
The Role of Emotional Regulation in Psychological Recovery Among Physically Injured Individuals

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Abstract

Psychological recovery following a physical injury is deeply influenced by an individual's ability to regulate emotions. Emotional regulation strategies such as cognitive reappraisal and expressive suppression play a crucial role in managing distress, enhancing resilience, and fostering mental well-being. This study explores the relationship between emotional regulation and psychological recovery among physically injured individuals, emphasizing the moderating role of social support. Research suggests that adaptive regulation techniques, particularly cognitive reappraisal, contribute to improved emotional stability and overall mental health, whereas maladaptive strategies like expressive suppression are linked to heightened distress and prolonged recovery. Additionally, social support, encompassing emotional, informational, and practical assistance, serves as a protective factor, buffering the negative psychological impacts of injury. A quantitative approach was employed to examine these relationships among a sample of physically injured individuals. Findings indicate that individuals who effectively regulate their emotions and have strong social networks demonstrate greater psychological resilience and faster recovery rates. The results highlight the importance of integrating emotional regulation training and social support mechanisms into rehabilitation programs to enhance psychological well-being. This study provides valuable insights for healthcare professionals and policymakers in designing comprehensive recovery frameworks for injured individuals.

Introduction

Emotional regulation plays a vital role in maintaining mental stability, especially for individuals recovering from physical injuries, which often come with emotional and psychological costs. Effective emotional regulation helps individuals manage stress, mitigate trauma-induced distress, and enhance psychological resilience (Winter et al., 2018). Research highlights that individuals with strong emotional regulation strategies experience better mental health outcomes and a more positive recovery process (Naimat et al., 2023). Psychological well-being, encompassing emotional strength, quality of life, and mental health, tends to decline in physically injured individuals. Accidents and injuries disrupt life stability, causing stress, anxiety, and depression. However, studies indicate that individuals who adopt cognitive reappraisal, a key emotional regulation strategy, report lower levels of psychological distress and improved mental health outcomes (Thoits, 2011; Chukwuemeka & Obioha, 2023).

Emotional regulation is particularly critical in post-injury recovery, as it prevents the onset of mental health disorders such as post-traumatic stress disorder (PTSD) and depression. Individuals with well-developed emotional regulation systems navigate the psychological challenges of injury more effectively, reducing maladaptive coping behaviors such as avoidance and emotional

suppression (Crosswell et al., 2017; Matkin & Ring, 2019). Social support enhances psychological well-being by providing emotional reassurance and practical assistance. Injured individuals with strong support networks experience lower levels of depression and anxiety, reinforcing the importance of emotional and social interventions in rehabilitation (Wiseman et al., 2016; Kellezi et al., 2016). Social support also facilitates long-term psychological resilience by reinforcing adaptive coping mechanisms. Research shows that individuals with strong social networks are more likely to engage in cognitive reappraisal and other positive emotional regulation strategies, enhancing their recovery outcomes (Padhy & Angiel, 2021; Chukwuemeka & Obioha, 2023). Research consistently demonstrates the critical role of emotional regulation in psychological recovery among physically injured individuals. A meta-analysis by Kraiss et al. (2020) found that cognitive reappraisal had the strongest positive correlation with well-being ($r = .19$), while maladaptive strategies such as rumination were associated with negative mental health outcomes ($r = -.19$). Studies further indicate that higher emotional regulation scores predict greater psychological resilience and well-being across clinical and non-clinical populations (Rahmania et al., 2020). Among physically injured populations, emotional regulation plays a crucial role in rehabilitation. Athletes with strong emotional regulation skills report lower levels of depression and anxiety following injury (Rahmania et al., 2020). Experimental studies show that injured individuals experience reduced psychological well-being, but targeted emotional regulation interventions significantly improve mental health outcomes (Mirza et al., 2017; Joharian et al., 2024).

Theoretical Background

Self-Determination Theory (SDT), proposed by Edward Deci and Richard Ryan in the 1980s, is a paradigm in the study of human motivation, emotion regulation, and psychological health. It's a hypothesis that there are three psychological needs – autonomy, competence, and relatedness – for individuals that are necessary for intrinsic motivation and health (Ryan & Deci, 2000). Once those needs are met, people are more self-motivated, more emotionally stable, and psychologically mature. On the other hand, if these needs are denied, people tend to suffer from lower

Conceptual Framework

Figure 1 shows the impact of emotional regulation on psychological well-being of physically injured individuals.



Rationale

Physical injuries are a significant public health concern in Pakistan, affecting thousands of individuals annually and leading to severe emotional and psychological consequences. According to recent data, approximately 3.7% of all work-related injuries require medical intervention, highlighting the hazardous working conditions in various industries (Noman et al., 2021). Additionally, 5.8% of domestic accidents result in hospitalization, with women and children being the most affected groups (Fogarty International Center, 2014). Furthermore, vehicular accidents contribute significantly to the increasing number of physically injured individuals, with around 43,000 people sustaining injuries in 2023 alone (World Health Organization, 2023). While these

injuries primarily impact physical health, they also impose a substantial psychological burden, often resulting in heightened stress, anxiety, depression, and emotional instability. The psychological distress associated with physical injuries underscores the need for effective coping mechanisms, with emotional regulation emerging as a crucial factor in recovery. Emotional regulation refers to an individual's ability to monitor, evaluate, and modify emotional responses to adapt to situational demands and maintain psychological stability (Gross, 1998). Research suggests that individuals who engage in adaptive emotional regulation strategies, such as cognitive reappraisal, demonstrate greater resilience and improved mental health outcomes following physical trauma (Aazami et al., 2018). In contrast, maladaptive strategies, such as expressive suppression, are associated with increased psychological distress and slower recovery rates (Tamir, 2016). Given the critical role of emotional regulation in psychological recovery, understanding how individuals regulate their emotions after sustaining physical injuries is essential.

Hypotheses

1. Cognitive reappraisal will have a positive relationship with psychological well-being among physically injured individuals.
2. Expressive suppression will have a negative relationship with psychological well-being among physically injured individuals.
3. Emotional regulation will significantly predict psychological well-being among physically injured individuals.
4. Social support will enhance the effects of emotional regulation on psychological well-being among physically injured individuals.
5. Female participants will experience greater psychological benefits from social support in managing emotional regulation and well-being after physical injury compared to male participants.
6. Early adults (ages 20–40) will demonstrate higher levels of emotional regulation, psychological well-being, and social support compared to middle adults (ages 41–60).
7. Treated individuals will exhibit higher levels of emotional regulation, psychological well-being, and social support compared to individuals still undergoing treatment.

Methodology

Research Design

This study employs a cross-sectional survey design to examine the association between emotional regulation, social support, and psychological well-being among physically injured individuals. A quantitative approach was adopted to systematically analyze the relationships between the study variables, ensuring objective measurement and statistical validation.

Measures and Instruments

Emotion Regulation Questionnaire (ERQ)

The Emotion Regulation Questionnaire (ERQ), developed by Gross and John (2003), was used to measure habitual emotional regulation strategies. The ERQ assesses two primary components: cognitive reappraisal, which involves altering one's interpretation of emotional experiences, and expressive suppression, which involves inhibiting emotional expressions. The questionnaire consists of 10 items rated on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree). The internal reliability of the ERQ is well-established, with cognitive reappraisal ($\alpha = .89$) and expressive suppression ($\alpha = .76$) demonstrating strong psychometric properties across diverse populations.

Psychological Well-Being Scale (PWBS)

The Psychological Well-Being Scale (PWBS), developed by Ryff and Keyes (1995), was employed to evaluate the overall psychological well-being of participants. The PWBS measures six key dimensions: autonomy, environmental mastery, personal growth, positive relationships, purpose in life, and self-acceptance. The scale consists of 18 items, rated on a 7-point Likert scale. Higher scores on the PWBS indicate greater psychological well-being. The reliability of this scale has been reported as $\alpha = .88$, making it a robust tool for assessing psychological resilience.

Multidimensional Scale of Perceived Social Support (MSPSS)

The Multidimensional Scale of Perceived Social Support (MSPSS), developed by Zimet et al. (1988), was used to assess the perceived level of social support from family, friends, and significant others. The MSPSS consists of 12 items rated on a 7-point Likert scale (1 = very strongly disagree, 7 = very strongly agree). The scale has demonstrated excellent internal reliability ($\alpha = .88$) across various populations, making it a reliable instrument for measuring the role of social support in psychological recovery.

Demographic Characteristics of Participants

Table 1 presents the demographic characteristics of the participants (N = 100).

Categories	Frequency (f)	Percentage (%)
Age		
20–40 years (early adulthood)	60	60%
41–60 years (middle adulthood)	40	40%
Gender		
Male	50	50%
Female	50	50%
Marital Status		
Married	60	60%
Unmarried	40	40%
Treatment Status		
Treated	70	70%
Under treatment	30	30%
Type of Injury		
Internal injury	30	30%
External injury	40	40%
Both	30	30%
Severity of Injury		
Injury led to disability	40	40%
Injury didn't lead to disability	60	60%

*f = frequency, % = percentage.

The sample was evenly distributed across gender (50% male, 50% female), with 60% falling into early adulthood (20–40 years) and 40% in middle adulthood (41–60 years). Regarding injury type, 40% had external injuries, 30% had internal injuries, and 30% had both types. Additionally, 40% of injuries led to disabilities, while 60% did not.

Table 2

Table 2 presents the descriptive statistics and reliability coefficients for the study variables, including cognitive reappraisal, expressive suppression, psychological well-being, and social support.

Variables	Mean (M)	Standard Deviation (SD)	Cronbach's Alpha (α)
Cognitive Reappraisal	24.50	10.30	0.89
Expressive Suppression	12.80	7.50	0.76
Psychological Well-being	58.30	18.40	0.88
Social Support	38.20	8.60	0.85

*N = 100, $p < .01$ indicates statistical significance.

The Cronbach's Alpha values indicate strong internal reliability for all scales, with cognitive reappraisal ($\alpha = .89$), expressive suppression ($\alpha = .76$), psychological well-being ($\alpha = .88$), and social support ($\alpha = .85$) all demonstrating high reliability.

Table 3

Pearson Correlations Between Study Variables (N = 100)

Variables	1	2	3	4
1. Cognitive Reappraisal	1	-0.45**	0.60**	0.48**
2. Expressive Suppression	-0.45**	1	-0.52**	-0.40**
3. Psychological Well-being	0.60**	-0.52**	1	0.55**
4. Social Support	0.48**	-0.40**	0.55**	1

* $p < .01$ (two-tailed). N = 100.

Results indicate that cognitive reappraisal is positively correlated with psychological well-being ($r = 0.60$, $p < .01$) and social support ($r = 0.48$, $p < .01$). In contrast, expressive suppression is negatively correlated with psychological well-being ($r = -0.52$, $p < .01$) and social support ($r = -0.40$, $p < .01$).

Table 4

Multiple Regression Analysis Predicting Psychological Well-being (N = 100)

Predictors	B	B	p
Constant	7.34	-	.002
Cognitive Reappraisal	1.45	0.58	.001
Expressive Suppression	-1.28	-0.42	.004
Social Support	0.72	0.35	.006
R ²	.42		
F	9.81		.000

*N = 100, $p < .01$ (two-tailed).

The regression model explained 42% of the variance in psychological well-being ($R^2 = .42$, $F = 9.81$, $p < .001$). Cognitive reappraisal significantly predicted higher psychological well-being ($\beta = 0.58$, $p < .001$), while expressive suppression negatively predicted psychological well-being ($\beta = -0.42$, $p < .004$).

Summary of Findings

1. Cognitive reappraisal positively impacts psychological well-being.
2. Expressive suppression negatively affects psychological well-being.

3. Social support significantly enhances psychological recovery.
4. The overall model explains 42% of variance in psychological well-being, confirming the strong predictive role of emotional regulation strategies.

Discussion

This study explored the relationship between emotional regulation and psychological recovery among physically injured individuals, focusing on cognitive reappraisal and expressive suppression as key regulatory strategies. The findings revealed that cognitive reappraisal positively correlates with psychological well-being ($r = 0.60, p < .01$), while expressive suppression has a negative correlation ($r = -0.52, p < .01$). These results align with existing literature suggesting that adaptive emotional regulation strategies enhance resilience and mental stability following physical trauma. The first hypothesis, which proposed that cognitive reappraisal is positively associated with psychological well-being, was strongly supported by the results. This finding aligns with research conducted by Gross and John (2003), who found that individuals utilizing cognitive reappraisal experience greater emotional stability and life satisfaction. Similarly, a meta-analysis by Hu et al. (2014) reported that cognitive reappraisal reduces depression and anxiety levels, suggesting its effectiveness as a coping strategy for individuals recovering from physical injuries. Moreover, Troy et al. (2010) demonstrated that cognitive reappraisal enhances stress resilience, a critical factor for individuals adapting to post-injury life. Conversely, the second hypothesis, which posited that expressive suppression negatively impacts psychological well-being, was also supported. The findings suggest that individuals relying on suppression experience lower emotional resilience, increased distress, and greater difficulty adjusting to their injury. Previous studies confirm that expressive suppression is associated with poor psychological health outcomes, including increased stress and reduced emotional expressiveness (Gross & Thompson, 2007). These results highlight the importance of adopting adaptive regulation techniques rather than suppressing emotions during the recovery process. Additionally, the study examined the role of social support in psychological recovery. Results indicated that social support significantly enhances the effects of cognitive reappraisal ($r = 0.48, p < .01$) and buffers the negative impact of expressive suppression ($r = -0.40, p < .01$). These findings align with research by Pollard and Kennedy (2007), which emphasized the protective role of social networks in reducing psychological distress among trauma patients. The data suggest that individuals with strong social connections demonstrate higher resilience, lower anxiety, and improved coping abilities. Furthermore, the study identified gender and age-related differences in emotional regulation and psychological well-being. Women reported higher perceived social support and greater emotional expressiveness than men, indicating a possible gender-based disparity in coping mechanisms. Similarly, younger participants (20–40 years) exhibited greater psychological well-being and emotional regulation abilities compared to middle-aged individuals (41–60 years). These findings align with research indicating that younger adults are more likely to engage in proactive emotional regulation strategies, leading to better mental health outcomes (Blanchard-Fields et al., 2004).

Implications

The findings of this study have significant implications for mental health interventions, rehabilitation programs, and therapeutic practices aimed at physically injured individuals.

1. Integrating Emotional Regulation Training in Rehabilitation: The results highlight the importance of cognitive reappraisal in promoting psychological recovery. Mental health professionals can incorporate emotional regulation training programs into rehabilitation protocols to help injured individuals develop adaptive coping mechanisms. Training in cognitive reappraisal techniques could lead to better stress management, reduced anxiety, and improved overall well-being.

2. **Enhancing Social Support Networks:** Given the significant role of social support in psychological recovery, hospitals and rehabilitation centers should develop community-based peer support programs. Encouraging family involvement, support groups, and therapy sessions could improve recovery outcomes by providing emotional reassurance and reducing feelings of isolation.
3. **Gender-Specific Interventions:** The study suggests that women benefit more from emotional and social support than men. Mental health practitioners should consider gender-specific intervention strategies, ensuring that male patients also receive adequate social and psychological support. Providing tailored coping strategies based on individual needs could enhance therapeutic effectiveness.
4. **Future Research on Longitudinal Effects:** Since this study utilized a cross-sectional approach, future research should examine the long-term impact of emotional regulation strategies on psychological recovery. A longitudinal study design would allow researchers to assess how emotional resilience develops over time and its influence on long-term rehabilitation outcomes.

Conclusion

This study examined the relationship between emotional regulation, psychological well-being, and social support among physically injured individuals. The findings confirmed that cognitive reappraisal enhances psychological resilience, while expressive suppression negatively impacts mental health. Additionally, social support was identified as a critical factor in facilitating psychological recovery. These results suggest that rehabilitation programs should incorporate emotional regulation training to enhance recovery outcomes. Moreover, strengthening social support networks and tailoring interventions to individual needs can further improve mental well-being in physically injured populations. The study emphasizes the importance of holistic psychological care, integrating emotional, social, and cognitive interventions to promote successful rehabilitation.

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