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Family Support, Ego-Resiliency, and Resilience in Women with Infertility

Mi-ok LEE¹, Ji-young KIM²

1. First Author Ph.D. Candidate, Department of Medicine at Cha Medical University, Korea.

2. Corresponding Author Assistant professor of medicine at Cha Medical University, Korea. Email: more02@cha.ac.kr

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Abstract

Background: Women undergoing infertility treatment face significant psychological burdens, yet the mechanisms by which psychosocial resources enhance their resilience remain insufficiently understood. **Purpose:** This study examined the relationships among family support, ego-resiliency, psychological well-being, and resilience in women with infertility, and tested the mediating effect of psychological well-being. **Methods:** A descriptive correlational design was employed. Data were collected from 210 women with infertility attending fertility clinics at three general hospitals in Seoul and Gyeonggi Province, South Korea, between January and June 2025. Validated instruments were used to measure family support (FSS), ego-resiliency (ERS), psychological well-being (K-PWB), and resilience (RS). Data were analyzed using descriptive statistics, Pearson's correlation coefficients, multiple regression analysis, and Baron and Kenny's mediation analysis. **Results:** Mean scores were: family support 3.84 ± 0.61 , ego-resiliency 3.71 ± 0.58 , psychological well-being 3.62 ± 0.67 , and resilience 3.78 ± 0.63 . Resilience was significantly and positively correlated with family support ($r=.61$, $p<.001$), ego-resiliency ($r=.68$, $p<.001$), and psychological well-being ($r=.72$, $p<.001$). Psychological well-being partially mediated the relationships between both family support and resilience and ego-resiliency and resilience. The total explanatory power for resilience was 63.4%. **Conclusion:** Family support and ego-resiliency enhance resilience both directly and indirectly through psychological well-being. Nursing interventions targeting all three factors are essential for improving resilience in infertile women.

Keywords: Infertility, Family support, Ego-resiliency, Psychological well-being, Resilience

JEL Classification Code: I10, I12, I18

1. Introduction

1.1. Background and Significance

Infertility, defined by the World Health Organization (WHO) as the failure to achieve a clinical pregnancy after 12 or more months of regular unprotected sexual intercourse (Zegers-Hochschild et al., 2017), affects approximately 15–17% of couples of reproductive age worldwide. In South Korea, the number of patients diagnosed with infertility has continued to rise, with

national health insurance data documenting a steady annual increase in both diagnostic rates and treatment utilization (Health Insurance Review and Assessment Service [HIRA], 2023). Women with infertility often experience repeated treatment failures, which engender high levels of stress, anxiety, and depression that directly compromise quality of life (Domar et al., 2018). In the Korean sociocultural context, where family-centered values and strong pronatalist norms are prevalent, the psychological burden experienced by infertile women is substantially amplified (Kim & Lee, 2021).

Resilience—defined as the capacity to successfully

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adapt to adversity, trauma, tragedy, threats, or significant sources of stress (American Psychological Association [APA], 2020)—plays a pivotal role in enabling infertile women to overcome the challenges inherent in the treatment process and to achieve positive psychological outcomes. Recent empirical studies indicate that resilience in infertile women is closely associated with treatment persistence, psychological adjustment, and marital satisfaction (Park & Lee, 2022; Chen et al., 2021).

Family support, encompassing emotional, instrumental, and informational support provided by family members, is recognized as a critical protective factor that buffers the stressors encountered during infertility treatment (Martins et al., 2020). Spousal and familial support exerts positive influences on psychological adaptation and treatment adherence in infertile women (Lee & Park, 2023) and has been reported to contribute to enhanced resilience.

Ego-resiliency, conceptualized as the individual psychological resource enabling flexible coping and adaptive response to environmental change under stress (Block & Kremen, 1996), functions as an internal protective factor that reinforces psychological stability and resilience in women facing the crisis of infertility. Research indicates that infertile women with higher ego-resiliency are more likely to maintain positive affect and exercise problem-solving capacity under stress, thereby demonstrating higher levels of resilience (Shin & Lee, 2022).

Although prior studies have separately examined the relationships between family support and resilience (Park & Lee, 2022), ego-resiliency and resilience (Shin & Lee, 2022), and psychological well-being and resilience (Lee et al., 2022), an integrated investigation of these variables—particularly through mediation analysis—remains scarce. Understanding whether psychological well-being mediates the pathways from family support and ego-resiliency to resilience would yield important theoretical insights and practical implications for nursing intervention development.

1.2. Study Objectives

The specific aims of this study were to: (1) determine the levels of family support, ego-resiliency, psychological well-being, and resilience in women with infertility; (2) examine differences in resilience according to participants' general characteristics; (3) identify correlations among the key study variables; and (4) test the mediating effect of psychological well-being on the relationships between family support/ego-resiliency and resilience.

2. Methods

2.1. Research Design

A descriptive correlational research design was employed to examine the relationships among family support, ego-resiliency, psychological well-being, and resilience, and to verify the mediating role of psychological well-being.

2.2. Participants and Sampling

Participants were recruited by convenience sampling from women attending infertility clinics at three general hospitals in Seoul and Gyeonggi Province, South Korea, between January 2 and June 30, 2025. Inclusion criteria were: (1) women aged 20–45 years; (2) receiving infertility treatment (controlled ovarian stimulation, intrauterine insemination, or in vitro fertilization); (3) able to communicate and read/write Korean; and (4) provided written informed consent after understanding the study purpose. Exclusion criteria were: (1) receiving treatment for a psychiatric disorder; or (2) currently pregnant. A total of 220 questionnaires were distributed, accounting for a 15% anticipated attrition rate; 210 questionnaires with complete, valid data were used for final analysis.

2.3. Instruments

Family support was measured using the Family Support Scale (FSS), a 12-item instrument rated on a 5-point Likert scale (1=strongly disagree to 5=strongly agree), with higher scores indicating greater perceived family support (Procidano & Heller, 1983; Choi, 2005). Ego-resiliency was assessed with the Ego-Resiliency Scale (ERS), originally developed by Block and Kremen (1996) and adapted for Korean use by Park (2000). Psychological well-being was measured using the Korean version of Ryff's Psychological Well-Being Scale (K-PWB; Kim et al., 2001), which encompasses six dimensions: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. Resilience was assessed with the Korean Connor-Davidson Resilience Scale (K-CD-RISC; Baek et al., 2010), a widely validated 25-item instrument.

2.4. Data Analysis

Data were analyzed using SPSS/WIN 27.0 (IBM Corp., Armonk, NY, USA). Descriptive statistics (frequencies, means, standard deviations) were computed for all variables. Pearson's correlation coefficients were calculated to examine bivariate relationships. The mediating effect of psychological well-being was tested following Baron and Kenny's (1986) three-step regression procedure. Significance was set at $\alpha = .05$ for all tests.

2.5. Ethical Considerations

All participants provided written informed consent prior to data collection. Participation was voluntary, and confidentiality and anonymity of all data were guaranteed throughout. Data were used exclusively for research purposes.

3. Results

3.1. General Characteristics of Participants

The mean age of participants was 35.2 ± 4.8 years; the majority (60.0%, $n=126$) were in the 30–39 age group, followed by those aged ≥ 40 (23.8%, $n=50$) and 20–29 (16.2%, $n=34$). Mean duration of marriage was 4.3 ± 3.1 years. More than half of participants held a bachelor's degree (51.9%, $n=109$); 61.0% ($n=128$) were employed. The majority (60.5%, $n=127$) reported a middle economic status. Mean duration of infertility was 2.8 ± 1.9 years, with 53.3% ($n=112$) experiencing infertility for 1–3 years. The most common treatment modality was in vitro fertilization (IVF; 46.7%, $n=98$), and the mean number of treatment cycles was 2.9 ± 2.1 (Table 1).

Table 1. General Characteristics of Participants (N=210)

Characteristic	Category	n (%)	M $\pm$ SD
Age (years)	20–29	34 (16.2)	35.2 ± 4.8
	30–39	126 (60.0)	
	≥ 40	50 (23.8)	
Duration of marriage (years)	1–3	87 (41.4)	4.3 ± 3.1
	4–6	79 (37.6)	
	≥ 7	44 (21.0)	
Education	High school or below	48 (22.9)	
	Bachelor's degree	109 (51.9)	
	Graduate degree or above	53 (25.2)	
Duration of infertility (years)	<1	38 (18.1)	2.8 ± 1.9

	1–3	112 (53.3)	
	>3	60 (28.6)	
Treatment modality	Ovulation induction	52 (24.8)	
	Intrauterine insemination	60 (28.5)	
	In vitro fertilization (IVF)	98 (46.7)	

3.2. Levels of Key Variables

The mean scores for the key variables were as follows: family support, 3.84 ± 0.61 (range 1–5); ego-resiliency, 3.71 ± 0.58 (range 1–4); psychological well-being, 3.62 ± 0.67 (range 1–5); and resilience, 3.78 ± 0.63 (range 0–4) (Table 2).

Table 2. Levels of Key Variables (N=210)

Variable	Possible Range	M $\pm$ SD	Min	Max
Family support	1–5	3.84 ± 0.61	1.80	5.00
Ego-resiliency	1–4	3.71 ± 0.58	1.50	4.00
Psychological well-being	1–5	3.62 ± 0.67	1.52	5.00
Resilience	0–4	3.78 ± 0.63	1.20	4.00

3.3. Correlations among Key Variables

Resilience showed significant positive correlations with family support ($r=.61$, $p<.001$), ego-resiliency ($r=.68$, $p<.001$), and psychological well-being ($r=.72$, $p<.001$). Family support was significantly correlated with ego-resiliency ($r=.54$, $p<.001$) and psychological well-being ($r=.58$, $p<.001$). Ego-resiliency and psychological well-being also showed a significant positive correlation ($r=.63$, $p<.001$) (Table 3).

Table 3. Correlations among Key Variables (N=210)

Variable	1	2	3	4
1. Family support	1			
2. Ego-resiliency	.54***	1		
3. Psychological well-being	.58***	.63***	1	

4. Resilience	.61***	.68***	.72***	1
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*** $p < .001$

3.4. Mediating Effect of Psychological Well-Being

Baron and Kenny's (1986) three-step regression approach was applied to examine the mediating effect of psychological well-being on the relationships between family support/ego-resiliency and resilience (Table 4).

In Step 1 (independent variables predicting the dependent variable), both family support ($\beta = .44$, $p < .001$) and ego-resiliency ($\beta = .49$, $p < .001$) significantly predicted resilience ($R^2 = .51$). In Step 2 (independent variables predicting the mediator), family support ($\beta = .38$, $p < .001$) and ego-resiliency ($\beta = .43$, $p < .001$) significantly predicted psychological well-being ($R^2 = .47$). In Step 3 (independent variables and mediator simultaneously predicting the dependent variable), family support ($\beta = .31$, $p < .001$), ego-resiliency ($\beta = .29$, $p < .001$), and psychological well-being ($\beta = .41$, $p < .001$) all significantly predicted resilience ($R^2 = .634$). The regression coefficients of family support and ego-resiliency decreased from Step 1 to Step 3, indicating partial mediation by psychological well-being. The total variance explained for resilience was 63.4%.

Table 4. Mediating Effect of Psychological Well-Being on Resilience (N=210)

Step	Predictor	Criterion	B	SE	β	t	R ²
Step 1	Family support	Resilience	.45	.07	.44	6.43***	.51
	Ego-resiliency	Resilience	.53	.08	.49	6.63***	
Step 2	Family support	Psych. well-being	.39	.07	.38	5.57***	.47
	Ego-resiliency	Psych. well-being	.50	.08	.43	6.25***	
Step 3	Family support	Resilience	.32	.07	.31	4.57***	.634
	Ego-resiliency	Resilience	.31	.08	.29	3.88***	
	Psych. well-being	Resilience	.38	.07	.41	5.43***	

Psych. = Psychological; *** $p < .001$

4. Discussion

This study examined the relationships among family support, ego-resiliency, psychological well-being, and resilience in women with infertility, and verified the mediating effect of psychological well-being on the relationships between the independent variables and resilience.

The finding that resilience scores in this sample were

relatively high is consistent with the possibility that women actively engaged in infertility treatment may develop adaptive coping capacities over time. Although the present results were marginally higher than those reported by Park and Lee (2022) using the same instrument, these differences likely reflect sample-specific characteristics related to being in active treatment, as well as the improved infertility support policies in recent years.

The significant positive correlation between family support and resilience ($r = .61$, $p < .001$) corroborates the existing literature indicating that emotional support and understanding from family members constitute essential resources for overcoming infertility-related difficulties. In the Korean cultural context, infertility carries heightened family and social significance, making the role of familial support particularly salient (Domar et al., 2018). These findings affirm that family members' active involvement in the infertility treatment process can serve as a meaningful resilience-building resource.

The significant positive association between ego-resiliency and resilience ($r = .68$, $p < .001$) supports the conceptualization of ego-resiliency as a core internal resource (Block & Kremen, 1996). Individuals with higher ego-resiliency are better equipped to maintain a positive outlook and exercise effective problem-solving in the face of adversity such as repeated treatment failures, thereby sustaining higher resilience over time (Shin & Lee, 2022).

The finding that psychological well-being partially mediates the relationships between family support and resilience and between ego-resiliency and resilience is particularly noteworthy. This indicates that family support and ego-resiliency influence resilience both through direct pathways and indirectly by enhancing psychological well-being. According to Ryff's (1989) multidimensional theory, when elements such as self-acceptance, environmental mastery, and positive interpersonal relations are fulfilled, individuals are more capable of mobilizing their internal resources even in adversity. The present findings suggest that for infertile women, familial support and ego-resiliency strengthen resilience through the mediating pathway of psychological well-being.

The total explained variance of 63.4% for resilience underscores that family support, ego-resiliency, and psychological well-being are core explanatory variables for resilience in infertile women. Nursing interventions aimed at enhancing resilience should therefore integrate all three factors. Given the confirmed mediating role of psychological well-being, interventions that directly promote psychological well-being—alongside family support enhancement and ego-resiliency cultivation—are expected to be especially effective.

Several limitations warrant acknowledgment.

Convenience sampling limits the generalizability of the findings. Self-reported data are susceptible to response biases. The cross-sectional design precludes causal inferences regarding the directionality of associations. Future studies should employ longitudinal designs and structural equation modeling to more rigorously examine the causal mechanisms among these variables.

5. Conclusion

This study demonstrated that resilience in women with infertility is significantly and positively correlated with family support, ego-resiliency, and psychological well-being, and that psychological well-being partially mediates the relationships between family support and resilience and between ego-resiliency and resilience. These findings suggest that enhancing family support and ego-resiliency and, through these, improving psychological well-being is essential for building resilience in infertile women.

Practically, the results call for the development of: (1) family support enhancement programs that actively involve spouses and other family members; (2) cognitive-behavioral psychosocial support programs targeting ego-resiliency; and (3) integrated nursing intervention programs designed to strengthen Ryff's six dimensions of psychological well-being. In addition, multidisciplinary collaboration between specialist nurses and psychological counselors within hospital-based infertility clinics is recommended to establish a systematic framework for resilience support. These findings provide an evidence base for the development of psychosocial nursing care and resilience-focused nursing practice for women with infertility.

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