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The Role of Workplace Stress, Sleep Patterns, and Dietary Choices in Predicting Cardiovascular Health: The Mediating Effect of Physical Activity in Pakistan

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ABSTRACT

This study investigates the role of workplace stress, sleep patterns, and dietary choices in predicting cardiovascular health, with physical activity analyzed as a mediating factor in the context of Pakistan. Cardiovascular disease is a leading cause of morbidity and mortality worldwide, and lifestyle-related determinants are particularly critical in developing countries where preventive health measures remain limited. The objectives of the study are to examine the direct effects of stress, sleep, and diet on cardiovascular health, and to explore how physical activity mediates these relationships. A quantitative cross-sectional survey was conducted among 320 employed adults in Pakistan, utilizing a structured questionnaire based on a five-point Likert scale. Findings reveal that high workplace stress, irregular sleep, and unhealthy dietary practices negatively affect cardiovascular health, while physical activity significantly mediates these associations by reducing the adverse impacts of stress and lifestyle risks. The study underscores the importance of workplace wellness initiatives, awareness programs on sleep hygiene and nutrition, and the promotion of physical activity as an essential buffer against cardiovascular risks. These findings carry strong implications for health policy and organizational health programs in Pakistan, highlighting the need for integrated lifestyle-based interventions to combat the growing burden of cardiovascular diseases.

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1.0 Introduction

Starting from the twenty-first century, cardiovascular disease (CVD) has become one of the leading public health issues of our time, causing significant morbidity and mortality around the world. Prevention efforts and healthy lifestyle changes have helped to improve cardiovascular health in developed nations. However, countries like Pakistan still struggle with rapidly growing rates of cardiovascular disease because of a lack of education, poor health infrastructure, and pervasive unhealthy lifestyle habits. The rapid rise in the rates of heart disease in Pakistan can be attributed to genetic, as well as excessive psychosocial stress, poor sleep, and poor diet (Siddique et al., 2025). These, in combination with no physical exercise and a sedentary lifestyle, set the stage for cardiovascular disease. The rapid, uncontrolled urbanization of Pakistan has led to a higher population and greater competition for jobs, as well as higher stress levels and disrupted sleep. Moreover, the rise in the consumption of processed and caloric-dense foods serves to further increase the risk of cardiovascular disease. The need to investigate the factors influencing heart health in Pakistan has thus become urgent and relevant from an academic perspective (Ghori et al., 2025).

Universal in scope, workplace stress seems to take the greatest toll in developing economies, where long work hours are the norm, and where job conditions are under-resourced, insecure, poorly supported, and undermanaged. It has been shown that stress induces the hypothalamic-pituitary-adrenal axis, which in turn leads to increased cortisal, increased blood pressure, and increased inflammatory response – predisposing people to cardiovascular disease. In Pakistan, the workplace culture targets increased productivity without the requisite focus on workforce stress, leading to stress being chronic and unaddressed. It is important to note that stress is only one factor which adversely impacts sleep, and that sleep patterns in and of themselves represent another vital aspect of cardiovascular health irregular sleep is often the result of the above, which can result in greatly increased risk of developing hypertension and coronary artery disease (Dey et al., 2023). Members of the Pakistan workforce are above all controlled and supervised to work long hours, and are sans the oft contracted sleep midnights and between day hours. In group sleep deprivation, the different risk factors for cardiovascular disease become less discreet, and the lonely, issue of sleep in cardiovascular health seems to become more relevant. Beyond these, the prevailing dietary patterns in Pakistan tend to excessive consumption of easily digestible carbohydrates, fried and sugar containing drinks, and poorly balanced meals. These are sugars and Maida which result in increased weight gain, dyslipdemia, and hyperglycemia (Campbell et al., 2023).

The cumulative influence of presenteeism, irregular sleeping patterns, and substandard nutrition constitutes a triad of behavioral risk factors. In the context of cardiovascular health, the combined effect of these factors is especially concerning in a society where routine preventive medicine has yet to be harmonized with the structures of organizational and population health.

The definitions of the variables as they pertain to the outcomes of the cardiovascular study are beneficial. It is evident that occupational stress involves some sort of physical and mental strain connected to the work that is deemed to be too much to handle by any employee. By this definition, stress is both a mental and physical issue that affects cardiovascular health by hypertension, heart rate (or variability), and the stepwise processes that lead to atherosclerosis. Disrupted sleep patterns such as insomnia, less sleep, and irregular sleep has been strongly related to hypertension, obesity, and cardiovascular problems (Blazhkova et al., 2025). Food practices like the quality, frequency, and balance of the nourishment that may be taken, for as poor, balanced, and restricted dietary practices are the foremost char-acteristics of a metabolic syndrome, which is the triad (or more) presence of obesity, hypertension, and dyslipidemia, practice sustains higher cholesterol levels and, therefore, more plaque in the arteries. The mediating variable in the study is defined as physical activity as any body movement for energy expenditure and body function improvement, which may be as simple as a planned and unplanned exercise like walking (Ismail-Orire, 2021). Cardiovascular health, as an outcome variable, indicates the efficiency and robustness of the heart and vascular system, often evaluated via blood pressure, cholesterol, BMI, and self-reported health status.

Analyzing the constructs intertwined and the dynamic association between them is the core objective of health behavior theories and models of stress on health. For example, the Job Demand-Resources (JD-R) model describes the phenomenon of workplace stress as a function of high pressure and low resources, where the resultant strain is expressed as psychological burnout and concomitant physical ill health, including cardiovascular disease. As with the Allostatic Load Model, the chronic stress and strain a person endures ultimately leads to cumulative, and, as a consequence of time, the detriment is to the cardiovascular system. The also describes poorly and restricted sleep as a consequence of the social and other demands, and to the detriment of the biological regulatory and circadian control systems, and such describes the relationship between sleep and the rest of the daily activities (Foster, 2020). Nutrition is a core component of the energy balance model and draws on the ecological model of health behaviors, as these situate cardiovascular disease within the broader health determinants framework of physical, social, and economic environments, as well as the culture of a society. Of course, exercise is such a behavior, where the role of the ‘middle factor’ is maintained. The exercise is moderated by factors of Theories of Planned Behavior and Social Cognitive Theory, where, in addition, the person attempts to control, and the net benefit is enhanced physical health and, through moderated stress, reduction on the negative consequences caused by the unattended unhealthy lifestyle (Shrestha, 2020).

Despite the worldwide association between sleep, stress, diet, and physical activity with cardiovascular health, more work still needs to be done with research regarding the issues facing South Asia, more specifically Pakistan. Most research done in the field is done in the

West, which has very different workplaces, eating habits, and health care systems than Pakistan. For example, while in the West work cultures claim to support work-life blend, employees in Pakistan suffer from chronic stress due to high job insecurity and socio-economic pressures. Similarly, overlooking the food customs of a country while giving dietary advice is inexcusable. In Pakistan, carbohydrate-rich and traditional meals are easy and affordable for the high population, and cloths are constructed from high-income countries (Gillespie, 2025). Most research done in Pakistan focuses on the medical aspect of cardiovascular health, like the prevalence of diabetes and hypertension, while failing to account for lifestyle and psychosocial risk factors. In this region, there is a gap in studying how physical activity serves as a mediator between cardiovascular health and lifestyle risk factors, resulting in a gap in understanding the gaps in prevention. Finally, there is little research in Pakistan for the promotion of health in workplaces. Specifically, there is very little research on how organizational stress interacts with the individual to impact their cardiovascular health in the long-term (Vancheri et al., 2022).

Preventable lifestyle changes that have underpinned the increase in cardiovascular diseases in Pakistan have been insufficiently studied and poorly managed by both health systems and policy makers. These issues are the focus of the research problem in this work. The problems of sleep deficit, workplace stress, and poor diet are risk factors that have been individually studied. However, under the circumstances of Pakistan, there is insufficient work done that examines the interactions between these variables and the role of physical activity in reducing the negative impacts these factors exert around these issues. From the current research, this gap in knowledge presents an inadequate and suboptimal picture that is difficult for policymakers, the corporate sector, and healthcare professionals to work with in developing appropriate and effective measures applicable for the local situation. These issues are worsened by the focus of society on curative, rather than preventive healthcare, and the absence of workplace wellness initiatives. As the factors are manageable, chronic illnesses that arise as an outcome of lifestyle changes that are reactive could be avoided. There is sufficient evidence to argue these issues can indeed be achieved, however it must be noted these issues must be approached in more than just one manner.

2.0 Literature Review

The under slept hypothalamus, explains the Sleep, Circadian, and Developmental Theories, obstructs and obstructs hypothalamic heart regulation hypothesized cardiovascular homeostasis in the autonomic balance (Carskadon, 2005). Eating patterns from an ecological perspective of health behavior focuses on the social, geographical, and economic determinants of the food choices individuals make (Sobal & Bisogni, 2009). The role of physical activity in the approach is guided by the Social Cognitive Theory and the Theory of Planned Behavior, which suggest that physical activity is not only a physiological process, but also a behavior that is a function of attitudes, control, and the surrounding environment (Ajzen, 1991). These integrating frameworks provide a comprehensive approach to the analysis of the interrelationship between

lifestyle and behavior changes in the cardiovascular health of a population and the potential role of physical activity as a protective factor in Pakistan.

There is mounting evidence of the association between occupational stress and adverse cardiovascular outcomes. Research identifies stress and overwork as contributing factors of hypertension, stroke, and ischemic heart disease (Kivimäki et al., 2012). There are behavioral and pathological pathways of stress that translate into cardiovascular risk, where riskier health behaviors such as poor dietary intake, smoking, physical inactivity, and elevated inflammatory and endothelial dysfunction (Chandola et al., 2008) exist in parallel. In South Asia, the stress inducing conditions such as long hours of work, scant developmental occupational health resources, and cultural pressures to work productively in a support-limited environment persist (Ahmad et al. 2019). Studies within the Pakistani context seem to support such a notion by documenting an association of work stress, hypertension, and cardiovascular disease among middle-aged males (Rehman & Qureshi, 2020). Such evidence suggests that work stress in Pakistan is a notable cardiovascular disease risk factor, yet the impacts are poorly understood. Such impacts are worthy of multicountry studies that take into account behavioral factors such as physical activity.

There is a relation between sleep patterns and cardiovascular health. Short sleep duration, poor sleep quality, sleeping at odd hours, and having an irregular sleep schedule all increase the likelihood of developing hypertension, obesity, diabetes, and cardiovascular related mortality (Cappuccio et al., 2011). Studies conducted in workplaces show that there is a strong relationship between sleep disturbances and fatigue, cardiovascular diseases, and productivity (which is on the lower end) - at least in the population that suffers from these disturbances (Knutson et al., 2007). In Pakistan, the population suffers from irregular sleep patterns ranging from due to urbanization, late night socialization due to culture, and deadlines in the workplace (Shafqat et al., 2017). Regional studies have shown that sleep deprivation relates to cardiovascular diseases, particularly high blood pressure and abnormal lipids (Nisar et al, 2019). Despite these studies, sleep deprivation is a neglected topic. That is, sleep deprivation is often studied without other important lifestyle factors like diet and stress.

Similar to other lifestyle factors, dietary choices have been proved to have significant links with cardiovascular health. Consumed in high volumes, fruits, vegetables, and whole grains with lean proteins for a balanced cardiovascular health diet. On the other hand, increased consumption of added sugar and refined carbohydrates, and saturated fats lead to atherosclerosis, obesity, and diabetes (Mozaffarian, 2016). Due to cultural and economic factors, the South Asian population, particularly Pakistanis, are known to eat foods that are high in calories and low in nutritional value (Afzal et al., 2018). Research conducted in Pakistan shows that obesity and dyslipidemia, two major cardiovascular disease risk factors, are prevalent due to excessive intake of processed snacks, sweetened drinks, and fried foods (Hussain et al., 2019). While studies conducted in other countries have long positioned diet as a forbearer of heart

health, the Pakistani evidence remains deficient. Most of the existing literature is descriptive and does not analyze the intricate relationships between lifestyle factors and cardiovascular health, particularly dietary factors. It is crucial to investigate diet and other behavioral factors in an integrated approach due to the lack of evidence.

There are multiple studies that assert the beneficial role of physical activity on cardiovascular health due to improved lipid concentrations, systemic inflammation, insulin sensitivity, blood pressure, and the presence of other comorbidities. (Booth et al, 2012). Various studies suggest that active individuals face significantly lower cardiovascular diseases compared to unactive individuals (Lear et al, 2017). In the South Asian region, physical inactivity is a vital public health problem. Lack of movement is common due to the influence of urbanization, culture, modernization, and technology (Bauman et al, 2019). In Pakistan, a countrywide survey showed a high prevalence of physical inactivity among the working population which is also high among the population of cardiovascular diseases and high obesity rates (Iqbal et al, 2018). More importantly, studies also show physical activity to enhance cardiovascular health indirectly by improving sleep, relaxation, and diet (Warburton & Bredin, 2017). Such evidence suggests that in Pakistan, physical activity can be promoted to mitigate the lifestyle risks cis and lower cardiovascular disease prevalence.

Research that incorporates these variables into holistic approaches is few and far between, and even more so in developing nations. Data collected in western countries suggest that the combination of stress, sleep, nutrition, and activity levels correlatively influences cardiovascular metrics (Loerbroks et al., 2010). For instance, individuals who are physically active and are subjected to stressors in the workplace are far less likely to develop cardiovascular diseases than individuals who are inactive and stressed (Hamer et al., 2012). There are also those that suggest that the damaging effect of poor diet, coupled with irregular sleep, on the cardiovascular system is less severe when the individual is active enough to improve metabolic resilience and lower systemic inflammation (Patel et al., 2017). However, in the South Asian region, this type of evidence is almost non-existent due to the different socio-cultural, socio-economic and socio-physical factors. Very few studies in Pakistan have attempted to understand how these lifestyle factors, steeped within the socio-cultural framework, interact to influence cardiovascular health, and how physical activity acts as a mediating variable. This notable absence of evidence in the field is the very reason this research aims to create an interconnected framework that incorporates workplace stress, sleep, and nutrition in predicting cardiovascular health, while also assessing the mediating influence of physical activity.

3.0 Methodology

The primary aim of this work was to examine the correlation among stress at work, sleep, food consumption, active lifestyle, and cardiovascular diseases, along with the, physical activity mediating effects, using a cross-sectional design with a quantitatively structured approach. Within the confines of this study, the approach to work has, as its main objective, data collection.

Its standardized form also offers an anall , form, of quadrature data gathering and an assessment of the multiple constructs during these interactions. This design has helped this study to an extend cardiovascular effects of lifestyle and behavioral factors among the Pakistani workers. Such an approach is largely appropriate to lend support to the philosophy of positivism, which suggests that objects and events of the social world can be counted, and the social world can be statistically examined. This is dominantly because this study relies on social phenomena to corroborate the hypothesis, and thus Positivism proves useful as it enhances the aims of this study by stressing the hypothesis and its substitutable variables thus providing near accurate observations on cardiovascular health related factors.

The sample population of the study was employed adults in Pakistan who are known to suffer from workplace stress, lack of sleep, poor diet, and little physical activity. Due to the growing prevalence of cardiovascular risk factors in Pakistan, concentrating on employed individuals was an opportunity to study the impact of occupational and lifestyle factors on the health of an at risk population. The sample size was determined in accordance with the PLS (partial least squares) guidelines of structural equation modeling. These guidelines suggest that the sample size should reflect the complexity of the model and number of predictors. The study targeted 320 participants to provide strong statistical power and estimation to the study. This number is above the minimum required for SEM in Pakistan and increases the Pakistan specific relevance of the study.

The sampling method was purposive and convenience-based. It focused on people working in education, healthcare, banking, and services in urban areas of Pakistan. This method was deemed appropriate because it provided access to various participants in the working population while minus the excessive constraints of time and resources. Respondents were chosen to assume different age, gender, and employment class divisions to ensure the sample captured variation in work and lifestyle behaviors. Although there is stronger representativeness with the use of probability sampling, this method is most appropriate for this type of research, considering the scant availability of sampling frames on employed adults in Pakistan.

The participants filled out the self-administered questionnaire, which was developed to assess the level of self-reported concerns about workplace stress, sleeping, eating, exercising, and all elements of cardiovascular health. Each respondent was presented with a five-point Likert scale from which to assess the degree of their agreement with various activities and perceptions. The items to be used in the scale were taken from the existing studies to ensure validation and reliability, and the items were contextualized to the environment of Pakistan. The questionnaire was pilot tested on a small group of respondents to ensure appropriate wording, clarity, and to ensure the cultural relevance of the questions. The resultant finalized version of

the survey was given in both face-to-face and online formats to increase the level of response from the working population.

The study in question used the SmartPLS software to carry out the data analysis using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach. Each of these approaches are specifically suited to exploratory research, able to work with complex models that contain various components along with multiple mediating effects, and are able to work with data that severely violates normality assumptions. In the analysis, first the measurement model was used to determine the reliability, convergent validity, and discriminant validity of the constructs. After that, the structural model was evaluated in order to test the proposed relationships between the components of workplace stress, sleep patterns, dietary behavior, physical activity, and cardiovascular health. Using bootstrapping methods, the physical activity mediator was able to provide information on indirect effects and enhanced the causal interpretation of the relationships, which was helpful. In this case, PLS-SEM made it easier to estimate both direct and indirect effects at the same time in a single analysis.

Results

4.1 Reliability and Convergent Validity (Outer Loadings, CR, AVE)

Table 4.1 Reliability and Convergent Validity

Construct	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
Workplace Stress (WS)	0.872	0.901	0.649
Sleep Patterns (SP)	0.854	0.889	0.627
Dietary Choices (DC)	0.861	0.897	0.643
Physical Activity (PA)	0.876	0.911	0.672
Cardiovascular Health (CH)	0.892	0.922	0.698

The internal consistency and convergent validity of the constructs were measured using reliability analysis and the results indicate all constructs in the model are highly interrelated and consistent. For workplace stress (0.872), sleep patterns (0.854), dietary choices (0.861), physical

activity (0.876) and cardiovascular health (0.892), the respective Cronbach's alpha scores all surpassed the common threshold of 0.70 which attests to the reliability of the items in measuring the same concept within each construct. Likewise, the composite reliability (CR) scores of 0.889 and 0.922 do not contradict the measure of construct validity and reliability relative to the considerable extent of measurement errors which the constructs are presumed to possess. Moreover, the average variance extracted (AVE) scores for the all constructs positioned between 0.627 and 0.698 which is more than the 0.50 threshold, affirming that each construct dominantly accounts for the variance of its indicators. Hence, the results denote that the model is valid and reliable which means that the model can be used to measure workplace stress, sleep patterns, dietary choices, physical activity, and cardiovascular health and their relationships to each other.

Discriminant Validity – HTMT (Heterotrait-Monotrait Ratio)

Table 4.2 Discriminant Validity – HTMT

Constructs	WS	SP	DC	PA	CH
Workplace Stress (WS)	–				
Sleep Patterns (SP)	0.533	–			
Dietary Choices (DC)	0.482	0.516	–		
Physical Activity (PA)	0.441	0.489	0.471	–	
Cardiovascular Health (CH)	0.564	0.538	0.521	0.495	–

Based on the HTMT ratios calculations there is clear indication that the constructs are adequately sufficiently different from one other and the criteria suggests there is no overlap whatsoever. All HTMT values within the data are ranging between 0.441 and 0.564 which is far from the 0.85 benchmark, demonstrating that the constructs within the data are in fact workplace stress, sleep patterns, eating habits, physical exercise, and cardiovascular health are unique in their own and do not overlap in excess. For instance, workplace stress and cardiovascular health simultaneously have the highest association of 0.564 which has very sound theoretical reasoning, and is considerably well established, and the lowest association with physical activity of 0.441 which is on the lower end of the spectrum, demonstrates that the association of workplace stress and physical activity has no association at all. In the same manner, sleep patterns and dietary habits also have moderate associations with cardiovascular

health and are considerably valuable in relation to the constructs but also are cardiovascular health themselves which are 0.538 and 0.521 respectively. All the constructs that are represented in the model do achieve discriminant validity and can therefore be relied on in framing the proposed structural model and relationships.

4.3 Collinearity Assessment (VIF Values)

Table 4.3 Collinearity Assessment

Construct	VIF Range
Workplace Stress (WS)	1.214 – 2.031
Sleep Patterns (SP)	1.178 – 2.014
Dietary Choices (DC)	1.264 – 2.167
Physical Activity (PA)	1.239 – 2.082

All constructs had variance inflation factor (VIF) values between 1.178 and 2.167, well below the critical value of 5, suggesting that multicollinearity is not an issue in this study. Workplace stress, sleep, food intake, and physical exercise do not explain variance through excessive overlap and each one therefore adds value to the model. These low values of VIF indicate ample independence among the predictors to produce sufficiently accurate estimates in the structural model and hence strength the results of the PLS-SEM analysis.

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4.4 Model Fit Indices (PLS-SEM)

Table 4.4 Model Fit Indices

Fit Measure	Value	Threshold	Decision
SRMR	0.047	< 0.08	Good Fit
NFI	0.918	> 0.90	Acceptable
Chi-Square / df	2.143	< 3	Acceptable
RMS Theta	0.122	< 0.12	Close Fit

The model fit indices all show adequate and dependable representation of the data by the model's structure. The SRMR indicates a score of 0.047 which is well within the threshold of 0.08, meaning the covariances which are predicted and observed are well correlated. The NFI value of 0.918 exceeds the boundary of 0.90, which further illustrates the model's adequacy. Furthermore, the Chi-Square/df ratio is 2.143, which is under the threshold of 3, confirming the model overfitting concern is dismissed and is statistically reasonable. Despite the RMS Theta value of 0.122 suggesting the model fit is a bit over the strict cutoff of 0.12, it does not negate the model's overall adequacy. Collectively, these metrics demonstrate the model positive achivement of goodness of fit validating it for further evaluation of the proposed construct

4.5 Structural Model – Path Coefficients and Hypothesis Testing

Table 4.5 Structural Model – Path Coefficients and Hypothesis Testing

Hypothesis	Path	β (Beta)	t-value	p-value	Decision
H1	WS → CH	-0.276	5.214	0.000	Supported
H2	SP → CH	-0.241	4.827	0.000	Supported
H3	DC → CH	-0.218	4.365	0.000	Supported
H4	PA → CH	0.297	5.682	0.000	Supported
H5	WS → PA	-0.261	4.976	0.000	Supported
H6	SP → PA	-0.224	4.331	0.000	Supported
H7	DC → PA	-0.203	3.947	0.000	Supported
Mediation	WS → PA → CH	0.078	3.215	0.001	Supported
Mediation	SP → PA → CH	0.066	2.941	0.003	Supported
Mediation	DC → PA → CH	0.061	2.785	0.005	Supported

All relational hypotheses were accepted and confirmed with both direct and indirect effects of workplace stress and strain, sleep, and diet on cardiovascular (CV) health. Workplace stress ($\beta = -0.276$, $p < 0.001$), poor sleep ($\beta = -0.241$, $p < 0.001$), and poor diet ($\beta = -0.218$, $p < 0.001$) all negatively impacted CV health, while physical activity ($\beta = 0.297$, $p < 0.001$) positively protected CV health. It was also revealed that workplace stress ($\beta = -0.261$, $p < 0.001$), poor sleep ($\beta = -0.224$, $p < 0.001$), and poor diet ($\beta = -0.203$, $p < 0.001$) were strong predictors of physical activity, which emphasizes the determinants of health behavior. Mediation analyses illustrate

that both exercise mental buffering and the exercise 'sleep diadem' relate to sleep and diet metric buffers (e.g., Box et al., 2020). There were significant indirect effects on workplace stress ($\beta = 0.078$, $p = 0.001$), sleep patterns ($\beta = 0.066$, $p = 0.003$), and diet ($\beta = 0.061$, $p = 0.005$) for the elusive and understated deficits of a stress-caffeine-diurnal diet. These covariations reiterate the centrality of exercise as a mitigating factor in the overall negative frame of lifestyle and occupational determinants of cardiovascular health.

5.0 Discussion

The findings of this study show that there is, in fact, a relationship between cardiovascular health and occupational stress, sleep, eating habits, and lifestyle variables such as physical exercise and general physical activity, all of which act as mediators in this relationship. It was settled that there is a workplace stress that directly and negatively affect cardiovascular health. This corresponds to the bulk of literature which has been around for a long time, suggesting that persistent stress raises blood pressure, disrupts endocrine functions, and induces chronic cardiac dysfunction. The negative path coefficient as computed in the analysis was substantial and therefore, is indicative that stress, long working hours, inadequate job satisfaction, and absence of organizational policies and procedures geared to promote employee wellness, is a very strong contributor to the deterioration of cardiovascular health. The findings are similar to the findings that are observed in other countries, however, in the context of a developing country because there are more reactive approaches to healthcare and limited resources available to individuals to relieve stress, these findings are more significant.

Contributions

Tayyba: Problem Identification, Literature search

Ayesha Kashif: Results and Discussion

Hamid Bilal: Results, Revisions and Litrature Writing

Conflict of Interests/Disclosures

The authors declared no potential conflicts of interest w.r.t this article's research, authorship, and/or publication.

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