DOI:10.52131/pjhss.2025.v13i4.3243

Pakistan Journal of Humanities and Social Sciences

Volume 13, Number 04, 2025, Pages 387-402
Journal Homepage:
https://journals.internationalrasd.org/index.php/pjhss

Psychosocial Correlates of Marital Satisfaction among Females with Unsuccessful Infertility Treatment

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ARTICLE INFO

Article History:
Received: September 25, 2025
Revised: December 17, 2025
Accepted: December 21, 2025
Available Online: December 31, 2025

Keywords:
Psychosocial Problems
Spousal Support
Coping Strategies
Marital Satisfaction
Unsuccessful Infertility Treatment

Funding:
This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

ABSTRACT

The current study aimed to explore the psychosocial correlates of marital satisfaction among females with unsuccessful infertility treatment. Psychosocial problems, spousal support, coping strategies, and marital satisfaction were explored among females who had experienced unsuccessful infertility treatment. The sample consisted of 300 females from Multan who had undergone infertility treatment involving in vitro fertilization (IVF) or intracytoplasmic sperm injection (ICSI). The sample was selected through purposive sampling. The Psychosocial Problems of Unsuccessful Infertility Treatment Scale was used to identify psychosocial problems associated with unsuccessful infertility treatment. The Partner Support Scale (Straughen et al., 2013) was used to assess spousal support. The Coping Strategies Scale (Schmidt et al., 2005) was used to identify coping strategies. The Couples Satisfaction Index (Funk & Rogge, 2007) was used to assess marital satisfaction. The data were analyzed using SPSS and AMOS. Correlation and serial mediation analyses were performed. The findings indicated significant correlations among psychosocial problems, spousal support, coping strategies, and marital satisfaction. Serial mediation analysis revealed that spousal support and coping strategies had a significant serial mediating effect on the relationship between psychosocial problems and marital satisfaction among women who had experienced unsuccessful infertility treatment.

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1. Introduction

Infertility is a multifaceted medical condition that can have thoughtful psychological, emotional, and social impacts on individuals and couples. While much of the research surrounding infertility treatment tends to focus on the physiological and medical aspects, increasing attention is being given to the psychosocial factors that influence both the experience of infertility and the outcomes of fertility treatments. These psychosocial factors can affect a person's emotional well-being, coping mechanisms, relationship dynamics, and overall mental health, often leading to significant distress when infertility treatments are unsuccessful.

Infertility is an international reproductive health concern that has affected around 48 million women across the globe (Ombelet, 2020). The WHO estimates that 25% of women in developing nations were affected by infertility. Based on epidemiological statistics, there are up to 186 million

people who suffer from infertility across the globe. As per the research conducted by the Egyptian Fertility Care Society in collaboration with World Health Organization, 12 percent of Egyptian couples have been affected by infertility issues. Nowadays, infertility has become a social problem that may cause serious damage to married couples and female infertile satisfaction due to its unpredictability (Simionescu et al., 2021). Consequences of infertility resulting from various causes in terms of psycho-social effects are very much established among Western societies where there have been complaints of depression, stress, anxiety, coping among couples and self-esteem among affected women. However, how far these findings can be generalized for other societies and PCOS associated infertility is a question. Experiences in qualitative research done in Africa indicate that lack of children was viewed as a reason for marital breakdowns, divorces, loss of status, abusive behavior, poverty, and stigma. In fact, it ranked 14th in population among the 54 states with 2.04 percent population share (Himelein & Thatcher, 2006).

This growth can be explained by the later start of childbearing of women and the increase in rates of success. Infertility treatments can be divided into three groups: medication, surgery, and assisted reproductive techniques (ARTD), which include gamete intrafallopian transfer (GIFT), assisted hatching, intrauterine insemination (IUI), in-vitro fertilization (IVF), and surrogacy. In vitro fertilization (IVF), fertilization of an ovum in a test tube in the presence of other components of the same system, and intracytoplasmic sperm insertion (ICSI), which occurs prior to the zygote's implantation in the female body (Malina). This is due to the fact that high-income nations do not require medical treatment. Intracytoplasmic Sperm Injection (ICSI) is a technique that is used in conjunction with IVF, where the sperm is directly injected into one egg that is retrieved by a woman to facilitate fertilization. However, even with the rising popularity of the Assisted Reproduction Technologies (ART) approach, no common indicators (standards) of psychological and psychiatric interventions are established in the event of mental difficulties of the diagnosis and treatment of infertility (Holka-Pokorska et al., 2015). One can grasp the idea that those who are in the process of infertility treatment should be under considerable pressure. Infertility and mental pressure are linked in a complex relationship. On the one hand, according to a research, infertile couples experience more stress and are at a higher risk of developing a psychological disorder as compared to otherwise. Conversely, substantial degrees of psychological distress have been uncovered to enhance infertility (Drosdzol & Skrzypulec, 2008).

1.1 Unsuccessful Infertility Treatment

Unsuccessful infertility treatment also known as unsuccessful treatment to conceive, especially in the situation of treatments such as In-Vitro Fertilization (IVF), is defined as the particular cycle in which no viable pregnancy is realized, which entails embryos fail to implant in the womb, or a conceived pregnancy, should it occur, fails to develop into a live birth. This may be brought about by a number of issues that affect egg quality, sperm quality, embryo development and implantation or myometrial receptivity. Approximately 50% of women who seek medical help for infertility are unable to conceive. Long-term infertility therapy has a terrible effect, particularly on female patients. When a woman is unable to conceive, she experiences a developmental crisis in which she loses her identity, relationships, and desire to understand the world. Even the treatment of infertility is often provided impersonally, and not much importance is given to the needs of clients that are psychosocial. The social workers can be instrumental in the process of preventative and clinical involvement and can sensitize health professionals on the needs of their clients in case of failure to receive treatment (Bergart, 2000).

1.2 Psychological Impacts of Unsuccessful Infertility Treatment

Infertility treatment failure can have significant impact on individuals and couples' lives in the social and psychological sphere. Infertility treatment failure can have many emotional, psychological, and social consequences, including, but not limited to, distress, grief, and relationship strain and mental health problems. It is important to consider the psychosocial issues that may play a role in these experiences so that supportive care can be developed to address the psychosocial issues as well as the medical problems of infertility. The provision of a comprehensive support system (emotional counselling, social support networks, minimizing the psychological burden of society) can enhance coping capacities of individuals and couples and help reduce the negative psychological effects of the failure of infertility treatment. About half of the women seeking medical treatment of the causes of infertility do not leave a child. Long-term infertility therapy is a very draining process that comes at a very considerable cost especially to female patients. Involuntary

sterility poses a developmental crisis to the woman, she loses identity, her relationships and meaning. Infertility treatment is inherently impersonal, with patients' psychosocial needs receiving little attention. In addition to teaching medical personnel about their patients' needs in the event that therapy fails, social workers may play a crucial role in therapeutic and preventative intervention. The author provides social workers and medical experts with these instructions by describing these needs using interview data from a recent study.

A medical issue that affects 10–15% of couples worldwide, infertility leads to emotional, psychological, and social challenges. The World Health Organization (2006) defines "infertility" as the inability to conceive after a year of consistent, unprotected sexual activity. In vitro fertilization (IVF), intrauterine insemination (IUI), and egg and sperm donation are examples of assisted reproductive technologies (ART) that may be used to treat infertility, which can be a difficult experience for many couples. Although there have been advances in fertility treatments, they're not a sure bet. The failure of infertility treatments can have profound implications on the well-being of individuals and couples, leading to significant emotional and psychological distress.

1.3 Spousal Support

Spousal support refers to the emotional, psychological, and practical support that partners provide to one another in a marriage or relationship. It plays a critical role in fostering relationship satisfaction, maintaining emotional well-being, and coping with life's challenges, including stress, illness, and financial hardship. Spousal support can manifest in many forms, ranging from emotional comfort to practical assistance, and is essential for relationship dynamics and overall relationship quality. In the context of various life stressors, including health issues, infertility, or work-related stress, the quality and quantity of spousal support can significantly affect both partners' coping abilities, emotional adjustment, and resilience. Emotional support, instrumental assistance, informational support, and evaluation support are the general categories into which help from a spouse can be divided (Cutrona, 1996). While instrumental support entails concrete aid, like cash support or taking on extra home duties, emotional support is defined as displays of empathy, caring, and concern. Giving direction or advice is known as informational support, while giving feedback and validation of one's feelings or choices is known as evaluation support.

1.4 Coping Strategies

Coping strategies are psychological and behavioral strategies that individuals employ to cope with difficult life situations and emotions and stress. The idea of coping originated in the field of stress research, whereby one of the most influential studies was by Lazarus and Folkman (1984) who identified problem-focused and emotion-focused coping. These strategies are used to diminish the threat of the stressors or to help cope with the emotional discomfort from stressors. The coping strategy chosen can have a significant impact on the person's wellbeing, mental health and ability to adapt to life stressors.

1.5 Problem-Focused Coping:

This type of coping involves taking action to resolve the stressor or improve the situation. Individuals using this strategy focus on changing or managing the problem itself. It is most effective when the stressor is something that can be controlled or changed (e.g., a work project, financial issues). Examples of problem-focused coping strategies include:

1.5.1 Planning

Developing a systematic approach to manage or eliminate the stressor (e.g., creating a schedule to meet deadlines).

1.5.2 Seeking information

Gathering the necessary knowledge or resources to address the issue (e.g., researching solutions or consulting experts).

1.5.3 Time management

Prioritizing tasks and allocating time efficiently to meet demands.

1.5.4 Emotion-Focused Coping

In contrast, emotion-focused coping strategies aim to manage the emotional distress caused by the situation, rather than changing the stressor itself. This type of coping is particularly useful when the stressor is beyond the individual's control (e.g., dealing with the death of a loved one or managing a chronic illness).

Examples of emotion-focused coping strategies include:

1.5.5 Seeking social support

Talking with friends, family, or therapists for emotional reassurance and advice.

1.5.6 Cognitive reframing

Changing the way one perceives the stressor (e.g., viewing a challenging situation as an opportunity for growth).

1.5.7 Relaxation techniques

Practices like deep breathing, mindfulness, and meditation to reduce stress and enhance emotional regulation (Kabat-Zinn, 1990).

1.5.8 Marital Satisfaction

The degree to which a couple perceives and fulfills their partner's needs and desires is known as marital satisfaction, and it is a crucial component of their marital life (Agyemang et al., 2020). The relationship between a husband and wife is impacted by infertility, which also makes the infertile lady unhappy in her marriage. High treatment cost, continual worry about treatment outcomes, fatigue of traveling to various clinics, social impact, getting questioned about a child-less marriage, may be displeased throughout the treatment, and the fear of losing the partner and spoiling the family. Several studies have shown that women marital satisfaction is at a lower level in the presence of experience of low level of infertility, which may lead to divorce and remarriage (Malik et al., 2020).

1.5.9 Theoretical Framework

The psychosocial theory of human development as developed by Erikson (1963) emphasizes on the distinctive psychological tasks of individual development in different phases of lifespan of a man. He gives more importance to how sociological processes affect satisfaction of the individual; and would have paid greater attention to the action of the family and the greater society in the formation of the human being. Erikson theorized that the key issue of man-need couples is to get satisfaction out of intimacy and unity with others and not to leave partnerships and to become social and personality isolated. According to Erikson (1963), the psychosocial issue is hugely important in deciding whether the key personal goal of the grown-up in question is that of providing marital gratification, and of manufacturing a common home through division of work. Therefore, the adult having found satisfaction in reproduction and building a contented home and assist in the development of others is possessed of the personal integrity by which he is prepared to meet the last crisis of life.

2. Literature Review

It is supported by greater evidence that infertility is becoming a major health issue especially with the lifestyle that the young generations lead. This narrative review has sought to delve into psychological and social contexts that are related with infertility. The current studies have established different psychological-related factors with regards to infertility, one of them being QoL, anxiety, depression, psychiatric disorders, coping mechanisms, and subjective well-being. On the social side, the most critical are the factors of partners, the lack of awareness, the attitude towards treatment, and social and environmental difficulties with infertility. Although this review helps one to understand infertility and its causal factors well, areas that require additional studies, especially in rural areas, create awareness among men, and study the effects of infertility-related violence are recommended. It is also possible to review the biological factors related to infertility to have a deeper grasp of the problem. Finally, this review highlights the complexity of infertility and stresses on the need to invest more to curb the issue with regards to its psychological and interpersonal aspects.

The review explores the effect of Assisted Reproductive Technology (ART) to the potential parents and born children, their parental ties, and taking into consideration, their emotional and social backgrounds. Certain cases are studied (namely, gynecological pathologies and heterologous therapies, like the ROPA (Reception of Oocytes from Partner) technique) and even the gestational surrogacy method, which has certain psychosocial effects. Since one third of the world population experiences infertility, many people have resorted to ART, which have become more popular with time. Along with clinical issues, the psychosocial effect of these methods has also been drawing away more attention, as the mental well-being and the relations in family are implied. It has been designed on a narrative review methodology and reviews the available experimental and observational studies on the subject matter, where it tries to understand and get evidence on the effects of ART techniques. The other area of coping that was also evaluated upon failure in the treatment of infertility was the manner in which the patients deal with incertitude. Handling uncertainty is also one of the major issues faced by infertile couples in Ghana after experiencing failed treatment. The uncertainty as to whether there will be a delay in the outcome of treatment is a great factor causing psychological dis tress, survival, and daily functioning (Shreffler et al., 2017).

Infertility affects approximately 22% of couples in Pakistan and presents significant psychosocial challenges for women, particularly due to cultural expectations surrounding motherhood and social roles (Ali et al., 2011; Batool & de Visser, 2016). But during the course of nearly three decades, women's infertility increased by 14.962%, from 1366.85 per 100,000 in 1990 to 1571.35 per 100,000 in 2017 (Sun et al., 2019). Children are a very important part of any family. Couples who do not have children face many psychological and social problems. They seek medical help to be parents of a child. Females go through infertility treatments and face much physical and psychological pain. And the failure of infertility treatment increases this pain alongside social problems as well. Unsuccessful infertility treatments increase the psychological and social problems of females. It affects their marital satisfaction. The current study is aimed to explore the psychosocial problems, spousal support, coping strategies, and marital satisfaction among females with infertility treatment. Females experiencing infertility treatments of In Vitro Fertilization (IVF) Intracytoplasmic Sperm Injection (ICSI) will be part of this study. Some qualitative researches are found on these treatments. In Pakistan, there is no specific scale to measure such problems. There are some foreign scales of infertility that do measure the psychological or social problems of infertility separately but there is no scale which is measuring both in one scale. In Pakistan, researchers have used DAS, depression scale, and stress scale to measure psychological problems. Researches show that infertile couples with good spousal support and coping strategies to decrease the negative impact of psychosocial problems of infertility and to better their marital satisfaction. Researches show that spousal support and coping strategies (Active, passive avoidance, active, passive coping) play an important role in the marital satisfaction of infertile couples (Amanak & Kavlak, 2013).

The Objectives of the Study are to develop and validate the psychosocial problems scale for females with unsuccessful infertility treatment, to understand the correlation among psychosocial problems, spousal support, coping methods (active avoidance, active confronting, passive avoidance, meaning-focused coping), and marital satisfaction in women whose infertility treatment is not successful and to examine the mediating effects of spousal support and coping mechanisms (active avoidance, active confrontation, passive avoidance, and meaning-focused coping) on the relationship between psychosocial stressors and marital satisfaction of females with failed infertility treatment.

The Hypotheses are as follows;

- There would be a negative relationship between psychosocial problems, spousal support, meaning-based coping and marital satisfaction of females with unsuccessful infertility treatment.
- There would be a positive relationship between psychosocial problems, active avoidance passive avoidance and active confrontation of females with unsuccessful infertility treatment.
- Spousal support and active avoidance are likely to play a mediating role between psychosocial problems and marital satisfaction of females with unsuccessful infertility treatment.

- Spousal support and active confrontation are likely to play a mediating role between psychosocial problems and marital satisfaction of females with unsuccessful infertility treatment.
- Spousal support and passive avoidance are likely to play a mediating role between psychosocial problems and marital satisfaction of females with unsuccessful infertility treatment.
- Spousal support and meaning-based coping are likely to play a mediating role between psychosocial problems and marital satisfaction of females with unsuccessful infertility treatment.

3. Conceptual Framework

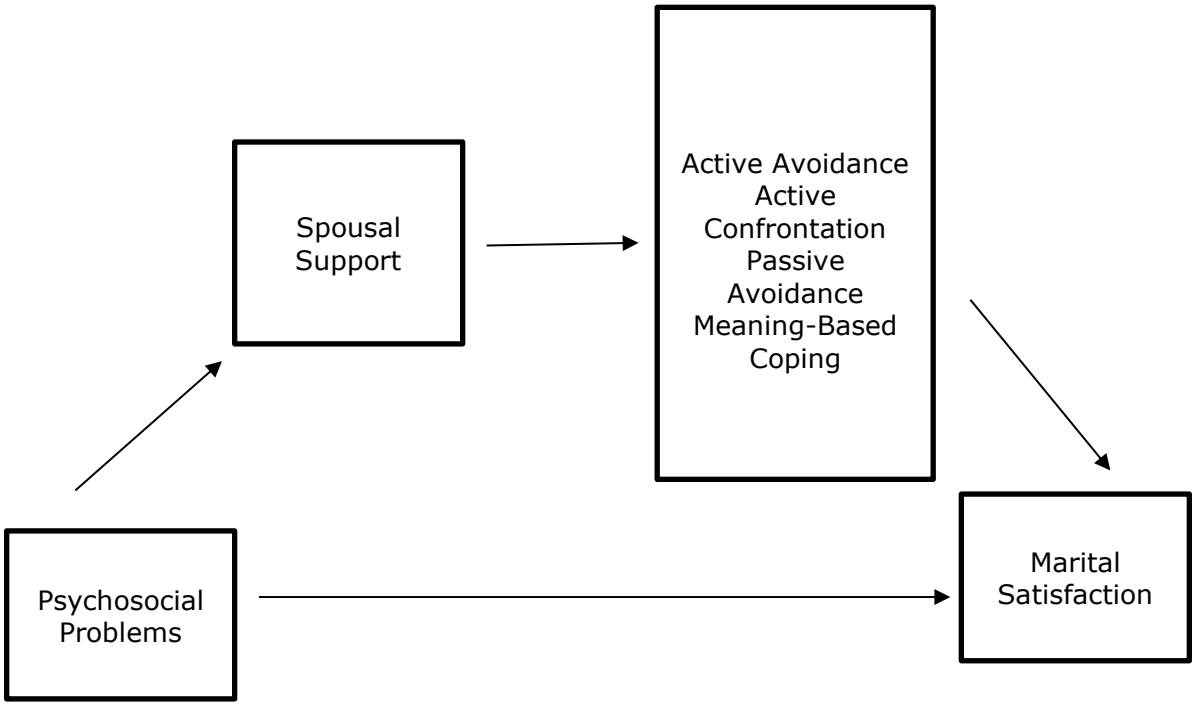


Figure 1: Serial Mediation Model

4. Method

The aim of this research was to establish the correlation between psychological and social difficulties, spousal support, coping styles (both active and passive avoidance, active and passive coping) and marital satisfaction among women with failed infertility therapy.

4.1 Sample

A sample was selected through a purposive sampling technique. Females, going through infertility treatments was selected for the study. The sample of 300 infertile females with unsuccessful treatment was selected from fertility clinics in Lahore and Multan. The reason for collecting data from these cities is that these treatments are not done by any hospitals. These treatments are done in specific hospitals with trained gynecologists. So, these cities have such hospitals for IVF and ICSI treatments.

4.2 Inclusion criteria and exclusion criteria

Females with an age range of 30 to 45 years was included. Females experienced IVF or ICSI at least once in their life. Married females with more than 3 years of marriage was considered for data collection. Females with other infertility treatments like laparoscopy and IUI and females with PCOS problems was not selected. Females having more than one child was also be excluded.

4.3 Operational Definition of Variables

4.3.1 Psychosocial Problems

Factors related to psychosocial are those factors which relate to psychological and social factors influencing the emotions, thoughts, behavior, health, and quality of life of an individual. The definition of the problem 'Psychosocial Problems' is the score attained in Psychosocial Problems Scale in women undergoing infertility treatment and unable to conceive.

4.3.2 Spousal Support

Support from a partner involves actions and responses to an "issue or dilemma" within the context of a marital relationship that have to do with "helping responses" (both behavioral and psychological). Intimate partners are particularly vital in providing such support, and it is clear from research that others cannot readily substitute when partners are ineffective or unsupportive. Indeed, marital status is a frequently employed measure of social epidemiology with regard to availability of social support. (Sullivan at al., 2010)

4.3.3 Coping Strategies

Coping strategies refer to the actions, thoughts, and feelings you apply to adapt to changes in your life. Coping Styles. There are many coping styles people adopt, and some might be better than others depending on the nature of the stressful event and the person adopting them. (Emaad B et al., 2023).

4.3.4 Marital Satisfaction

Marital satisfaction is measured based on Couples Satisfaction Index in this study. Marital satisfaction is defined as the higher the scores the higher the marital satisfaction among participants (Pourmeidani et al., 2014).

4.4 Instruments

4.4.1 Demographic Information Form

The demographic form was developed to gather information about age, education, working (if yes profession or rank) or non-working socioeconomic status, husband income, nuclear or joint (if joint, than no of family members) age of marriage of both husband and wife, marriage in family or out of family, type of infertility, marriage duration, number of unsuccessful attempts, Abortions and miscarriages, pregnancy after treatment, in-laws characteristics (if yes, then who like mother in law, father in law, sister in law), number of children or having no child (if having children, then why taking infertility treatment).

4.4.2 Psychosocial problem scale

A developed psychosocial problem scale for females with unsuccessful infertility treatments was used. It has 12 items. It is 5 Likert scale.

4.4.3 Partner Support Scale (PSS)

Straughen et al. (2013) have created the PSS to assess perceived spousal support. The maximum score on this scale is 32 and the minimum score is 08. High points on this scale represent high level of spousal support, and low points represent low level of spousal support.

4.4.4 Coping Strategies

The coping with the stress of infertile couples is assessed using a coping strategy scale (COMPI). It was designed by Schmidt 2005. The COMPI Coping Strategy Scale consists of 19 items and four subscales. This scale can be used for both males and females. Four items (items 1–4) were used as measures of active avoidance. Seven items (items 5-9,18,19) were used to measure the active confrontation. Three items (10-12) measured passive avoidance and five items (13-17) measured meaning-based coping. The answers to the COMPI Coping Strategy Scales are given on a four-point Likert-type scale (from 1 = not used to 4 = used a great deal). The alpha coefficient of the 19 items was 0.83 for Cranach. It has a minimum score of 19 and maximum score of 76 (Abbasi & Loona, 2021).

4.4.5 couples' Satisfaction Index (CSI-16)

Funk and Rogge (2007) constructed the CSI-16 which is a 16-item scale for measuring marriage satisfaction. An example of a global item included in the scale is: "Overall, how satisfied are you in your relationship? (0 = extremely dissatisfied; 6 = perfect)". All other questions in the scale had varying response anchors, but all used 6-point scale. Reliability of the whole scale based on Cronbach's α coefficient was 0.98. Comparison of CSI-16 with respect to other marriage satisfaction test measures has been made using such measures as Dyadic Assessment Scales (32-item, 7-item and 4-item scales), Marital Adjustment Test (MAT), Quality of Marriage Index (QMI), Semantic Differential (SMD), Kansas Marital Satisfaction Scale (KMS) and Relationship Assessment Scale (RAS). The correlation coefficients obtained between all measures and the scale's developers ranged from 0.85 to 0.98.

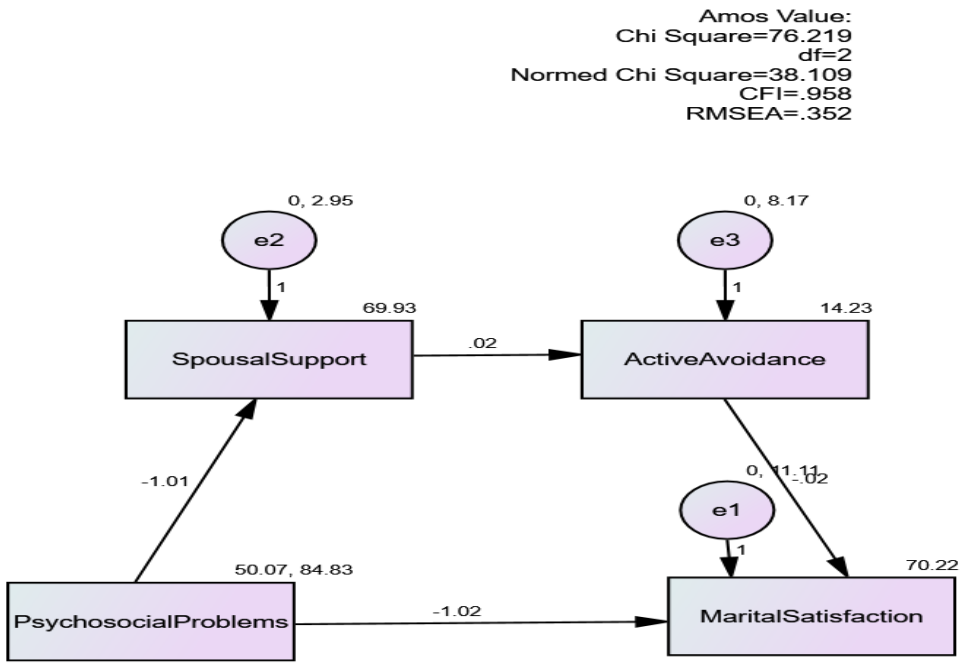
5. Results/ Procedure

One of the first things done was to get permission from the infertility clinics. All the ethical considerations were followed. All participants gave informed consent. Participants were briefed about the process of research. They were assured that their information was confidential and would be used only for research purposes. They were to respond truthfully, without lying. Sample was taken from clinics of Multan and Lahore where IVF and ICSI treatments were performing under the supervision experts and specialized doctors. Patients were distributed with informed consent. They were free to response and had no pressure. Data was collected in a comfortable environment.

5.1 Serial Mediation Modeling

Figure 1: Serial mediation model showing the effect of Psychosocial Problems on Marital Satisfaction through Spousal Support and Active Avoidance

Initial model



Final model

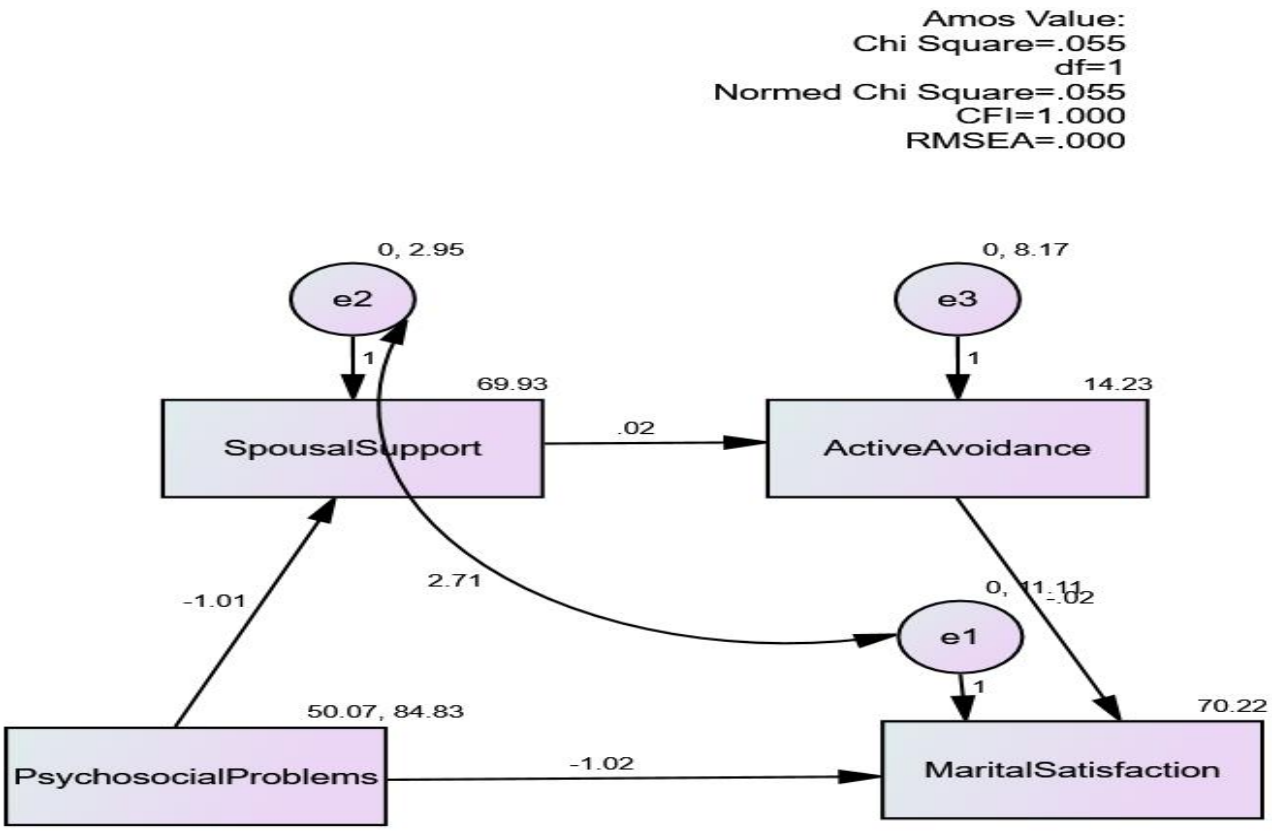


Table 1: Fit Indices of Serial mediation model for Psychosocial Problems on Marital Satisfaction through Spousal Support and Active Avoidance (N=300)

Model	χ^2	df	χ^2/df	GFI	CFI	NFI	RMSEA	SRMR
Initial Model	76.219	2	38.109	.899	.958	.957	.352	.0092
Model fit	0.055	1	0.055	1.000	1.000	1.000	.000	.0008

Note: GFI= Goodness of fit index; CFI=comparative fit index; NFI = normed fit index; RMSEA=root mean square error of approximation; SRMR=Standardized root mean square

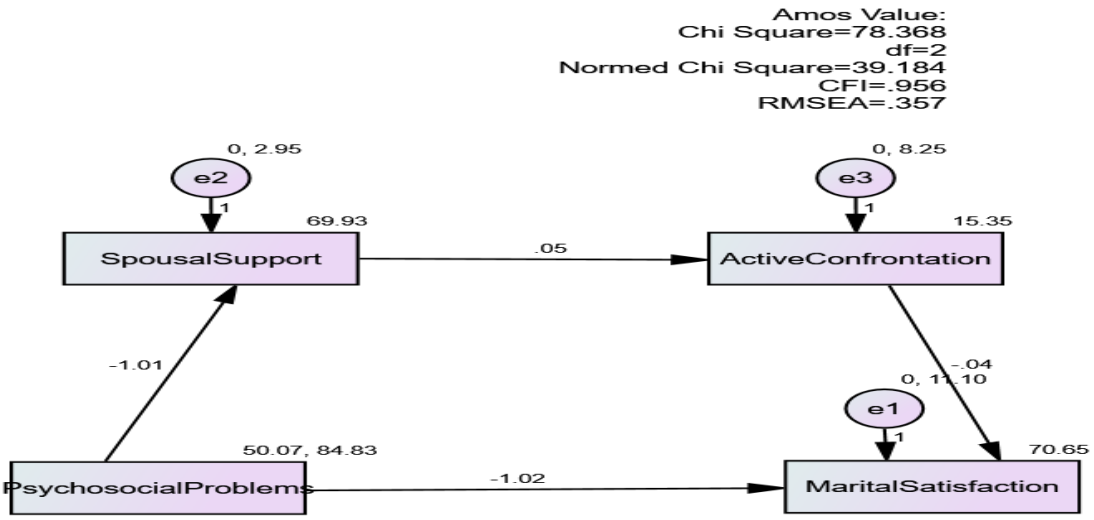
Table 1 shows the fit indices of the serial mediation model examining the effect of Psychosocial Problems on Marital Satisfaction through Spousal Support and Active Avoidance. The initial model indicated poor fit, χ^2 (2) = 76.219, $p < .001$, with a χ^2/df ratio of 38.109. The GFI (.899) was slightly below the acceptable cutoff (.90), while both the CFI (.958) and NFI (.957) were above the recommended threshold (.95), suggesting that the inclusion of Spousal Support and Active Avoidance improved the model compared to the independence model. However, the RMSEA value (.352) was far above the acceptable range (< .08), indicating poor parsimony, even though the SRMR (.0092) suggested minimal residual discrepancies.

After model modification, the results improved substantially, χ^2 (1) = 0.055, $p = .814$, with a χ^2/df ratio of 0.055, reflecting a nonsignificant chi-square and near-perfect model fit. The fit indices were excellent across all criteria: GFI = 1.000, CFI = 1.000, NFI = 1.000, RMSEA = .000, and SRMR = .0008. These results suggest that Psychosocial Problems are related to Marital Satisfaction through the mediating pathways of Spousal Support and Active Avoidance, and that the final modified model provides an excellent representation of the observed data.

5.2 Model 2: Psychosocial Problems → Spousal Support → Active Confrontation → Marital Satisfaction (Serial Mediation Modeling)

Figure 2: Serial mediation model showing the effect of Psychosocial Problems on Marital Satisfaction through Spousal Support and Active Confrontation

Initial model



Final model

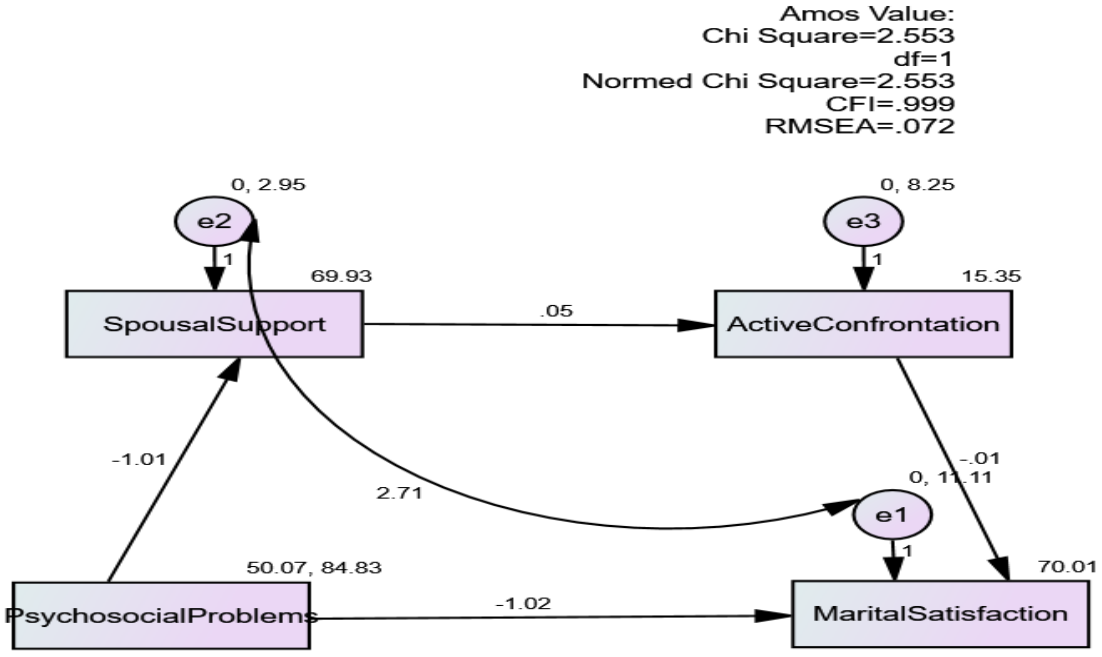


Table 2: Fit Indices of Serial mediation model for Psychosocial Problems on Marital Satisfaction through Spousal Support and Active Confrontation (N=300)

Model	χ^2	df	χ^2/df	GFI	CFI	NFI	RMSEA	SRMR
Initial Model	78.37	2	39.18	.896	.956	.956	.357	.0116
Modified Model	2.55	1	2.55	.996	.999	.999	.072	.0053

Note: GFI= Goodness of fit index; CFI=comparative fit index; NFI = normed fit index; RMSEA=root mean square error of approximation; SRMR=Standardized root mean Square

Table 2 presents the fit indices of the serial mediation model examining the effect of Psychosocial Problems on Marital Satisfaction through the mediators Spousal Support and Active

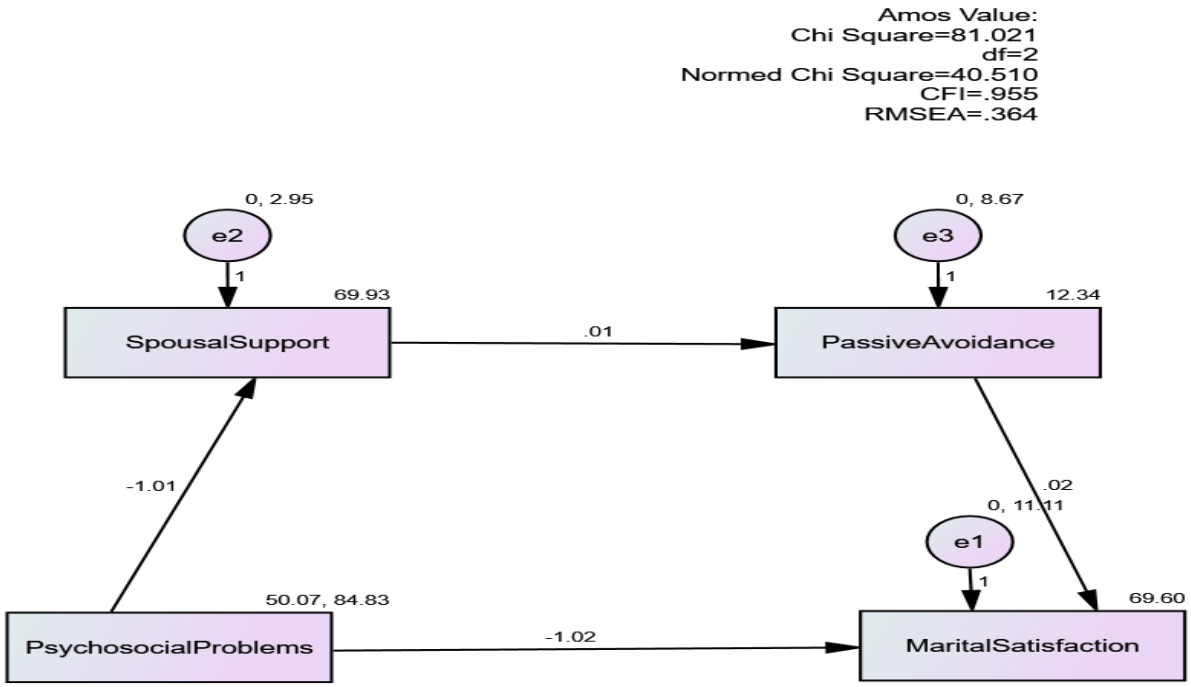
Confrontation. For the initial model, the chi-square value was significant, χ^2 (2) = 78.37, $p < .001$, with a χ^2/df ratio of 39.18. This ratio is much higher than the acceptable cutoff (≤ 5), suggesting poor fit. The Goodness of Fit Index (GFI = .896) was also below the recommended threshold (.90), and the Root Mean Square Error of Approximation (RMSEA = .357) indicated very poor parsimony. However, the Comparative Fit Index (CFI = .956) and Normed Fit Index (NFI = .956) were above the conventional cutoff of .95, suggesting that the inclusion of both mediators provided some degree of improvement compared to a baseline model. The Standardized Root Mean Square Residual (SRMR = .0116) was excellent (well below .08), indicating minimal residual differences between observed and predicted correlations. Overall, the initial model showed mixed evidence, with strong incremental fit indices (CFI, NFI, SRMR) but poor absolute fit (χ^2, RMSEA, GFI).

For the modified model**,** the chi-square dropped dramatically to χ^2 (1) = 2.55, with a χ^2/df ratio of 2.55, which falls well within the acceptable range (≤ 5). The GFI (.996)**,** CFI (.999), and NFI (.999) all indicated an almost perfect fit. The RMSEA (.072) was below the cutoff (.08), suggesting a reasonable level of parsimony. The SRMR (.0053) was also excellent, reflecting very small residual differences. Collectively, these indices confirm that the modified serial mediation model provided an excellent overall fit to the data. The initial model struggled with poor fit according to chi-square, GFI, and RMSEA, the modified model resolved these issues and demonstrated excellent fit across all indices. This indicates that Psychosocial Problems affect Marital Satisfaction indirectly through Spousal Support and Active Confrontation, and the modifications made to the model significantly improved its explanatory power.

5.3 Model 3: Psychosocial Problems → Spousal Support → Passive Avoidance → Marital Satisfaction (Serial Mediation Modeling)

Figure 3: Serial mediation model showing the effect of Psychosocial Problems on Marital Satisfaction through Spousal Support and Passive Avoidance.

Initial model



Final model

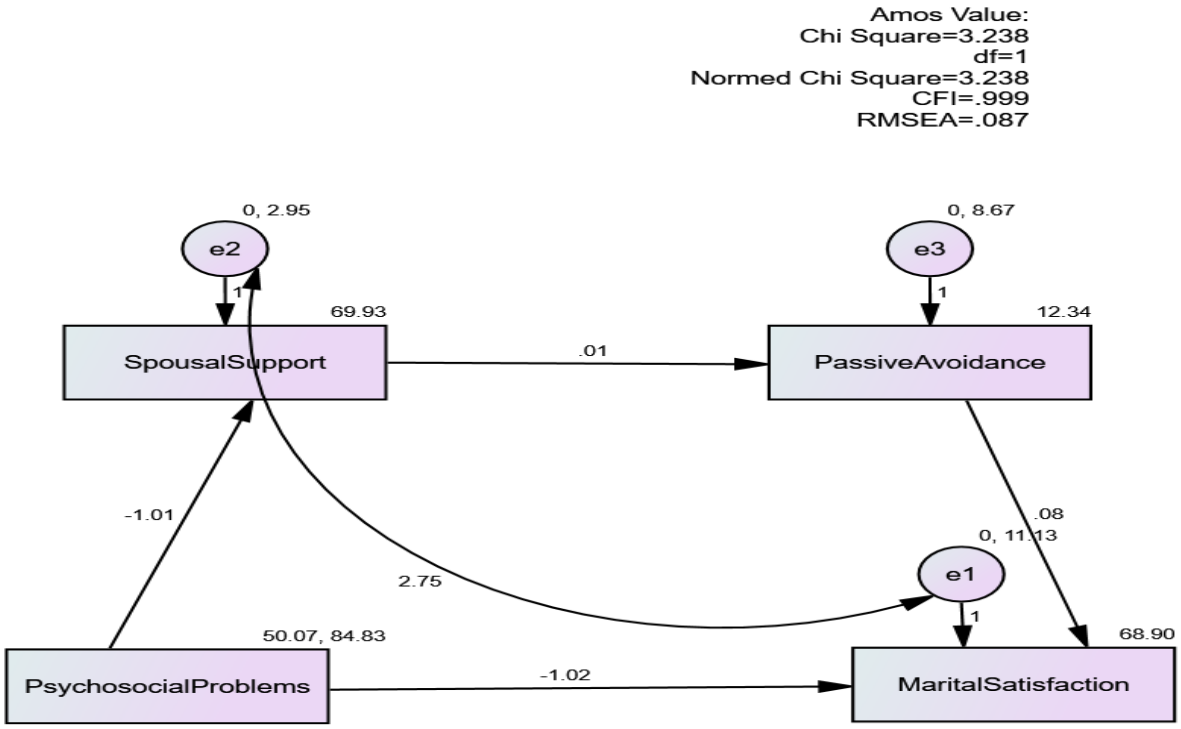


Table 3: Fit Indices of Serial mediation model for Psychosocial Problems on Marital Satisfaction through Spousal Support and Passive Avoidance (N=300)

Model	χ^2	df	χ^2/df	GFI	CFI	NFI	RMSEA	SRMR
Initial Model	81.021	2	40.510	.894	.955	.954	.364	.0123
Modified Model	3.238	1	3.238	.995	.999	.998	.087	.0060

Note. GFI= Goodness of fit index; CFI=comparative fit index; NFI = normed fit index; RMSEA=root mean square error of approximation; SRMR=Standardized root mean Square.

Table 3 shows the fit indices of the serial mediation model testing the effect of Psychosocial Problems on Marital Satisfaction through Spousal Support and Passive Avoidance. The initial model did not fit the data well. The chi-square was high, χ^2 (2) = 81.021, with a ratio of χ^2/df = 40.510, indicating misfit. Similarly, the GFI (.894) was slightly below the recommended .90 cutoffs, while RMSEA (.364) was substantially above the acceptable range (< .08), suggesting poor model parsimony. However, CFI (.955) and NFI (.954) were above .95, showing that some aspects of the hypothesized relationships were supported.

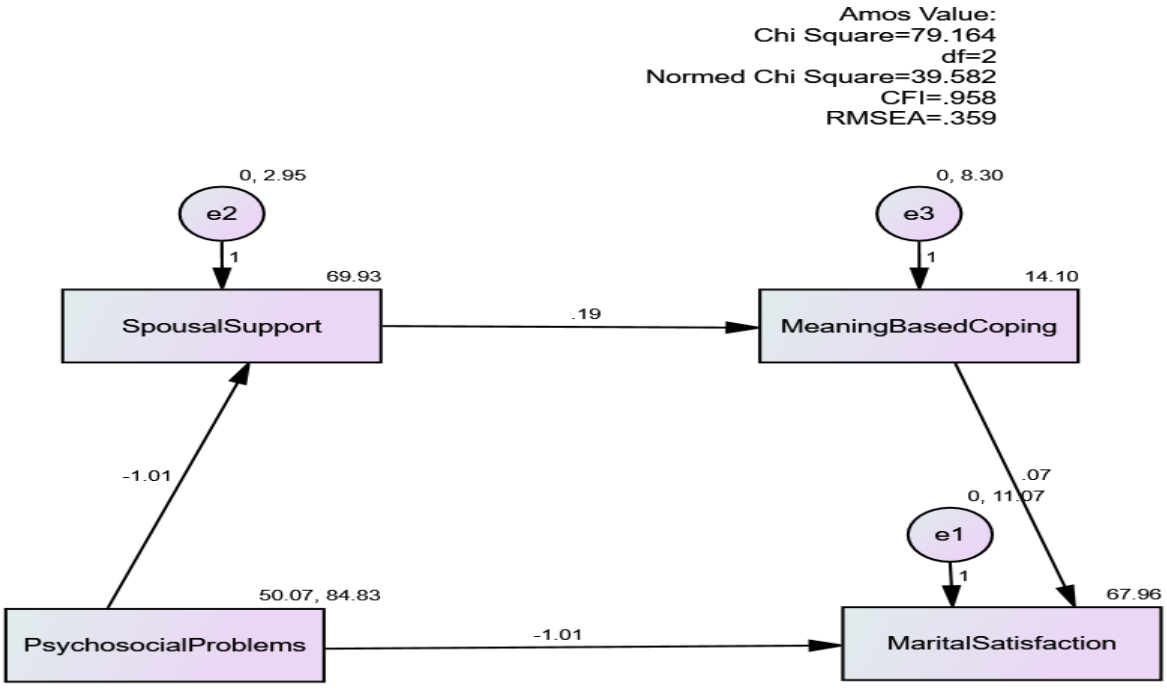
After model modification, the results improved considerably. The chi-square dropped to χ^2 (1) = 3.238, p > .05, with a more acceptable χ^2/df ratio of 3.238. The GFI (.995), CFI (.999), and NFI (.998) all indicated excellent model fit, and SRMR (.0060) fell well below the .08 cutoff, showing minimal residual error. RMSEA (.087) was slightly above the conventional cutoff, but still within a marginally acceptable range.

Overall, the modified model supports the hypothesis that Psychosocial Problems influence Marital Satisfaction indirectly through Spousal Support and Passive Avoidance. Specifically, greater psychosocial problems are associated with reduced spousal support, which fosters higher reliance on passive avoidance coping, ultimately leading to lower marital satisfaction. This suggests that both the presence of spousal support and the avoidance-based coping style are significant mechanisms explaining how psychosocial strain impacts marital relationships.

5.4 Model 4: Psychosocial Problems → Spousal Support → Meaning-Based Coping → Marital Satisfaction (Serial Mediation Modeling)

Figure 4: Serial mediation model showing the effect of Psychosocial Problems on Marital Satisfaction through Spousal Support and Meaning-Based Coping.

Initial model



Final model

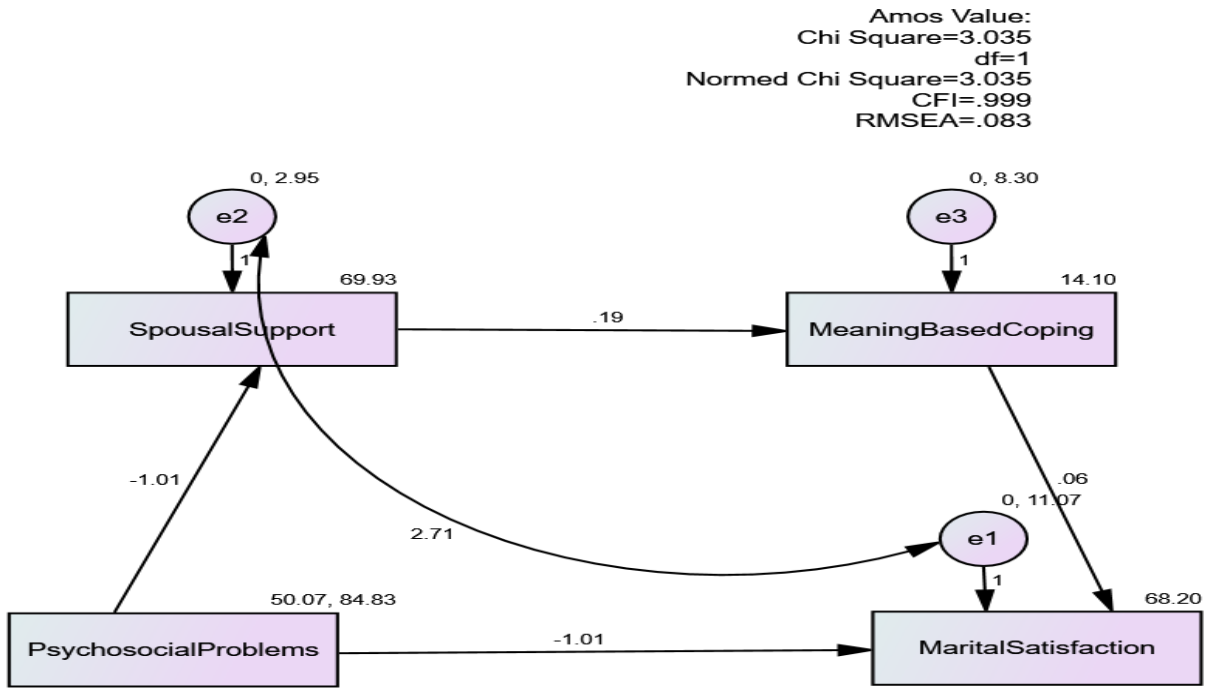


Table 4: Fit Indices of Serial mediation model for Psychosocial Problems on Marital Satisfaction through Spousal Support and Meaning Based Coping (N=300)

Model	χ^2	df	χ^2/df	GFI	CFI	NFI	RMSEA	SRMR
Initial Model	79.164	2	39.582	.894	.958	.957	.359	.0112
Modified Model	3.035	1	3.035	.995	.999	.998	.083	.0049

Note: GFI= Goodness of fit index; CFI=comparative fit index; NFI = normed fit index; RMSEA=root mean square error of approximation; SRMR=Standardized root mean Square.

Table 4 reports the fit indices of the serial mediation model examining the effect of Psychosocial Problems on Marital Satisfaction through Spousal Support and Meaning-Based Coping. The initial model indicated poor fit. The chi-square value was χ^2 (2) = 79.164, with a χ^2/df ratio of 39.582, which is much higher than the acceptable range (< 5). The GFI (.894) fell slightly below the recommended cutoff of .90, while RMSEA (.359) was substantially above the acceptable threshold of .08, suggesting misfit. However, the CFI (.958) and NFI (.957) were above .95, showing that the hypothesized relationships among psychosocial problems, spousal support, meaning-based coping, and marital satisfaction were partially supported.

After model modification, the results improved substantially. The chi-square decreased to χ^2 (1) = 3.035, with a χ^2/df ratio of 3.035, which is within the acceptable range. The GFI (.995), CFI (.999), and NFI (.998) all indicated excellent fit, while SRMR (.0049) demonstrated minimal residual error. The RMSEA (.083) was slightly higher than the ideal cutoff (.08), but still fell in the marginally acceptable range.

Overall, the modified model supports the proposed pathway, suggesting that Psychosocial Problems affect Marital Satisfaction indirectly through the presence of Spousal Support and the adoption of Meaning-Based Coping strategies. Specifically, when spousal support is available, individuals are more likely to engage in meaning-based coping, which in turn enhances marital satisfaction despite psychosocial difficulties.

6. Discussion

The major focus of this research was on analyzing the ways through which psychosocial issues have their connection with marital satisfaction. There were four sequential paths considered for this research, including active avoidance, active confrontation, passive avoidance, and meaning-based coping through spouse support. With the modification of the initial frameworks to the new ones through SEM modeling approach, the final framework had great data fit and reflected the double mediating process involved in adjustment in marriage.

In all four frameworks that have been tested, the starting models did not show good absolute fit. It was evident due to high significance values of chi-square tests and abnormally high Root Mean Square Error of Approximation with values of .352 to .364, implying severe misspecification and lack of parsimony. But the measures of incremental fit, such as Comparative Fit Index and Normed Fit Index, remained above .95, meaning that the structural progression brought significant information compared to an independent framework.

In order to correct for the absolute fit problems, model modifications were conducted through the inclusion of a path covariance between the error terms of the first mediator and the residual variance of the final outcome variable. The aforementioned modification was highly successful in improving the model fit. For example, the chi-square statistic reduced significantly (χ^2 (1) = 0.055, p = .814) while the RMSEA reduced to .000 in the case of the active avoidance model. In the other coping models, the modified ratio of chi-square to degrees of freedom fell below the acceptable value of ≤ 5.

The above structural modification shows that the errors of an individual's perceived spouse support and their final marital satisfaction have common errors that cannot be measured, such as relationship history and basic personality factors, and have to be controlled to correctly measure the sequential mediational effects.

From the final structural paths, it is evident that there exists a common starting effect across all the four models; that is, a rise in the number of psychosocial issues highly correlates with a drop in the perceived spouse support (path coefficient = -1.01). This shows that acute psychological and/or social stress can heavily strain the marriage relationship, either through limiting the spouse's ability to give support or affecting the stressed person's perception of the support provided.

Nevertheless, the downstream consequences vary substantially in terms of the nature of the coping technique employed:

Pathways of Avoidance Coping (Active and Passive Avoidance): In avoidance coping, low spousal support causes high use of coping strategies to deal with the situation that aims at avoiding stressors. In the case of passive avoidance, the path connecting this construct to marital satisfaction is positively signified (.08), showing that in the event that the structural breakdown of the relationship happens, avoidant coping serves as an instant buffer. However, the net path for both paths shows that psychosocial strain drains relational resources and leaves spouses in protective avoidant mode.

Path of Confrontation (Active Confrontation): Where couples have low spousal support, the negative direct path coefficient of their active confrontation is -.01, which suggests that efforts at actively confronting problems in a situation where there is low support between partner's increase conflict in the relationship.

Pathway to Meaning-Based Coping: On the other hand, the meaning-based coping model provides evidence of an adaptive approach that is quite beneficial. Full spousal support will create a strong link with meaning-based coping (.19), which will further strengthen marital satisfaction (.06). It means that reframing and restructuring of cognition are resource-dependent coping mechanisms that need some emotional security from the partner to effectively shield the marriage from outside stressors.

7. Implications, Limitations, and Suggestions

In terms of theory, these results expand the field of study related to relational stressors by broadening the understanding of how these stressors influence couples by considering cascading effects in addition to simple cause-and-effect relationships. They have shown that coping strategies do not function in isolation; rather, their use and success is dependent on the degree of spousal support in the environment. In terms of practice, therapists specializing in marital and family therapy need to ensure that an environment of support is established before any proactive coping strategies are taught. Several issues are important to point out in terms of;

- The data used a cross-sectional design (N=300), which means that there can be no causal inferences made about the order of mediators.
- There is a need for error correlation between \(e2\) and \(e1\) in all four models, since unexplained common variance cannot be accounted for at present structural model.
- Future studies should use longitudinal approaches to trace these serial mediational paths over time and see how changes in psychosocial issues affect the choice of coping strategy and marriage duration.

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