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Psychological Health of Burn Survivors: Influence of Burn Scar Severity, Body Image Dissatisfaction, and Self-Esteem

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The current study examined impact of burn scars severity on psychological health of burn survivors with mediating role of body image dissatisfaction and self-esteem. To collect sample, purposive sampling techniques were used including individuals from hospitals, burn centers, online sources (Instagram and Facebook) and domestic settings. Sample comprised of burn survivors (N = 82) aged 15 years and above (M = 33.99, SD = 15.60). For assessment, Rosenberg Self-Esteem Scale (García et al., 2019), The Patient and Observer Scar Assessment Scale (POSAS; Carriere et al., 2022), The Satisfaction with Appearance Scale (Kazemzadeh et al., 2021) and The Depression Anxiety Stress Scale (DASS-21; Moya et al., 2022) were used. Statistical analyses included correlation, regression and mediation. Results indicated that burn scar severity had significant positive relationship with body image dissatisfaction and significant negative relationship with psychological health. Body image dissatisfaction was shown to have significant negative relationship with self-esteem and self-esteem had significant negative relationship with psychological health. Through regression analysis, body image dissatisfaction and self-esteem appeared as significant predictors of psychological health. Mediation analysis through Process Macro indicated body image dissatisfaction and self-esteem significantly, serially mediated the relationship between burn scar severity and psychological health of burn survivors. The study highlights the impact of burn scar severity on survivors' psychological health and the need for preventive measures.

Keywords. Psychological health, body image dissatisfaction, burn survivors, self-esteem

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Burns are injuries caused by the application of heat, chemicals, electrical current, or other substances to the body's surface, resulting in tissue destruction (Brink et al., 2019). According to World Health Organization (WHO, 2018), globally an estimate of 180 000 deaths is caused by various modes of burns (Smolle et al., 2017). A vast majority of burns occur in lower and middle-income countries as compared to higher, with 16.9 deaths per 100,000 in South-East Asia, 1 000 000 in India and nearly 173 000 in Bangladesh annually (WHO, 2018). Burn scars on the face can be a significant cause of injury leading to loss of facial expression, and deformity/loss of nasal tissue with associated respiratory dysfunction (Kartal & Bayramgurler, 2018). Burn victims traverse major changes in their identity coming to terms with a new reality and endless outpour of questions regarding their self-esteem, body image and negative emotions. Previous research has revealed that there is a significant positive association between burn scars and the incidence of mental disorders with a prevalence of 29.4% (Bich et al., 2021). Another study found 42% prevalence rate of PTSD in burn survivors who met the criteria for PTSD (Zheng et al., 2021).

Alongside burn scar severity, other facets that influence psychological distress and post-burn functionality are body image dissatisfaction and self-esteem. Body image can be expounded as a type of self-concept sculpted from personalized and social experiences incorporating cultural and familial retorts to one's body which are deemed important for one's attitude towards self (Kolb, 1959). It is one's self-perception regarding the physical self and also the feeling and thoughts that result from that perception (Burgess et al., 2006). In accordance with literature, a contributing predictor of decline in psychological health in the context of burn scars was body image dissatisfaction. Study found dissatisfaction with appearance ranged between 20% to 40% in females and 10% to 30% in males (Quittkat et al., 2019). The rapid excel of mass media further exacerbated the onset and persistence of displeasure amongst individuals with regards to their physical appearance; particularly women (MacNeill et al., 2017) who compared their bodies with others resulting in increased negative evaluation.

In the aftermath of burn injuries, especially those affecting visible or gender-salient body parts, the psychological consequences often extend far beyond physical trauma. One key pathway is through disruptions in body image, which refers to an individual's perception, thoughts, and feelings about their physical appearance (Merino et al., 2024; Zartaloudi et al., 2023). According to the Tripartite Influence Model (Thompson et al., 1999), three main sociocultural agents — family, peers, and media — shape body dissatisfaction by promoting

appearance ideals and encouraging appearance-based social comparisons. This model, though initially developed for understanding disordered eating, has been increasingly applied to body dissatisfaction in other appearance-altering contexts, such as disfigurements due to burns (Schaefer et al., 2021). In Pakistan's collectivist society, where women's physical appearance is often tied to honor, marriageability, and social worth, these sociocultural influences are particularly intense. The marriage market pressure and visibility-focused arranged marriage culture reinforce rigid beauty standards and stigmatize visible scarring, further heightening dissatisfaction among female burn survivors (Malik et al., 2023). This dissatisfaction is not merely internal but shaped by reactions from others — ranging from unsolicited comments and stares to avoidance and outright rejection (Dekel & van Niekerk, 2018; Jewett et al., 2018; Sharratt et al., 2019). Such socially embedded appearance pressures not only intensify post-burn body image concerns but also contribute to deep emotional distress and social withdrawal.

Building upon body image dissatisfaction, the model further proposes that this dissatisfaction affects psychological health through its impact on self-esteem, that is a person's global evaluation of their self-worth (Du et al., 2017). The Self-Discrepancy Theory (Higgins, 1987) helps explain this mechanism: When an individual's actual physical appearance is perceived as falling short of their culturally informed "ideal" self, emotional discomfort such as shame, anxiety, or depressive symptoms may result. In societies like Pakistan, where conformity to idealized beauty norms, especially for women is strongly linked to social inclusion and marital success, this discrepancy becomes deeply consequential. Research suggests that individuals with low self-esteem are more vulnerable to internalizing such ideals, engaging in more frequent appearance comparisons, and deriving self-worth from societal validation (Behera & Khuntia, 2025; Merino et al., 2024; Patrick & Knee, 2004; Zartaloudi et al., 2023). Girls and women in particular, when exposed to societal, familial, or media-driven appearance standards, often internalize these norms and evaluate their desirability, identity, and relational value based on them; an effect amplified in the context of burn-related disfigurement. Empirical studies (Loehr et al., 2022; Van Loey, 2020; Willemse et al., 2021; Wu et al., 2022) further confirm that burn survivors, particularly those with scars on highly visible areas, report lower self-esteem and greater psychological distress. Hence, within this model, body image dissatisfaction and self-esteem act as sequential mediators, forming a culturally and theoretically coherent pathway from burn severity to deteriorating psychological health in Pakistani burn survivors.

In Islamabad, Pakistan, 8000 cases of females being burnt by acid assaults, kerosene and stoves have been reported since 1994 (Bibi et al., 2018) and mortality rate is stagnant at 6.5% (Ali & Ali, 2022). In low to middle income countries such as Pakistan, India, Pakistan, Nigeria, etc. female burn patients have more likelihood to experience psychological distress (Farooq et al., 2011). A study was carried out in 2022 at the National Burn Care Centre, Pakistan Institute of Medical Sciences (PIMS), Islamabad on individuals who had experienced facial burns. The results of the study showed that 68.6% of the participants reported lower levels of self-esteem (Tariq et al., 2023). Although much literature has been generated on the psychosocial impact of burns globally, very few studies have been conducted in developing countries like Pakistan where accidental burns, domestic violence, and acid throwing attacks have increased in current years (Nasrullah & Muazzam, 2010).

A study had been conducted about the degree of mental distress and PTSD among Pakistani women who had burns and it showed that female burn survivors faced a high level of social reaction, about 23% sample experienced severe psychological distress and 20% sample reported severe symptoms of PTSD. Social support and psychological responses had a substantial negative association (Idrees et al., 2017). A detailed study consisting of 5 burn survivors was conducted in Lahore, Pakistan, it explored the perceptions and experiences of female burn victims having facial disfigurement. Four major themes; physical appearance, relationships, post traumatic growth and coping strategies were identified. It was also found that body appearance is important for female burn survivors and their lives have changed completely after facial disfigurement (Habib et al., 2021).

Another study was carried out which found that depression was present in all the patients regardless of whether the burn was accidental, homicidal or suicidal. In deep burn patients, the level of severe anxiety was reported to be higher. The study concluded that burn injuries have a significant impact on the psychological health of the patients (Bhatti et al., 2020). Another study showed that 58% of the burn patients reported depression and 82% of patients reported anxiety. The reason for such high rates was explained by the researchers was that burn injuries sometimes result in tragic events with long-lasting physical and psychological repercussions may be the cause of this high rate (Alvi et al., 2009). In Pakistan, there are not enough burn centers, and those that exist have scarce resources and are operating in major cities. There is a delay in the treatment of burn patients, which lowers their survival and recovery (Tasleem et al., 2024). Some other issues that exacerbate the

problems faced by burn patients in Pakistan include lack of awareness, poverty, lack of formal education, and etc. (Iqbal, 2024).

A study was conducted on burn patients admitted to tertiary care hospitals in Peshawar, Pakistan. The aim of the study was to examine the frequency of PTSD. It was reported that 52% of the participants were diagnosed with PTSD. Male participants showed a 44% prevalence, and females showed a 66% prevalence of PTSD. The high prevalence of PTSD could be attributed to the fact that burn survivors in Pakistan are not given proper psychological and social support. There are not enough rehabilitation centers, and the government also does not provide support (Khan et al., 2025). Another study was conducted in Khyber Pakhtunkhwa, Pakistan, to examine depression, anxiety, body image of burn patients, and the psychological impact of their injuries on different aspects of their life, such as marriage and employment. The results indicated that both male and female participants experienced depression and anxiety and were not satisfied with their body image (Gul et al., 2025).

Another study was conducted in Lahore, Pakistan. Data was collected from burn patients who were receiving treatment at Mayo and Jinnah Hospital. The aim of the study was to examine the perceived insecurity among the participants. The results indicated that females and those participants who had experienced intentional burn injuries reported more perceived insecurity compared to males and those with accidental burn injuries (Nazim et al., 2024). Another cross-sectional study was carried out in Peshawar indicated that 17% of participants experienced minimal depression, 18.8% showed mild levels of depression, 20.2% reported experiencing moderate levels of depression, and 28.4% were extremely depressed (Ullah et al., 2025).

A study conducted at the National Burn Care Centre, Pakistan Institute of Medical Sciences, Islamabad, Pakistan, revealed that anxiety was experienced by all the participants of the study, ranging from mild to moderate, with men showing more anxiety symptoms compared to women. This could be due to multiple reasons, such as problems with employment and worry about treatment expenses. It was also found that all the participants experienced depression, and it did not matter whether there was a difference in the total body surface area affected by burns (Rehan et al., 2024). Another study found that 64.5% of burn patients experienced low levels of self-esteem. It was concluded that self-esteem and social support are extremely important factors that contribute to the overall psychological health of burn patients (Shafiullah, 2023).

Another research study was carried out at Jinnah Burn and Reconstructive Surgery Center, Lahore. The aim of the study was to examine the relationship between body image and psychological distress. The results indicated that as body image disturbance increases, psychological distress also increases. Experiencing body image disturbance is not unusual for burn survivors, as they go through a change in their physical appearance which is not easy to accept. Burn injuries affect all areas of their lives, be it psychological, physical, or economic (Tahir et al., 2023).

Rationale of the Study

Burn injuries are a traumatic experience and are a social problem that adds to feelings of stigmatization in burn survivors that may result in deformities and disabilities; it can have a negative impact of the physical, emotional, social and psychological aspects of life. It may affect the mental processes of the patient with visible burn scars (Ngaage & Agius, 2018). Along with the mental health deterioration, it can lead to body image concerns such as appearance discomfort and body image dissatisfaction. This study identifies how mental health of burn scar survivors is affected with respect to self-esteem, body image dissatisfaction. When first admitted to the hospital, around one-third of survivors of burn experience extreme distress due to changes in the manner in which their bodies look, feel, and function (Shepherd et al., 2024). Such distress may elicit feelings of grief and diminished body satisfaction and self-esteem. Survivors often face long term complications due to lack of awareness of psychosocial challenges and rehabilitation centers (Ali & Ali, 2022). Therefore, the current study provides to divulge the integral role of burn scar severity on psychological health of survivors, assessing alongside the mediating role of factors such as self-esteem and body image dissatisfaction.

Objectives

The objectives of the research are as follows:

1. To see the relationship between burn scars severity, body image dissatisfaction, self-esteem, and psychological health among burn survivors.
2. To investigate the predictive role of burn scars severity, body image dissatisfaction and self-esteem for psychological health among burn survivors.
3. To explore the serial mediation of body image dissatisfaction and self-esteem on the relationship between burn scars severity and psychological health of burn survivors.

Hypotheses

Following hypotheses were formulated on the basis of objectives:

1. There is positive relationship between burn scars severity, body image dissatisfaction and poor psychological health among burn survivors.
2. Self-esteem is negatively related to body image dissatisfaction and poor psychological health among burn survivors.
3. Body image dissatisfaction positively predicts the poor psychological health among burn survivors.
4. Body image dissatisfaction and self-esteem serially mediate the relationship between burn scar severity and psychological health among burn survivors.

Method

Research Design

In present study based on the cross-sectional research design. The study aimed to examine the impact of burn scars severity on psychological health of burn survivors and the mediating role of body image dissatisfaction and self-esteem in burn survivors.

Sample

The sample of burn survivors was chosen via the purposive sampling technique. Participants (N = 82), including the people from Burn Center Kharian, Punjab, Pakistan and non-institutionalized sample available to researchers. As per the inclusion criteria, literate individuals were included, with minimum intermediate level of education. Participants from 15 to 65 years of age were included. Burn survivors with burn injury caused by any mode such as flame, electricity, acid, chemicals, etc. were included in this study. Participants of 15 years and less were excluded. As the population of burn survivors is less prevalent in Pakistan, so data from foreign burn survivors was also collected through online sources and Google form. Participants from other countries included USA, UK, Canada, Sweden, Philippines, Australia, Nigeria, and South Africa. Participants from Pakistan were 35, and 47 participants were from foreign countries. Sample consisted of males (n = 26; 31.7%) and females (n = 56; 68.3%) with mean age of 33.99 (SD = 15.60). Most of the participants

were from urban areas (*n* = 57; 69.5%) and the remaining were from rural areas (*n* = 25; 30.5%). Participants belonged to nuclear family system (*n* = 47; 57.3%) and joint family system (*n* = 35; 42.7%). A large portion of participants were single (*n* = 48; 58.5%), as compared to married (*n* = 23; 28%), widowed (*n* = 2; 2.4%) and divorced (*n* = 9; 11%). Majority of the participants were unemployed (*n* = 54; 65.9%) while the remaining were employed (*n* = 28; 34.1%).

Participants were educated up to matric (*n* = 28; 34.1%), above matric to bachelors (*n* = 42; 51.2%) and the remaining had education above bachelors (*n* = 10; 12.2%). Lastly, most of the participants had middle income level (*n* = 44; 53.7%), low-income level (*n* = 30; 36.6%) and high-income level (*n* = 8; 9.8%). Other characteristics of burn victims are given in Table 1.

Table 1: *Specific Characteristics of Burn Survivors (N = 82)*

Demographic Variables	*n*	*%*
Modes of burn injury		
Flame	62	75.6
Acidic	3	3.7
Electrical	3	3.7
Others	14	17.1
Accidental or inflicted burn		
Accidental	77	93.9
Inflicted	5	6.1
Pain intensity		
No pain	6	7.3
Mild pain	7	8.5
Moderate pain	25	30.5
Severe pain	44	53.7
Presence of burn on body other than face, feet, neck, hands		
Yes	65	79.3
No	17	20.7
Place of incident		
Work	5	6.1
Home	64	78
Friend’s home	4	4.9
Others	9	11

Measures

Demographic Information Questionnaire

To obtain the necessary demographic information, a questionnaire was developed by the researchers themselves. It includes information such as age, gender, education, marital status, occupation, family system, socio economic status, mode of burn injury, residence, was the burn accidental or inflicted by someone, the intensity of pain, duration of the stay at the burn center, presence of burns on the body that are not visible and the place where the incident happened.

Rosenberg Self-Esteem Scale (RSES)

Rosenberg Self-Esteem scale (Rosenberg, 1965) was used to measure the degrees of self-worth and self-acceptance of a person. It comprises of ten items, each of which is rated on a Likert scale of 4 points, which ranges from "*Strongly Agree*" to "*Strongly Disagree*." Reverse coding is used for items 2, 5, 6, 8, and 9. The maximum and minimum scores are 30 and 10, respectively; higher the scores, the higher the person's self-esteem, and vice versa. There is no specific cut-off score for this scale. The total score is calculated by adding the scores of each item. The RSES has demonstrated high internal consistency, with Cronbach's alpha values typically ranging from .77 to .88, and good test-retest reliability (Rosenberg, 1965; Schmitt & Allik, 2005).

The Satisfaction with Appearance Scale (SWAP)

The satisfaction with appearance scale (Lawrence et al., 1998) is a 14-item questionnaire that measures body image perception amongst burn survivors. The participants are asked to rate the degree of satisfaction they feel on a Likert scale of 7 points i.e. 1 (*Strongly Disagree)* and 7 *(Strongly Agree)* with Items 4-11 being reverse coded. The higher the score indicates to greater dissatisfaction with appearance and poorer body image perception. The total score of SWAP is measured by first subtracting one mark from each item so that each item is anchored to zero and then totaling all the items; the effective response weight per item ranges from 0 to 6, ensuring that the minimum total score is 0 and the maximum is 36. The satisfaction with appearance scale has been deemed as a highly reliable and valid tool for measuring body image perception for the burn injured population. Psychometric evaluation of SWAP has shown that it is a highly reliable and valid tool for assessing body image in burn-injured

populations. Internal consistency for the total scale has been reported as .88, indicating excellent reliability. Test-retest reliability over a two week interval has been reported at r = .92, demonstrating stability over time. Construct validity has been supported through correlations with related measures of psychological distress, social anxiety, and quality of life (Lawrence et al., 1998; Fauerbach et al., 2000).

The Depression Anxiety Stress Scales (DASS-21)

The depression anxiety stress scale is a self-reported, 21-item questionnaire design (Lovibond & Lovibond, 1995; Moya et al., 2022). The participants are asked to score on a 4-point Likert scale from 0 (*Did not Apply to Me at All)* to 3 (*Applied to Me Very Much*). A maximum score of 120 and minimum score of 0 can be obtained, with the cut-off scores being 60 for the total DASS score. According Lovibond and Lovibond (1995) score of ≥ 60 (total DASS score) is indicative of "Severe" symptoms (Tran et al., 2013). The higher the score, the less is the level of psychological health. The total score of DASS-21 is computed by adding up the scores of each item and then multiplying them by a factor of 2.

The Patient and Observer Scar Assessment Scale (POSAS)

The Patient and Observer Scar Assessment scale consists of 2 numerical scales: Patient complete the patient scar assessment scale, and the observer completes the observer scar assessment scale. It evaluates the signs of healing (Carriere et al., 2022; Draaijers et al., 2004). The Patient Scar Assessment scale contains 6 items centered on themes of scar color, thickness, relief, itching, pliability and pain. Each item in these two scales is constructed on a 10-step score where 10 is the worst imaginable scar observed or sensation felt. The total scores obtained is by the sum of all the items in the respective scale, ranging from a maximum score of 60 and minimum score of 6 on the patient scar assessment scale. The lowest scores of 5 and 6 are indicative of normal skin. Additionally, patients and observers can also report their general opinion regardless of the total score which is also rated on a scale of 1-10 (Lenzi et al., 2019).

Procedure

In current study, researchers employed purposive sampling to recruit the participants. Before making use of the questionnaires, permissions from their respected authors were obtained. After which a sample of burn

survivors by fire, acid or electrical means; either accidental or inflicted including both males and females were selected. The sample included the people from Burn Center *Kharian* and sample available to researchers. As the population of burn survivors is less prevalent in Pakistan, so data from foreign burn survivors was also collected through online sources by providing them questionnaires in the form of Google forms. Participants from other countries included USA, UK, Canada, Sweden, Philippines, Australia, Nigeria, and South Africa. Participants were briefed regarding the purpose of the study alongside the instruction and potential time taken for each questionnaire to be filled. Once informed consent was obtained, the participants were handed the assessment measures. All queries of the participants related to the study and the questionnaires were clarified before, during and after the research. And the data was then analyzed using Statistical Package for Social Sciences (SPSS).

Ethical Considerations

A formal permission was taken from concerned authorities and Burn Center *Kharian, Pakistan*. Informed consent was taken from the participants who were willing to participate in the study. The participants were informed and briefed about the topic and purpose of the study. They were informed that the information will only be used for this research purpose. Privacy and confidentiality of the participants was assured. As the target population were burn survivors who were in a painful situation due to burn injuries, they had the right to withdraw from participation at any stage of the study. Moreover, participants were also provided with information if they wanted to know the results of the study.

Results

Statistical analysis included: (1) Descriptive analysis on research variables and demographic variables, (2) Reliability analysis to find out the alpha reliability coefficient of the scales, (3) Correlation analysis to find the association between burn scar severity, body image dissatisfaction, self-esteem, and psychological health, (4) Regression analysis to find out the predictors of burn scar severity, body image dissatisfaction, self-esteem, and psychological health, and (5) Mediation analysis to examine the role of body image and self-esteem as serial mediators in the relationship between burn scar severity and psychological health.

The descriptive statistics of the study variables and the Cronbach alpha reliability of the measures used are mentioned in Table 2.

Table 2*: Psychometric Properties of the Study Variables (N = 82)*

					Range			
Variables	*k*	*α*	*M*	*SD*	Potential	Actual	Skew	Kurtosis
POSAS	6	.77	36.85	12.11	6-60	8-59	-.13	-.86
RSES	10	.81	21.00	4.73	10-40	11-31	-.28	-.22
DASS	21	.94	39.93	26.01	0-120	0-104	.47	-.68
SWAP	14	.91	35.43	18.36	14-98	15-94	.26	-.45

Note. POSAS = Patient and Observer Scar Assessment Scale; RSES = Rosenberg Self-Esteem Scale; DASS = Depression Anxiety Stress Scale; SWAP = Satisfaction With Appearance Scale.

The descriptive analyses of the scales used in this study indicate that the scales are well enough to be used in this study. The results show that the values of skewness and kurtosis fall within the range of +2 and - 2 indicated that the data is normally distributed and is not unreasonably distributed in either direction. The association between burn scar severity, body image, self-esteem and psychological health has been reported in Table 3.

Table 3**:** *Relationship Between Burn Scar Severity, Body Image, Self-Esteem and Psychological Health(N = 82)*

	Variables	1	2	3	4
1	Burn scar severity	-			
2	Body image dissatisfaction	.34**	-		
3	Self-esteem	.05	-.56**	-	
4	Psychological health	.04	.54**	-.58**	-

** $p < .01$.

The results of Pearson Product correlation indicated that burn scar severity had significant positive relationship with body image dissatisfaction. It also shows that body image dissatisfaction had significant positive relationship with poor psychological health, which means that body image dissatisfaction increases and psychological

health deteriorates (high scores indicates poor psychological health) in burn survivors. Body image dissatisfaction had significant negative relationship with self-esteem in burn survivors. Moreover, self-esteem had significant negative relationship with psychological health which implies that self-esteem increases, psychological health improves (low scores indicate high levels of psychological health). The results of regression analysis are shown in Table 4 highlighting the predictors of psychological health in burn survivors.

Table 4: *Burn Scar Severity, Body Image Dissatisfaction, and Self-Esteem as Predictors of Psychological Health (N = 82)*

					95% CI	
Variables	*B*	*SE*	*β*	*p*	*LL*	*UL*
Burn Scar Severity	-.16	.20	-.07	.42	-.57	.24
Body Image Dissatisfaction	.44	.16	.31	.01	.10	.77
Self-Esteem	1.77	.63	-.32	.01	.49	3.04
R	.65					
R^2	.43					
F	14.62					

The results in Table 4 indicated that body image dissatisfaction (p = .01) and self-esteem (p = .01) were significant predictors of psychological health. A total of 43% of the variance in psychological health was explained by the regression model, meaning that 43% of the variation in psychological health can be attributed to body image dissatisfaction and self-esteem.

Mediation of Body Image Dissatisfaction and Self-Esteem on the Relationship Between Burn Scar Severity and Psychological Health

Table 5 represents the results of the serial mediation through body image and self-esteem in the path between burn scar severity and psychological health (see Figure 1).

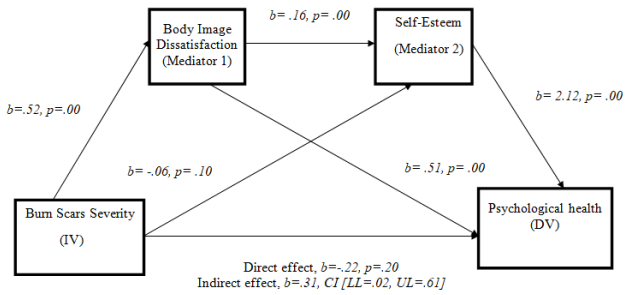
Table 5: *Mediating Role of Body Image Dissatisfaction and Self-Esteem in the Relationship Between Burn Scar Severity and Psychological Health (N = 82)*

Variables		*B*	*SE*	*β*	*p*	*LL*	*UL*
BSS	Total effect	.08	.23	.36	.71	-.39	.56
	Direct effect	-.22	.20	-1.12	.26	-.62	.17
	Total Indirect effect	.31	.14			.02	.61
	BSS→BOI→PsyH	.26	.10			.08	.48
	BSS→SES→PsyH	-.13	.09			-.33	.03
	BSS→BOI→SES→ PsyH	.17	.07			.05	.35

Note. BSS = Burn Scar Severity; BOI = Body Image Dissatisfaction; SES = Self- Esteem; PsyH = Psychological Health.

The results show that there was nonsignificant direct effect of burn scar severity on psychological health of burn survivors (p = .26). The indirect path (BSS → BOI → PsyH) is significant (*LL* = .08, *UL* = .48) which shows that burn scar severity through body image dissatisfaction has a significant link with psychological health. The indirect path (BSS → SES → PsyH) is nonsignificant (*LL* = -.33, *UL* = .03) which shows that burn scar severity does not have a link with psychological health through self-esteem. The indirect path (BSS → BOI → SES → PsyH) is significant (*LL* = .05, *UL* = .35) which shows that burn scar severity through body image dissatisfaction and self-esteem has a significant indirect association with psychological health. Thus, body image dissatisfaction and self-esteem serially mediate the relationship between burn scar severity and psychological health. The total indirect effect is statistically significant (*LL* = .03, *UL* = .60) while the direct effect of burn scar severity on psychological health is nonsignificant *(LL* = -.62, *UL* = .17).

Figure 1: *Mediating role of Body Image Dissatisfaction and Self-Esteem in the Relationship Between Burn Scar Severity and Psychological Health in Burn Survivors*



Note. Direct effect, *b* = -.22, *p* = .20; Indirect effect, *b* = .31, CI [LL = .02, UL = .61].

Discussion

This study examined the link between burn scar severity and psychological health with body image dissatisfaction and self-esteem as serial mediators. Results of correlation analysis found that that burn scar severity had significant positive relationship with body image dissatisfaction which is backed by a study by which found that burn severity had both direct and indirect linked to body image dissatisfaction. Fear of negative judgment was found to be linked with female gender, age and body image dissatisfaction while taking burn scar severity into account (Willemse et al., 2023). A systematic review was conducted to examine the influence of burn scar severity on body image dissatisfaction. The review included 33 quantitative studies. The results indicated that, out of the 33 studies, 12 reported a negative relationship between burn scar severity and body image. These findings suggest that individuals with more severe burn scars tend to be less satisfied with their body appearance (Cleary et al., 2020).

The findings also show that body image dissatisfaction has positive relationship with psychological health in burn survivors which means that if a person is dissatisfied with his/her body image then the person's psychological health deteriorates (low scores indicate good psychological health). Research on burn survivors shows that people with severe burn injuries (scaring and disfigurement) are often highly dissatisfied with their bodies which results in poor psychosocial adjustment and development of PTSD and depression later in life (Huang & Su, 2021). Another study was conducted to examine the relationship between burn injuries and vulnerability to psychological disorders. Only participants with no pre-existing mental illnesses were included. The results indicated that burn injuries were closely associated with an increased risk of mental disorders. Participants with a greater percentage of body area affected by burns were at higher risk than others (Peng et al., 2024).

Furthermore, it has been found body image dissatisfaction has significant negative relationship with self-esteem in burn survivors which implies that as body image dissatisfaction increases, self-esteem decreases. There is certain research that supports these results such as a study on adolescents which concluded that young girls who were obese were more vulnerable of having low self-esteem (Liu & Chang, 2022). Another study revealed a moderate relation between body image dissatisfaction and self-esteem in burn survivors (Willemse et al., 2023). Another research shows that body dissatisfaction and low self-esteem were strongly related among mostly all groups of adolescents (Van Den Berg et al., 2010). Another study also indicated a positive

relationship between body satisfaction and self-esteem (Mata & Castellano-Tejedor, 2024). We live in a society where physical attractiveness is highly valued, and social media platforms have significantly contributed to this ideal. Therefore, it is unsurprising that individuals who are dissatisfied with their bodies tend to have lower self-esteem (Jarman et al., 2024).

The correlation analysis results found that self-esteem has negative relationship with psychological health which means that self-esteem increases, psychological health improves (low scores indicate good psychological health). These findings are supported by previous literature. For instance, research was conducted on adolescents which indicated that high self-esteem results in fewer symptoms of psychological distress (Henriksen et al., 2017). Further, another research was conducted revealed that low self-esteem leads to anxiety and depression i.e. poor psychological health (Nguyen et al., 2019). Burn survivors experience an extensive set of complications, such as physical disfigurement, loss of body parts or organs, and scar formation, to name a few. These complications affect their quality of life. One of the most important dimensions they impact is self-esteem (Hosseinzadeh et al., 2021). A systematic review was conducted to examine self-esteem and other factors among survivors. The results indicated a negative relationship between self-esteem and both depressive symptoms and post-traumatic stress disorder (PTSD) (Mehrabi et al., 2022).

Results of regression analysis show that body image dissatisfaction emerged as a positive predictor of psychological health in Burn Survivors which implies that when body image dissatisfaction increases in a burn survivor, psychological health will also worsen. According to a previous study, body image dissatisfaction was notably linked with depression i.e. low psychological health and low self-esteem mostly in girls (Ganesan et al., 2018). Another study was conducted to examine the role of body image dissatisfaction in causing depression among burn survivors. The results indicated that individuals with higher levels of body image dissatisfaction also showed higher levels of depression. It was also found that the higher the percentage of body area affected by the burn, the greater the level of depression experienced by the participants (Golbach, 2023). Previous research indicates that negative body image almost always leads to individuals experiencing psychological distress because we live in a society where being physically attractive is extremely important. Thus, those who do not fit the ideal body image are subjected to poor treatment, leading to them experiencing depression, anxiety, and low self-esteem (Thorup et al., 2024).

Results of mediation analysis represent that body image dissatisfaction and self-esteem serially mediate the relationship between burn scar severity and psychological health of burn survivors. These results are in line with previous studies, a study highlighted that it is difficult to live with scars in society as it worsens psychological health. Professionals are worried about the changing concepts of normality related to the appearance and growing needs of beauty especially with companies targeting those with a visible difference. As a result, minor scars can also raise the demand for cosmetic surgery and reconstructive treatments. In addition to scars, functional restrictions may appear causing reduction in contentment from appearance and causing pessimistic perception and social gatherings that influence the development of depression and anxiety (Van Loey et al., 2003). A longitudinal study was conducted to examine the mediating role of body image dissatisfaction in the relationship between burn scar severity and symptoms of depression and post-traumatic stress disorder (PTSD). Data was collected on two different occasions, making it a two-wave longitudinal study. The results indicated that body image dissatisfaction significantly mediated the relationship for both depressive and post-traumatic stress disorder (PTSD) symptoms (Huang & Su, 2021). Burn injuries lead to a drastic change in appearance depending on the severity of the burn, as they cause scarring and disfigurement. Most people are not able to accept their appearance after such changes, leading them to change their perception of their body (Langleben et al., 2025). These visible differences lead to dissatisfaction with their body, often resulting in poor mental health and low self-esteem (Téot et al., 2020). Another study also reported similar findings (Golbach, 2023).

Limitations and Suggestions

There are few limitations of the study such that the size of the sample used in the current study was limited i.e. *only* 82 burn survivors. Therefore, for future research a large sample size could be used. In the current study, the number of females exceeded the number of males, which may limit the generalizability of the result to both genders. This limitation could be addressed in future research by equal representation of both genders. Additionally, as the data was only collected from Rawalpindi and Kharian in Pakistan, therefore, the results are less generalizable. Due to shortage of time, the researchers were unable to translate the scales in Urdu, therefore only educated and those who can understand English were part of the study. In measuring the Burn scars severity, the patient scale was only used, excluding the observer scale

due to unavailability of physicians. Future research could tackle this problem by also consulting physicians. The variables in the study were self-reported, which might have influenced the results due to biases such as social desirability and recall issues. Future research could incorporate qualitative methods, such as interviews or open-ended questions, to gain a deeper understanding of the issues faced by burn survivors. Since the current study used a cross-sectional design, future researchers could adopt a longitudinal approach to better establish cause-and-effect relationships between the variables. The psychiatric history of participants was not considered in this study, so future research could focus on this aspect as well.

Implications

The current research by accentuating the influence of burn scar severity on the psychological health of burn survivors can be used by different organizations in Pakistan to pay attention to not only supporting the human rights of such individuals but also work for their psychological health. The findings of this study can be used to highlight that screening tests should be used when the burn patients are hospitalized in order to take precautionary measures so that they do not fall victim to mental health issues. This will help to establish proper rehabilitation of burn survivors and thus these needs can be fulfilled more effectively.

Conclusion

Conclusively, the results of this research provide insight into the multifaceted elements within the burn psychosocial model. The influencing role of the triad of body image dissatisfaction, self-esteem, and burn scar severity shows evident links to psychological health amongst burn survivors. Appropriate advances in establishment of proper rehabilitation and psychological support post burn incidence can help address the emotional and psychological repercussions while safeguarding against future maladjustment. The disparity in one's self-image post burn injury evidence to significant prediction of future psychological distress. The integral role of self-esteem and body image dissatisfaction within the relationship of burn scar severity and psychological health through mediation analysis is self-evident, urging the implementation of proactive protective factors as precautionary measures.

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