conjunction with the conceptual model of emotional schemas. Its items are responded from totally agree to totally disagree using a 5-point Likert-type scale. The validity of emotional schema questionnaire was examined by Leahy using correlation analysis of items with each other and correlation of each of its subscales with Millon clinical multi-axial inventory (MCM-III), Beck anxiety inventory (BAI), and Beck depression inventory (BDI) on 53 psychiatric patients. Results of this study indicated that most of 14 subscales of questionnaire are significantly correlated with anxiety and depression. Correlation between dimensions implied an acceptable validity for this questionnaire. The reliability of the Persian scale in 2 weeks for a total scale is reported 0.78 and for subscales varied from 0.56 to 0.71 (Shiri & Ghanbaripناه, 2016). In

an exploratory factor analysis four factor obtained including: Feeling of loneliness- Feeling of detachment- Need to a company- Restlessness and feeling of weariness (Rahabarian, Mohammadi, Abasi, 2016).

Attachment styles questionnaire

This scale developed by Hazen and Shaver and is a 15-item Likert-scaled questionnaire for assessing three type of attachment style (secure, avoidant, and anxious). In three studies reported Reliability coefficients were 0.73, 0.72 and 0.78. This questionnaire is adopted by adult romantic love relationship. It has indicated good content validity. Reported alpha chronbach in Iran by Khavaninzade was 0.70 and test-retest coefficient was 0.64 (Mitchell, 2017).

Statistical analyses

To evaluate our hypotheses and test whether conceptual model in this research was supported by the provided data and which model had the best fit, SEM were used. Four latent variables developed and tested the measurement model using confirmatory factor analysis (CFA) that specified the relationships between the observed indicators and their underlying latent constructs. For doing so, AMOS 22 software package were used.

3. RESULTS

In this section, at first, demographic characteristics and descriptive statistics have been illustrated. Then, the fitness of the hypothesized model was examined. As can be seen in table below 39, 3% of participants were female and 60.7% were male. Mean score and standard deviation for age was 32.48 and 5.67 respectively. Detailed descriptive statistics are shown in table 1.

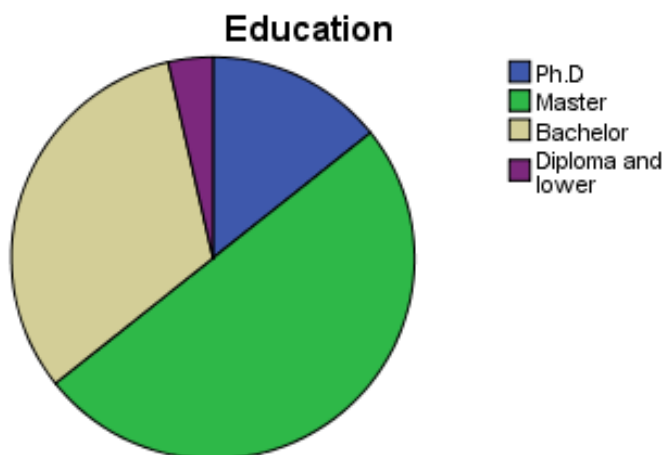


Figure 2 Pie chart for education level

Table 1 demographic and descriptive statistics results

gender	Frequency	Percent
males	132	39.3
females	204	60.7
Total	336	100.0
education	Frequency	Percent
diploma	12	3.6
undergraduate	108	32.1
master	168	50.0
doctorate	48	14.3

Total	336	100
age	Frequency	Percent
18-31	108	32.1
32-40	204	60.7
41-50	24	7.2
Total	336	100

With regard to education level, most participants had a master degree (50%). Mean score and standard deviation for education level was 2.25 and 0.735 respectively (pie chart Fig- 2).

The Examination of hypothesized model

Before testing the postulated model, we checked basic assumptions concerning normality, outliers, linearity and multi-collinearity. We do not found any problem as to suppositions. Because of normality in distribution of data, maximum likelihood procedure was used as estimating method. Also with regard to estimated sample size, it was an appropriate sample size for estimating model fit indexes in this study.

Assessment of model fit

At first, we examined the initial desired model. In this model emotional schemas and attachment styles were used as exogenous variables, and Gottman Four Horsemen of the Apocalypse (contempt, criticism, stonewalling, and defensiveness) were applied as mediating variable in relation to emotional divorce as endogenous or dependent variable. Results showed no good model fit. Among exogenous variables, Emotional schemas had no significance correlation with emotional divorce and Gottman Four Horsemen of the Apocalypse .so the initial model required some modifications to a better model fit. The indexes of primary model fit have shown in Table 2.

Table 2 model fit indexes for emotional schemas, emotional divorce, attachment and Apocalypse

Primary model indexes	RMSEA	NFI	CFI	TLI	GFI
R ² : 0.03	0.09	0.891	0.852	0.882	0.754

For a good model fit the primary model was modified. With regard to weak relationship between emotional schemas and other variables this factor deleted from the initial model. The modified model with remaining variables (attachment styles, Gottman four factors, and emotional divorce) was assessed again. Results of the estimated parameters showed a good model fit this time. This modified model could account for 0.54% of variance in emotional divorce. Also the model fit indexes were perfect. With respect to this model attachment styles with mediating role of Gottman Four Horsemen of the Apocalypse (contempt, criticism, stonewalling, and defensiveness) variable could strongly predict emotional divorce. Attachment styles indirect path score to emotional divorce was higher than its direct path. Gottman Apocalypse construct also had a significant direct correlation with emotional divorce (Attachment to emotional divorce: 0.37, $p > 0.001$, attachment to Apocalypse construct: 0.63, $p > 0.001$, Apocalypse to emotional divorce: 0.44 $p > 0.001$).

With elimination of emotional schema variable, the hypothesized modified model seems to be a good fit to the data. Therefore, the modified final model had good model fit indexes and could strongly predict emotional divorce (RMSEA: 0.05 NFI: 0.952 CFI: 0.986 GFI: 0.973 TLI: 0.961 and df/x^2 : 4). Total effect, direct and indirect effects and fit indexes has been indicated in Tables 3 and 4. Also the path diagram for the modified model has been illustrated in the figure 3. And Table 3 indicated model indexes. Also model direct, indirect and total effect and beta scores has been showed in Table 4.

Table 3 model fit indexes for emotional schemas, emotional divorce, attachment and Apocalypse

Primary model indexes	df/x^2	RMSEA	NFI	CFI	TLI	GFI
	4	0.05	0.952	0.986	0.961	0.973

Table 4 Total, direct, and indirect standardized effects for the model

	β		B		SE	R2
	Attachment	Apocalypse	Attachment	Apocalypse		
Direct						
Emotional divorce	.37	.44	.54		.023	
Apocalypse	.63		.73		.032	
Indirect						
Emotional divorce	.28			.22	.051	
Apocalypse						
Total						
Emotional divorce	.65		.78		.019	
Apocalypse					.013	.54

Path diagram for model fit has depicted coefficient of direct and indirect pathways. The indirect pathway from attachment styles through Gottman four conflicting behavior to emotional divorce has the highest value to prediction (Figure-3).

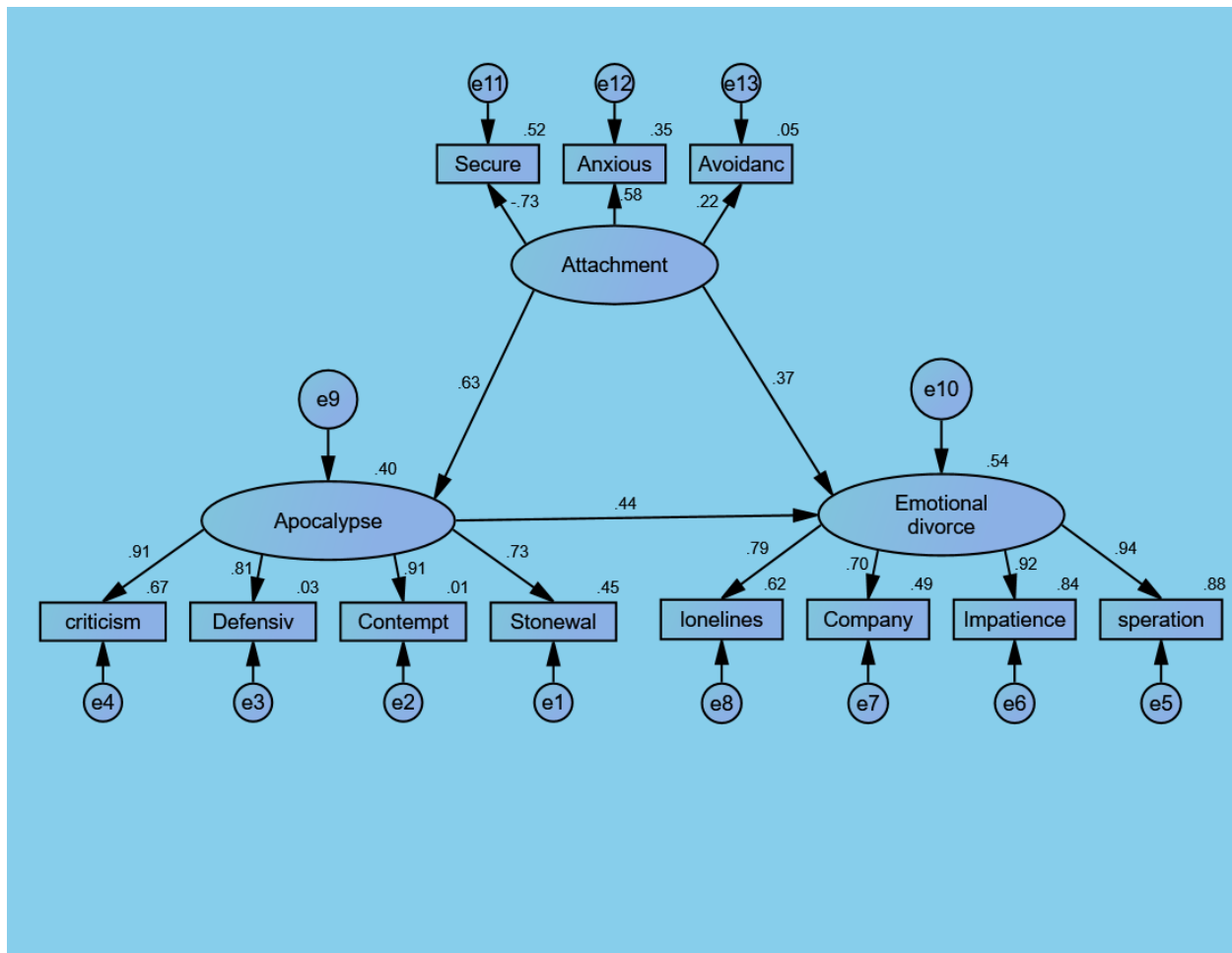


Figure 3 modified model

4. DISCUSSION

Gottman described 4 kinds of conflict behaviors (criticism, defensiveness, contempt, and stonewalling) that damage to couple’s relationship and are so relationally destructive that he defined them “the four horsemen of the apocalypse.” The purpose of current

study was to identify antecedents of these kinds of communication behaviors, and examining the degree to which emotional schemas and attachment styles are effective and useful predictors of them. Therefore, we developed and tested a structural model for predicting emotional divorce hinging on these theoretical frameworks. For doing so, we designed a meta-theoretical model based on Gottman theory of divorce, Leahy theory of emotional schema and Bowlby theory of attachment styles.

Results revealed that attachment styles and Gottman conflict behaviors of divorce (contempt, criticism, stonewalling, defensiveness), could account for 0.54% of variance in emotional divorce. But emotional schema theory couldn't explain noticeable variance of emotional divorce in the measurement model. Gottman theorized that in a conflicting marital relationship these four destructive communication patterns would exist: contempt, criticism, defensiveness and stonewalling, that he called them four horsemen of the Apocalypse denoting a religious metaphor (Walker, 2005). Our findings were in line with Gottman theory. We wanted to see if these Gottman destructive factors are under influence of any other relevant constructs. So based on previous studies we found that emotional schemas and attachment styles also have linked to marital satisfaction and emotional divorce. In our research we connected these variables to emotional divorce through mediating role of Gottman four factors. By using structural equation modeling we could assess the effects of these constructs on emotional divorce simultaneously. Results showed a good measurement model fit with deletion of emotional schema variable from the hypothesized model. Attachment styles had a significant direct and indirect effect on emotional divorce. Emotional schemas had no direct and indirect significant effect on emotional divorce. With entering it in the model, the estimated indexes of the model were not acceptable. So we eliminated it from the measurement model. A modified model with indirect pathway from attachment styles through mediating role of Gottman factors to emotional divorce had the best model fit indexes. Our proposed model was a combination of confirmatory and exploratory one. Confirmatory because assessing the Gottman model of predicting divorce and exploratory owing to proposing new constructs (emotional schema and attachment styles) in relationship between Gottman four factors and emotional divorce.

Our research findings are consistent with Fowler and Dillow study in which they showed that attachment styles especially anxious subtype are potent predictors of conflicting relationship and divorce (Fowler & Dillow, 2011). Also our results had not congruent with Mear research, in his study emotional schemas could account for 4.1% of variance in relationship satisfaction and emotional divorce (G. S. Mears, 2012). Walker in his work related jealousy to four conflicting behavior and divorce (Walker, 2005). This research result was similar to our study in finding a significant relationship between marital satisfaction and Gottman four conflicting pattern.

It seems that attachment theory and styles are a strong predictive antecedent in relationship between Gottman four conflicting behavior and emotional divorce. Thus, Bookwala and Zanuck found that individuals who score highly on attachment styles of avoidance and anxiety are more likely to be in reciprocally aggressive patterns of relationships (Doumas, Pearson, Elgin, & McKinley, 2008). Fowler in a study indicated that avoidant attachment style is a significant predictor of stonewalling that is coheres with a part of our study results. We found strong relationship between attachment styles and Gottman four destructive pattern of behavior (Fowler & Dillow, 2011). But it not seems emotional schemas could have significant relationship with emotional divorce and Gottman conflicting factors. It may be in part because of what Gottman has denoted. He proposed that these four patterns of behavior are more situational and not related to basic schemas. But attachment styles had a significant relationship with emotional divorce, directly and indirectly. Meyers found strong association between marital satisfaction and attachment styles (Meyers & Landsberger, 2002).

In sum, this study supported proposed modified model fit. And our suggested model could predict emotional divorce with some modification.

Limitations

The current research had a number of limitations. First it was cross-sectional, a longitudinal design could specify the effect of time, and we cannot explain the timing of the exposures. Second the impact that gender can have on the relationships between variable did not assessed in this study. Gottman maintains that gender probably play an important role in relationship between four horsemen and emotional divorce. In spite of these limitations, these studies had several advantages and strengths, so that, its findings can make a pivotal contribution to understand underlying mechanism that connect Gottman Four Horsemen of the apocalypse to emotional divorce. This research conducted using proper sample size. SEM permitted us to assess multiple associations simultaneously within a conceptual model.

5. CONCLUSION

The aim of this study was to identify direct and indirect pathways from emotional schemas, attachment styles and Gottman four conflicting behavior (contempt, criticism, defensiveness and stonewalling) to predict emotional divorce using structural equation

modeling, results showed that but emotional schemas, attachment styles and Gottman four conflicting behavior could predict emotional divorce. Finding indicated the best path for predict emotional divorce was an indirect pathway from attachment styles through mediating role of Gottman factors to emotional divorce.

Based on this study we suggest appropriate measures to protect couple's relationships from destructive factors that can disturb their normal communication patterns.

Author Contributions

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Methodology: Y, Parvaz, M, Bakhtiari, A, Masjedi Arani, M, Aslzaker

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Conflict of Interests

The authors declare that there is no conflict of interests regarding the publication of this paper.

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Ethical Issues

The study was approved by Ethics Committee of Shahid Beheshti University of Medical Science with ethical code:

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