



University of Hormozgan

The Effectiveness of Mindfulness Skills Training on Extramarital Relationships with a Focus on the Mediating Role of Emotional Schemas

Zahra Nikbakht¹, Ali Farnam², Farhad Kahrazechi³

1. PhD. Student in General Psychology, Department of Psychology, Zahedan Branch, Islamic Azad University, Zahedan, Iran

2. Associate Professor, Department of Psychology, University of Sistan and Baluchestan, Zahedan, Iran ,
farnam@ped.usb.ac.ir

3. Associate Professor, Department of Psychology, University of Sistan and Baluchestan, Zahedan, Iran

Article Info

Article type:

Research Article

Article history:

Received 1 Sep. 2021

Received in revised form 10 Feb. 2022

Accepted 25 Apr. 2022

Published online 01 Sep. 2024

Keywords:

Mindfulness Skills,
Extramarital Affairs,
Emotional Schemas

ABSTRACT

Objective: This study aimed to evaluate the effectiveness of mindfulness skills training on improving extramarital relationships by emphasizing the mediating role of emotional schemas in married students of Zahedan universities.

Methods: The research method in this research was quasi-experimental, and the data collection tool was two standard questionnaires, Glass (1988) and Leahy (2000). The data analysis tools in this study were SPSS and AMOS statistical software. Due to the method and nature of the hypotheses of this study, the combined covariance test with repeated measures (GLMRM) was used for the effectiveness of the mindfulness skills, and regression models with hidden variable were used to evaluate the mediation effect of emotional schemas. The statistical population of this study includes married students of Zahedan universities in 2019-2020. The sample size in this study was forty people who were divided into two groups (one control and one experimental group of twenty people). The sampling method was simple random sampling.

Results: According to the results of this study, with a 95% confidence level ($p < 0.05$), mindfulness skills training is effective in improving extramarital relationships and emotional schemas, and emotional schemas have a minor mediating role in the relationship between mindfulness skills and extramarital relationships.

Conclusions: The findings aid family psychologists in effectively addressing the challenges presented by extramarital relationships within couples.

Cite this article: Nikbakht, Z., Farnam, A. & Kahrazechi, F. (2024). The effectiveness of mindfulness skills training on extramarital relationships with a focus on the mediating role of emotional schemas. *Iranian Evolutionary Educational Psychology Journal*, 6 (3), 1-18.

DOI: <https://doi.org/10.22034/6.3.1>



© The Author(s).

DOI: <https://doi.org/10.22034/6.3.1>

Publisher: University of Hormozgan.

Introduction

Marriage is one of the most important human values in all human societies, and the decision to marry is one of the most difficult and complex decisions in life (French et al., 2019). Therefore, it is necessary to pay attention to interpersonal relationships as the foundation and basis of human identity and perfection, and the fundamental basis of the individual's relationship with others, especially in marital relationships (Janaabadi, 2012). When time, energy, and resources are spent on maintaining another relationship, the primary relationship will be weakened in terms of intimacy and energy spent (Zare, 2018). Extramarital relationships are one of the main reasons for violating the laws of marriage and commitment for individuals of any age, and they significantly affect the functioning and stability of the relationship, disrupt the rules of relationships, are contrary to the expectations of the other person, and undermine the trust that is the basis of the relationship (Zare, 2018). Extramarital relationships may act as a facilitator and reveal fundamental dissatisfaction in marriage, and these problems can ultimately lead to divorce (Lashgari, 2018).

The relationship between husband and wife as the core of the family affects many aspects of human life. The nature of the marital relationship and intimacy between them can affect the individual's satisfaction or dissatisfaction with life, job satisfaction or dissatisfaction, parenting style, and the level of success in various aspects of life (Jafari et al., 2018). In such a situation, it seems that training mindfulness skills to married individuals can be fruitful in order to strengthen and improve positive relationships with each other and also increase their life success.

Research results show that one of the reasons for divorce is the infidelity of one of the spouses (Khojaste Mehr & Abbaspour, 2014). On the other hand, according to statistics published by the Statistical Center of Iran¹, one out of every three marriages in 2021 led to divorce. Also, over the past four years, the majority of divorces have been related to marital lives with a marriage duration of one to five years. Therefore, the need for special attention to the issues of marital life of married students, who have not been married for long and are involved in extramarital relationships, is felt. Couple therapy is a form of psychotherapy that teaches various skills such as positive thinking and mindfulness to improve interactive conflicts arising from different social, emotional, and other

¹ www.amar.org.ir

dimensions (Taklavi & Zare, 2018). Mindfulness is a technique that, by combining meditation and specific mental orientations towards an experience, encourages non-judgmental awareness of the present moment by minimizing conflict in thoughts and emotions; therefore, mindfulness can be defined as attention to a particular, purposeful, present-moment, and non-judgmental way (Miller & Wampold, 2010). Mindfulness requires the creation of three characteristics: non-judgment, intentional awareness, and focus on the present moment of the individual's attention. Through mindfulness exercises and techniques, the individual becomes aware of their daily activities, becomes informed about the automatic functioning of the mind in the past and future world, and through moment-to-moment awareness, gains mastery over their thoughts, emotions, and physical states (Segal et al., 2002). In the field of psychology and psychotherapy, the schema is considered a general organizing principle that is necessary to understand the individual's life experiences (Beck, 2005). Emotional schemas are psychological structures that shape the individual's personality and influence their interaction with others, emotional experience, and interpretation of our reactions (Leahy, 2002).

In this study, the trainings included increasing awareness of interaction patterns and observing problem-solving interaction patterns, empathy and self-acceptance of the spouse, reviewing life with a sense of compassion, training gratitude, facilitating deep listening, being emotionally present and available, romantic conversations, mindful sexual intimacy, discussing the spouse's dreams, and meditation on love and affection. The therapy sessions also included training breathing rhythm, as proper focus and attention for mindfulness is achieved through proper breathing, which puts the brain in an integrated neurological state (Gehart, 2012).

Hosseinneshad Hallaji et al. (2021) in a study titled "The Effectiveness of Mindfulness Intervention in Sex Therapy on Sexual Sensation Seeking, Extramarital Relationships, and Marital Disappointment of Couples" stated that the emergence of relationship conflicts and some tensions in marital life cause couples to become involved in some emotional or sexual extramarital relationships to escape this situation. The results of this study showed that with the intervention of mindfulness in sex therapy in these couples and as a result of the exercises of this therapeutic approach, the couples learn to be receptive to their emotional and physical (both sexual and non-sexual) and psychological signs and, with awareness of their thoughts and emotions, re-experience individual and sexual intimacy and generally improve their lives.

In a study conducted in 2020 by Reyhani and Alijani on married men in the city of Zanjan, titled "Comparison of Emotional Schemas in Married Men with Extramarital Relationships and Those without Extramarital Relationships," it was found that there is a difference in emotional schemas between married men with extramarital relationships and those without extramarital relationships. These researchers stated that the schema is an abstract representation of the distinguishing characteristics of an event, and the emotional schema therapy model believes that those who have established maladaptive emotional schemas are likely to resist a particular emotion and use avoidance strategies. This model also emphasizes overcoming avoidance, increasing emotional processes, and the role of cognition in emotional experiences.

In 2020, Mahdizadeh and Darekordi conducted a study titled "The Relationship between Early Maladaptive Schemas and Attitude towards Extramarital Relationships with the Mediating Role of Mindfulness Dimensions to Propose a Model." The results of this study showed that early maladaptive schemas are a significant predictor of attitude towards extramarital relationships through the dimensions of mindfulness. The results of the mediation analysis also showed that among the dimensions of mindfulness, description, non-judgment, and non-reaction play the most important mediating role.

In 2017, Vilarinho conducted a study aimed at systematizing the potential benefits of mindfulness in sexual well-being (considering mind, emotions, and body), and a brief review of the applications and effectiveness of mindfulness-based interventions in the treatment of sexual problems. In this study, he stated that over the past 10 years, mindfulness has gradually been integrated into protocols for managing sexual problems. The practice of mindfulness is a promising clinical approach with encouraging results for women's sexual problems. More empirical research with different populations and greater methodological rigor is still needed to clarify the effectiveness of mindfulness as a specific component and the mechanisms that contribute to therapeutic change. The findings of this study also indicated the effectiveness of mindfulness-based interventions in strengthening other components of sexual function.

Leahy (2017), in research on predicting marital satisfaction based on emotional schemas, found that the schemas of blame, lack of higher values, and invalidation predict psychological flexibility. Individuals with greater psychological flexibility are more likely to blame others and their spouse. Furthermore, since research shows that emotion regulation is an important factor in couples'

relationship satisfaction, the emotional schema of blame is a maladaptive emotion regulation strategy that can have a negative impact on marital satisfaction.

Given the statement of the research problem, the review of the research literature, and the points mentioned so far, the research hypotheses are stated as follows:

Hypothesis 1: It seems that training mindfulness skills is effective in reducing extramarital relationships among married students at universities in Zahedan.

Hypothesis 2: It seems that training mindfulness skills is effective in improving the emotional schemas of married students at universities in Zahedan.

Hypothesis 3: It seems that emotional schemas play a mediating role in the relationship between mindfulness skills and extramarital relationships among married students at universities in Zahedan.

Material and Methods

The research method is quasi-experimental, with two experimental and control groups, and through the implementation of pre-test and post-test. In this research, the experimental and control groups were measured once before the start of the training and once again after the completion of the training. Accordingly, the experimental group was subjected to group mindfulness skills training as the independent variable, while the control group received no training. Group mindfulness training was conducted in 8 sessions of 90 minutes, one session per week, for two and a half months with the experimental group; the first session was an introductory session, and the other 8 sessions were the main sessions.

To identify couples with extramarital relationships, the Justifications for Extramarital Involvement Questionnaire (JEIQ) by Glass (1988) was used. The test consists of 17 items, with each item scored from 1 to 4. As a result, the minimum possible score is 17 and the maximum is 68. This test contains components that measure the common rationalizations of individuals for engaging in extramarital relationships. The components of the Glass test are: 1) Sexual justifications: such as obtaining excitement, pleasure, and sexual satisfaction, 2) External motivations: such as career advancement and revenge against the spouse, 3) Emotional closeness: such as understanding, friendship, increased self-esteem, and interpersonal respect, and 4) Love and romantic motivations.

The reliability (internal consistency) of the Glass questionnaire, using Cronbach's alpha coefficient, was 0.91 in the Chuick (2009) study and 0.94 in the Sharifi et al. (2012) study in Iran; in this research, the Cronbach's alpha coefficient was reported as 0.83.

The construct validity of this scale was obtained in the Sharifi et al. (2012) study to compare the justifications of women and men for extramarital relationships. In this study, the test scores were able to predict the individuals' reports of extramarital behaviors; significant correlations were found between the test scores and reports of emotional and sexual involvement in extramarital relationships in men ($P \leq 0.001$, $r = 0.55$) and women ($P \leq 0.01$, $r = 0.52$).

The standard Emotional Schema Scale (ESS) by Leahy (2002) was used to measure the 14 subscales of individuals' emotional schemas, consisting of 28 items. The fourteen dimensions measured in this questionnaire are: 1) Approval Seeking, 2) Comprehensibility, 3) Guilt, 4) Simplifying Emotions, 5) Higher Values, 6) Lack of Control, 7) Numbness, 8) Rationality, 9) Continuity, 10) Acceptance, 11) Emotional Expression, 12) Rumination, 13) Emotional Expression, and 14) Blame Others. This scale has Likert-type options that are scored from one to six. The minimum possible score is 28 and the maximum is 168. The higher the individual's score on this scale, the more negative emotional schemas they have.

The reliability of the questionnaire based on Cronbach's alpha method for this questionnaire in Iran in the Biranvand (2014) study was 0.84, and in this study, using SPSS software, the value of 0.78 was obtained. It is worth noting that if the Cronbach's alpha coefficient is calculated to be more than 0.7, the reliability of the questionnaire is considered satisfactory (Fornell and Larcker, 1981).

To determine the validity of the Leahy Emotional Schema Scale (2002), content validity was used in the Biranvand (2014) study. In this way, the questionnaire was placed in the hands of a number of experts in the field of organization and management; as a result, some items were suggested for modification, and finally, after making corrections in some cases, was used the final questionnaire. The statistical population of this research consisted of all married students of universities in Zahedan in the academic year 2018-2019. From among the married students of universities in Zahedan who scored high on the Glass Extramarital Relationships Questionnaire (1988), were randomly selected 40 students.

The educational program used in the training sessions was derived from the book "Theories and Principles of Family Therapy" by Khodayarifard (2010) and the book "The Optimistic Child" by Seligman (1996) as a supplementary source. A brief description of the aforementioned training sessions is presented in Table 1.

Table 1. Brief Description of Training Sessions

Session	Title	Brief description	Task
First	Make initial contact	Making initial contact, introducing and interviewing, stating meeting rules, stating goals. General discussion about optimism and positive thinking with the aim of creating mental preparation to strengthen healthy and positive thinking in subjects.	Memorizing the strengths that they have in themselves.
Second	Investigating factors affecting healthy life	Examining factors affecting healthy life (physical, psychological, social, spiritual factors), self-respect and self-respect and group discussion.	Remembering your strengths from the perspective of others.
Third	Cognitive restructuring	Cognitive reconstruction by replacing logical thoughts instead of irrational thoughts, group discussion, providing supplementary activities.	Replacing logical and positive thoughts instead of illogical and negative thoughts.
Fourth	Training positivity	Training positivity and discovering positive characteristics, group discussion and providing supplementary activities.	Record your sweet experiences in the last week.
Fifth	Increasing positive thoughts and self-talk	Focus on your strengths and be aware of the positive points of others, express at least 5 positive experiences and talk about them in the group.	Until the next session, identify at least three of your negative thoughts and write the opposite positive thought for them.
Sixth	Positive feedback	According to the activities performed in the fifth session, positive feedback is given to people in this session; In this way, each person takes turns to tell him the positive points he has recognized about the other person, and the list related to each person is given to him.	Add the skills they acquire during the week to their list.
Seventh	Expressing the relative importance of strengths	Expressing the relative importance of the strengths mentioned in the previous steps in the order of their priority, stating the reliable points that have been used in these pleasant experiences, and providing evidence and criteria indicating that the most valuable and reliable ones are reliable.	Collecting every positive feature that they have achieved so far in their case, mentioning the reason.
Eighth	Summarizing the expression of feelings	Closing discussion, reviewing the sessions and getting feedback from the children and practicing the ability to trust their abilities.	Determining the time of the post-examination, appreciation and thanks to the members.

In this study, in the descriptive statistics section, the mean and standard deviation were used, and in the inferential statistics section, analysis of covariance (ANCOVA) was used. The SPSS version 18 software was used to perform the data analysis. Initially, some preliminary analyses were performed to obtain initial insights into the data (means, standard deviations, and simple correlations), and then more complex analyses were conducted using Structural Equation Modeling (SEM) and maximum likelihood estimation using SPSS and AMOS version 24 software.

Regarding the ethical considerations of the research, the privacy and confidentiality of the collected data were fully observed throughout the research process, and all participants were assured that their information would be kept confidential, and the results would be published only in a general manner and for the purpose of the research.

Results

Hypothesis 1: " Training mindfulness skills is effective in reducing extramarital relationships among married students at the University of Zahedan."

Hypothesis 2: " Training mindfulness skills is effective in improving the emotional schemas of married students at the University of Zahedan."

The General Linear Model with Repeated Measures (GLMRM) was used to test the first and second hypotheses as follows.

Table 2. Description of Means in the Covariance Test

Groups	Number	First Hypothesis			Second Hypothesis		
		Tests	Mean	SD	Tests	Mean	SD
Training mindfulness skills	20	Extramarital relationship pre-test	6.85	1.78	Pre-test of emotional schemas	63.70	2.61
Control group	20		7.30	1.52		67.85	2.43
Training mindfulness skills	20	Extramarital relationship post-test	13.30	1.08	Post-test of emotional schemas	22.30	2.002
Control group	20		6.70	1.52		66.70	3.72

Based on the values obtained in Table 2, in this test, the mean pretest scores of the extramarital relationship's variables in the mindfulness skills pretest and the control group were 6.85 and 7.30, respectively. These means in the mindfulness skills posttest and the control group were reported as 13.30 and 6.70, respectively, which showed a significant difference between the pretest and posttest, and an increase in the mean of extramarital relationships was observed in the posttest.

Also, in this test, the mean pretest scores of the emotional schema's variables in the mindfulness skills pretest and the control group were 63.70 and 67.85, respectively. These means in the mindfulness skills posttest and the control group were reported as 24.60, 22.30, and 66.70, respectively, which showed a significant difference between the pretest and posttest, and a decrease in the mean of emotional schemas was observed in the posttest.

Table 3. Box's M Test

Statistics	First Hypothesis	Second Hypothesis
Test amount	15.06	10.55
F value	2.38	1.67
First degree of freedom	6	6
Second degree of freedom	80975.07	80975.07
Significance level	0.12	0.10

Since the significance level in the Box's M test should be greater than the critical and standard value of 0.05, according to Table 3, the value of 0.12 for the first hypothesis and the value of 0.1 for the second hypothesis were reported, both of which are greater than 0.05, meaning that the observed covariance matrices are equal among the different groups, and this indicates that the prerequisite of the mixed ANOVA test, i.e., the equality of covariances, is met.

Table 4. Levene's Test

First Hypothesis			Second Hypothesis		
Source	Calculation	Significance	Source	Calculation	Significance
Pre-test of emotional	Based on mean criterion	0.15	Extramarital relationship pre-test	Based on mean criterion	0.45
Post-test of emotional schemas		0.42	Extramarital relationship post-test		0.20

Considering the above table, which compares the variances in the two groups, and the significance levels obtained, which are reported to be less than the critical value of 0.05, it can also be inferred that no significant difference was observed between the variances, and this is also one of the prerequisites for performing the mixed ANOVA test.

Table 5. Wilks' Lambda Test (MANCOVA Significance Test on the Mean of Posttest Extramarital Relationships)

Second Hypothesis		First Hypothesis		
Test level	Test level	Statistical power	Eta squared	Significance level
0.24	0.27	0.95	0.82	0.001

The closer the Wilks' Lambda test value is to zero, the greater the difference between the means, and the closer it is to 1, the less the difference between the means. In this test, the Wilks' Lambda value for the first hypothesis was 0.27 and for the second hypothesis was 0.24, which are relatively

far from zero, and the significance level was 0.0001, which is less than the critical value of 0.05, indicating that the means in the pretest and posttest are significantly different. The partial eta-squared (η^2) value showed that the effect size or difference is 0.82, meaning that 82% of the individual differences in the posttest scores of the extramarital relationship's variables are related to the effectiveness of training mindfulness skills. The statistical power is 0.95, meaning that if this study is repeated 100 times, the null hypothesis may be incorrectly accepted 5 times. Therefore, it can be inferred that the variables used in this experimental study (training mindfulness skills) have been effective and have led to a decrease in extramarital relationships and an improvement in emotional schemas.

Table 6. Tests of Between-Subjects Effects

		First Hypothesis	Second Hypothesis
Source	Significance level	F Value	F Value
Tracking	0.001	6643.08	44014.43
Groups	0.001	84.68	1007.02

Based on the results of the above table and the significance levels obtained, which are reported to be less than the standard and critical value of 0.05, it can be inferred that at least one of the two groups under study has a significant difference in the mean of extramarital relationships.

Table 7. Tests of Within-Subjects and Within-Group Effects

Table 7: Tests of Within-Subjects and Within-Group Effects					
First Hypothesis			Second Hypothesis		
Source	F Value	Tests	F Value	Tests	Level
Within-subject (control group)	0.001	Training mind-awareness skills	232.63	Training mind-awareness skills	2770.29
Within-subject (control group)	0.001	Training mind-awareness skills	75.95	Training mind-awareness skills	636.64

Considering the above table and the significance level obtained, which is less than the standard and critical value of 0.05 and equal to 0.0001, in the comparison of within-subjects and within-group, the tests of the two groups are significantly different.

Table 8. R-E-G-W² (Q) Post Hoc Test

Studied groups	First Hypothesis		Second Hypothesis	
	Group 1	Group 2	Group 1	Group 2
Training mindfulness skills		10.07	44.75	
Control group	7			67.27
Significance level	1	0.92	1	1

Based on the results of the above table, if we want to classify the groups in terms of homogeneity, we can say that the training of mindfulness skills and the control group have different mean differences and are placed in separate groups.

Hypothesis 3: "It seems that emotional schemas play a mediating role in the relationship between mindfulness skills and extramarital relationships of married students at the universities in Zahedan." The examination of the mediating effect using the regression model with a latent variable to test Hypothesis 3 is as follows.

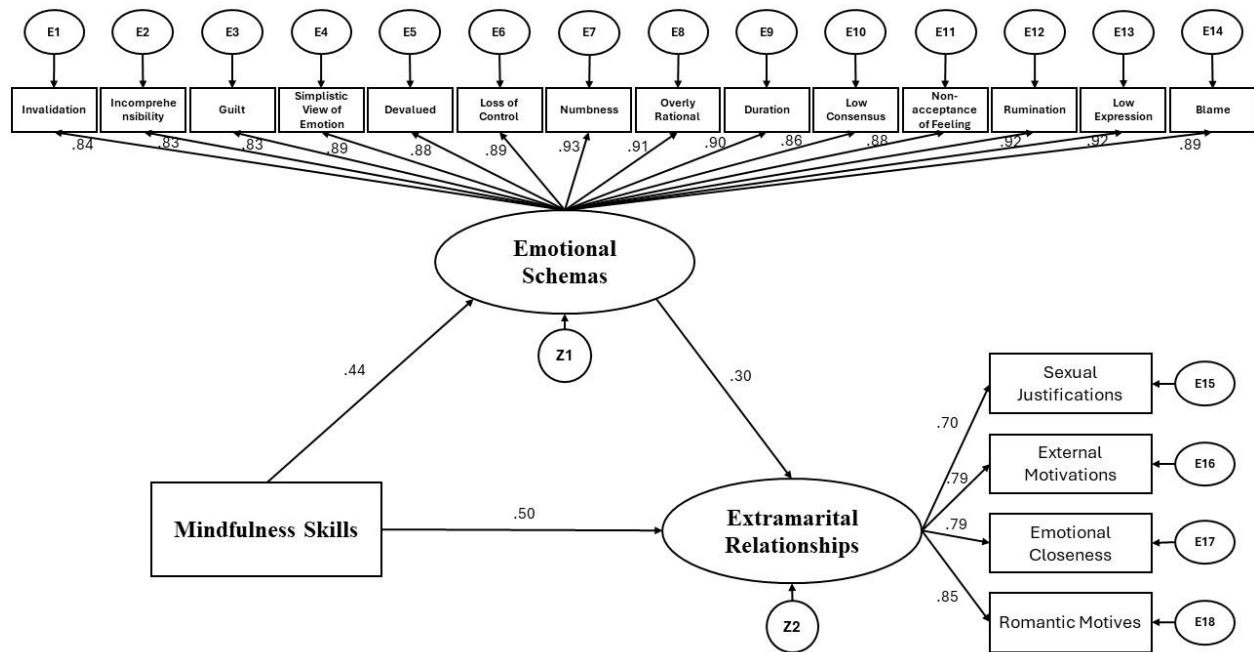
**Figure 1.** Conceptual Model of the Research in AMOS Software² Ryan-Einot-Gabriel-Welsch Range

Table 9. Standardized Regression Weights Output

Indicators	Standard values	Critical point	Significance level
The effect of mindfulness skills on extramarital relationships	0.50	23.49	0.001
The effect of mindfulness skills on emotional schemas	0.44	20.17	0.001
The effect of emotional schemas on extramarital relationships	0.30	10.61	0.001

Table 10. Significance Levels of Direct, Indirect, and Total Effects

Indicators	Direct effects	Indirect effect	Total effect
The effect of mindfulness skills on extramarital relationships	0.001	0.001	0.001
The effect of mindfulness skills on emotional schemas	0.001	***	0.001
The effect of emotional schemas on extramarital relationships	0.001	***	0.001

Based on the information reported in Tables 9 and 10, the following can be said:

- The direct, indirect, and total effects of mindfulness skills on extramarital relationships are significant (the significance levels are 0.0001, 0.0001, and 0.001, respectively, which are smaller than the critical level of 0.05).
- The direct and total effects of mindfulness skills on emotional schemas are significant (the significance levels are 0.0001 and 0.0001, respectively, which are smaller than the critical level of 0.05).
- The direct and total effects of emotional schemas on extramarital relationships are significant (the significance levels are 0.0001 and 0.0001, respectively, which are smaller than the critical level of 0.05).

Furthermore, considering Figure 1 and the bootstrap test used in this model, it can be inferred that the direct effect of mindfulness skills on extramarital relationships is a significant effect, as the significance level is 0.0001, which is smaller than the critical level of 0.05; and the indirect effect of mindfulness skills on extramarital relationships, mediated by the emotional schemas variable, is also a significant effect, as the significance level is 0.0001, which is smaller than the critical level of 0.05. In general, it can be said that both the direct and indirect effects are reported as significant in this model, so it can be inferred that partial mediation exists, and the emotional

schemas variable plays a mediating role in the relationship between mindfulness skills and extramarital relationships, and this hypothesis is also confirmed.

Discussion

Hypothesis 1: Training mindfulness skills is effective in reducing extramarital relationships of married students at the universities in Zahedan. The result of this study is consistent with the findings of Hosseinneshad Halaji et al. (2021), who conducted a study on couples with extramarital relationships in Tabriz in 2020 and found that mindfulness intervention in sex therapy can significantly reduce sexual sensation-seeking, extramarital relationships, and marital disappointment of couples. In explaining the obtained result, it can be stated that undoubtedly, lack of commitment in sexual relationships leads to coldness in relationships and emotional separation of couples (Alaghband et al., 2019). On the one hand, extramarital relationships provide a temporary escape from the problems of the primary relationship, but over time, the stress and anxiety resulting from these extramarital relationships create feelings of helplessness and depression in the couples (Fink & Shapiro, 2013). In these individuals, due to the damages and trauma experienced from infidelity, they face fundamental problems both in the psychological and emotional dimensions, as well as in the dimension of intimate sexual relationships, and mindfulness intervention in couples, in addition to psychological and emotional distress, also includes their sexual behaviors (Hosseinneshad Halaji et al., 2021). In explaining this hypothesis, it can be mentioned that mindfulness-based cognitive therapy can increase couples' satisfaction and instead of focusing on the problem and increasing the level of conflict, it tries to solve the problem (Naghbi, 2018).

Hypothesis 2: Training mindfulness skills is effective in improving the emotional schemas of married students at the universities in Zahedan. Individuals with high

negative emotions tend to have intense reactions to relatively anxious or unpleasant situations, and are among those who criticize strongly, engage in self-blame, and show excessive sensitivity to others (Sanai et al., 2008). Negative traits can lead to separation and distance between couples in the long run and result in more conflicts in the marital relationship. It is evident that individuals with maladaptive schemas are more prone to problems and conflicts in their marital relationships (Pirsaghi et al., 2020). Many studies have shown that emotional schemas are associated with various mental disorders, including anxiety, depression, metacognitive aspects of worry, alcohol abuse, post-traumatic stress disorder, marital incompatibility, and personality disorders (Hashemi et al, 2010). Accordingly, it can be stated that the results of this study are consistent with the studies of Reyhani and Alijani (2020), Villarino (2017), and Leahy (2017).

Hypothesis 3: Emotional schemas play a mediating role in the relationship between mindfulness skills and extramarital relationships of married students at the universities in Zahedan. Extramarital relationships have been attributed to narcissism, low self-esteem, the need to maintain self-esteem, and mental disorders (Rezvanizadeh & Eslani Katoli, 2016). On the other hand, mindfulness focuses on the growth of the quality of non-judgment, intentional awareness, and focus on the present moment in a person's attention, which results in a focused attention on the present moment, processing all immediate aspects of experience, including cognitive, physiological, or behavioral activities. Furthermore, considering that schemas play an important role in shaping individuals' expectations and beliefs about intimate relationships, hope in life is also closely related to family satisfaction and life satisfaction. It seems that to promote the mental health of individuals, special attention should be paid to the family, which is the primary source of the formation

of the individual's personality and beliefs about themselves, others, and the world (Mehdizadeh & Darekordi, 2020). The results of this study are consistent with the findings of Mehdizadeh and Darekordi (2020), who believe that by improving the dimensions of mindfulness, one can strengthen beneficial interventions in improving the relationships of couples with maladaptive schemas and assist them in having better and more satisfying relationships.

One of the limitations of the present study is that some of the intervening variables, such as economic status, social class, type of culture, etc., were not under the control of the researcher. Additionally, due to the limited cooperation of students with extramarital relationships, the researchers were forced to use the available purposive sampling method, which makes the generalization of the results problematic.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved by ethics committee of Islamic Azad University.

Author contributions

All authors contributed to the study conception and design, material preparation, data collection and analysis. All authors contributed to the article and approved the submitted version.

Funding

The authors did (not) receive support from any organization for the submitted work.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

References

- Alaghband, L., Sharifi, H., Farzad, V., & Aghayousefi, A. (2019). A model for predicting emotional divorce based on emotional literacy, coping styles, quality of life, and emotion seeking with emotion regulation mediation. *Medical journal of Mashhad University of medical sciences*, 62(3), 288-402.
- Beck, A. T., Emery, G., & Greenberg, R. L. (2005). *Anxiety disorders and phobias: A cognitive perspective*. Basic books.
- Biranvand, Kianoush (کیانوش بیرانvand). Comparison of emotional schemas in people with migraine with healthy people. 2nd International Conference on Psychology Behavioral Sciences, Tehran.
- Chuick, C. D. (2009). *Gender and infidelity: a study of the relationship between conformity to masculine norms and extrarelatinal involvement* (Doctoral dissertation, University of Iowa).
- Fink, B. C., & Shapiro, A. F. (2013). Coping mediates the association between marital instability and depression, but not marital satisfaction and depression. *Couple and Family Psychology: Research and Practice*, 2(1), 1.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 18(1), 39-50.
- French, J. E., Altgelt, E. E., & Meltzer, A. L. (2019). The implications of sociosexuality for marital satisfaction and dissolution. *Psychological science*, 30(10), 1460-1472.
- Gehart, D. R. (2012). *Mindfulness and acceptance in couple and family therapy*. Springer Science & Business Media.
- Glass, S. P., & Wright, T. L. (1988). Clinical implications of research on extramarital involvement.
- Hashemi, Z., Mohammad Alilou, M., & Hashemi Nosrat-abad, T. (2010). The effectiveness of meta cognitive therapy on major depression disorder: a case report. *Journal of clinical psychology*, 2(3), 85-97.
- Hosseinnezhad hallaji S, Khademi A, Alivandi Vafa M, Esmali A. (2021). The efficacy of mindfulness in sex therapy on sexual sensation seeking, extramarital relationships and marital disillusionment of couples. *Journal of Psychological Science*. 20(106), 1865-1879.
- Jafari, Farah, Ezzati, Julia, Chegini, Siavash (2018). The relationship between psychological toughness and marital satisfaction with extramarital relationships in married people. First

- National Conference on Sustainable Development in Iranian Education and Psychology, Tehran.
- Janaabadi, Hossein, (2012). Comparison of stress values and coping strategies in parents of mentally retarded children, blind and deaf and normal children in Zahedan, *Journal of Research in Behavioral Sciences*, 114, 197-202.
- Khojaste Mehr, Reza, Abbaspour, Zabihollah (2013). Identifying the reasons for women's divorce in the ethnic groups of Ahvaz city. *The First National Congress of Family Psychology A step in drawing the desired family model*, Ahvaz.
- Lashgari, Mehdi (2018). A review of factors influencing the occurrence of extramarital relationships in married people, *The 3 rd International Conference of the Humanities and Psychology Studies*, Tehran.
- Leahy, R. L. (2002). A model of emotional schemas. *Cognitive and behavioral practice*, 9(3), 177-190.
- Leahy, R. L. (2017). *Cognitive therapy techniques: A practitioner's guide*. Guilford Publications.
- Mehdizadeh, F., & Darekordi, A. (2020). The relationship between early maladaptive schemas and attitude to meta-marriage relationships with mediating dimensions of mindfulness to present the model. *Journal of Psychological Science*, 19(87), 383-389.
- Miller, S. D., & Wampold, B. E. (2010). *The heart & soul of change: Delivering what works in therapy* (pp. 49-81). B. L.
- Naghibi, Fatemeh Sadat (2018). Investigating the effectiveness of mindfulness-based cognitive psychotherapy on increasing marital satisfaction, the 3rd international conference on modern researches in the field of educational sciences, psychology and social studies of Iran, Tehran.
- Pirsaghi F, Nazari A, Naiemi G, Shafaie M. Marital Conflicts: The Role of Defense Styles and Emotional Schemas. *IJPN* 2015; 3 (1) :59-69
- Reyhani, Mahnaz, Alijani, Fatemeh (2020). Comparison of emotional schemas in married men with and without extramarital relationships. *First National Conference on Psychopathology*, Ardabil.
- Rezvanizadeh, Akram, Eslani Katoli, Aniseh (2015). Prediction of extramarital relationships based on attachment styles, self-esteem and narcissism among married students. *New Advances in Behavioral Sciences*, (1)2, 36-45.

- Sanaei Zaker, B., Alagheband, S., Falahati, S., & Hooman, A. (2009). Family and marriage measurement scales. *Tehran: Be'sat Publication*.
- Segal, Z. V., Teasdale, J. D., Williams, J. M., & Gemar, M. C. (2002). The mindfulness-based cognitive therapy adherence scale: Inter-rater reliability, adherence to protocol and treatment distinctiveness. *Clinical Psychology & Psychotherapy*, 9(2), 131-138.
- Seligman, M. (2018). *The optimistic child: A revolutionary approach to raising resilient children*. Hachette UK.
- Sharifi, M., HajiHeidari, M., Khorvash, F., Fatehizade, M. (2013). Correlation between love schemas and justifications for extramarital involvement in married women. *RBS* 2013; 10 (6) :526-534.
- Taklavi, S., & Zare, R. (2018). Role of Self-Conscious Affect and Theory of Mind in the Prediction of Justify Extramarital Relationships in Married Individuals. *Journal of Modern Psychological Research*, 13(51), 49-62.
- Vilarinho, S. (2017). Management of sexual problems: the approach of mindfulness. *Current opinion in psychiatry*, 30(6), 402-408.
- Zare, Roya (2018). Determining the role of marital boredom and thrill seeking in predicting the tendency to extramarital relationships in young couples, The 5th International Conference on Psychology, Education and Lifestyle, Qazvin.