

Comparative Analysis of Stress Level and Mental Well-Being in Rural and Urban Residents

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ABSTRACT: Mental health includes our emotional, psychological, and social well-being. It affects how we think, feel, and act. It also helps to determine how we handle stress. The current study aimed to examine stress levels and mental well-being among rural and urban residents. This study compares stress levels and mental well-being between rural and urban residents, considering socio-demographic factors such as gender, employment, and marital status. A sample of 294 participants (166 rural, 128 urban) was selected through convenient sampling. The Perceived Stress Scale and Psychological Well-being Scale were used to assess mental health outcomes. Statistical analyses included independent sample t-tests and correlation analyses to examine differences and relationships among variables. Findings revealed a negative correlation between stress and mental well-being. Rural residents reported higher mental well-being compared to urban counterparts ($t=0.5$, $p=.01$), while urban residents exhibited higher stress levels ($t=9.5$, $p=.01$). Gender differences were observed, with rural males and females scoring higher on mental well-being ($t=5.7$, $p=.02$) and urban males and females experiencing greater stress ($t=9.6$, $p=.02$). Married individuals had higher well-being ($t=8.6$, $p=.02$), whereas unmarried individuals higher on stress ($t=0.4$, $p=.02$). Employed individuals reporting better well-being ($t=0.5$, $p=.03$), while unemployed individuals exhibited higher stress ($t=3.5$, $p=.02$). The study highlights the significant impact of residential environment and socio-demographic factors on stress and well-being. These findings emphasize the need for tailored mental health interventions, especially for urban populations experiencing high-stress levels.

KEYWORDS: Perceived Stress, Mental Wellbeing, Rural, Urban

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Introduction

Stress can be defined as a perceptual phenomenon arising from a comparison between the demand on the person and his or her ability to cope. An imbalance in this mechanism, when coping is important, gives rise to the experience of stress, and to the stress response (Cohen, et al., [2004](#)).

Urban dwellers have a distinct mix of pressures, such as high living expenses, long commutes, fast-paced lifestyles, and fierce competition in the job market. Urban dwellers may experience increased stress due to

ongoing exposure to noise, pollution, crowding, and a greater sense of anonymity. Elevated stress levels can also be caused by social demands, the need for constant contact, and the challenge of finding a work-life balance in a busy city (Gellis et al., [2004](#)).

In rural areas, individuals often have greater access to natural settings, such as open fields, forests, and scenic landscapes. Engaging with these natural environments can offer a respite from the stressors associated with rural living, such as limited job opportunities or social isolation. Nature provides a calming and rejuvenating effect, allowing rural dwellers to cope with stress more effectively (Lupien et al., [2007](#)).

According to Marotz-Baden et al., ([1986](#)), stressors may differ in rural and urban settings. It is assumed that there are differences in how stress is experienced and coping mechanisms employed in rural and urban settings due to geographic differences, varying resource accessibility, and social class differences. Nonetheless, the disparities between rural and urban areas are most likely less in developed nations than in developing nations. Therefore, stress and coping strategies are anticipated to differ less in developed countries than in developing ones due to the smaller economic and social divide between rural and urban areas.

Mental wellbeing often referred as emotional, psychological, and social states of an individual, which is also sometimes referred to as psychological well-being. It represents the general state of a person's mind, including their capacity to control their stress, uphold wholesome relationships, make wise judgments, and face obstacles in life (Seligman et al., [2012](#)).

According to the World Health Organization (WHO), mental health is a state of well-being in which a person is aware of their own potential, able to manage everyday stressors, able to work well, and able to give back to their community. The advantages of mental health and the ability to perform well in a variety of spheres of life are highlighted in this description (Stoltz & Grahn, [2021](#)).

For instance, Ryff, ([2013](#)) contends that there are six subdomains that make up mental well-being:

- ▶ Having a meaningful life
- ▶ Constantly improving oneself
- ▶ Having strong social ties
- ▶ Having faith in one's ability to overcome obstacles
- ▶ Positivity about oneself and a feeling of purpose

We now view happiness, resiliency, and confidence as components of mental health and mental well-being, which is a holistic approach. Following this all-encompassing methodology, the following is a list of advantages related to mental health.

According to Lyubomirsky et al., ([2005](#)), Positive outcomes like longer lifespans, stronger relationships, greater incomes, and improved mental health are all linked to happiness. Volunteering and altruistic activities are more common among happier people. Those who are happier exhibit dispositions that support civility and social cohesiveness. For instance, they trust others more readily, cooperate and support initiatives that promote peace or oppose war more frequently and have greater faith in democracy and their government.

Additionally, they are more accepting of immigrants and members of other ethnic groups. Happier societies have greater faith and confidence in their leaders. Success, happiness, and productivity at work are

all significantly impacted by mental health. There are numerous ways that workplace conditions can support mental health. Positive feedback, work-life balance, clear instructions and feedback, and strong professional relationships are a few examples. On the other hand, elements like inadequate or ambiguous communication, unattainable deadlines, strained interpersonal bonds, conflict at work, and a lack of support can have a detrimental effect on mental health.

The advantages of the natural outdoor environment for locals' health and well-being are becoming more widely recognized among academics, professionals, and policymakers. Exposure to neighborhood greenery is good for mental health and can help prevent mental health issues, according to a large body of empirical research (Lupien et al., [2021](#)).

Surprisingly little empirical research has been done on the psychological benefits of residential greenness in Chinese cities, despite the positive impact of green living on mental wellbeing in developed countries receiving a lot of scholarly attention. In a few Chinese cities, like Beijing, Guangzhou, and Nanjing, a few studies have only found a positive correlation between mental well-being and the amount of green space around them (Dong et al., [2018](#)).

China's fast urbanization has made it harder for city dwellers to connect with nature, which is a serious threat to their mental health. Numerous studies have established a positive correlation between neighborhood greenness and mental well-being in developed nations; however, the mechanisms by which neighborhood greenness influences mental well-being in Chinese urban residents have received little attention. It can be particularly difficult to maintain mental health and well-being in urban settings, in part because some urban dwellers spend less time in green spaces. There is now a wealth of research that suggests being in green spaces and other natural settings can improve wellbeing and, in turn, lessen or prevent mental health issues. Numerous thorough analyses examine the data pertaining to connections between human health and exposure. Numerous thorough reviews discuss the evidence supporting the connections between human health and green space exposure, highlighting a host of advantages that include favorable effects on psychological, cognitive, physiological, and social domains (Bowler et al., [2010](#)).

Stress can also be climate stress and it refers to the stressors resulting from natural factors (e.g. excessive temperatures, moisture, solar radiation, extreme precipitation, storm tide, or sea level rise) and human activities, plus their disruptions to environmental quality and ecosystem integrity (Xu, 2019). The compound stress that stems from climate change and rapid urbanization requires adaptation to become a priority in urban policies (Bulkeley, [2013](#)). Cities are particularly subject to growing risks from climate change and its consequent extreme events, due to the increasing exposure of population and assets, but limited capacity to combat the impacts of extreme events (Birkmann et al., [2016](#)).

Generally, studies have attempted to identify the specific elements and configurations of green space that have significant impacts on mental health. For example, planting trees in barren areas leads to a significant increase in stress recovery, while the performance varies across the vegetation density and species.

Significance of the Study

Unlike the prevailing biomedical methods, this study examines the rural-urban interaction, offering fresh insights. It adds to the small but strong corpus of research on stress and mental health by offering a thorough

comprehension of psychosocial elements. The research also aims to increase awareness and improve education regarding the factors influencing stress and mental wellbeing, particularly within the distinctive socio-cultural landscape of Pakistan according to a previous study (Gellis et al., [2004](#)).

Specific literature reviews on the recent research regarding stress and mental well-being in rural and urban residents. However, scholars and researchers have been actively investigating this topic to understand the influencing mental health effects in diverse environments. So current study will be a good addition in diversity. Recent trends suggest a growing interest in the impact of the COVID-19 pandemic on the mental well-being of both rural and urban populations. Scholars are exploring the role of community support, access to healthcare services, and the influence of environmental factors on stress levels.

Method

Research Design

A cross-sectional survey design was used in the current study 294 participants were approached through a convenience sampling technique.

Objectives

- ▶ Compare stress levels between urban and rural residents.
- ▶ Assess psychological well-being across different residential settings.
- ▶ Examine how gender, marital status, and employment influence mental well-being.

Procedure

First approval of ethical committee was obtained. Participants were approached individually and after taking informed consent data was collected. They were ensured that data will be kept confidential and only used for research purpose.

Instruments

Psychological Wellbeing Scale

A modified version of the Psychological Well-being Scale by Ryff, ([1995](#)) was used to measure psychological well-being. The PWB measures various dimensions of mental health. The reliability of the scale is ($\alpha=0.70$). Response format is 7-point Likert scale 1 = strongly agree to 7 = strongly disagree.

Perceived Stress Scale

Perceived stress scale developed by Sheldon Cohen and colleagues in 1980 was used to measure stress. The PSS assesses individuals' feelings about the situations in their lives over the past month. The reliability of the scale is ($\alpha =0.78$). It is the 10-item scale and its score is recorded on a 5-point Likert scale, (0=never, 4=very often).

Results

The statistical analyses in this study including chi-square tests, correlation analysis, and independent sample t-tests were chosen to explore relationships and differences in mental well-being and stress levels across demographic variables. Chi-square tests were used to determine whether there were significant associations between categorical demographic variables (e.g., gender, marital status, and employment status) and the

study's psychological well-being and stress outcomes. Pearson correlation analysis was conducted to assess the strength and direction of the relationship between psychological well-being and perceived stress levels. Independent sample t-tests were utilized to compare mean differences in psychological well-being and stress between rural and urban residents, as well as between different demographic groups.

Table 1 outlines participant demographics, while Table 2 presents correlation analysis, revealing an inverse correlation was higher psychological well-being corresponds to lower perceived stress. To address missing values, the imputation method was utilized. Correlation analysis examined the relationship between psychological well-being and perceived stress levels, while Independent sample t-tests compared these variables across Demographic factors such as residence (rural vs. urban), gender, marital status, and employment status, identifying significant influences of these factors. Descriptive statistics, including means and standard deviations, summarized the sample characteristics, and reliability analysis ensured the consistency of measurement scales. Overall, these methods provided a comprehensive understanding of the factors affecting stress and mental well-being across different demographic groups.

Table 1

Sociodemographic Characteristics of Scales (N = 294).

Demographics	F (%)	Demographics	F (%)
Residence		Residence	
Rural	166 (56.5)	Urban	128 (43.5)
Gender		Gender	
Rural male	90 (30.3)	Urban male	60 (20.2)
Rural female	76 (25.5)	Urban female	68 (22.4)
Working status		Working status	
Rural employed	90 (54.2)	Urban employed	81 (63.9)
Rural unemployed	76 (45.7)	Urban unemployed	47 (63.9)
Marital status		Marital status	
Rural married	95 (57.9)	Urban married	76 (59.9)
Rural unmarried	71 (42.1)	Urban Unmarried	52 (40.1)
Age			
Early Adulthood	95 (46.2)		
Middle Adulthood	169 (49.0)		
Old Ages	30 (4.8)		

Note: f= frequency

Table 2

Psychometric properties for scales PWB, PSS (N = 294).

Variables	k	α	M	SD	Range		Skew.	Kurt.
					Actual	Potential		
PWB	18	0.81	75.23	9.2	28-70	18-126	1.4	0.56
PSS	10	0.79	19.37	2.8	12-28	10-40	-0.1	0.36

Note: PWB= Psychological Wellbeing, PSS= Perceived Stress Scale, α=Cronbach's Alpha, k=size of Sample, M=Mean, SD=Standard Deviation, Skew=Skewness. Kur=Kurtosis

Table 3*Correlation among Study Variables. (N = 294).*

Variables	PWB (Rural)	PWB (Urban)	PSS (Rural)	PSS (Urban)
PWB	1.00		-0.55**	
PWB		1.00		-0.45**
PSS			1.00	
PSS				1.00

*Note: PSS= Perceived Stress Scale, PWB= Psychological Wellbeing***Table 3***Independent Sample t-Test on the Basis of Residence on Study Variables (N = 294).*

	Rural		Urban				95%CI		Cohen's d
	(n = 166)		(n = 128)						
	M	SD	M	SD	t	p	LL	UL	
PWB	76.10	12.02	68.1	10.0	5.0	.001	5.2	11.0	0.7
PSS	17.66	2.29	21.12	3.5	4.5	.001	3.1	4.5	1.1

*Note: *p<.05. **p<.01, M=mean SD=standard deviation, p=significant value LL=lower limit UL=upper limit.***Table 4***Independent Sample t-Test on the Basis of Gender on Study Variables (N = 294)*

Variables	Status	N	M	SD	t	p	95% CI		Cohen's d
							LL	UL	
PWB	Rural male	90	85.01	10.0	5.7	.002	6.6	13.4	.9
	Urban male	60	83.02	9.2	7.7	.001	9.6	16.4	1.2
	Rural female	76	75.03	12.1	5.7	.000	6.6	13.4	.9
	Urban female	68	70.02	11.0	7.6	.000	9.5	16.3	1.2
PSS	Rural male	90	17.00	2.4	5.0	.001	5.8	3.2	1.5
	Urban male	60	18.01	2.5	9.6	.002	6.4	4.1	1.4
	Rural female	76	22.03	3.4	5.0	.001	6.8	3.3	1.6
	Urban female	68	23.00	3.5	9.1	.001	6.4	4.4	1.5

*Note: *p<.05. **p<.01, N=no of participants, M=mean, SD=standard deviation, p=significant value CL=confidence interval, LL=lower limit, UL=upper limit.***Table 5***Independent Sample t-test on the basis of gender on study variables (N = 294).*

Variables	Status	N	M	SD	t	p	95% CI		Cohen's d
							LL	UL	
PWB	Rural employed	90	80.18	13.4	0.5	.05	-4.4	2.5	.07
	Urban employed	81	82.18	15.4	1.9	.05	-0.6	8.5	.06
	Rural unemployed	76	81.03	10.3	0.5	.03	-4.1	2.5	.07
	Urban unemployed	47	80.16	10.3	1.9	.04	-0.1	8.5	.07
PSS	Rural employed	90	18.03	2.1	3.5	.02	-2.0	.6	.5
	Urban employed	81	19.57	3.8	3.6	.02	-2.4	4.1	.5
	Rural unemployed	76	19.77	2.1	3.5	.02	-2.1	.6	.5
	Urban unemployed	47	19.77	2.9	3.5	.02	-2.5	.5	.6

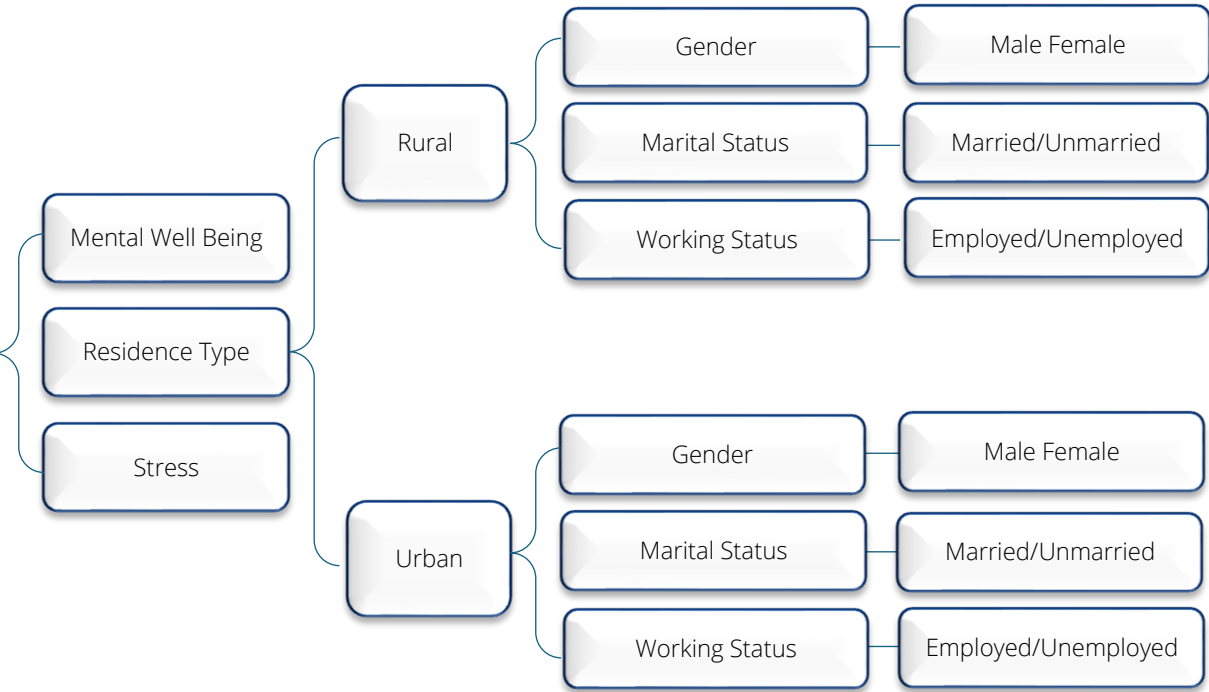
Note: (p>.05). N=no of participants, M=mean SD=standard deviation, p=significant value LL=lower limit UL=upper limit

Table 6
Independent Sample t-test on the Basis of Marital Status on Study Variables(N=294).

Variables	Status	N	M	SD	t	p	95% CI		Cohen's d
							LL	UL	
PWB	Rural Married	95	80.00	8.6	1.2	.002	1.5	6.5	.2
	Urban married	76	81.87	9.4	4.2	.024	1.1	.5	.5
	Rural unmarried	71	78.03	10.6	1.2	.004	1.6	6.5	.2
	Urban Unmarried	52	79.16	12.3	4.2	.024	1.1	.5	.5
PSS	Rural Married	95	18.23	2.8	3.3	.001	2.7	.5	.5
	Rural Unmarried	76	21.18	5.1	0.4	.002	4.5	1.5	.8
	Urban Married	71	19.77	2.5	3.3	.001	2.7	.6	.5
	Urban Unmarried	52	21.58	5.9	0.4	.002	4.5	1.5	.8

Note: *p<.05. **p<.01 N=no of participants, M=mean SD=standard deviation, p=significant value LL=lower limit UL=upper limit CL= Class interval

Figure 1
Conceptual Framework



Discussion

The current study aimed to find out the stress level and mental well-being among rural and urban residents. The hypothesis suggests that individuals living in urban areas have lower levels of mental well-being as compared to those residing in rural areas. With an emphasis on the significance of socio-demographic variables like gender marital status and work status, the results showed that compared to their rural counterparts, urban residents have much higher stress levels and worse mental health. Study results also revealed gender differences where urban women reported higher levels of stress as compared to rural women.

Differences were also found on the basis of Mental well-being where married and employed participants scored higher on the Psychological well-being scale. These results are consistent with previous findings. Residency in urban areas causes exposure to economic race, noise pollution, density, and crowding, which have adverse effects on Psychological well-being (Evans, [2013](#); Luo et al., [2018](#)). a study by Smith et al., ([2020](#)) also supports the findings of the current study which proved the adverse impact of urban living on rural living. Previous studies showed that rural areas act as stress-reduction strategies(Nepomuceno et al., [2015](#); Gessert et al., [2018](#); Khan et al., [2020](#); Mumford, [2000](#)).

The study also revealed gender differences in stress levels and psychological well-being. These are also in accordance with previous research on gender and stress(Kim et al., [2018](#)). Furthermore, women more often report stress and seek professional help for mental health issues (Diener et al., [2007](#)). These issues are caused by financial pressure, work-life imbalance, lack of emotional support, and Social Isolation in Urban Settings (Imaiso, [2019](#)). Individualistic lifestyles are another factor (Khan, [2023](#)).

The findings of the current study revealed that both in rural and urban areas, those participants who have jobs have good Psychological well-being than those who were unemployed. Findings are consistent with previous findings that financial resources positively impact mental health (Paul & Moser, [2009](#)). Married people reported lower stress and higher Psychological well-being. According to previous research, marriage offers emotional support and it increases psychological well-being (Umberson et al., [2010](#); Robles et al., [2014](#)).

Limitation

This study has several limitations. First, reliance on self-reported data may introduce bias due to social desirability and recall inaccuracies. Future research should incorporate objective measures like physiological stress markers. Second, the use of convenience sampling limits generalizability, as the findings may not fully represent broader rural and urban populations.

Randomized sampling would enhance external validity. Third, the cross-sectional design prevents causal interpretations. Longitudinal studies are needed to assess how stress and well-being evolve over time. Finally, factors such as income, education, and cultural norms were not extensively explored. Future research should consider these additional influences on mental health.

Implications

The study highlights the need for location-specific mental health interventions. For urban residents, interventions should focus on reducing environmental stressors such as noise pollution, overcrowding, and work-life imbalance. In contrast, the findings emphasize the importance of community ties in rural areas as a protective factor against stress, suggesting that mental health programs should foster community-based support in rural regions while enhancing social connections in urban areas where isolation is more prevalent. The study also identified gender differences in stress levels, particularly for urban females, who face unique stressors related to social expectations and work-life challenges. Policies aimed at improving the mental well-being of urban females should focus on flexible work arrangements and support mechanisms for balancing family and professional responsibilities.

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