

# Predicting Marital Intimacy Based on Infertility Stigma and Coping Strategies in Infertile Women

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### ABSTRACT

**Objective:** Infertility is not merely a medical condition affecting women but a biopsychosocial health issue that encompasses lower quality of life, psychiatric disorders, and even marital conflicts. The aim of this study was to predict marital intimacy based on infertility stigma and coping strategies in infertile women.

**Method:** This applied research was descriptive-correlational in nature. The population included all infertile women in Tehran in the year 2020. From this group, 250 participants were selected using purposive sampling. The participants were assessed using the Thompson and Walker (1983) Marital Intimacy Scale, Fu's (2014) Perceived Infertility Stigma Scale, and Folkman and Lazarus's (1985) Coping Strategies Scale. Data were analyzed using SPSS software, version 23.

**Findings:** Data analysis revealed that infertility stigma and coping strategies significantly predict marital intimacy in infertile women at the 0.01 level ( $p < .01$ ,  $F(6, 249) = 45.877$ ). Infertility stigma and coping strategies explained 53.1% of the variance in marital intimacy. The t-tests for significance in regression for self-devaluation ( $\beta = -.189$ ,  $p = .001$ ), social rejection ( $\beta = -.143$ ,  $p = .003$ ), family shame ( $\beta = -.279$ ,  $p = .001$ ), emotion-focused coping style ( $\beta = .351$ ,  $p = .001$ ), and problem-focused coping style ( $\beta = .251$ ,  $p = .001$ ) were significant at the level below .01. Among the sub-scales of infertility stigma, family shame and among the coping strategies, emotion-focused coping style had a more significant unique contribution in predicting marital intimacy.

**Conclusion:** Infertility stigma and coping strategies can be used to predict marital intimacy among infertile women.

**Keywords:** Marital Intimacy, Infertility Stigma, Coping Strategies, Infertile Women.

## 1. Introduction

Infertility is defined as the failure to achieve pregnancy after one year of adequate and regular intercourse without the use of contraceptives (Ebrahimi, 2022). Infertility leads to numerous psychological issues at cognitive and emotional levels for individuals (Loftus, 2011). Infertile individuals exhibit behaviors and thoughts such as isolation, guilt, pessimism, aggression, hostility, despair, and hopelessness (Akhtari, 2013). Among the important constructs to consider is the perceived stigma of infertility in women, knowing that they are capable of giving birth is a significant factor in the evolution of feminine thought, sexual identity, and self-confidence (Sternke, 2015). Stigma is an important factor in mental health contexts and is one of the most significant consequences of infertility disorders (Donkor, 2007). Unintended infertility often leads to stigmatization in many cultures, exposing women to serious social and emotional consequences (Fido, 2004). Studies have shown that 69.19% of infertile women feel stigmatized, and 53.08% experience self-stigmatization (Li et al., 2010).

Stigma refers to an attitude or belief whereby an individual feels shame and embarrassment for having a specific behavioral trait or problem that is not socially or morally accepted (Hing et al., 2014). Stigmatization is a process in which an individual's situation or characteristic profoundly impacts their identity, resulting in the negative effect of forming disordered identities (Avila, 2016). As stated, stigma is a psychological attitude that is strictly negative and associated with a range of adverse outcomes including depression, anxiety (Davis, 2010), low self-esteem, and self-efficacy (Remennick, 2000) as well as infertility distress, low social support, and low social standing (Slade, 2007).

The findings of Bronstein et al. (2020) demonstrated that there are three main mechanisms through which infertility-related stigma is produced and reinforced: labeling individuals as infertile stimulates negative stereotypes (e.g., miscarriage, multiple sexual partners, weak sperm) and the consequences of infertility which enhance the stigma (e.g., social ridicule, separation, divorce). These labels, assumed reasons, and consequences reflect on gender norms. Women perceived as infertile are unable to follow a normative path to achieve adult status and are perceived as sexually futile (Bornstein, 2020).

One reason that creates psychological pressure for infertile women is the role of motherhood, which is

considered the most significant role for women in adulthood in most societies. For some women, the ability to have children defines them as women, and the inability to have children is a specific label. Children are defined as social security in old age for families; thus, motherhood is the primary role for women and an expected feminine identity that has been emphasized (Donkor, 2007), resulting in infertile women facing more stress. If men fail to fulfill their familial roles for any reason, they have additional resources at their disposal and are able to compensate for their failures through social and occupational roles. However, various studies have shown that fulfilling the role of motherhood is considered the most satisfying source for women (Khodakarami, 2010).

Perhaps it can be said that infertility is one of the major stress-inducing events in the lives of infertile individuals. The experience of infertility leads to a sense of loss, whether perceptible or imperceptible (Maillet, 2002). Numerous studies have discussed a special relationship between stress and infertility, such that over time, evidence is accumulating regarding the mimicry of infertility symptoms under stress. Even an individual's level of optimism and adaptation to the environment and surrounding issues are considered significant (Akhtari, 2013).

Although the relationship between psychological stress and infertility has been discussed, there is ample evidence (Lancastle, 2005) that individual coping mechanisms, the amount of support, the level of hope, and resilience are important factors that affect infertility stress (Haapala, 2012; Jafarzadeh, 2015). Coping strategies are essentially intellectual, emotional, and behavioral efforts employed by individuals when faced with psychological pressures to overcome, endure, or minimize the consequences of stress. Thus, what is referred to as coping strategies are methods of dealing with challenging issues (Jafarzadeh, 2015). Research by Koraei et al. (2019) showed that infertility is associated with stress and women's coping strategies with this stress affect the quality of their marital relationship, which in turn impacts their adaptation to infertility (Koraei, 2018). Thus, attention to the relationship between couples should also be considered. In this context, researchers have discussed two important strategies for coping with stress: a problem-focused coping method involving direct activities to change or modify perceived threatening conditions, and an emotion-focused method involving thoughts to control the undesirable emotions arising from stressful conditions (Haqshenas, 2017).

One of the most important factors affecting the survival, endurance, and growth of a family is healthy relationships based on adaptation and understanding between members, especially between husband and wife. Marital intimacy is the foundation of good family functioning and fosters the growth of competence and adaptability among family members. Marital intimacy is regarded as one of the most important indicators of family function, defined as a state in which the husband and wife feel happiness and satisfaction from being married and being together (Nematzadeh Getabi, 2022). Research by Besharat, Lashkari, & Rezazadeh (2014) showed that there is a negative relationship between marital problems and adaptation to infertility. Based on the findings of this research, the importance of the psychological and social characteristics of infertile couples, similar to conventional medical interventions, is essential for better adaptation to infertility and improving the mental health of the couples (Besharat, 2021). Additionally, research by Kiesswetter et al. (2019) showed that marital satisfaction levels in infertile couples are significantly low. Psychological factors such as increased stress related to infertility treatment, emotional disorders, participation problems, lack of social support, or social isolation play a role (Kiesswetter, 2020). Research by Sternke and Abrahamson (2015) also showed that infertile women's perceptions of disgrace and disability in fertility affect various aspects of life, including family relationships, marital relationships, and even their workplace environment. Therefore, infertility is a stressful process for women, causing anxiety, depression, and consequently resulting in low adaptation. Women affected by the negative effects of infertility may face challenges in marital intimacy (Rajabi, 2018).

As mentioned above, just as infertility is influenced by physiological factors and falls within the realm of medical sciences, it also has psychological and social aspects and falls within the realm of behavioral and social sciences. Studies show that psychological factors can both contribute to the onset of infertility and that infertility can have psychological consequences. From the outset, the phenomenon of infertility is involved with psychological factors. This phenomenon, as a stressful, emotionally charged, and frustrating event for infertile couples (especially women), is one of the bitter and painful experiences of life, which can also add to its significance due to psychological and social conditions and turn it into a psychological and social crisis for the individual. Given the high birth rate in Iran and the cultural and social importance

of fertility (especially for women), studying the phenomenon of infertility, especially with an emphasis on its psychological and social aspects, is of great importance. Ultimately, this research attempts to answer the research question of whether the stigma of infertility and coping strategies in infertile women have the ability to predict marital intimacy.

## 2. Methods

### 2.1. Study design and Participant

The present study is applied and descriptive-correlational in nature. The population included all infertile women in Tehran during the year 2020. Out of this group, 250 individuals were selected through purposive sampling. Participants were assessed using the Thompson and Walker (1983) Marital Intimacy Scale, Perceived Infertility Stigma Scale (2014), and the Coping Strategies Scale by Folkman and Lazarus (1985). Research hypotheses were tested using multiple regression methods. Data were analyzed using SPSS software, version 23.

Due to the COVID-19 pandemic and adherence to health protocols, online questionnaires were used to collect data. After the participants visited infertility clinics in Districts 2, 4, and 6 of Tehran and a list of infertile women was compiled, those who were willing to participate in the research were invited to complete the questionnaires online. After explaining the research objectives and ensuring confidentiality, the link to the questionnaires was provided, and participants were asked to complete them anonymously.

### 2.2. Measures

#### 2.2.1. Perceived Infertility Stigma

Developed by Fu in 2014, this scale includes 27 items in four domains: self-devaluation (7 items), social rejection (5 items), public stigma (9 items), and family stigma (6 items). Items are scored on a 5-point Likert scale. Fu et al. (2015) reported correlation ranges for each item and factor from .60 to .87, and the overall internal consistency (validity) of the factors ranged from .56 to .67. In the Rajabi et al. (2017) study, Cronbach's alpha coefficients were reported at .95. Additionally, in the Taebi et al. (2018) study, construct validity was obtained through exploratory factor analysis, identifying three factors that explained 57.09% of the total variance. The three-factor model fit was confirmed based on fit indices. The reliability of the scale included a Cronbach's

alpha of .72 and an intra-cluster correlation of .97 (Fu, 2015; Taebi, 2019).

### 2.2.2. Coping Strategies

The Lazarus Coping Strategies Inventory was created by Lazarus and Folkman in 1980 and revised in 1985, including components like direct coping, distancing, self-controlling, seeking social support, accepting responsibility, escape-avoidance, planned problem-solving, and positive reappraisal. Scoring is on a 4-point Likert scale. Scores between 0 and 66 indicate low use of coping styles, between 66 and 110 indicate moderate use, and scores above 110 indicate high use of coping styles. The initial version of this questionnaire was normed by Lazarus and Folkman (1985) on a sample of 750 middle-aged couples, reporting Cronbach's alpha coefficients for coping dimensions as follows: seeking social support .76, accepting responsibility .66, planned problem-solving .67, positive reappraisal .79, direct coping .70, distancing .61, self-controlling .70, and escape-avoidance .72. These values indicate acceptable validity of the test. The Lazarus questionnaire was also normed in Iran on a sample of 750 middle-aged couples and 763 high school students. In another study conducted by Vahedi (2000) on 763 male and female high school students, the reliability of this questionnaire was estimated using internal consistency Cronbach's alpha (.80). Abu al-Qasim (2005) reported Cronbach's alpha coefficients for the questionnaire dimensions between .61 and .79, with correlation coefficients between sub-dimensions ranging from .01 to .39 (Rajabi, 2018).

### 2.2.3. Marital Intimacy

Developed by Thompson and Walker in 1983 to measure intimacy in marital relationships. This scale consists of 17 items, each scored on a 7-point scale ranging from "never" to "always." The respondent's score is calculated by summing the item scores and dividing by 17. Scores range from 1 to 7, with higher scores indicating greater intimacy.

The correlation coefficient in the Walker and Thompson (1983) study was .71. The scale was translated by Sanaei (2008). For content and face validity, the questionnaire was reviewed by 15 counseling professors and 15 couples, and its validity was confirmed. The reliability coefficient in the Sanaei (2000) study was 96%, and the internal consistency of the intimacy scale ranged from 91% to 97%. A significant positive relationship between couple intimacy and marriage duration was also reported ( $r = .648$ ). In a retest method using a 3-week interval on 30 university students, a correlation coefficient of .95 and a Cronbach's alpha of .94 were obtained. The reliability of this questionnaire in the current study was obtained using Cronbach's alpha (.89) (Navabinejad et al., 2024; Parsakia et al., 2023).

### 2.3. Data Analysis

After data collection, the data were quantitatively defined and analyzed using SPSS software, version 23. Descriptive statistical indices such as mean, standard deviation, and range of scores were first determined. Subsequently, the research hypothesis regarding the role of infertility stigma and coping strategies in predicting marital intimacy was examined using simultaneous multiple regression.

## 3. Findings and Results

The current study was conducted on a sample of 250 infertile women with a mean age of 41.25 and a standard deviation of 8.33. 11.2% of the participants had education levels of diploma or below, 31.36% had associate degrees, and 57.44% had bachelor's degrees or higher. 44.71% were homemakers and 55.29% were employed.

Table 1 reports the mean, standard deviation, skewness, and kurtosis of the research variables. To test the hypothesis of normal distribution of single variables, skewness and kurtosis values were examined, and for assessing the multicollinearity hypothesis, the Variance Inflation Factor (VIF) and Tolerance were analyzed.

**Table 1**

*Mean and Standard Deviation of Research Variables*

Variable	Mean	Standard Deviation	Skewness	Kurtosis	Tolerance	VIF	Durbin-Watson
Marital Intimacy	3.97	1.857	-0.099	-1.025	Criterion	Criterion	
Infertility Stigma-Self-devaluation	21.32	6.947	0.081	-0.695	0.682	1.466	1.62
Infertility Stigma-Social Rejection	11.59	4.238	0.819	0.651	0.834	1.199	
Infertility Stigma-Public Stigma	17.1	9.775	1.122	0.084	0.798	1.253	
Infertility Stigma-Family Stigma	19.08	8.038	0.324	-1.015	0.692	1.446	

Emotion-focused Coping Style	37.13	20.689	0.892	-0.227	0.83	1.205
Problem-focused Coping Style	39.58	18.011	0.96	0.488	0.809	1.235

Kline (2016) believes that the Kolmogorov-Smirnov and Shapiro-Wilk tests are sensitive to sample size and are not suitable methods for evaluating the normality assumption in studies with sample sizes over 100. He recommends using skewness and kurtosis indices for assessing the normality of data distribution. He suggests that if skewness and kurtosis values are within  $\pm 2$ , the distribution of the data is normal. According to Kline (2016), the evaluation of skewness and kurtosis indices in Table 1 indicates that the distribution of single-variable data in this study is normal, as none of the

research variables' indices are outside the  $\pm 2$  range. Also, given the variance inflation factor less than 10 and a tolerance higher than 0.10, multicollinearity did not occur in the research variables. The Durbin-Watson test (1.62) was used to check for the independence of observations (the independence of residuals or errors), which indicates adherence to the independence assumption.

Correlations between research variables are reported in Table 2.

**Table 2**

*Correlation Coefficients Between Research Variables*

Variables	1	2	3	4	5	6	7
1 - Marital Intimacy	-	-	-	-	-	-	-
2 - Infertility Stigma-Self-devaluation	-.425**	-	-	-	-	-	-
3 - Infertility Stigma-Social Rejection	-.340**	.257**	-	-	-	-	-
4 - Infertility Stigma-Public Stigma	-.232**	.404**	.266**	-	-	-	-
5 - Infertility Stigma-Family Stigma	-.455**	.466**	.353**	.269**	-	-	-
6 - Emotion-focused Coping Style	-.470**	.153*	.159*	.139*	.121*	-	-
7 - Problem-focused Coping Style	.482**	-.137**	-.178**	-.158**	-.212**	-.364**	-

\* $p < 0.05$ ; \*\* $p < 0.01$

Findings indicate that marital intimacy is negatively correlated with self-devaluation, social rejection, public stigma, family stigma, and emotion-focused coping style at the .01 level of significance. The correlation between marital

intimacy and problem-focused coping style was positive and significant at the .01 level. Multiple regression analysis was used to determine the extent to which infertility stigma and coping strategies predict marital intimacy (Table 3).

**Table 3**

*Multiple Regression Analysis for Predicting Marital Intimacy Based on Infertility Stigma and Coping Strategies*

Predictor Variable	F	P	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	b Coefficient	SE	$\beta$ Coefficient	T	Significance Level
Constant						7.00	0.459		15.245	.001
Self-devaluation	45.877	.001	.729	.531	.520	-0.051	0.014	-0.189	-3.556	.001
Social Rejection						-0.062	0.021	-0.143	-2.965	.003
Public Stigma						0.009	0.009	0.046	0.937	.350
Family Stigma						-0.064	0.012	-0.279	-5.275	.001
Emotion-focused Coping Style						-0.032	0.004	-0.351	-7.288	.001
Problem-focused Coping Style						0.026	0.005	0.251	5.140	.001

According to Table 3, the model is statistically significant, and infertility stigma and coping strategies significantly predict marital intimacy in infertile women at the .01 level of significance ( $p < .01$ ,  $F(6, 249) = 45.877$ ). The multiple correlation coefficient squared ( $R^2$ ) of .531 indicates that infertility stigma and coping strategies explain

53.1% of the variance in marital intimacy. The t-tests for significance in regression for self-devaluation ( $\beta = -.189$ ,  $p = .001$ ), social rejection ( $\beta = -.143$ ,  $p = .003$ ), family stigma ( $\beta = -.279$ ,  $p = .001$ ), emotion-focused coping style ( $\beta = -.351$ ,  $p = .001$ ), and problem-focused coping style ( $\beta = .251$ ,  $p = .001$ ) were significant at less than .01 level. Among the



sub-scales of infertility stigma, family stigma, and among the coping strategies, emotion-focused coping style had a greater unique contribution in predicting marital intimacy.

#### 4. Discussion and Conclusion

The findings of the current study demonstrate that infertility stigma and coping strategies significantly predict marital intimacy among infertile women. Infertility stigma and coping strategies explain 53.1% of the variance in marital intimacy. Based on the results, self-devaluation, social rejection, family stigma, emotion-focused coping style, and problem-focused coping style all significantly relate to marital intimacy in infertile women. Among the sub-scales of infertility stigma, family stigma and among the coping strategies, emotion-focused coping style play a more significant role in predicting marital intimacy.

Given that infertility is both a personal and social issue that can expose individuals to various psychological and social pressures and is considered a cause of chronic stress that can lead to numerous psychological problems. According to the results of studies, it can cause psychiatric and emotional disorders. For many people, infertility is a major crisis and a source of psychological stress that can generate emotional stress and a range of negative psychological reactions including depression, anxiety, worry, anger, shame, jealousy, loneliness, despair, hopelessness, reduced self-esteem, emotional imbalance, marital problems, lack of intimacy, and sexual dissatisfaction. In line with the findings of this study, prior studies (Fekkes, 2003; Monga, 2004) have shown the negative impact of infertility on the quality of life of infertile women and also link infertility to issues such as low self-esteem and poor marital relationship quality (Ferreira, 2015), infertility stress, a sense of hopelessness in women, anxiety and dissatisfaction with life (Boivin, 2001), quality of life, and sexual performance (Hassanin, 2010).

The experience of infertility, referred to by some as a social stigma, is accompanied by physical, social, and psychological stresses that affect the entire life of couples. In a social belief, the inability to have children is considered a defect known as "extinguished hearth" (Donkor, 2007). Although infertility is not a disease, it causes numerous emotional and social psychological disorders, stigma is a significant construct in mental health areas and is one of the most important consequences of infertility disorder (Donkor, 2007). If fertility is not possible after some time in marriage, the perception of the woman herself, her husband, and even

those around her changes, consequently causing emotional separation and demotivation of the woman in family and society, and damaging the emotional relationship and eliminating the intimacy between the couple (Rajabi, 2017, 2018).

From the data obtained from this study, it can be concluded that fertility and having children cause greater warmth and intimacy in marital relationships and satisfaction for couples. On the other hand, under conditions of infertility and the feeling of stigma arising from it, which creates a stressful situation for the individual, the person is constantly engaged with the stressful issue (i.e., infertility), and avoidance of this situation is not possible; thus, under these conditions, the relationships between couples, including marital intimacy, are affected. The degree of satisfaction couples feel from emotional relationships and the ability to be understood by each other is one of the important factors of satisfaction from marital life, and those who have more intimacy report a significantly better quality of life compared to those who have less marital intimacy (Taghavi Soorebargh, 2018).

As infertile women try to suppress their emotions, in fact, they increase their physiological reactivity and the experience of negative emotions and decrease the experience of positive emotions. Emotional suppression can also lead to costly consequences of feelings of unreality, and people who try to suppress unwanted thoughts experience a reflection of these thoughts to a greater extent than if these unwanted thoughts had been expressed, affecting their marital relationships. Conversely, emotional discharge allows emotions and emotions to be expressed appropriately and prevents them from being expressed as a social stigma against infertility. Therefore, the less understanding from the spouse in infertile women, the more marital intimacy will be, and in this context, perceived infertility stigma affects this relationship both directly and indirectly (Fido, 2004; Fu, 2015).

Also, based on the results obtained, the more infertile women use emotional strategies like escape, direct coping, distancing, and self-control in the face of stressful events, the less marital intimacy they have; therefore, it can be said that emotion-focused strategies have an inverse relationship with marital intimacy, but problem-focused coping strategy has a significant direct relationship with marital intimacy. Numerous studies have shown that there is a direct and significant relationship between coping strategies and the level of satisfaction and intimacy in marital life (Adams, 2003; Haapala, 2012; Rajabi, 2017, 2018).

Marital relationship is a stable and intimate relationship and a source of support and pleasure for individuals. Satisfaction from marital relationship causes feelings of happiness and creates intimacy among couples. The family, being the core of society, is successful through establishing a successful marital relationship (Nematzadeh Getabi, 2022; Saadati & Parsakia, 2023). One of the variables that affect satisfaction in life is coping strategies that couples use to confront the psychological pressures of their living environment. Some researchers have reported on the importance of using coping strategies in reducing marital problems, making this issue noteworthy. Coping strategies are permanent cognitive changes and behavioral efforts to manage specific external and internal needs that are obtained with considerable personal effort (Szatmári, 2021).

Based on the findings obtained, in explaining the results of the current research, it can be stated that since infertile individuals are more oriented towards solving and managing their problem rather than merely reducing the emotional distress resulting from it, they are more directed towards problem-solving. Avoiding or escaping realities like infertility that directly confront all aspects of their lives and not dealing logically and effectively with the problem is not an appropriate solution for dealing with such issues. If infertile women use avoidant and emotion-focused coping strategies, the strategy of denying the stressful situation is employed, meaning, individuals withdraw from the problem and deny it, which causes them not only not to strive to solve their problems but also keeps their problem remaining, which in turn affects their satisfaction from life and leads to a reduction in marital intimacy. This is because the use of emotion-focused and avoidant strategies as a solution to the problem leads to negative consequences including self-blame, denial, and avoidance of the problem instead of practical resolution, creating stress and anxiety in relation to the problem, and feeling very hopeless and distressed.

## 5. Suggestions and Limitations

This research, like other studies, had limitations including the limitation of the research group, which was infertile women in districts 2, 4, and 6 of Tehran, and this issue limits the generalization of the data to other infertile women. Also, considering the financial burden of infertile women residing in Tehran on the dimension of intimacy and attachment, generalizing the results of these findings to other infertile women in other cities, especially in small towns, faces limitations; therefore, it is suggested that this research be

conducted in other cities of Iran. Also, other dimensions of marital life should be examined instead of marital intimacy.

## Authors' Contributions

All authors have contributed significantly to the research process and the development of the manuscript.

## Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

## Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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## Declaration of Interest

The authors report no conflict of interest.

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## Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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