



RESEARCH PAPER

**Posttraumatic Growth as a Buffer: Linking Disordered Eating, Psychological Distress to Subjective Happiness in Women with Infertility**

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**ABSTRACT**

Infertility is a challenging situation for women with infertility on psychological, social, and physical levels. Infertility also creates a hindrance in positive psychological growth and subjective happiness of infertile individuals. The current study was designed to explore the relationship between Psychological Distress, Posttraumatic Growth, and Subjective Happiness among women with infertility. A correlational design was followed to collect the data. The total number of 274 sample was recruited through purposive sampling method from Lahore and Faisalabad cities. The Disordered Eating Behavior Scale (DEBS), Emotional and Social Distress Scale, Posttraumatic Growth Inventory, and Subjective Happiness Scale were used to collect the responses. The results indicated that Psychological Distress had a significant negative correlation with Posttraumatic Growth and Subjective Happiness, while the positive correlation was found between Posttraumatic Growth and Subjective Happiness. The significant predictors of subjective happiness among women with infertility were distress and PTG. Moreover, the study found that PTG is a partially mediates the relationship between distress and subjective happiness. The significant difference was found in emotional and social distress in terms of duration of marriage. The implications of the present study could be significant in the domain of reproductive health and well-being. The practical implications could be derived by the professionals and psychologists while designing disease-specific interventions for women with infertility.

**Keywords:** Infertility, Emotional and Social Distress, Subjective Happiness, Posttraumatic Growth

**Introduction**

Infertility is a significant global reproductive health concern, affecting approximately one in six individuals of reproductive age, translating to an estimated global prevalence of around 17.5%. (World Health Organization, 2023). In South Asia, infertility remains major reproductive health issue, with prevalence estimates generally ranging between 10% and 15%. In Pakistan, infertility is reported at comparatively higher levels, with overall prevalence estimates ranging from 15% to 22% (Sami & Ali, 2012). In Pakistan, sociocultural expectations surrounding childbearing are often associated with substantial psychological and social consequences, particularly for women in pronatalist context where motherhood is strongly linked to feminine identity, marital stability and social worth (Naz & Batool, 2017). Various factors have been associated with infertility among women, including advanced maternal age, underline medical conditions, unhealthy life style and chronic psychological distress.

Disordered eating is a significant though less explored mental health issue in women with infertility, especially in the light of increased psychological dysfunction and impaired health. Stress associated with infertility, dissatisfaction with the body, hormonal therapy and recurrent medical procedures can upset the female relations with food, weight and body image, which predisposes them to maladaptive eating habits like restrictive eating, emotional eating and loss of control over eating. Empirical research suggests that women with infertility with a high level of emotional distress tend to adopt disordered eating patterns as a maladaptive coping mechanism to restore a sense of control over their body and their situation (Kiani et al., 2023; Mumtaz & Naz, 2025). The observed eating disturbances have been found to augment psychological distress and the subsequent loss of subjective well-being, which will perpetuate a cycle of emotional and behavioral dysregulation. In addition, maladapted eating habits can have adverse effects on the process of treatment and the satisfaction with life in general, highlighting its importance in studies of infertility (Dube et al., 2023). In the context of the current research, the conceptualization of disordered eating is a behavioral expression of distress related to infertility that can be accompanied by emotional distress, and growth-related processes, including post-traumatic growth, can act as protective factors that inhibit its adverse effect on subjective happiness.

Infertility specific psychological distress constitutes a multifaceted response to various life stressors, including symptoms of anxiety, depression, social pressure, identity issues, interpersonal issues and general emotional suffering ( Naz & Batool, 2017; 2024). This emotional turmoil stems from the existential threat infertility poses to core life goals, repeated treatment failures, and social expectations regarding parenthood. Furthermore, psychological distress has been found directly and indirectly influence well-being among individuals facing fertility challenges. Distress is notably prevalent in women experiencing infertility, a debilitating condition of infertility.

Posttraumatic growth is referred as positive psychological experiences resulted of struggling with life challenges and distressful life circumstances (Tedeschi et al 2004). It defined as substantial life changing shifts in individual's self-perception, related to others and explore new meaning and possibilities in life, often accompanied by increased personal strength and existential growth (Kadri et al 2025). Infertility has been associated with a range of stressors including, anxiety, depression, grief, guilt and feelings of loss and uncertainty about the future (Naz et al, 2022). Despite these adversities, infertility can also be a catalyst for post traumatic growth, where individuals experience resilience, new perspectives on life, and strengthen relationships through the struggle with infertility related stress (Forgeard, 2013)

Subjective happiness, a core component of subjective wellbeing, refers to an individual's overall pleasant, meaningful, value based and satisfying life (Lyubomirsky & Lepper, 1999). It encompasses both affective experiences such as the presences of positive emotions and relative absence of negative emotions and cognitive judgements about life satisfaction. Higher level of subjective happiness have been consistently associated with better psychological adjustment, resilience and overall mental health (Diener et al., 2011). A substantial body of research indicates that infertility is associated with elevated levels of psychological distress, including depression, anxiety and emotional strain (Naz & Batool, 2024). The cynical nature of hope and disappointment during fertility treatment, financial burden and uncertainty about outcomes can intensify stress responses. Persistent psychological distress may erode life satisfaction and diminish subjective happiness, as individual struggle to reconcile unmet expectations with their lived reality. So overall relationship between psychological distress and subjective happiness is typically negative, however sometimes adversity may serve as a catalyst for positive transformation, so posttraumatic growth might play as buffering role infertile individuals.

## **Literature Review**

Literature review suggested that infertility is a major crisis in life that has been devastating to the psychological health of women. A research examine the infertility worldwide is linked to depression, anxiety, stress, and low quality of life (Greil et al., 2010). Another research reported that infertility is a distressing and identity-threatening experience in pronatalist societies in which motherhood is closely related to femininity and social acceptance. Women tend to blame self, they feel the stigma of society, and their emotional isolation further endangers them to psychological distress (Naz et al., 2022).

The studies have always proven that infertility is related to high levels of psychological distress, such as the depressive symptoms and anxiety disorders (Rooney and Domar, 2018). Emotional exhaustion is caused by the constant instability of the therapeutic outcome, frequent hospital visits, and the pressure exerted on the patient in society. In addition to emotional symptoms, infertility-related stress has also been associated with maladaptive coping patterns which include disordered eating patterns. Women with Infertility can also embrace restrictive diet and emotional eating, or dissatisfaction with their body, in part because they feel lack of control over their bodies or they are seeking to enhance the outcomes of fertility (Naz & Batool, 2019).

Disordered eating among women with infertility is not a one-dimensional event, but rather a complex problem that is linked to psychological distress and low subjective well-being. Subjective happiness, which is the personal evaluation of the global well-being and contentment with life, is more likely to decrease as the distress increases (Mumtaz & Naz, 2025). Naz and Batool (2015) in their research on psychosocial issues in people with infertilities established that emotional and social distress were the greatest predictors of worse mental health. Their contribution pointed out that infertility-based stress is both emotionally, relationally, and identity-based, and this can impact the general happiness and life satisfaction indirectly.

Notably, coping mechanisms are very important in determining psychological results. Naz and Batool (2015) also indicated that adaptive coping strategies played an important role in cushioning the adverse effects of the psychosocial stress on marital satisfaction in infertile people. These results indicate that coping can mitigate the adverse psyche effects of infertility. Building on this view, positive psychological models suggest that tragedy may also be a trigger of individual development. The conceptualized definition of posttraumatic growth (PTG) by Tedeschi and Calhoun (2004) can be described as a positive psychological change after subjecting the individual to the most challenging events in his life. PTG can be in the form of enhanced individual power, a better relationship, spiritual growth, and a new experience of life.

Posttraumatic growth has since been examined in relation to infertility as one of its resilience-based outcomes. Women, who are involved in meaning-making and adaptive coping, can re-define the meaning of infertility, not necessarily as loss, but as a chance to self-reflect and develop relationships. These growth processes can become a psychological buffer alleviating the adverse impact of distress and maladaptive behaviors on subjective happiness. Once women acquire new attitudes, become more emotionally regulated, and supportive, they can even sustain, not to mention improve, subjective well being despite continued fertility difficulties (Tedeschi et al., 1998).

## **Theoretical Framework**

Nevertheless, the critical explanatory bridging theory is post-traumatic growth (Tedeschi & Calhoun, 1998): it is proposed that psychological distress cannot always result in maladjustment. Rather, distress may be a trigger of positive psychological change when people take part in intentional cognitive effort and meaning-making. In this context, PTG

develops on the basis of five domains that include enhanced appreciation of life, improved interpersonal relations, personal strength, spiritual or existential growth, and identification of new possibilities in life. The psychology of infertility women in a greater state of distress might find themselves more inclined to participatory processes of reconstructing interrupted life histories, and thus enable development as opposed to continued despondency.

PTG is thus considered to mediate the effect that changes the functional relationship that exists between psychological distress and subjective happiness. Although distress has a direct negative impact on happiness, it is postulated that PTG mediates and to some extent changes it by allowing women with infertility to find meaning, resilience, and personal development in the process of struggling to have a child. Emotional distress can accompany positive affect, can even result in positive affect, and can feel a renewal of purpose - central elements of subjective happiness as defined in positive psychology models and hedonic well-being models with the help of PTG.

Though infertility has received considerable attention with reference to the high level of depression, anxiety and emotional stress, most studies have paid attention to the negative psychological consequences of infertility without considering how individuals assess their happiness and overall satisfaction in life. Infertility can be devastating to self-esteem and emotions, especially in a culture where parenting is closely associated with identity, social worth and marital status. Nevertheless, there are also emerging signs that people can also undergo posttraumatic development and gain even more personal strength, better relations, new meaning to their struggle. Nonetheless, research has been conducted to understand the interaction of psychological distress and posttraumatic growth in the determination of subjective happiness by infertile individuals. Thus, the given study was conducted to present a more in-depth insight into psychological adaptation to infertility through the involvement of both vulnerability and growth perspectives and to inform the intervention to reduce distress, as well as improve overall happiness and well-being.

### **Hypotheses**

H<sub>1</sub> There will be a significant correlation between psychological distress, disordered eating, posttraumatic growth and subjective happiness in women with infertility.

H<sub>2</sub> Post-traumatic growth will mediate the relationship between psychological distress, disordered eating and subjective happiness in women with infertility.

### **Material and Methods**

This study employed cross-sectional research design to collect the data at one point of time. The total of 274 women with infertility participated in this current research. Purposive sampling technique was used to collect the data from infertility centers and hospitals of Lahore and Faisalabad Pakistan.

### **Measurement Tools**

#### **Disordered Eating Behavior Scale (DEBS; Muazzam and Khalid, 2011)**

It is a 26-item self-report measure of Disordered Eating (DE) patterns and behaviors, was called the Disordered Eating Behavior Scale (DEBS). This 5-point Likert scale was used to measure personal differences in disordered eating patterns and behaviors. the scale has four subscale: (a) Social Pressure, (b) Eating Choices and Habits, (c) Eating Withdrawal, and (d) Overeating. the reliability of the scale is .86.

### **Emotional and Social Distress Scale (ESDS; Naz et al., 2022)**

It is a 34-item scale, which was developed by Naz and Batool in 2022 to quantify the psychosocial issues of infertile men and women in the Pakistani cultural context. This measure is self-administered scale, which recognize the infertility associated emotional and social distress in 4 domains: Distress (14 items) Identity and Well-being (8 items), Feeling of Insecurity (8 items) And finally, Sexual/Marital Issues(4 items) It is a Likert scale, which has the following: 1= strongly disagree, 2= disagree, 3= neutral, 4= agree and 5= strongly agree. The alpha of the total scale is.92.

### **Posttraumatic Growth Inventory (PTGI; Tedeschi et al, 1996)**

Tadeschi and Calhoun (1996) designed the Posttraumatic Growth Inventory (PTGI), which is a self-report measure of positive change potentially experienced by women who went through a traumatic episode (Tadeschi and Calhoun, 1996).

The PTGI is made of 21 items and it assesses five areas of posttraumatic development: Personal Strength, Appreciation of Life, Relationships with Others, New Possibilities and Spiritual Change. The respondents are asked to rate the degree to which they experienced each statement on a six-point Likert scale with 0 (I did not experience this change) to 5 (I experienced this change to a very great degree). the reliability of the scale is .90.

### **Subjective Happiness Scale (Lyubomirsky & Lepper, 1999)**

Subjective Happiness Scale (SHS) is a self-reported measurement of subjective happiness. SHS is composed of four questions with 7-point scale, which determine the global subjective happiness of women in that they are asked to respond on the degree to which they agree or disagree with the statement concerning their level of happiness in general. The SHS has proved to be valid and reliable across cultures and language groups and reliability is .75.

### **Procedure and ethical considerations**

The study was approved by the GPC and ethical committee. The structured questionnaires containing five standardized instruments was used to collect the data from women with infertility in their infertility out patient centers. The purpose of the study was explained before the administration of the measures. The written informed consent was taken and confidentiality was assured during and after the collection of the responses. The participants were asked to seek clarification in case of any difficulty. Anonymity was achieved, and the participants were informed that they could drop out at any point without any penalty. At the end debriefing was done to safe guard the participants well being.

### **Results and Discussion**

**Table 1**  
**Demographic Information of the Participants**

Sample	N	%
Type of infertility		
Primary Infertility	150	54.7
Secondary Infertility	124	45.3
Age		
22-24years	45	16.4
25-27years	73	26.6
28-30years	74	27.0

31 & above	82	29.9
Education		
Illiterate	39	14.2
Primary Education	108	39.4
Middle	88	32.1
Matric	39	14.2

**Table 2**  
**Correlation, Mean, SD and Reliability of the Sample**

Sr#	Variables	1	2	3	4	K	M	SD	α
1	DEBS		.27**	-.61**	-.62**	26	48	17.1	.85
2	ESDS			-.44**	-.31**	34	107.1	26.9	.92
3	PTGI				.51**	21	53.5	21.7	.88
4	SHS					4	17.1	8.0	.89

Note: \*\*Correlation is significant at the 0.01 level, DEBS=Disordered Eating Behavior Scale, ESDS= Emotional and Social Distress Scale, PTGI= Post-traumatic growth Inventory, SHS= Subjective Happiness Scale, k=number of items, M=Mean, SD= Standard Deviation, a= Cronbach alpha

Table 2 findings depicts that disordered eating showed significant positive relationship with infertility distress and significant negative relationship with post-traumatic growth and subjective happiness. Psychological distress highlighted significant negative association between PTGI and SHS. In contrast PTGI demonstrated significant positive relationship SHS. Descriptive statistics indicating excellent reliability of the all administrated scales.

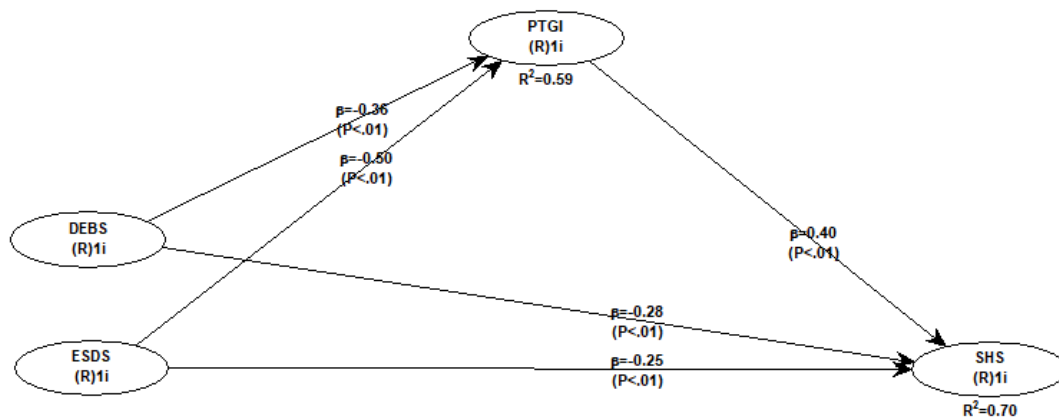


Figure 1. PTGI as a mediator between DEBS, ESDS and SHS.

**Table 3**  
**Post-traumatic growth mediates the relationship between Disordered Eating, Distress and Subjective Happiness.**

Variable's Relation	β	t	p
DEBS->PTGI	-.35	-6.2	.00
DEBS->SHS	-.28	-4.9	.00
ESDS-> PTGI	-.49	-8.8	.00
ESDS-> SHS	-.25	-4.3	.00
DEBS->ESDS-> PTGI->SHS	.40	7.1	.00

Note. DEBS = Disordered Eating Behavior Scale, PTG= Post Traumatic Growth , SHS= Subjective Happiness Scale, ESDS = Emotional and Social Distress Scale.

The mediation results of Table 3 reveals that DEBS and ESDS has significant negative effects on PTG both directly and indirectly. Post Traumatic Growth partially mediates the role between Disordered Eating, Distress and Subjective Happiness ( $\beta = .40, t = 7.1, p < .001$ ).

## **Discussion**

The current paper examined the associations between disordered eating habits, emotional and social distress, post-traumatic development, and subjective happiness. The correlational results present a valuable contribution to the understanding of the relationship between maladaptive behavioral patterns, distress and positive aspects of psychological functioning.

There was a strong positive correlation between disordered eating habits and emotional and social distress. This implies that people who report higher participation in dysfunctional eating patterns are also prone to a high level of emotional load, interpersonal and social discomfort. The finding aligns with the cognitive-behavioral formulations that assert that the disordered eating is usually perpetuated by efforts to manage the unpleasant affective conditions (Fairburn, 2008). Under distress, people can use more and more maladaptive coping schemes, such as restrictive or compensatory eating patterns.

Another finding reported that Post-traumatic growth and subjective happiness had a strong and negative correlation with disordered eating behaviors. These findings suggest that those who are obsessed with issues surrounding eating may find it difficult to make positive sense out of tragedy or to continue having an overall sense of well-being. Past studies propose that rumination, the self-critical and body-related dissatisfaction depletes the cognitive and emotional resources that otherwise could be channeled to adaptive meaning-making (Malhotra & Chebiyan, 2016). Therefore, an increased pathology can be accompanied by a decrease in the prospects of growth and subjective happiness.

On the same note, emotional and social distress showed serious negative correlations with post-traumatic growth as well as subjective happiness. People with increased distress can be unable to re-construct traumatic or challenging experiences in a manner that brings about resilience (Tedeschi and Calhoun (2004) have underlined that growth entails cognitive and emotional work; high frustrations can cripple this process, especially where the coping resources are lacking. The inverse relationship of happiness is also indicative of the already known relationship between mental distress and reduced subjective well-being (Diener & Chan, 2011).

Contrarily, subjective happiness was moderately positively related to post-traumatic growth. It means that people who feel their power, their relationships become better or new opportunities occur after a hardship are more inclined to assess their lives in a positive way. The observation upholds theoretical viewpoints that indicate that benefit-finding and meaning reconstruction play an important role in the promotion of well-being (Tedeschi & Calhoun, 2004).

The mediation results prove that post traumatic growth mediates the relationship between Disordered Eating, Distress and Subjective Happiness. The results are align with theoretical perspectives that view post traumatic growth as a result of cognitive restructuring following distress experiences (Calhoun & Tedeschi, 2012).

## **Conclusion**

In conclusion, the findings demonstrate that disordered eating behaviors, infertility specific emotional distress has direct and indirect relationship with posttraumatic growth and subjective happiness. Overall, the study underscores the importance of managing

disordered behaviors and reducing distress and promoting posttraumatic growth to enhance subjective happiness and wellbeing.

### **Implications**

The findings have pertinent theoretical and practical implications. theoretically, the study extends the understanding of mediation mechanisms by demonstrating how disordered eating and emotional distress explain the link between DEBS, ESDS, PTG and SH. Practically the results suggests that interventions should focus on reducing problems of disordered eating and emotional distress while simultaneously fostering post traumatic growth and subjective happiness. Additionally, the findings highlight the importance of early identification and management of emotional distress, as it play a critical role in disturbing positive growth outcomes, mental health professionals, educators and policy makers should prioritize programs that build resilience.

### **Recommendations**

Future research should examine the mediating roles of emotional distress and post traumatic growth using longitudinal designs to establish causal relationships. Infertility specific intervention should be developed to reduce emotional distress. Furthermore expanding the sample across diverse populations would improve the generalizability of the findings.

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