

Prediction of Mental Health based on Sexual Self-efficacy and Time Perspective in Infertile Women

Seydeh Vahideh Pishvaei¹, Biuok Tajeri^{2*}

¹ Ph.D. Student, Department of Psychology, Central Tehran Branch, Islamic Azad University, Tehran, Iran

² Assistant Professor, Department of Psychology, Karaj Branch, Islamic Azad University, Karaj, Iran

* **Corresponding author:** Biuok Tajeri, Assistant Professor, Department of Psychology, Karaj Branch, Islamic Azad University, Karaj, Iran. Email: btajeri@yao.com

Received 2021 April 25; Accepted 2022 February 27

Abstract

Background: Infertility is associated with a lack of sexual self-efficacy and decreased self-confidence in sexual function.

Objectives: This study aimed to predict mental health based on sexual self-efficacy and time perspective in infertile women.

Methods: A descriptive-correlational study was performed on infertile Iranian women referred to centers and hospitals affiliated with Shahid Beheshti University of Medical Sciences. A total of 300 people were selected by the convenience sampling method. The research tools included Time Perspective Inventory (1991), Sexual Self-Efficacy Scale (2000), and Mental Health Questionnaire (2012). Multiple regression was used to analyze the data by SPSS software (Version 22).

Results: The results indicated that mental health improved by increasing sexual self-efficacy, and dimensions of time perspective including the past positive, hedonistic present, and positive future ($P < 0.001$). However, mental health slightly decreased by increasing the dimensions of past time perspective negative and present judicial.

Conclusion: Therefore, it can be concluded that sexual self-efficacy and perspective dimensions of time can predict mental health in infertile women.

Keywords: Female, Infertility, Mental health, Self-efficacy, Sexual behavior

Introduction

One of the reasons for marriage in Iran is traditionally the continuation of family generations and childbearing which psychologically affects the couples and their relationship. Infertility cause great psychological and social pressure, instability in marriage, threats of divorce or authority of spouse, exclusion from family and society, anxiety, and depression in women (1). Motherhood is one of the most enjoyable and evolutionary events in a woman's life, however, it poses some tension and anxiety due to physical and psychological changes. Although stress is generally an adaptive reaction to environmental challenges, it may harm the health of pregnant mothers and their babies (2). Many infertile women suffer from a sexual disorder (3). Infertile couples show low levels of satisfaction in sexual function. Also, the stress of infertility reduces sexual self-esteem and negatively affects sexual function and frequency of intercourses (4).

On the other hand, infertility is associated with a lack of sexual self-efficacy and decreased self-confidence in sexual function (5). Many couples think that pregnancy is the product of sex, and it is unproductive if pregnancy fails to occur (6). Sexual self-efficacy is one of the main components of mental health which greatly affects fertility and stress. Sexual self-efficacy is closely related to self-

esteem in women. Female infertility can exacerbate problems such as decreased mental health and quality of life (7).

Another factor associated with infertility is the time perspective. Time perspective is a fundamental cognitive process by which people perceive, interpret and interact with their physical and social worlds (8). Time perspective is a psychological structure that evaluates the perception of the past, present, and future and its impact on decision-making (9). It is defined as individuals' views on their future and psychological past at a given time, the extent to which they reflect the past, concentrates on the present or predicts the future, or combined cognitive structures that determine how individuals reflect, collect, access, evaluate, and organize events at different times, and one's cognitive understanding of the relationships between the events of past, present, and future (10). The vision of the future consists of two important aspects: firstly, the cognitive aspect refers to the capacity to predict the distant future. People with deeper future time perspectives set more sustainable goals compared to those with shorter-term perspectives. Secondly, the dynamic aspect of the time perspective refers to the capacity to explain the high value of long-term goals. Although the predicted value of the future goal

reduces the value of the delayed future goal, this decrease is psychologically less for people with long-term prospects, so they place a higher value on the predicted future goals. This impact is only for future goals in the middle time interval and is not commensurate with the goals of the very near or very distant future (11,12).

High sexual self-efficacy leads to more desirable sexual function (13). Limited studies, to the best of our knowledge, have been conducted on infertile women to find the relationship between the three variables of this study, and therefore, this study aimed to predict their mental health based on sexual self-efficacy and time perspective.

Paying attention to the mental health of infertile mothers and preventing their anxiety and stress is an important social need. Improving mental health increases cooperation, adaptability, and the quality of life in such women because stresses profoundly affect the family

members and their development. This problem can cause mental illness and the person loses his happiness, strength, and ability to perform social responsibilities if it continues. The necessity of conducting such research has been emphasized since no study has targeted the psychological components (self-esteem, sexual self-efficacy, personality characteristics, psychological well-being, and time perspective), or their relationship in infertile women.

Objectives

This study aimed to predict mental health based on sexual self-efficacy and time perspective in infertile women.

Methods

The research method was descriptive-correlational. The study population was infertile Iranian women aged 20-40 years referred to centers and hospitals affiliated to Shahid Beheshti University of Medical Sciences. A total of 300 people were selected by the convenience sampling method. The required sample size was calculated based on effect size= 0.40, $\alpha=0.95$, $1-\beta$ (err prob) = 0.80 test power. Inclusion criteria included no pregnancy after one year without family planning methods, no history of major physical and mental illnesses, and no history of gynecological surgery or use of assisted reproductive techniques. Exclusion criteria were not answering all the questions in the questionnaires.

Before answering the questions, preliminary explanations were provided to the participant regarding the research objectives, scales, and how to complete them. They were also reassured about the confidentiality of the information, and the optionality of writing their full names, and then the questionnaires were presented to the women. It

was also written at the beginning of the first page of questions that "these questions have been prepared and provided to you as research work on women. Try to answer all the questions honestly and accurately to help us in our research." Participants first answered demographic questions, including age, gender, education level, employment, economic, and health status, and then answered the questionnaires. Several students cooperated with the researcher in implementing the questionnaires. This article has been approved by the Ethics Committee of Islamic Azad University, Tehran North Branch, Tehran, Iran (Code: IR.IAU.TNB.REC.1399.043).

Zimbardo Time Perspective Questionnaire

This 56-item questionnaire was developed in 1991 by Zimbardo and Boyd, on a 5-point Likert spectrum scale from fully agree to completely disagree. This scale measures Past Negative (10 questions), Past Positive (9 questions), Present Fatalistic (9 questions), Present Hedonistic (15 questions), and Future (13 questions). Zimbardo and Boyd (14) reported an alpha coefficient of 0.74 to 0.82 for test subscales in a sample of 15-62 years old. Vahid Dastjerdi and Nilforoushan (15) reported the scale of the questionnaire subscales in Iran ranging from 0.86 to 0.60. In this study, Cronbach's alpha coefficient for the questionnaire subscales was between 0.73 and 0.82.

Vaziri Sexual Self-Efficacy Questionnaire

This questionnaire includes 11 questions with a minimum score of zero and a maximum score of 30 which is divided into three categories of low, moderate, and high sexual self-efficacy (16). The reliability of the questionnaire was obtained at 0.86, 0.81, 0.81 using Cronbach's alpha, Spearman-Brown, and Guttman method, respectively. Also, the validity of the sexual self-efficacy questionnaire was confirmed by the content validity method (16). The Cronbach's alpha coefficient was 0.84 in this questionnaire.

General Health Questionnaire

The 28-item questionnaire was developed in 2012 by Goldberg and Hillier using long-term factor analysis. It diagnoses mild mental disorders and screens non-psychotic psychological disorders in medical centers and other communities in different situations. There are four scales of physical symptoms, anxiety and sleep disorder, social dysfunction, and severe depression with seven questions. Several studies conducted on students and employees in Iran reported the reliability of the Persian version of the GHQ-28 questionnaire as 0.84, 0.91, 0.88, 0.62, 0.92, 0.89, 0.82, respectively (17). The internal consistency coefficient of the Persian version of this questionnaire was 0.80

using Cronbach's alpha method (18). In this study, the reliability coefficient of the test was 0.90.

The data were also analyzed using the correlation coefficient and multiple regression. Also, all statistical calculations were performed using SPSS software (version 22).

Results

The age range of the subjects was between 20-40 years. The high values of Cronbach's alpha indicated the high validity of the questionnaire.

Table 1. Mean (SD) and Cronbach's alpha coefficient of research variables

Variables		M	SD	Cronbach's alpha
Time Perspective	Past Negative	37.43	6.21	0.68
	Past Positive	32.96	4.90	0.67
	Present Hedonistic	46.73	7.11	0.75
	Present Fatalistic	24.31	5.29	0.68
	Future	47.09	6.44	0.76
Sexual Self-efficacy		16.86	6.31	0.78

Table 2. Results of variance analysis in mental health prediction based on sexual self-efficacy and time perspective

Variable		SS	Df	MS	F	P	R	R ²
Sexual Self-efficacy	Regression	5831.11	1	3101.12	48.58	0.001	0.44	0.19
	Residuals	18407.22	298	49.11				
Past Negative	Regression	6321.48	6	5386.06	61.04	0.001	0.618	0.381
	Residuals	23173.96	293	59.21				
Past Positive	Regression	6520.68	7	5394.12	62.11	0.001	0.601	0.361
	Residuals	23531.82	292	61.04				
Present Hedonistic	Regression	6711.60	8	5512.03	63.06	0.001	0.611	0.373
	Residuals	24100.15	291	62.62				
Present Fatalistic	Regression	6871.17	9	5716.94	65.15	0.001	0.632	0.399
	Residuals	24762.84	290	63.17				
Future	Regression	6982.82	10	5927.05	66.66	0.001	0.668	0.446
	Residuals	26012.48	288	65.41				

The results showed that all predictors were significant for mental health in this study. Beta coefficients showed that the relationship between sexual self-efficacy and past time perspective is positive but the relationship between sexual self-efficacy and present hedonistic and positive future and dimensions of past time perspective are negative. Mental health increases (considering that in a mental health questionnaire, mental health decreases with increasing scores) with increasing scores in sexual self-efficacy and Past Positive, Present Hedonistic, and Future, but it decreases by increasing Past negative and Past positive. Also, the analysis of variance of the equation with more than 99% confidence is significant and finally, about 57% of the variance of the criterion variable such as mental health can be explained in infertile women. Therefore, it can be concluded that sexual

self-efficacy and the dimensions of time perspective can predict mental health in infertile women.

Adopt appropriate methods to identify risk factors, prevention, treatment, and management of depression seems necessary due to the high prevalence and psychological burden that this disease imposes on the individual, health system, and society. Considering the side effects of medication, determining effective psychological therapies is essential to be accepted by individuals. Therefore, researchers should seek effective treatment strategies that are empirically supported. Various non-pharmacological therapies such as cognitive-behavioral therapy and interpersonal therapy which have been reviewed and confirmed, have been proposed in addition to pharmacological therapies. Newer methods have emerged that are more useful than

Table 3. The regression coefficient of mental health prediction based on sexual self-efficacy and the dimensions of the time perspective

Predicting variables	Unstandardized coefficients		Standardized coefficients		
	B	Standard Error	(Beta)	t	P
Constant	-7.46	3.14	-0.17	-1.63	0.001
sexual self-efficacy	2.63	0.43	0.09	3.14	0.001
Past Negative	-2.08	0.87	-0.23	-0.53	0.001
Past Positive	8.72	3.69	0.30	0.49	0.001
Present Hedonistic	4.79	2.42	0.35	2.63	0.001
Present Fatalistic	-2.14	1.11	-0.26	-0.73	0.001
Future	3.49	2.03	0.63	0.58	0.001

The results of Table 3 showed that sexual self-efficacy (Beta= -0.17, $p < 0.001$), Past Negative (Beta= -0.23, $p < 0.001$), Past Positive (Beta= 0.30, $p = 0.001$), Present Hedonistic (Beta= 0.35, $p = 0.001$), Present Fatalistic (Beta= -0.73, $p = 0.001$) and Future (Beta= 0.63, $p = 0.001$) can predict mental health in infertile women.

Discussion

This study aimed to predict mental health based on sexual self-efficacy and time perspective in infertile women. Few studies, to the best of our knowledge, were conducted on this subject in Iran. The findings in the present study are consistent with the results of other similar studies, including Kim et.al (19), and Brothers et.al (20).

It should be noted that self-efficacy focuses on the individual's understanding to achieve the desired result. Therefore, if the source of control is internal and individuals consider themselves effective in achieving results, they can imagine a lot of efficiency for themselves. But if they depend on the assistance of others as an effective factor in achieving success, they fail to have much power in controlling events and have low efficiency. According to Bandura, one's belief in his efficiency determines the approximation of human action (19). Expecting success or defeat affects performance and if one feels a high cost of living, one will be more motivated to organize higher goals. Therefore, people who pursue high goals in life have higher self-efficacy than those who choose easy and short-term goals. People with sexual problems usually have low self-esteem, more anxiety, and they are depressed. Their sexual relationships are affected by predictions of failure, low well-being, and unpleasant experiences. Therefore, women with fertility problems reported a higher prevalence of negative emotions (20).

Since active and effective sexual relationships can increase the likelihood of fertility, it is thought that sexual dysfunction is more common in infertile women than in fertile women. Many infertile women suffer from a sexual disorder and infertile couples are less satisfied with their sexual function. Also, infertility stress reduces sexual self-esteem, sexual

function, and frequency of intercourse (20). On the other hand, infertility is associated with a lack of sexual self-efficacy and decreased self-confidence in sexual function. Therefore, female infertility questions their individual and social competencies as well as their "motherhood" and "wifehood", and women consider themselves responsible for this defect. This feeling of blame can exacerbate problems such as decreased sexual self-efficacy, self-confidence, and sexual dysfunction (21).

When individuals are positively affected by their past, that is, they solve the problems with a wide vision, it has a positive effect on all aspects of life and improves the quality of life. This changes the mental health of the person and leads to suffering from the past and losses, which also ruins the present of that person (22). The fruitful past brings peace and a clear perspective on the desired life and significantly affects mental health.

Time perspective is a preventive strategy to prevent the harm of high-risk behaviors caused by increasing the perceived value of people about the future, which is based on the theory of vital risk balance. People seem to care more about the future since personality characteristics play an undeniable role in different aspects of life, so the rate of infertility in a society does not depend on technology and safety education, but on shared social values. The ability to tolerate reward delays in learning is crucial. Sometimes people are faced with decisions that give them instant gratification, and they have to choose between an immediate reward and short-term pleasure or long-term reward. Choosing a long-term reward as the perspective of the future creates skills, attitudes, and motivations in the individuals, and enables them to identify their desired future (23-25).

The present study was limited to pregnant women referred to infertility centers of Shahid Beheshti University of Medical Sciences. This correlational study is incapable of attributing cause and effect relationships between variables. Finally, it is suggested that changing women's time perspective is necessary for policy-making. Similar researches should be conducted on infertile women of other ages and areas. Experimental research projects such as

time management and positivity training courses should be implemented and the relationship between the cause and effect of the variables should be investigated in the present study.

Conclusions

Therefore, it can be concluded that sexual self-efficacy and the dimensions of time perspective can predict mental health in infertile women.

Conflict of interest

The authors declare that they have no conflict of interests.

Acknowledgments

We would like to thank our participants, who greatly cooperated with us in the research.

References

- Elyasi F, Parkoohi PI, Naseri M, Hamed M, Peyvandi S, Gelekholaee KS. The relation between couple's infertility distress with their partner's attachment and coping styles. *Journal of Nursing and Midwifery Sciences*. 2021 Apr 1;8(2):92.
- Moura-Ramos M, Santos TA, Canavarro MC. The role of attachment anxiety and attachment avoidance on the psychosocial well-being of infertile couples. *Journal of clinical psychology in medical settings*. 2017 Jun;24(2):132-43.
- Khalid A, Dawood S. Social support, self-efficacy, cognitive coping and psychological distress in infertile women. *Archives of Gynecology and Obstetrics*. 2020 Aug;302:423-30.
- Fortunato VJ, Furey JT. The Theory of MindTime: The relationships between thinking perspective and time perspective. *Personality and Individual Differences*. 2010 Mar 1;48(4):436-41.
- Anokye R, Acheampong E, Mprah WK, Ope JO, Barivure TN. Psychosocial effects of infertility among couples attending St. Michael's Hospital, Jachie-Pramso in the Ashanti Region of Ghana. *BMC research notes*. 2017 Dec;10(1):1-5.
- Horne S, Zimmer-Gembeck MJ. The female sexual subjectivity inventory: Development and validation of a multidimensional inventory for late adolescents and emerging adults. *Psychology of Women Quarterly*. 2006 Jun;30(2):125-38.
- Lotti F, Maggi M. Sexual dysfunction and male infertility. *Nature Reviews Urology*. 2018 May;15(5):287-307.
- Khodakarami N, Hashemi S, Seddigh S, Hamdiyeh M, Taheripanah R. Life experience with infertility; a phenomenological study. *Journal of Reproduction & Infertility*. 2010;10(4).
- Kato T, Sampei M, Saito K, Morisaki N, Urayama KY. Depressive symptoms, anxiety, and quality of life of Japanese women at initiation of ART treatment. *Scientific Reports*. 2021 Apr 6;11(1):1-8.
- Chaves C, Canavarro MC, Moura-Ramos M. The role of dyadic coping on the marital and emotional adjustment of couples with infertility. *Family process*. 2019 Jun;58(2):509-23.
- Hajinia A, Khalatbari J. The effectiveness of sex therapy on sexual self-efficacy and marital satisfaction of diabetic women. *Educ Stud*. 2017;2(1):33-42.
- Patel AS, Leong JY, Ramasamy R. Prediction of male infertility by the World Health Organization laboratory manual for assessment of semen analysis: a systematic review. *Arab journal of urology*. 2018 Mar 1;16(1):96-102.
- Martschenko D, Trejo S, Domingue BW. Genetics and education: recent developments in the context of an ugly history and an uncertain future. *AERA Open*. 2019 Jan;5(1):23-32.
- Zimbardo PG, Boyd JN. Putting time in perspective: A valid, reliable individual-differences metric. In *Time perspective theory; review, research and application 2015* (pp. 17-55). Springer, Cham.
- Vahid dastjerdi L, Nilforooshan L. Work Hope: The Role of Personal and Social Factors and Family Support. *Positive Psychology Journal*. 2016; 1(4): 15-28.
- Vaziri S, Lotfi Kashani F. Study of factor structure, reliability and validity of the sexual self efficacy questionnaire. *Thoughts and Behavior in Clinical Psychology*. 2013 Sep 23;8(29):47-56.
- Montazeri A, Harirchi AM, Shariati M, Garmaroudi G, Ebadi M, Fateh A. The 12-item General Health Questionnaire (GHQ-12): translation and validation study of the Iranian version. *Health and quality of life outcomes*. 2003 Dec;1(1):1-4.
- Namjoo S, Shaghaghi A, Sarbaksh P, Allahverdi-pour H, Pakpour AH. Psychometric properties of the General Health Questionnaire (GHQ-12) to be applied for the Iranian elder population. *Aging & mental health*. 2017 Oct 3;21(10):1047-51.
- Kim J, Hong H, Lee J, Hyun MH. Effects of time perspective and self-control on procrastination and Internet addiction. *Journal of behavioral addictions*. 2017 Jun;6(2):229-36.
- Brothers A, Chui H, Diehl M, Pruchno R. Measuring future time perspective across adulthood: development and evaluation of a brief multidimensional questionnaire. *The Gerontologist*. 2014 Dec 1;54(6):1075-88.
- Cate RA, John OP. Testing models of the structure and development of future time perspective: maintaining a focus on opportunities in middle age. *Psychology and aging*. 2007 Mar;22(1):186.
- Strauss K, Griffin MA, Parker SK. Future work selves: how salient hoped-for identities motivate proactive career behaviors. *Journal of applied psychology*. 2012 May;97(3):580.

23. Weiss D. What will remain when we are gone? Finitude and generation identity in the second half of life. *Psychology and Aging*. 2014 Sep;29(3):554.
24. Brothers A, Gabrian M, Wahl HW, Diehl M. Future time perspective and awareness of age-related change: Examining their role in predicting psychological well-being. *Psychology and Aging*. 2016 Sep;31(6):605.
25. Tamannaifar M. A Comparative Study of Mental Health, Marital Adjustment and Coping Responses among Fertile-Infertile Women. *Clinical Psychology and Personality (Daneshvar Raftar)*. Scient Ific-Research Journal of Shahed Univ Ersity. Third Year. 2011; 3(4): 51-60.