

## Stress Management Techniques And Their Impact On Health Outcomes In The Population Of Bahawalpur: A Cross-Sectional Study

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### Abstract

**Background of Study:** Stress represents an increasing public health concern, exerting substantial effects on physical and psychological health. Region undergoing urbanization comprising Bahawalpur, Pakistan, contributing to elevated psychosocial stress as a result of socio-economic transformations and insufficient access to mental health care services.

**Objective:** The objective of the study to identify and assess prevalent stress management practices and to examine their association with perceived stress levels and health outcomes among the adult population of Bahawalpur.

**Methods:** The study adopted a cross-sectional mixed methods approach and employed involving 600 adult's population aged 18–65 years with stress level was assessed by Perceived Stress Scale (PSS-10), coping strategies were assessed using Coping Strategy Inventory (CSI) and in addition semi-structured interviews were employed to explore participant's experiences and perspectives. Data

analysis of quantitative measures was performed using descriptive statistics, regression analysis and correlation whereas thematically analysis was employed to interpret the qualitative data.

### Author Details

**Keywords:** Stress Management, Community Health, Coping Strategies, Bahawalpur, Pakistan, Mental Health

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**Results:** A majority of participants 86% of participants exhibited moderate to high perceived stress levels. The primary stress management approach reported by participants was reliance on social support 78%, spiritual/religious practices 66% and physical activity 54%. Participants employing adaptive coping strategies reporting significantly reduced perceived stress and better health outcomes ( $p < 0.01$ ), while higher stress level were observed in individuals relying on maladaptive coping strategies ( $p < 0.05$ ).

**Conclusion:** Stress is widespread among the population and culturally embedded coping strategies contribute to resilience and better health outcomes. Implementing community based, sensitive stress management interventions is critical to promoting population health and resilience.

## **Introduction**

As a multifaceted biopsychosocial phenomenon, stress adversely affects both mental and physical health through immunological, neuroendocrine and behavioral mechanisms (Moussiopoulou & Falkai, 2025). There is well established association between chronic stress and cardiovascular disease, metabolic disorders, depression and compromised quality of life (Hwang & Oh, 2024). Rapid urban growth in low and middle income countries, involving Pakistan has led to academic pressure, economic uncertainty and transformation in family dynamic have highlight vulnerability to psychosocial stress (Abdul & Yu, 2020).

Located in southern Punjab, Bahawalpur is a city known for its cultural heritage and rapid development, represents a distinctive socio-demographic landscape where longstanding cultural coping mechanisms interact with modern sources of stress. Although mental stress concerns are rising in Pakistan, community level evidence on stress and coping strategies is limited. Examining locally practiced stress coping mechanisms is key to creating effective and culturally sensitive interventions. This study aims to investigate the stress management strategies of adults in Bahawalpur and their associations with perceived stress and health outcomes.

## **Methodology:**

### **Study Design and Setting:**

This study employed a community-based, cross-sectional mixed-methods designed in Bahawalpur, Pakistan and this study was carried out over the period from January to August 2025.

### **Study Population and Sampling:**

Stratified random sampling was employed to recruit 600 participants aged 18–65 years from educational institutions, healthcare centers, workplaces and residential communities. Those with clinically diagnosed psychiatric condition currently undergoing treatment were excluded.

### **Data Collection Instruments:**

**Perceived Stress Scale (PSS-10):** The study evaluated self-reported stress level.

**Coping Strategy Inventory (CSI):** The study examined both adaptive and adaptive stress management practices (Tsegaye, Andegiorgish, Amhare, & Hailu, 2022).

**Semi-Structured Interviews:** This research investigates the role of cultural influences, challenges in stress management, and associated perceptions of health. Data collection tools were delivered in Urdu or English, according to participant's preferences.

**Ethical Considerations:**

Approval for the study was granted by the Institutional Review Board of Islamia University of Bahawalpur, Pakistan. All participant provided written informed consent and strict confidentiality was maintained.

**Data Analysis:**

Data analysis of quantitative variables was performed using SPSS software. Descriptive statistics, multiple regression analysis and correlation were carried out ( $p = 0.05$ ). Qualitative findings were systematically interpreted using thematic analysis.

**Results:****Sociodemographic Characteristics:**

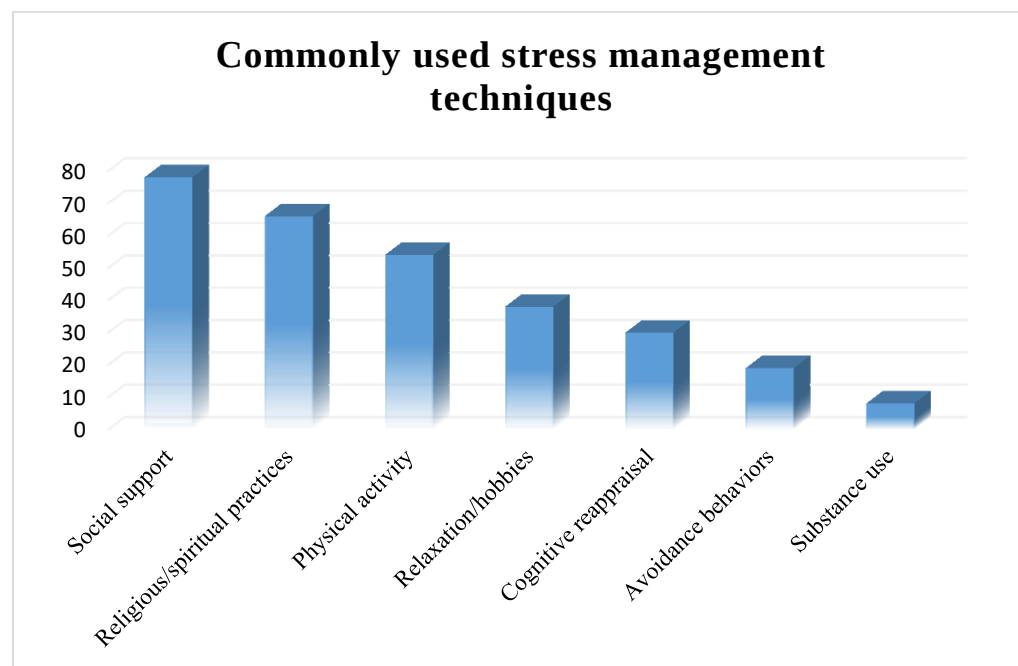
The study recruited 600 adult participants (females 50%; mean age =  $34.7 \pm 12.2$  years). Employment were reported by approximately 45%, student status was reported by 30%, and around 25% of study population were either unemployed or homemakers.

**Prevalence of perceived stress:**

Participant had a mean PSS score of  $21.8 \pm 6.4$ , corresponding to moderate perceived stress. Approximately 22% of participants experienced high levels of stress.

**Stress management strategies:**

The majority of participants in Bahawalpur relied on social support (78%) and religious/spiritual practices (66%) as primary coping strategies, reflecting the cultural and communal emphasis on interpersonal and faith-based resources. Physical activity (54%) and relaxation/hobbies (38%) were also commonly used, whereas less adaptive strategies like avoidance behaviors (19%) and substance use (8%) were relatively infrequent highlighting in figure 3.1.



**Figure 3.1: Commonly used strategies for stress management with their percentage**

**Correlation with physical and mental health outcomes:**

A significant inverse relationship was observed between adaptive coping strategies and perceived stress ( $r = -0.42$ ,  $p < 0.01$ ) and a significant positive correlation with self-reported health status ( $\beta = 0.35$ ,  $p < 0.01$ ). Maladaptive coping mechanisms were linked to increased perceived stress and reduced health outcomes ( $\beta = -0.28$ ,  $p < 0.05$ ).

**Discussion:**

These results indicate that stress is highly prevalent among adults in Bahawalpur, reflecting patterns reported at the national and global levels. The majority of participants relied primarily on religious practices, social support and physical activity, highlighting the influence of cultural and community factors in shaping coping behaviors. Spiritually, through religious coping, emerged as a significant factor in enhancing psychological resilience. Evidence from South Asian populations indicated that faith based practices mitigate stress by promoting emotional regulation and social support mechanisms. Although adaptive strategies proved effective, participants have limited awareness of and access to formal stress management programs. Cultural stigma around mental health contributes to reduced utilization of support services. The results highlight the importance of incorporating stress management programs within primary healthcare and community interventions.

**Conclusion:**

The high prevalence of stress in Bahawalpur underscores its significant impact on both psychological and physical health. Culturally embedded stress management approaches, including reliance on social networks and religious practices, appear to mitigate adverse stress related outcomes. Nevertheless, the lack of structured stress management programs and ongoing stigma constrain the effectiveness of these culturally rooted strategies. The study underscores the necessity of community oriented, culturally sensitive stress management interventions. Alongside public awareness initiatives and incorporation of mental health services into primary care. Future studies should include biological stress measures in longitudinal designs to elucidate the mechanisms linking stress and health outcomes.

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**Conflict of Interest:**

The authors declare no conflict of interest.

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