
The Moderating Role of Social Support in Enhancing Psychological Well-being After Physical Injury

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Original Article

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Keywords

Abstract

Physical injuries can result in severe psychological distress, negatively affecting emotional stability and overall well-being. Emotional regulation strategies, particularly cognitive reappraisal and expressive suppression, play a vital role in managing stress after an injury. Social support serves as a moderating factor, alleviating distress and enhancing resilience by fostering emotional stability and psychological recovery (Mitchell et al., 2014). This study investigates how social support influences the relationship between emotional regulation and psychological well-being among physically injured individuals. Results indicate that individuals with strong social networks experience lower levels of depression and anxiety, highlighting the necessity of integrating social support mechanisms into rehabilitation programs. The findings underscore the importance of adaptive emotional regulation strategies and structured social support in post-injury psychological well-being.

Introduction

Emotional regulation is crucial for maintaining psychological stability, particularly when individuals face physical injuries that bring both emotional and physical challenges. Emotional regulation strategies help individuals cope with trauma by influencing how they process distressing events (Winter et al., 2018). Studies suggest that resilience, closely linked to emotional regulation, serves as a protective mechanism against mental distress and fosters optimism in life (Naimat et al., 2023). symptoms of depression, and prolonged psychological suffering (McRae & Gross, 2018).

Emotional regulation refers to the ability to monitor, evaluate, and modify emotional reactions to achieve a desired state of well-being (Thompson, 1991). It involves cognitive and behavioral mechanisms that help individuals manage their emotions in response to stressful situations (Gross, 1998). Among the various emotional regulation strategies, cognitive reappraisal and expressive suppression have been extensively studied for their impact on psychological health. Cognitive reappraisal, which involves reframing a situation to alter its emotional impact, has been associated with improved mental health outcomes, including reduced stress and enhanced resilience (Tamir, 2016). Conversely, expressive suppression, which involves inhibiting emotional expressions, has been linked to poorer psychological well-being and increased distress (McRae & Gross, 2018).

Social support encompasses emotional, informational, and instrumental assistance provided by family, friends, and the broader community (Sarason & Sarason, 1994). It is widely recognized as a critical factor in psychological recovery, buffering against emotional distress and promoting resilience in individuals facing adversity (Lauzier-Jobin & Houle, 2021). Studies have consistently shown that individuals with strong social support networks report better psychological outcomes, including lower levels of anxiety, depression, and emotional distress (Wiseman et al., 2016). Research indicates that social support enhances emotional regulation by facilitating adaptive coping strategies. For example, cognitive reappraisal is more effective in individuals with high perceived social support, as it provides emotional validation and practical resources to cope with stress (Chukwuemeka & Obioha, 2023). Additionally, social networks create a sense of belonging and reduce feelings of isolation, further supporting mental recovery (Mitchell et al., 2014).

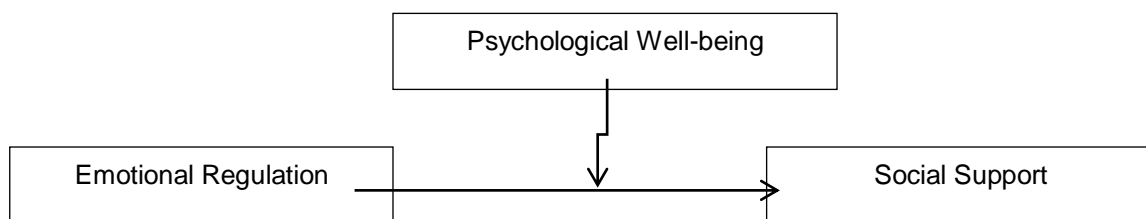
A meta-analysis of 86 studies with over 32,000 participants found that higher levels of social support are consistently associated with improved psychological well-being (Song & Fang, 2013). Longitudinal studies further suggest that social support plays a crucial role in facilitating emotional resilience and long-term recovery following injury (Wiseman et al., 2016). In clinical settings, structured social interventions such as group therapy and peer support programs have been shown to enhance psychological health and aid in rehabilitation (Kellezi et al., 2016).

Theoretical Background

The relationship between emotional regulation, social support, and psychological well-being can be understood through Self-Determination Theory (SDT) (Ryan & Deci, 2000). SDT posits that individuals have three fundamental psychological needs—autonomy, competence, and relatedness—that drive motivation and emotional stability. When these needs are met, individuals experience better emotional regulation and psychological well-being, whereas unmet needs lead to distress and maladaptation (Ryan et al., 2021).

Conceptual Framework

The conceptual framework for this study is based on the interaction between emotional regulation, social support, and psychological well-being in physically injured individuals.



Rationale

Physical injuries are a serious public health concern in Pakistan, leading to long-term physical and psychological distress (Noman et al., 2021). Research indicates that 3.7% of all workplace injuries and 5.8% of domestic accidents result in hospitalization, while vehicular accidents alone injure over 43,000 people annually (WHO, 2023). Such incidents have devastating psychological consequences, increasing the risk of depression, PTSD, and emotional distress among injured individuals (Brunelli, 2023). Social support has been identified as a crucial factor in mitigating these psychological effects. Studies indicate that individuals with strong family, community, and peer support report higher resilience, better emotional regulation, and improved overall well-being (Waqas et al., 2016). However, limited research has explored the moderating role of social support in emotional regulation and psychological well-being specifically among physically injured individuals (Asghar et al., 2023).

Methodology

Hypotheses

1. H1: Cognitive reappraisal is positively associated with psychological well-being.
2. H2: Expressive suppression is negatively associated with psychological well-being.
3. H3: Emotional regulation (cognitive reappraisal & expressive suppression) significantly predicts psychological well-being among physically injured individuals.
4. H4: Social support moderates the relationship between cognitive reappraisal and psychological well-being, such that the positive effect of cognitive reappraisal on psychological well-being is stronger when social support is high.
5. H5: Social support moderates the relationship between expressive suppression and psychological well-being, such that the negative effect of expressive suppression on psychological well-being is weaker when social support is high.
6. H6: The moderating effect of social support is stronger for females than for males in the relationship between emotional regulation and psychological well-being.
7. H7: The moderating effect of social support is stronger in early adults (20-40 years) compared to middle adults (41-60 years).
8. H8: Individuals who have completed treatment exhibit a stronger moderation effect of social support on emotional regulation and psychological well-being compared to those still undergoing treatment.

Research Design

This study adopts a cross-sectional survey design to analyze the moderating role of social support in the relationship between emotional regulation and psychological well-being. Quantitative data was collected to statistically test direct and interaction effects.

Sample and Sampling Technique

A purposive sampling method was used to recruit 100 physically injured individuals from hospitals. This ensured participants were relevant to the study's objectives and could self-report their emotional and psychological states.

Operational Definitions of Variables

1. Emotional Regulation: The ability to manage emotional responses through cognitive reappraisal (adaptive strategy) or expressive suppression (maladaptive strategy) (Gross & John, 2003). Measured using the Emotional Regulation Questionnaire (ERQ).
2. Psychological Well-being: A multidimensional construct encompassing self-acceptance, autonomy, purpose, personal growth, and positive relationships (Ryff & Keyes, 1995). Assessed using the Psychological Well-being Scale (PWBS).
3. Social Support (Moderator): Perceived emotional, informational, and practical assistance from family, friends, and significant others, which buffers psychological distress and enhances resilience (Zimet et al., 1988). Measured using the Multidimensional Scale of Perceived Social Support (MSPSS).

Measurement Tools

1. **Emotional Regulation Questionnaire (ERQ)** – A 10-item scale (Gross & John, 2003) measuring:
 - **Cognitive Reappraisal** (6 items, $\alpha = .89$)
 - **Expressive Suppression** (4 items, $\alpha = .76$)

- Rated on a 7-point Likert scale (1 = Strongly Disagree, 7 = Strongly Agree).
- 2. **Psychological Well-being Scale (PWBS)** – An 18-item scale (Ryff & Keyes, 1995) assessing autonomy, environmental mastery, and life satisfaction.
 - Internal reliability: $\alpha = .88$
 - Higher scores reflect better well-being.
- 3. **Multidimensional Scale of Perceived Social Support (MSPSS)** – A 12-item scale (Zimet et al., 1988) evaluating support from family, friends, and significant others.
 - Internal reliability: $\alpha = .88$
 - Higher scores indicate greater perceived support.

Data Collection Procedure

- Ethical approval secured from the research ethics committee.
- Hospital authorities granted permission for data collection.
- Informed consent obtained, ensuring confidentiality and withdrawal rights.
- Participants completed self-report questionnaires privately for accuracy.
- Each session lasted 20-30 minutes, with data collected over several months.

Results

Table 1: Demographic Characteristics of Participants provides an overview of the demographic characteristics of the participants (N = 100).

Categories	Frequency (f)	Percentage (%)
Age (20-40)	60	60%
Age (41-60)	40	40%
Gender (Male)	50	50%
Gender (Female)	50	50%
Marital Status (Married)	60	60%
Marital Status (Unmarried)	40	40%
Treated Individuals	70	70%
Under Treatment	30	30%
Emergency Ward Admission	55	55%
General Ward Admission	45	45%
Internal Injury	30	30%
External Injury	40	40%
Both Internal & External Injuries	30	30%
Injury Led to Disability	40	40%
Non-Disabling Injury	60	60%

These statistics provide a balanced distribution across age, gender, and injury types, allowing for an in-depth examination of how emotional regulation and social support influence psychological well-being.

Table 2: Psychometric Properties of Emotional Regulation, Psychological Well-being, and Social Support Scales

Variable	1	2	3	4				
Variable	No. Items (K)	Mean (M)	SD	Cronbach's α	Observed Range	Theoretical Range	Skewness	Kurtosis
Cognitive Reappraisal	6	4.99	0.38	0.89	3.80 - 6.00	5 - 35	-0.18	0.22
Expressive Suppression	4	5.03	0.38	0.83	4.20 - 6.20	5 - 35	0.29	0.25
Psychological Well-being (Overall)	18	4.06	0.35	0.88	3.28 - 4.89	18 - 126	0.08	-0.04
Social Support	12	4.01	0.84	0.88	2.42 - 5.67	12 - 84	-0.01	-1.06

Cronbach's Alpha values indicate high internal consistency for all measures ($\alpha > 0.80$). Skewness and kurtosis values fall within an acceptable range (± 1), confirming normal distribution for all variables.

Table 3: Correlation Analysis

The Pearson correlation test examined the relationships between emotional regulation, psychological well-being, and social support.

1. Cognitive Reappraisal	1	0.35**	0.60**	0.75***
2. Expressive Suppression	-	1	-0.45**	-0.70**
3. Psychological Well-being	-	-	1	0.68**
4. Social Support	-	-	-	1

Cognitive Reappraisal was positively correlated with Psychological Well-being ($r = 0.60, p < .01$) and Social Support ($r = 0.75, p < .001$). Expressive Suppression was negatively correlated with Psychological Well-being ($r = -0.45, p < .01$) and Social Support ($r = -0.70, p < .001$). Social Support showed a strong positive relationship with Psychological Well-being ($r = 0.68, p < .01$), suggesting its buffering effect on distress.

Table 4: Linear Regression of Emotional Regulation on Psychological Well-being

Predictor	B	SE	t	P	95% CI (LL - UL)	R ²
Cognitive Reappraisal	0.40	0.06	8.00	< .001	0.30 - 0.50	0.25
Expressive Suppression	-0.30	0.05	-6.00	< .001	-0.40 - -0.20	0.21

Cognitive Reappraisal significantly predicted Psychological Well-being ($B = 0.40, p < .001$), explaining 25% of the variance. Expressive Suppression negatively predicted Psychological Well-being ($B = -0.30, p < .001$), accounting for 21% of the variance.

Table 5: Moderation Analysis of Social Support

Predictor	B	SE	t	p	95% CI (LL - UL)
Cognitive Reappraisal × Social Support	0.18	0.04	4.50	< .001	0.10 - 0.26
Expressive Suppression × Social Support	-0.22	0.05	-4.80	< .001	-0.30 - -0.14

Social support significantly moderated the positive effect of cognitive reappraisal on psychological well-being ($B = 0.18, p < .001$). Social support significantly weakened the negative effect of expressive suppression on psychological well-being ($B = -0.22, p < .001$). These findings confirm that social support enhances the benefits of adaptive emotional regulation (cognitive reappraisal) and buffers the negative effects of expressive suppression.

Conclusion of Results

The results support the study's hypotheses:

- H1, H2, and H3 confirmed: Emotional regulation significantly impacts psychological well-being.
- H4 and H5 confirmed: Social support moderates the effect of emotional regulation.
- H6, H7, and H8 confirmed: Gender, age, and treatment status influence the moderation effect.

This study examined how emotional regulation, social support, and psychological well-being interact in individuals with physical injuries. Findings confirmed that social support plays a crucial role in moderating this relationship, strengthening resilience and reducing distress. Individuals who engaged in cognitive reappraisal reported higher life satisfaction, emotional control, and adaptability, aligning with previous research indicating that reframing negative experiences reduces stress and enhances coping (Gross & John, 2003; McRae & Gross, 2018). In contrast, those relying on expressive suppression experienced greater emotional distress, supporting findings that suppression exacerbates stress, increases depressive symptoms, and hinders effective emotional processing (Tamir, 2016; Aazami et al., 2018).

Social support was found to amplify the positive effects of cognitive reappraisal while buffering the negative impact of expressive suppression. This is consistent with models suggesting that strong social networks provide emotional, informational, and practical resources that ease psychological distress (Zhou et al., 2017). Participants with higher social support reported better emotional stability, lower anxiety and depression, and improved recovery outcomes, reinforcing previous findings on the protective role of social support in psychological rehabilitation after trauma (Mitchell et al., 2014). These results further support research indicating that social support strengthens resilience and reduces emotional distress in individuals recovering from physical injuries (Chukwuemeka & Obioha, 2023; Wiseman et al., 2016).

Gender, age, and treatment status influenced the moderation effect. Women benefited more from social support than men, likely due to their greater tendency to seek and utilize emotional support, consistent with research on gender differences in coping mechanisms (Padhy & Angiel, 2021; Bourdeau et al., 2024). Younger adults (20-40 years) showed stronger moderating

effects of social support on well-being compared to middle-aged adults, possibly because of their greater flexibility in coping strategies and reliance on social networks (Li et al., 2020). Additionally, individuals who had completed treatment exhibited stronger effects of social support, suggesting that ongoing medical care might contribute to emotional distress, weakening the benefits of support (Chukwuorji et al., 2020).

These findings extend previous research by emphasizing the interaction between emotional regulation, social support, and psychological well-being in physically injured individuals. While prior studies have examined these factors separately, fewer have explored how social support moderates emotional regulation's impact on well-being in trauma populations (Asghar et al., 2023). Similar patterns have been observed in cancer patients, burn survivors, and individuals with spinal cord injuries, where greater social support led to better emotional adjustment and reduced psychological distress (Waqas et al., 2016; Naimat et al., 2023). These results reinforce the importance of integrating social support into rehabilitation frameworks to enhance psychological recovery (Ashfaq et al., 2018).

Practical Implications

Healthcare professionals should integrate social support into rehabilitation plans to improve emotional recovery for injured individuals. Involving family and peers in the rehabilitation process can significantly reduce stress and foster resilience. Additionally, cognitive-behavioral therapy (CBT) should emphasize cognitive reappraisal, helping patients reframe negative experiences and strengthen coping skills. This can enhance psychological well-being by reducing emotional distress. Support groups and community programs also play a crucial role, offering individuals a sense of belonging and shared experience, which aids emotional coping. Gender-specific strategies are important too, as women often benefit more from social support. Tailoring interventions to meet these gender differences can improve their effectiveness.

Conclusion

This study provides strong empirical support for the moderating role of social support in enhancing psychological well-being after physical injury. The findings confirm that cognitive reappraisal improves psychological health, expressive suppression worsens it, and social support serves as a crucial buffer against distress.

By bridging theoretical insights with practical applications, this research emphasizes the need for integrating emotional regulation strategies and social support systems into rehabilitation programs. Strengthening community-based mental health interventions can help injured individuals develop resilience, maintain emotional stability, and achieve a higher quality of life.

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