



Emotion Regulation as Moderator between Body Image and Body Shaming Among Post Mastectomy Breast Cancer Women

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ABSTRACT

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Current research aimed to examine the relationship between body image, Body shaming and emotion regulation among post mastectomy breast cancer women. Additionally, study determine the moderating role of Emotion regulation between body image and body shaming. Participants (N=304) mastected women were approached by using purposive sampling. The data was collected from the Shifa International Hospital, (NORI) and (PIMS) of Islamabad's hospitals. Lahore's Shaukat Khanum Memorial Cancer Hospital and Research Centre. Bahawalpur's BINU and (MINAR) from Multan with prior permission from hospital administration. The Body-Focused Shame and Guilt Scale, the Body Image Self-Rating Questionnaire were used to collect data for this study including Emotion Regulation Questionnaire along with demographic sheet and informed consent. SPSS version 26 was used for data analysis. Emotion regulation significantly predicted body shaming whereas body image as key variable. The findings of current study emphasize the value of including psychological support, such as emotion regulation strategies, into post-mastectomy care. This Study will be helpful in understanding the mechanisms that protect women from the adverse effects of body image disturbance and body shaming and also suggests health professionals, counselors, and psycho-oncology practitioners to guide patients in developing emotion regulation skills.

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1.0 Introduction

In 2022, the world was estimated to report 2.3 million new cases of breast cancer which is about a quarter of all cancer cases diagnosed in females. In the same year, more than 670,000 women succumbed to the disease hence making breast cancer the cause of the most cancer-related deaths in females, as WHO (2024) puts it. Recent studies show that incidence rates are increasing across many areas and that annual increases of between 1-5 percent have been seen in over half of the surveyed countries. According to projections by Kim et al. (2025), it is expected that mortality will increase by 68 per cent and the number of new cases will increase by an estimated 38 per cent by 2050, mostly in low- and middle-income countries. Breast cancer has remained the most common cancer in the female population across the world with the highest prevalence being noted in the Asian populations of Pakistan and India. This is a serious public health issue affecting Pakistani women as the percentage of cases shows (Shafique et al., 2023).

The statistics provided by the National Cancer Registry of Pakistan in the First Detailed Report on Cancer Statistics 2015-2019 show that breast cancer occupies the 38.8 per cent of all malignancies, including 269 707 cases reported in six major registries. Among the factors that have been implicated in this high occurrence are interracial intermarriage, obesity and absence of systematic programs of screening breast cancer. Such results emphasize that Pakistan urgently requires its population to be more aware, detected earlier, and preventive measures (Ikram et al., 2023). Most women consider the breast as the part of their feminine identity. As a result, mastectomy, which can be defined as the removal of the breast tissue, can be seen as the loss of the fundamental elements of womanhood (Menon & Mahony, 2019).

The Process Model of Emotion Regulation (1998) developed by Gross is one of the most common models that are used to explain the mechanism of how people cope with their affective experiences. The model outlines two major strategies, expressive suppression, which means suppressing emotional expression and is typically thought to be maladaptive, and cognitive reappraisal, which means re-framing a situation to change its emotional meaning and is typically thought to be adaptive. Although emotional suppression tends to increase psychological distress and social isolation, re-evaluating the experience of mastectomy as a life-saving procedure could reduce guilt and lead to resilience (Guimaraes et al., 2024).

Davis et al. (2018) believed that emotions are cognitive processes that people experience when they make appraisals about stimuli in the environment and that subsequently induce a certain response. They define experiential and expressive aspects of people in multifarious ways. The universal effect of emotions depends on their perception and communication. Cognitive operations that contribute to the affective responses are initiation, self-awareness, and divergent modes of affective expression (Sloan et al., 2017).

Emotions in behavioral as well as physiological domains are thus multi-component processes with incrementally growing duration, magnitude, latency and offset. They change over time and the changes in emotional dynamics which involves physiological responses that take place without any overt behavioral expressions are expressed in emotion regulation (Koole, 2009; Thompson, 1994). The regulation of emotions includes both positive and negative, internal and

external methods that are used to attain individual goals. The plan involves stimulating, preventing, and managing affective reactions as well as reducing the intensity of emotions (Muazzam et al., 2021; Yen et al., 2018).

1.1 Objectives

The study has two key objectives.

- The current research will focus on investigating the role of emotion regulation in mediating the relationship between body image and body shaming experiences.
- The aim of the current research is to test whether body image influences body shaming and evaluate the moderating impact of emotion regulation.

2.0 Literature Review

The systematic approach of emotion regulation that Gross (1998) offers gives a detailed account of the regulation of affective states. Within this paradigm, four regulatory goals are outlined: cognitive evaluation of contextual variables, attentional execution, control of emotional reactions, and selective/adaptive responding to situational variables. Attentional deployment is a term that is related to locus of cognitive focus whereas situation selection or modification relates to exposure to different environments or the change of stimulus intensity. Response modulation is used to treat behavioral, experimental, and physiological aspects, whereas cognitive reappraisal involves reinterpreting the stimuli. This paradigm explains the numerous ways that people use in order to control and communicate feelings. The theory divides emotion regulation methods into antecedent and response. An antecedent-based approach, cognitive reappraisal, is the re-evaluation of the appraisal of an occurrence to diminish its affective influence; a response-based approach, expressive suppression, is the less visible reduction of outward emotional manifestations with no significant change in underlying affective emotions (Preece et al., 2020).

Mastectomy patients can have difficulties in managing their emotions and this adds to the psychological burden related to changes in sexual functioning and body image. In the framework of breast cancer and especially following the surgery, a lack of emotion regulation may result in the development of depressive affect, a lack of coping efficacy, and an exposure to sexual dissatisfaction. The results show that women who have poor emotional control tend to become more susceptible to sexual anxiety and body-image disturbances (Rasouli et al., 2024). As such, current emotion-regulation skills can be utilized to reduce the negative emotional effects of mastectomy, which can lead to psychological resilience and quality of life in breast-cancer survivors.

Distress that arises because of body-image changes and shame are pivotal issues that women with breast cancer must face by employing emotion regulation. Avoidance or expressive repressions are a few of the maladaptive regulatory strategies that have been associated with worse post-mastectomy outcomes, higher levels of depressive symptoms, and greater body shame (Hinz et al., 2010; Hughes et al., 2014). On the other hand, adaptive strategies, of which cognitive reappraisal (reinterpreting the contextual meaning of experiences) is the primary one, relate to a decrease in distress and an improvement of life quality.

Most quantitative studies of women after breast cancer have largely been conducted on the

concept of body-image as a one-dimensional variable, and have tended to concentrate on ideals of attractiveness at the cost of more extensive psychological and behavioral issues. In turn, the multidimensional character of the body-image disorders in this population is not well-known. The existing data indicates that this narrow scope of the issue blurs the understanding of how breast cancer and related interventions can affect not only visual self-perception but also behavioral, cognitive, affective, and attitudinal body image elements. It is critical to have a more holistic approach to the design of psychosocial interventions that will effectively help with the entire range of body-image issues (Brunet and Price, 2021).

A picture-elicitation study analyzed the lived-in experiences of women who have had mastectomy, which found that emotional distress, body shaming, and disruption of their identity in everyday life are very intense. The research examined the ways in which routine activities are constant prompts of physical decline using participant generated photographs and interviews. To reduce the perception of being judged, several women expressed beliefs of incompetence and embarrassment of their looks, often wearing clothes to cover their bodies, and avoiding social interactions. The results highlight the necessity of introducing psychological interventions to survivors of breast cancer in the post-mastectomy period, that is, the problems of body shame, self-acceptance, and emotional recovery (Erden et al., 2025).

2.1 Rationale

The bulk of research literature on breast cancer patients has largely focused on clinical outcomes and prognosis rates; relatively limited studies have examined psychological problems, even though body shame has a significant influence on the quality of life overall. There are long-term emotional, interpersonal, and social consequences of neglecting body shame and body image issues. Breast cancer is the most common cancer among women and even today, millions of women undergo surgical procedures and especially mastectomy every year due to this condition. The risk of breast cancer in one out of nine women in Pakistan is significant as a public-health issue. Emotion regulation has been proved to be a useful psychological construct in reduction of suffering in populations with severe illness.

Regulation of emotions is necessary to prevent the harmful consequences of social isolation, avoidance, and humiliation (Gross, 2003; Guimaraes et al., 2024). It entails the control and proper reaction to affective situations. It is especially necessary to explain the protective role of emotion regulation in women after mastectomy because these processes can prevent the impact of body image disruption. As the study examines the moderating effect of emotion regulation to body shame among Pakistani women undergoing mastectomy, and offers significant data that can be used to inform culturally sensitive therapeutic interventions to improve resilience and achieve psychological well-being in this group, the study aims to have a substantive contribution.

3.0 Methodology

The present study was based on a quantitative method and cross-sectional survey research design. The variables that were studied were body image, body shaming, and emotion regulation which were operationally defined using the scores of validated scales. A total of 304 women with a history of post-mastectomy treatment of breast cancer in six hospitals in Islamabad, Lahore,

Multan, and Bahawalpur, Punjab, Pakistan, between an eight-month period were taken as the sample population. The inclusion criterion was that the subjects have to be aged 40 to 55 years. The twenty-six item body image self-rating questionnaire of breast cancer, with modifications by Zhou et al. (2018), and the Body-focused shame items based on the Body-focused shame and guilt scale developed by Weingarden et al. (2016) were one measurement tool. The scale was intended to evaluate feelings of guilt and shame, which are self-conscious, especially those related to the body. All the items were rated on a five-point Likert scale with strongly disagree, strongly agree as the extremes, where a higher score represented a higher predisposition to develop body-focused guilt and shame.

The Emotion Regulation Questionnaire (ERQ) was also originally developed and tested to assess specific affective reactions to events related to the physical appearance and body image. The ERQ created by Gross and John (2003) was created to determine the predisposition of individuals in terms of emotional regulation. The ERQ utilizes a seven-point Likert scale that is based on strong disagreement to strong agreement and has two subscales expressive suppression and cognitive reappraisal that have ten items each. Abbasi and Kazmi (2022) used an Urdu translation of the ERQ.

The Demographic Information Form was given to the participants after the informed consent was provided and the hospital administrations were informed beforehand. They were asked to fill the form sincerely and were not placed on any time constraint. The respondents were guaranteed with the fact that their personal data would be kept confidential and would be utilized only on research purposes. The SPSS version 26 was used to analyze the data.

4.0 Findings and Results

Table No.1 Frequency Distribution of Demographics

Variables	Categories	F	%	M	SD
Age				47.28	4.36
Age category	40-48	184	60.5		
	49-55	120	39.5		
Marital status					
	Married	253	83.2	38.28	8.94
	Unmarried	11	3.6	34.73	10.82
	Widow	17	5.6	32.76	10.21
	Divorced	23	7.6	38.30	9.08

Note. F = Refers to Frequency

Table 1 shows a descriptive demographic data that relates to the study sample. The sample consisted of 304 women that had undergone surgical mastectomy after being diagnosed with breast cancer. The age ranged between 40 to 55 years ($M= 47.28$, $SD=4.36$). In this bracket, there were 184 (60.5) people in the 40-48 age bracket, and 120 (39.5) were in the age 49-55 bracket.

Table No. 2 Pearson Correlation

Measure	<i>M</i>	<i>SD</i>	1	2	3
1. BISQBC	113.16	8.35	1		
2. BSS	37.85	9.15	-.35**	1	
3. ERQ	39.58	11.54	.01	-.46**	1

The results have shown that body image and body shame were found to have a relatively negative association at the significance level of .01 ($r = 0.35$, $p = .01$). Our hypothesis was that body shame would be negatively related to emotion regulation. The data supported this hypothesis and found that body shame and emotion regulation have a strong negative correlation at the .01 level of significance ($r = -0.46$, $p = .01$).

Table No.3 Moderation of Emotion Regulation on Body image and Body shame (N = 304)

Measures	Model 1			Model 2		
	<i>B</i>	β	<i>SE</i>	<i>B</i>	β	<i>SE</i>
Constant	74.433		8.42	137.51		77.58
Body image		-.12**	-.11	.056	-1.74**	-1.59
Emotion regulation		-.37**	-.46	.040	-.85*	-1.07
Body image x Emotion regulation					-.01*	-1.59
<i>R</i> ²		.23**			.26**	
ΔR^2					.03	

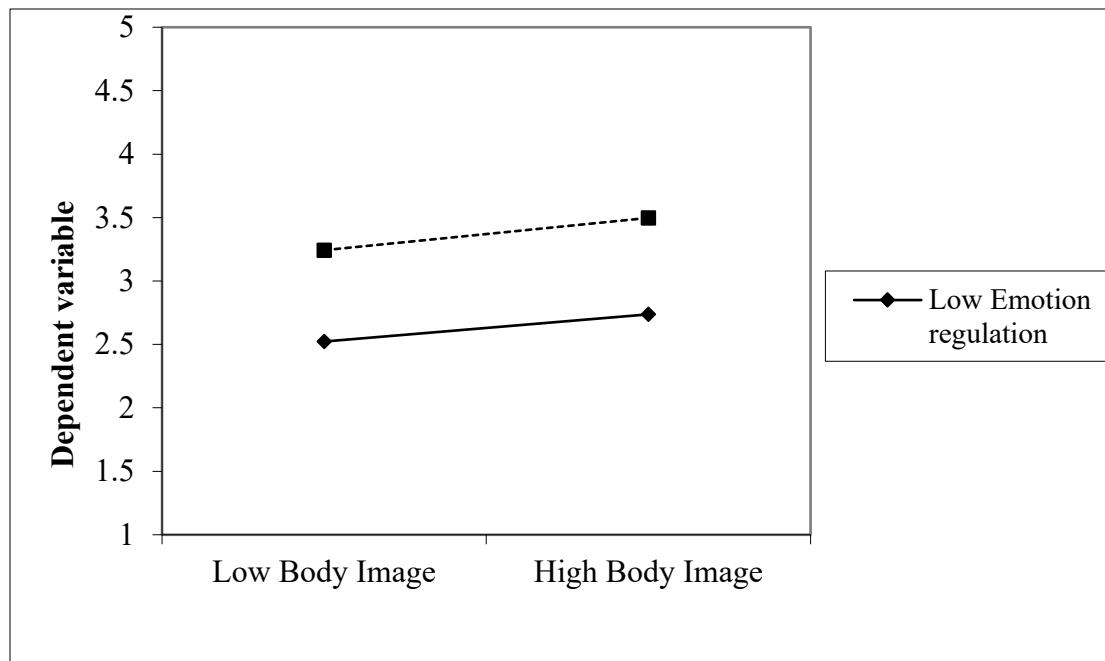


Figure 1: An illustration of how body image and emotion regulation are moderated

The analysis has shown that body image and emotion regulation have a synergistic relationship thus playing a role in the expression of body shaming. Besides, the figure shows the main impact of these variables, showing that the body shaming is increased when the body image and emotion regulation levels are low and decreased when both variables reach high levels. These studies are indicative that body image and emotional regulation have a deterrent effect towards body shaming

5.0 Discussion and Conclusion

It was hypothesized that emotion regulation would have a significant role to play in altering the degree of interrelationship between body image and body shame. The theoretical grounds of this expectation are based on the assumption that moderators are protective factors, and thus they can alleviate instances of body shame, despite the persistence of body image concerns. The existing data, which has been collected empirically, demonstrated that body image and emotion regulation had a significant and negative correlation with body shame, which is why the higher the level of emotion regulation, the lower the level of body shame.

The correlation between body shame and emotion regulation (Table 2) is negative and significant ($r = -.46$, $p = .01$), which means that the higher the body shame, the more the women reported experiencing more challenges in emotion regulation. Compared to the results provided by Guimarães et al. (2024), these findings indicate that breast-cancer survivors with difficulties in controlling emotions have worse psychological well-being. The central importance of emotion regulation in reducing body-related distress is also supported by the fact that more emotional impairment is usually predicted by the lower the emotional clarity and the less the presence of effective control strategies.

Furthermore, Table 3 showed that the moderation of body image and emotion regulation

is an important interaction ($p < .05$). This was a negative direction meaning that the higher the emotion control, the less the negative body image had an effect on body shame. Though this interaction explained a small percentage of the extra variance ($\Delta R^2 = .006$; $F(2, 298) = 5.20$, $p < .01$), the overall results highlight the importance of emotion regulation as one of the most important protective moderating variables that reduce the risk of body shame in breast-cancer survivors after mastectomy.

Another important fact established by the study is that the low body image of breast-cancer survivors undergoing mastectomy is a strong predictor of increased body shame. Notably, emotion regulation moderates this relationship: females with high emotion regulation have a less strong negative body image-body shame relationship. This is a psychological tool that plays a central role in emotion regulation because similar results are found in cancer cohorts. As an example, Collins et al. (2023) found that participants who had moderate to high levels of emotion-regulation skills alleviated the negative impact of childhood maltreatment on psychological well-being, which is a synergistic protective effect similar to the effect in the context of mastectomy patients.

5.1 Conclusion

The current study involved the correlation between body image, body shame, and emotion regulation in a group of women who underwent mastectomy. Also, the research question investigated the moderating role of emotion regulation on the relationship between body image and body shame. The results showed that negative body image was a significant predictor of body shame and heightened emotion regulation undermined this effect. The findings are added to the literature on the role played by internal psychological processes in the post-mastectomy adjustment, body image, and the distress, which comes with the body shame. In particular, females having a low level of emotion regulation abilities expressed more body shame, and females having a higher level of emotion regulation expressed more body acceptance and emotional recovery.

5.2 Limitations

1. The cross-sectional design limits the ability to determine causal relationships between body image, body shame, and emotional regulation. Longitudinal study may provide a more realistic picture of psychological development across time.
2. Although there was no training or intervention, the research measured emotion regulation as a psychological concept.
3. The amount of data was insufficient to fairly represent the entire sample of breast cancer from different socioeconomic and cultural groups.

5.3 Suggestions

1. Large sample size is needed to generalize the whole population.
2. Psychological intervention and training should be applied on patients to teach women how they can regulate their emotions effectively.

Aqsa Sajjad: Problem Identification, Theoretical Frame Work, Methodology, Drafting and Revision

Syeda Farhana Kazmi: Data analysis and supervision

Conflict of Interests/Disclosures

The authors declared no potential conflicts of interest in this article's research, authorship, and

publication.

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