

Impact of Psychosocial Hazards on Physical and Psychological Wellbeing of Sanitary Workers

BY

Naureen Munir



**DEPARTMENT OF APPLIED PSYCHOLOGY
NATIONAL UNIVERSITY OF MODERN LANGUAGES
ISLAMABAD
July 2025**

Impact of Psychosocial Hazards on Physical and Psychological Wellbeing of Sanitary Workers

BY

Naureen Munir

A Dissertation Submitted to the

**DEPARTMENT OF APPLIED PSYCHOLOGY
NATIONAL UNIVERSITY OF MODERN LANGUAGES
ISLAMABAD**

In Partial Fulfillment of the Requirement for the Degree of

**DOCTOR OF PHILOSOPHY
IN PSYCHOLOGY**

July 2025



NATIONAL UNIVERSITY OF MODERN LANGUAGES FACULTY OF SOCIAL SCIENCES

THESIS AND DEFENSE APPROVAL FORM

The undersigned certify that they have read the following thesis, examined the defense, are satisfied with the overall exam performance, and recommend the thesis to the Faculty of Applied Psychology for acceptance.

Thesis Title: Impact of Psychosocial Hazards on Physical and Psychological Wellbeing of Sanitary Workers

Submitted by: Naureen Munir **Registration #:** 890 PhD/Psy/F19

Doctor of Philosophy
Degree name in full

Applied Psychology
Name of Discipline

Prof. Dr. M. Anis ul Haque
Name of Research Supervisor

Signature of Research Supervisor

Prof. Dr. Muhammad Riaz Shad
Name of Dean (FSS)

Signature of Dean (FSS)

Maj Gen Shahid Mahmood Kayani.
Name of Rector NUML

Signature of Rector

Date

AUTHOR'S DECLARATION

I, Naureen Munir

Daughter of Munir Akhtar

Registration # 890 PhD/Psy/F19

Discipline Applied Psychology

Candidate of **Doctor of Philosophy** in psychology at the National University of Modern Languages do hereby declare that the thesis “**Impact of Psychosocial Hazards on Physical and Psychological Wellbeing of Sanitary Workers**” submitted by me in partial fulfillment of Doctorate degree, is my original work, and has not been submitted or published earlier. I also solemnly declare that it shall not, in future, be submitted by me for obtaining any other degree from this or any other university or institution.

Signature of Candidate

Naureen Munir

Name of Candidate

Date

CERTIFICATE

It is certified that PhD Psychology research thesis titled “Impact of Psychosocial Hazards on Physical and Psychological Wellbeing of Sanitary Workers” is prepared by Naureen Munir (System ID: NUML-F19-38914) has been approved for submission to the Department of Applied Psychology, National University of Modern Languages, Islamabad, Pakistan.

Prof. Dr. M. Anis ul Haque
Supervisor

TABLE OF CONTENTS

Title	Page No
Table of Content	i
List of Tables	v
List of Figures	viii
List of Appendices	x
Acknowledgements	xi
Dedication	xii
Abstract	xiii
 Chapter 1: Introduction	 1
Theoretical Perspective	9
Job Demand-Control-Support Model	11
Job Demand-Resource Model	12
WHO's Psychosocial Risk Model	12
Revised Ecological Model of Occupational stress	13
Differential Reactivity Model	13
Transactional Stress Model	14
Social Support Theory	14
Allostatic Load Model	15
Psychosocial Hazards at Work	17
Abusive Supervision	20
Everyday Discrimination	28
Work-Family Conflict	37
Psychosocial Hazards and Physical Outcomes	46
Somatic symptoms	47
Psychosocial Hazards and Psychological Outcomes	51
Workplace Cognitive Failure	53
Aggression	57
Psychosocial Hazards and Role of Personal Attributes and Contextual Factors	62
Resilience	62
Coworkers' Support at Work	69

Negative Affectivity	75
Psychosocial Hazards and Gender Based Differences	79
Psychosocial Hazards and Employment Type	83
Psychosocial Hazards and Work Shifts	85
Psychosocial Hazards Among Sanitary Workers	87
Sanitary Workers in Pakistan	93
Rationale of the Study	96
Conceptual Framework	108
Chapter 2: Method	109
Objectives	109
Research Design	111
Phase-1	113
Objectives	113
Step-1: Identification and Clarification of the Relevant Study	113
Constructs and Instruments	
Interviews with Sanitary Workers	113
Interviews with Field Experts.	116
Selection of the Relevant Instruments	120
Review of Subject Matter Experts	121
Step-II: Translation and Adaptation of Instruments	122
Procedure	123
Amendments in Translated and adapted Version of Scales	124
Step -111: Empirical Evaluation of the Instruments	127
Tryout of the Instruments	127
Item-total Correlation and Corrected Item-total correlation	128
Exploratory Factor Analysis for Work- Family Conflict Scale	131
Discussion	140
 Chapter 3: Phase II (Main Study)	 143
Objectives	143
Hypotheses	143

Direct Effects	144
Interactive Effects	144
Group Differences	147
Operational Definition of the Study Variables	149
Instruments	153
Adapted Urdu version of Abusive Supervision Scale	153
Adapted Urdu version of Everyday Discrimination Scale	154
Adapted Urdu version of Work -Family Conflict Scale	154
Adapted Urdu version of Brief Resilience Scale	155
Adapted Urdu version of International Positive and Negative Affect Schedule Short Form	155
Urdu version of Co-workers' Support Scale	156
Adapted Urdu version of Workplace Cognitive Failure Scale	156
Adapted Urdu version of Somatic Symptoms Scale -8 (SSS-8)	157
Urdu version of Buss-Perry Aggression questionnaire - Short Form (BPAQ-SF)	157
Sample	158
Procedure	159
Chapter 4: Results	162
Confirmatory Factor Analysis	162
Confirmatory Factor Analysis of Adapted Version of Abusive Supervision Scale	163
Confirmatory Factor Analysis for Adapted Version of Everyday Discrimination Scale	166
Confirmatory Factor Analysis for Work-Family Conflict Scale	169
Confirmatory Factor Analysis for Adapted Version of Brief Resilience Scale	172
Confirmatory Factor Analysis for Colleagues' Support Scale	174
Confirmatory Factor Analysis for the Adapted Version of Somatic Symptoms Scale	176
Confirmatory Factor Analysis for the Adapted Version of	179

Workplace Cognitive Failure	
Confirmatory Factor Analysis for the Adapted Version of Buss and Perry Aggression Questionnaire Short -Form	182
Descriptive Statistics and Reliability Estimates	187
Correlations	190
Multiple Regression Analysis Showing the Effects of Predictors on Somatic Symptoms	191
Multiple Regression Analysis Showing the Impacts of Predictors on Workplace Cognitive Failure	192
Multiple Regression Analysis Presenting the Impacts of Predictors on Aggression	193
Moderating Role of Resilience	190
Moderating Role of Co-workers' Support	205
Mean Differences	213
Summary of Hypothesized Relationships for all the Analysis of Main Study	218
Chapter 5: Discussion	220
Limitations, Implications and Suggestions	238
Conclusion	243
References	247
Appendices	359

List of Tables

Table No	Title	Page No
Table 1	Themes Identified Through Interviews	117
Table 2	Item-total Correlations and Corrected Item-total Correlation of the Adapted Version of Abusive Supervision Scale (N=200)	129
Table 3	Item-total Correlations and Corrected Item-total Correlation of the Adapted Version of Everyday Discrimination Scale (N=200)	130
Table 4	Item-total Correlation and Corrected Item-total Correlation of Adapted Version of Work Family Conflict Scale (N = 200)	131
Table 5	Factor Loadings of 11 Items of Adapted Version of Work-Family Conflict Scale (N=200)	133
Table 6	Item-total Correlation and Corrected Item-total Correlation of Adapted Version of Somatic Symptoms Scale (N = 200)	135
Table 7	Item-total Correlations and Corrected Item- total Correlation of the Adapted Version of Workplace Cognitive Failure Scale (N = 200)	136
Table 8	Item-total Correlations and Corrected Item-total Correlation of Adapted Version of Buss and Perry Aggression Questionnaire - Short Form (N = 200)	137
Table 9	Item-total Correlations and Corrected Item-total Correlation of the Adapted Version of Colleague Support Scale (N = 200)	138
Table 10	Item-total Correlations and Corrected Item-total Correlation of the Adapted Version of Brief Resilience Scale (N = 200)	139
Table 11	Standardized Factor Loading by Confirmatory Factor Analysis of Adapted Version of Abusive Supervision Scale (N = 662)	164
Table 12	Indices of Model Fit of Adapted Version of Abusive Supervision Scale Using Confirmatory Factor Analysis (N = 662)	166
Table 13	Standardized Factor Loadings by Confirmatory Factor Analysis of Adapted Version of Everyday Discrimination Scale (N=662)	167
Table 14	Indices of Model Fit of Adapted Version of Everyday Discrimination Scale Using Confirmatory Factor Analysis (N = 662)	169
Table 15	Factor Loadings for the Adapted Version of Work-Family Conflict Scale Using Confirmatory Factor Analysis (N = 662)	170
Table 16	Indices of Model Fit for the Adapted Version of Work- Family Conflict Scale Using Confirmatory Factor Analysis (N = 662)	171
Table 17	Standardized Factor Loadings by Confirmatory Factor Analysis of Adapted Version of Brief Resilience Scale (N=662)	172
Table 18	Indices of Model Fit of Adapted Version of Brief Resilience Scale Using Confirmatory Factor Analysis (N = 662)	173
Table 19	Standardized Factor Loadings by Confirmatory Factor Analysis of Adapted Version of Colleagues' Support Scale (N=662)	174

Table 20	Standardized Factor Loadings of Adapted Version of Colleagues' Social Support Scale (N = 662)	175
Table 21	Standardized Factor Loadings for the Adapted Version of Somatic Symptoms Scale (N = 662)	177
Table 22	Indices of Model fit of Adapted Version of Somatic Symptoms Scale by Using Confirmatory Factor Analysis (N = 662)	178
Table 23	Standardized Factor Loading for the Adapted Version of Work place Cognitive Failure Scale (N = 662)	180
Table 24	Indices of Model Fit for the Adapted Version of Work Place Cognitive Failure Scale Using Confirmatory Factor Analysis (N=662)	182
Table 25	Standardized Factor loading for the Adapted Version Buss-Perry Aggression Questionnaire-Short Form Using Confirmatory Factor Analysis (N = 662)	183
Table 26	Indices of Model Fit for the Adapted Version of Short Form of Buss-Perry Aggression Questionnaire Using Confirmatory Factor Analysis (N = 662)	185
Table 27	Descriptive Statistics and Alpha Reliability Values of all the Scales Used in Main Study (N = 662)	188
Table 28	Correlational Matrix of all Variables of the Main Study (N = 662)	190
Table 29	Multiple Regression Analysis Showing the Effects of Predictors on Somatic Symptoms (N = 662)	191
Table 30	Multiple Regression Analysis Showing the Impacts of Predictors on Work Place Cognitive Failure (N = 662)	192
Table 31	Multiple Regression Analysis Presenting the Impacts of Predictors on Aggression (N = 662)	193
Table 32	Moderating Effect of Resilience on the Relationship Between Abusive Supervision and Attention Failure (N = 662)	194
Table 33	Moderating Effect of Resilience on the Relationship Between Everyday discrimination and Work Place Cognitive Failure (N = 662)	196
Table 34	Moderating Effect of Resilience on the Relationship Between Everyday Discrimination and Attention Failure (N = 662)	199
Table 35	Moderating Effect of Resilience on the Relationship Between Everyday Discrimination and Execution Failure (N = 662)	201
Table 36	Moderating Effect of Resilience on the Relationship Between Work Family Conflict and Attention Failure (N = 662)	203
Table 37	Moderating Effect of Co-workers' Support in the Relationship Between Everyday discrimination and Workplace Cognitive Failure (N = 662)	205
Table 38	Moderating Effect of Co-workers' Support on the Relationship Between Work family conflict and Workplace Cognitive Failure (N = 662)	207
Table 39	Moderating Effect of Co-workers' Support on the Relationship	210

Between Work- Family Conflict and Memory Failure (N = 662)

Table 40	Mean Wise Gender Difference on Study Scales Along with Subscales (N = 662)	213
Table 41	Mean Wise Difference Between Single Shift and Double Shift Workers on Scales Along Subscales (N = 662)	215
Table 42	Mean Wise Difference Among Permeant Workers, Contract workers, and Daily Wagers on Study Scales Along with Subscales (N = 662)	216
Table 43	Summary of Hypothesized Relationships for all the Analyses of Main Study	218

List of Figures

Figure No	Title	Page No
Figure 1	Conceptual Frame Work	108
Figure 2	Research Design	110
Figure 3	Scree Plot of the Adapted Version of Work-Family Conflict Scale	132
Figure 4	Measurement Model of Adapted Version of Abusive Supervision Scale	165
Figure 5	Measurement Model of Adapted Version of Everyday Discrimination Scale	168
Figure 6	Measurement Model of Adapted Version of Work-family Conflict Scale	171
Figure 7	Measurement Model of Adapted Version of Brief Resilience Scale	173
Figure 8	Measurement Model of Adapted Version of Colleagues' Support Scale	175
Figure 9	Measurement Model of Adapted Version of Somatic Symptoms Scale	178
Figure 10	Measurement Model of Adapted Version of Work place Cognitive Failure Scale	181
Figure 11	Measurement Model of Adapted Version of Buss and Perry Aggression Questionnaire-Short Form	184
Figure 12	Mod graph Showing the Conditional Relationships Between Abusive supervision and Attention failure at Different Levels of Resilience	195
Figure 13	Mod graph Showing the Conditional Effects of Everyday Discrimination on Workplace Cognitive Failure at Different Levels of Resilience	197
Figure 14	Mod Graph Showing the Conditional Effects of Everyday Discrimination on Attention Failure at Different Levels of Resilience	200
Figure 15	Mod Graph Showing the Conditional Effects of Everyday Discrimination on Execution Failure at Different Levels of Resilience	202

Figure 16	Mod Graph Showing the Conditional Effects of Work-Family Conflict on Attention Failure at Different Levels of Resilience	204
Figure 17	Mod graph Showing the Conditional Effects of Everyday Discrimination and Workplace Cognitive Failure at Different Levels of Co-workers' Support	206
Figure 18	Mod graph Showing the Conditional Relationships Between Work-Family Conflict and Workplace Cognitive Failure at Different Levels of Co-workers Support	208
Figure 19	Mod Graph Showing the Conditional Relationships Between Work-Family Conflict and Memory Failure at Different Levels of Co-workers' Support	211

List of Appendices

Title	Page No
Appendices	359
English Instruments	360
Adapted Urdu Version of Instruments	369
Permissions	387

Acknowledgement

First and foremost, I am profoundly grateful to the Almighty for His countless blessings and guidance throughout this journey. I also extend my heartfelt gratitude to Prophet Muhammad (PBUH) for his eternal inspiration and wisdom. I would like to express my deepest gratitude to my supervisor, Pro. Dr. M. Anis ul Haque for his valuable guidance, encouragement, and support throughout the course of my dissertation. His expertise and insightful feedback have been instrumental in shaping this research, and I am deeply appreciative of his unwavering commitment to my academic growth.

I am also deeply grateful to my colleagues, whose camaraderie and collaboration have enriched this journey. Their constructive discussions have been a source of inspiration and motivation.

To my beloved husband, Muhammad Azad and my wonderful children, thank you for your boundless patience, understanding, and love. Your support has been my anchor, and your encouragement has fueled my determination to reach this milestone.

Lastly, I extend my heartfelt thanks to my parents, for their unwavering faith in my abilities and their constant encouragement. Your sacrifices and endless support have provided me with the foundation to pursue my dreams.

This dissertation is a testament to the collective effort of all the remarkable individuals in my life. Thank you for being my pillars of strength and for making this journey possible.

Dedication

This dissertation is dedicated to the sanitary workers, who face tremendous physical and psychological challenges in their daily work environments. Their unwavering dedication, resilience, and perseverance, despite many hardships, are truly inspiring. They continue to work tirelessly for the betterment of their families and society overall, often without recognition or reward. Their strength and determination serve as a beacon of hope and motivation, reminding us all of the incredible power of the human spirit. This work stands as a tribute to their unyielding commitment and invaluable contributions.

Abstract

This study was designed to investigate the impact of psychosocial hazards on physical and psychological wellbeing of sanitary workers. It aimed to examine the associations of abusive supervision, everyday discrimination, and work-family conflict with somatic symptoms, workplace cognitive failure, and aggression. It also investigated the moderating role of resilience and coworkers' support between psychosocial hazards and outcomes. Moreover, the study explored the group differences on the basis of gender, employment types, and shift work on psychosocial hazards and outcomes. Study was a cross-sectional survey and conducted in two phases. In Phase-I of the study, the identification, clarification, and adaptation of the study measures were carried out in our local context. In order to identify the relevant constructs and related instruments, 40 semi-structured interviews were conducted with sanitary workers. Nine theory driven scales were selected to measure the study's variables. Seven scales were translated and adapted whereas, the urdu version of two scales were used in the study. Furthermore, following the adaptation of scales, a tryout was conducted in preliminary phase on a sample of 200 participants, to empirically assess the instruments. Exploratory factor analysis was conducted for work-family conflict scale because of the addition of newly generated six items. Results revealed a two-factor solution, indicating distinct but related dimensions. In phase-II prior to proceed for hypothesis testing, confirmatory factor analysis was conducted for all the scales, that ensured the appropriateness of the scales for the study sample. A total sample of 662 sanitary workers, through purposive sampling technique, from municipal corporations and cantonment boards across six Pakistani cities participated in the research. The research findings revealed that abusive supervision, everyday discrimination, and work-family conflict have significant positive relationships with somatic symptoms, workplace

cognitive failure, and aggression. Resilience significantly exacerbated the relationship of psychosocial hazards and workplace cognitive failure, after controlling the impact of negative affectivity. Coworkers' support also strengthened the relationship between psychosocial hazards and workplace cognitive failure, after controlling the impact of negative affectivity. Group differences based on gender, employment types and shift work were found significant. Findings revealed that female sanitary workers, permanent workers, and double shift workers exhibited significantly higher mean scores on psychosocial hazards and outcomes, as compared to their counterparts. Study has emphasized the unique challenges and health related issues of sanitary workers. Overall, study has highlighted the importance of healthier and supportive work settings, through revealing the adverse impacts of psychosocial hazards on physical and psychological health of a neglected group of workers, in a developing country. The research intended to provide valuable insights for academia as well as for concerned authorities, advocating for necessary changes to prevent and deal with the negative impacts of psychosocial hazards on sanitary workers' physical and psychological wellbeing.

Chapter 1

Introduction

The definition of a healthy workplace has evolved greatly over the past several decades from an exclusive focus on physical aspects of work, which include traditional concerns like facing physical, biological, chemical, and ergonomic hazards, to psychosocial hazards at work. The term ‘psychosocial’ refers to the interrelationships among individuals’ thoughts, emotions, behaviors, and their social environment. Psychosocial stressors or psychosocial hazards at work have gained much attention in occupational health and safety context (Way, 2020). PRIMA-EF, Guidance on the European Framework for Psychosocial Risk Management (WHO, 2008), a manuscript which is a part of World Health Organization’s Protecting Workers’ Health Series, states:

“Work-related psychosocial risks concern those aspects of the design and management of work, and its social and organizational contexts, that have the potential for causing psychological or physical harm” (as cited in Leka & Cox, 2008, p. 1). Similarly, the World Health Organization (2020) defines the psychosocial hazard as any occupational factor that relates with the planning, organization and management, as well as the monetary and social context of the work.

Different terms are used for psychosocial hazards in health-related fields and rehabilitation or legal contexts, including work stressors, psychosocial risk factors or work-related psychosocial factors. However, occupational health and safety professionals typically use terms such as psychosocial hazards, occupational stressors, or psychological injury. The psychological harm that is inflicted by psychosocial hazards depends on the frequency, duration and intensity of the exposure. Moreover, these hazards even at low levels can trigger a stress response that, though potentially

distressing, does not necessarily cause psychological damage. While, under more severe circumstances, when the exposure is intense or prolonged, it leads to chronic stress and ultimately a range of detrimental effects on psychological and physical health. Thus, it is pivotal to consider how this mild stress is translated into long-term psychological harm (Way, 2020).

The World Health Organization (2020), through a guide and website, identified some psychosocial hazards, each contributing to overall stress levels and employee well-being. Nature and the requirement of the work itself (job content) was found as a great source of stress at work. Similarly, workload, work pace, and work schedules were acknowledged as disrupting factors, having the potential to influence workers' wellbeing. Moreover, the degree of autonomy an employee has over the tasks and decisions was identified as another potential aspect. Likewise, organizational culture and functions encompassing values, practices, and communication patterns were considered as significantly importance to affect the workers' health. Additionally, interpersonal relationships at work with colleagues and supervisors were listed as psychosocial hazard, that can lead to a stressful workplace. The published guide also reported that ambiguousness and conflict of role can contribute to increase the strain levels and resultantly decrease in employees' health and well-being. Lastly, a poor work-life balance was also recognized as a source of stress and strain with negative consequences.

Similarly, Canadian Center for Occupational Health and Safety (2021) reported the psychosocial factors, which greatly impact the organizational effectiveness and the health of employees. They emphasized that the factors such as providing psychological support to manage stress, endorsing positive organizational culture, and offering clear leadership and expectations are the potential aspects of work, to enhance the health and

productivity of employees. Similarly, encouraging civility and respect at workplace, while aligning job demands with employees' mental capabilities can prevent harmful impacts. Moreover, opportunities for growth and development, along with recognition and reward systems, have the potential to raise the wellbeing of the workers. Additionally, facilitating employee involvement in decision-making increases wellness by fostering a sense of ownership. They also reported that physical safety, effective workload management, psychological protection against harassment and bullying can contribute to create a healthy workplace.

European Agency for Safety and Health at Work (2017), through a survey, revealed the most significant emotional and social hazards at work including job strain, effort-reward inequity, lack of social support, extended work hours, lean production and outsourcing, emotional labor, job uncertainty, precarious work, work intensification, and work-life interface. Similarly, another survey reported the evolving psychosocial risks across Europe, such as emotional demands at work, pressure due to time constraints, unfavorable work schedules, inappropriate communication, lack of collaboration within the organization, and threat to lose the job (EU-OSHA, ESENER, 2019). The occupation an individual pursues impacts his well-being and contributes to his overall life quality. General well-being differs among occupational groups because of the diversities in work types and working conditions (Shockey et al., 2017). Additionally, International Labor Organization reported that work-related stress arises from psychosocial hazards, which are present in work conditions, work design, labor relations, and organizational structure (ILO, 2022).

During the last 20 years, work-related psychosocial hazards have emerged as a prominent focus of researchers, working on job-related health (Chirico et al., 2019; Potter et al., 2019). This increased attention is driven by various factors including the

complex nature of research findings, heightened media attention, regulatory limitations, specialized skills demanded in the field, industry attitudes toward the issue, and the increase in health-related outcomes (Way, 2020).

Although different sources have elucidated different psychosocial hazards at work, however, they all have mutual consensus that they affect the workers' wellbeing. Basically, psychosocial hazards stem from work's social and psychological aspects. They originate from the design, coordination and administration of work, including the monetary side and social situation. Psychosocial hazards have grasped the attention of the researchers, particularly exploring the dynamics of how these hazards interact with individuals' thoughts and behaviors, as well as their social environment at work. These interactions significantly influence individuals' perceptions and subsequently impact their health and other outcomes. The current study focuses on the most relevant psychosocial hazards experienced by sanitary workers, and their relationships with physical and psychological health outcomes. Study also has highlighted the interactive impacts of personal and contextual factors on these hazards.

Studies examining the impacts of occupational psychosocial hazards through stress pathways are carried out largely in workplaces, across numerous regions worldwide. The statistical findings of Eurostat Labor Force Survey (2020) revealed evidence on the prevalence of various health problems associated with job stress and identified the critical risk factors causative to the ill health of people at work in Europe. The data was gathered through studies conducted in 2007, 2013, and 2020, covered people aged from 15 to 64. In work-related health problems, musculoskeletal disorders emerged as the most prevalent health issue with minimal gender discrepancies. The second most common group of problems comprised stress, depression and anxiety, with slightly more distinct gender disparities, because women were reported as more

affected. Lastly, headaches, eye strains, or migraines represent the third most frequent work-related health problem, and females were identified to have a greater level of susceptibility. In the year 2020, around 60% of the employed population in Europe reported exposure to workplace risk factors, potentially impacting their physical health, and workplace mental health related risk factors accounted for around 40% of the total employed population (Eurostat Labor Force Survey, 2020). The commonly reported risk factor was time pressure and excessive workload, followed by experiences of harassment or bullying, and episodes of violence or threats of violence. The current research studied the somatic symptoms, workplace cognitive failure and aggressive behaviors, as physical and psychological health related outcomes of psychosocial hazards.

In most European Union states where data are accessible for both genders, the proportion is higher for women than for men. Sweden, Finland, Denmark, and France were found with most significant observed disparities. Whereas, Croatia deviated from this trend, with a little higher share for males than for females. While Greece, and Slovakia showed equal contribution for both genders. Present study has also highlighted the gender differences on psychosocial hazards and health related outcomes in Pakistan. Similarly, study identified the differences on the basis of shift work and employment types.

Across various sectors in European union, certain areas such as health and social welfare, functions of international organizations, and education departments displayed the uppermost proportions of individuals, showing work-related risk factors for mental well-being. While people related to household work, mining and excavating, forestry, agriculture and fishing reported the lowest percentages. Whereas mining and excavating, fishing, agriculture, and forestry sectors had the maximum proportion of

workers presenting risk factors for physiological health. This trend was also observed in the water supply and sewerage sector. Conversely, education, finance and insurance related jobs had lower rates of physical risk factors, but they were among the most affected sectors in terms of mental health. The stowage and transportation sector were grouped among the leading five sectors, with high rates for physical and mental health related threats at work (Eurostat Labor Force Survey, 2020). Present study has examined the impacts of psychosocial hazards in the sanitation sector, on both physical and emotional health of the workers.

Australian Bureau of statistics (2012-2022) revealed that during the year 2021-22, 497,300 workers experienced a work-related illness or injury out of the 14.1 million individuals, who were hired at any point within the preceding 12 months. Hazards encompassing factors such as job demands, bullying, harassment, and organizational justice mainly contributed to work-related mental illnesses in Australia (Safe Work Australia, 2019). Similarly, Australian Productivity Commission Report (2020) on mental health indicated that workplace bullying was a major cause of psychological strain at job in Australians. In the year 2015-2016 the economics repercussion of workplace ill mental health was estimated as \$12.8 billion.

Similarly, in Japan, a considerable raise has been observed in number of reported and compensated instances of occupation related psychological disorders, especially among young workers, when compared to cases of occupational cardiovascular diseases (Yamauchi, 2017). A national report revealed that approximately one-third of the workforce was affected from anxiety disorders due to job strain in Japan (International Labor Office, 2016).

Every year, in the United States of America, enormous number of workers face non-fatal workplace violence and psychological hazards (Federal Justice Statistics,

2019; Center for Disease Control and Prevention, 2018). Moreover, private companies reported 2.8 million nonfatal illnesses and injuries at work, in 2018 (Bureau of Labor Statistics, 2018). On the contrary, minimal information regarding the prevalence rates of health risks due to psychosocial hazards or workplace violence has been reported from Africa and other developing regions (International Labor Office 2019). A cross-sectional study demonstrated that beyond 10% of participants across America revealed various strain-related indicators on job, including sleep related difficulties and feelings of distress (Benavides et al., 2014).

On the status of Pakistan, ILO reported the inadequate occupational safety and poor health protection standards at the workplaces, in public and private sectors. In Pakistan, each year, number of workers die from accidents at work, experience injuries, and suffer from work-related illness. Figures on work-related injuries and health issues, indicate a rate of 2,691 per 100,000 employees (Statistics on Safety and Health at Work in Pakistan, 2023). Worldwide many countries have enacted laws to deal with occupational safety and related health problems over the past few decades. Primarily they have focused the traditional risk factors (chemical, physical or biological), with less emphasis on the “fourth group”, the psychosocial risk hazards (Chirico, 2019).

Schulte et al. (2024) very recently, reported that work-related psychosocial hazards are intensely damaging, surpassing many traditional hazards in contributing to workplace injuries, disabilities, negative health outcomes, and monetary costs, even affecting overall efficiency of the nations. This rising concern, by constituting severe occupational health issues, demands immediate and larger focus. Besides reviewing the adverse effects related to psychosocial hazards at work and their financial impacts, they also reviewed the preventive interventions. They discussed the significant associations, as evidenced by multiple studies, among job strain, low job control, job insecurity, and

long work schedules with mental health issues, such as depression, anxiety, and stress. Moreover, the findings of physical conditions like coronary disease and stroke (Harvey et al., 2017; Niedhammer et al., 2021), being associated with psychosocial hazards were analyzed in the review. In addition, scholars highlighted that the prevalence of these hazards leads to high medical expenses and reduced overall workplace productivity. They also discussed workplace violence, and its significant impacts on psychological ailments, like post-traumatic problems and burnout, with reference to the study of Harrell et al. (2019).

The review paper concluded that psychosocial work environment can influence workers' well-being and long-term health consequences, through stress, resource depletion, and effort-reward imbalance. Despite the researchers' concern about causality, the overall literature supports the prevention of these hazards to mitigate adverse health outcomes. They recommended that by launching a comprehensive public awareness campaign, expanding investigations, and translating research findings into practical guidance for employers and workers can be helpful. Moreover, focusing the related interventions can assist to confront these hazards.

Generally, empirical evidence on impacts of psychosocial hazards has originated from investigating several facets of work, including the strategy and organization of work, work-related stress, workplace bullying, harassment and other negative workplace behaviors, fatigue, and risk-management at work (Way, 2020). This area of research gained thrust in the 1960's with the increased interest of studies in different areas of occupational psychology, particularly psychosocial aspects of work (Johnson & Hall, 1996). During that period, a paradigm change appeared from focusing only on individual perspective to a broader examination of the relative impacts of various factors. This shift emphasized the importance of the interactions between

individual experiences and the broader context in which they occur for workers' health (Cox & Griffith, 2000).

Research evidence on the health implications of psychological hazards got accumulated substantially with time. The World Health Organization's reports on social determinants of health (e.g., CSDH, 2008), emphasis of developed countries on referencing occupational health and safety laws, and emancipation of codes of actions reinforced the importance of this area. Moreover, development of the relevant interventions, the campaigns, and guidance programs opened various dimensions (Johnstone et al., 2011).

Theoretical Perspective

The current study's theoretical framework combines various models to offer an integrated comprehension of the phenomenon. The framework of the study adds for both research and practical implications for occupation related health issues. Cox and Mackay (1981) discussed the psychosocial aspects of work by offering three discrete approaches, to understand the different workplace factors which influence employees' psychological and social well-being. First, the engineering approach focuses on the physical features of the work setting. This approach intends to minimize physical stress and prevent health issues by improving the physical conditions of the workplace.

The second approach, the psychological approach, emphasizes persons' psychological processes and inspects that different aspects like job satisfaction, stress, and cognitive workload, etc., influence mental health. It aims at improving employees' psychological states. The psychological approach defines hazards as an active interplay between people and their contexts, often influenced by how well people fit into their settings and the variations in their emotional responses (Cox et al., 2000). Lastly, the social approach considers the social settings at workplace such as leadership styles,

communication patterns, and social support networks, etc., recognizing the important role of social relationships in mitigating stress and enhancing wellbeing. These approaches, together, provide an inclusive framework to understand the stressors at work and outcomes, also to create healthier and productive work settings that promote employees' overall well-being.

Kompier (2002) identified some primary theoretical approaches to psychosocial hazards and occupational stress. Which include Hacker's (1986) Action Theory, Cherns' (1976) Sociotechnical approach, Hackman and Oldham's (1980) Job Characteristics model, French, Caplan and Harrison's (1982) Person-Environment Fit model, Lazarus and Folkman's (1984) Cognitive appraisal in stress (transactional model), Karasek and Theorell's (1990) Job Demand-Control-Support model, Warr's (1994) Vitamin model, and Siegrist's (1996) Effort-Reward Imbalance model. Moreover, the Demand Induced Strain Compensation Model (De Jonge et al., 2003), the Job Demands-Resources Model (Demerouti et al., 2001), the Demand-Skill-Support Model (Van Veldhoven et al., 2005), and the Construct of Psychosocial Safety Climate (Idris et al., 2012) have been supported in literature (Way, 2020). Furthermore, as a push for integrative models, Dewe and Cooper (2014) traced recent influences such as the positive psychology movement, which emphasized that quality of work is strongly related to workers' well-being. This perspective accentuated the importance of positive psychological features to foster satisfying work experiences, and ultimately the welfare of workers (e.g., Parker et al., 2017). While exploring the influence of psychosocial hazards on health-related consequences, the following theoretical perspectives serve as a foundational framework for the present study.

Job Demand Control Support Model

Job demand control support model (Karasek & Theorell, 1990) is a framework, used to understand the associations between work characteristics and their impact on employee health. This model focuses on the increased job demands along with limited control over job and inadequate social support, which cause stress and adversative health outcomes for workers. Inversely, when employees apply greater control over their duties, and benefit from enough social support, they are more proficient at handling job demands and protecting their well-being.

The present study focused on the combined effects of psychosocial hazards and impacts of available resources (resilience and co workers' support) on physical and psychological outcomes. It integrates with two hypotheses in Job demand control support model. The strain hypothesis supports that high stress/demands at work results in poor health of employees, moreover, job demands, social assistance and control have independent impacts. On contrary the buffer hypothesis states that harmful effects of intense job requirements are mitigated by job control and social assistance at work. Strain hypothesis got sufficient support; however, the buffering impact is debatable (Berkman et al. 2020; Kivimäki et al. 2012; Van der Doef & Maes, 1998).

The model is widely used in research and occupational settings for identifying workplace factors influencing stress, improving job design and organizational policies, encouraging employee health and competence, and developing interventions. Dewe discussed that demand control support presents an effective framework for job stress, but to summarize the stress process, it does not give a thorough perspective. He suggested that it can be more useful when combined with other theories, or by adding factors such as personality characteristics or perceptions related elements to explain the job stress (Dewe, 1991). The Job demands control support model can be used to explain

that psychosocial hazards at work, and the available support system, may affect health-related outcomes.

Job Demand- Resource Model

Another relevant model is the Job Demand- Resource Model by Demerouti et al. (2001), which explains the impacts of disparities between the demands and resources at work. Model can be used to explain the interactions between psychosocial hazards and available resources. Theory states that job resources can assist as defensive factors, mitigating the harmful effects of job demands and lessening the danger of meeting detrimental health outcomes. High levels of job demand can contribute to the impaired health of the workers, because these demands require continuous efforts and consume workers' coping resources extensively, leading to energy diminution and long-standing health problems. Whereas provision of job resources, facilitate workers to continue their efforts, as well as to stimulate their personal strength to deal with stressors (Bakker & Demerouti, 2007). This inquiry intended to investigate the relationship of psychosocial hazards and health related consequences by focusing on the impacts of available resources.

WHO's Psychosocial Risk Model

WHO's Psychosocial Risk Model (Cooper & Davison, 1987) integrates four arenas including work, home life, social connections, and personal factors that contribute dynamically in the occurrence of psychosocial risk/hazards at workplace. This framework explains that interconnected domains collectively influence individuals' overall well-being and performance. It emphasizes that psychosocial risks should be explored by considering the causes of distress beyond the workplace, which can impact the work performance, as well as psychological and physiological health of individuals at work (Erwandi et al., 2021). The current study has focused on the

different domains of sanitary workers' life and the interactions of individual characteristics and social gradient in shaping their physical and psychological well-being.

Revised Ecological Model of Occupational Stress

Ecological approach presents an inclusive view of this multidimensional phenomenon. The Revised Ecological Model of Occupational Stress (Salazar & Beaton, 2000) expands upon traditional models of occupational stress by considering the broader environmental context in which work is performed. It emphasizes the interaction between individual, interpersonal, organizational, and societal factors in shaping the experience of work stress. Model stresses the significance of considering both direct and proximal elements within the work setting, as well as more distant and distal aspects.

By incorporating this model, the present study analyzed how various levels interact to influence work-related stress and health outcomes (Ruffing-Rahal, 1998; Stokols, 2000), among sanitary workers. Individual worker layer was added in this revised version, which emphasizes the appraisal processes of stress along with adaptive skills and weaknesses, that may affect temporary and lasting health related and other consequences (Meischke et al., 2020). Integrating this model to examine the various factors from the workplace of sanitary workers, and the interactions impacting their stress experiences have provided a valuable insight. The present investigation endorsed healthier workplaces through investigating different factors that have potential to influence the experiences of psychosocial hazards.

Differential Reactivity Model

Theoretical foundation of the study can be traced in the differential reactivity model, by Bolger and Zuckerman (1995), to study the role of personality traits in

processing stress. This perspective has gained a large support from literature (Mäkikangas et al., 2013) and has been integrated to job demands-resources theory (Bakker & Demerouti, 2017). Bolger and Zuckerman (1995) suggested that individuals vary in their physiological and psychological responses to stressors, with some displaying heightened reactivity while others exhibiting greater resilience. Thus, this model explains the critical role of individual variations in responding to stress. Through employing this model, the current study focused on how distinctions in stress reactivity affect the associations of psychosocial hazards with health outcomes among sanitary workers. The present study has highlighted personality characteristics, as potential factors, affecting the well-being of sanitary workers.

Transactional Stress Model

The transactional stress model (Lazarus & Folkman, 1984) emphasizes that the individuals' appraisals of job demands, and perception of available coping resources significantly influence the experiences of work-related stress and related outcomes. It focuses on the demands confronted by individuals, control over them, social support that affects people's perception of psychosocial threats and their reactions along with the impacts of coping strategies (Cox & Griffith, 2010). It accentuates that stress is not solely determined by the objective characteristics of a situation but also by individuals' subjective perceptions, appraisals and coping responses. This understanding is very important to deal with psychosocial hazards and promote employee well-being. Sanitary workers may experience stress when they appraise the situations as exceeding from their available resources to cope with them. This study highlighted the importance of personal and contextual resources to appraise and encounter psychosocial hazards.

Social Support Theory

Social Support Theory, presented by Cobb (1976), highlights the significance of social connections in managing the impacts of stress. Managers, colleagues and organizational edifices can offer emotional, practical, and informational support, that can assist individuals to deal with workplace stressors. This theory postulates that adequate social support can reduce the harmful health consequences of work hazards, potentially lowering the probability of workers' health problems. Therefore, through integrating this model, the present study focused to explore the impacts of coworkers' support as moderating variable, in the relationships of psychosocial hazards and their consequences.

Allostatic Load Model

The Allostatic Load Model (McEwen & Stellar, 1993) offers a theoretical framework, aimed at explicating the physiological impacts of persistent stress on the human body. Deviating from conventional stress theories, the model emphasizes the cumulative effects of extended or recurring stressors on numerous physiological systems. It theorizes that lasting stress can precipitate dysregulation of many bodily mechanisms, finally amplifies the vulnerability to illness and aggravates health challenges. The Allostatic Load Model emphasizes the significance of admitting the enduring physiological impacts of stress and advocates for intrusions, directed at mitigating allostatic load to enhance positive health outcomes. Through employing this model in the context of sanitary workers, this study has explored the physical health outcomes because of persistent exposure to psychosocial hazards. Factors such as disrespect, low social status, discrimination, emotional demands, etc., may exacerbate allostatic load through stress strain pathway, which potentially produce adverse health outcomes.

The present study can be rooted to aforementioned theoretical frameworks, which enhanced the study's strength. This Study analyzed the research question from various angles and provided insight that might not have been manifested with the use of only one model. Each of these models can be referred with their exclusive perspectives to comprehend the interrelationship between psychosocial hazards and health outcomes among sanitary workers. The Job Demand Control Support Model (Karasek & Theorell, 1990) explicates how job requirements and support interact to shape sanitary workers' experiences of stress at work. Psychosocial Risk Model (Cooper & Davison, 1987) provides a framework for understanding the multifaceted nature of workplace hazards of sanitary workers originating different aspects of their lives, and their consequences for workers' health. Meanwhile, the Revised Ecological Model of Occupational Stress (Salazar & Beaton, 2000) accentuates the importance of considering broader contextual factors in analyzing work stressors among sanitary workers.

Additionally, the Differential Reactivity Model (Bolger & Zuckerman, 1995) offers insights into individual differences in stress response mechanisms. Whereas the integration of Allostatic Load Model (McEwen & Stellar, 1993) elucidates the physiological consequences of enduring stress exposure. Moreover, the transactional Stress Model (Lazarus, 1991) elucidates the stress appraisals and coping processes of sanitary workers. On the contrary this study has challenged The Social Support Model (Cobb, 1976), that emphasizes the significance of social support in mitigating stress effects, also the buffering hypothesis of Job demand support control model. Similarly, present study questioned the Job Demand-Resource Model (Demerouti et al., 2001), that explains the significance of job resources to weaken the influence of stress on workers well-being. By synthesizing insights from these varied theoretical frameworks,

study not only enhanced the understanding of psychosocial hazards but also offered a base for developing interventions and policies to promote sanitary workers' well-being and occupational health.

In most theoretical frames, the stress process is typically represented as a successive progression from environmental conditions to workers' health related consequences, commonly denoted as stressors leading to strains (Lazarus, 1990). The consolidation of numerous theories and models has provided an insight into the mechanisms, explaining the associations and interaction effects in the study. By considering both individual characteristics and contextual factors, the present study highlighted the multifaceted nature of this phenomenon.

Psychosocial Hazards at Work

A recent critical review reported that literature generally supports the harmful effects of working conditions on employees' health (Best et al., 2020). Research reveals that psychosocial hazards affect employees' health more intensely, when employees encounter demands and pressure beyond their capacities, and where there is minimal or even absence of support from people around like supervisors and colleagues. Furthermore, the situations in which employees feel that they have no right to make choices or have no control over the given tasks (Holmgren et al., 2009; Holmgren et al., 2014; Tamunomiebi & Mezeh, 2021). Several psychosocial hazards have been associated with certain health outcomes such as high work overload and work underload (Portoghese, 2014; Hassanie et al., 2022), poor interpersonal relationships (Okefor & Alamina, 2018), low co-worker support, and low job satisfaction have been related with high growing rate of ill- health (Tamunomiebi & Mezeh, 2021). However, the scholars have discussed that variations in conceptualization and measurement

methods across different researches, make it challenging to draw accurate comparisons or generalize findings (Van der Molen et al., Nieuwenhuijsen et al., 2020).

Work schedule remained an area of interest extensively, Misiak et al. (2020) reported the highest mental and physical burden in somatic and psychological domains among nurses, who were working in shifts. Similarly, Van der Hulst (2003) explored the adverse health effects of long working hours including cardiac diseases, metabolic diseases, disability retirement, symptoms of ill physical health, weakness/fatigue, and reduced sleep hours. Moreover, Wong et al. (2019) reported the result of longer work schedules in terms of physiological and mental health, health behaviors and non-specified health issues.

Research further supports that self-perceived job insecurity impacts anxiety, depression, psychosomatic complaints, musculoskeletal symptoms and loss of self-esteem (Nella et al., 2015), and other detrimental health effects (Lübke, 2021; Nappo, 2022). In addition, interpersonal stressors such as workplace incivility, bullying, harassment, abusive supervision, and conflicts have been identified among the most intense stressors at work, leading to severe outcomes (De Dreu et al., 2004; Verkuil et al., 2015; Wressell et al., 2018).

Moreover, it is identified that recognition at work encourages positive psychological outcomes, whereas its absence leads to adverse emotional consequences (Merino & Privado, 2015). The imbalance of effort and reward effects self-esteem negatively, also it is linked with several other problems such as greater risk of depressive disorders, cardiovascular health, and hypertension (Eddy et al., 2017; Rugulies et al., 2017). Similarly, ambiguity, conflict and clarity of role have been explored in relationship with vitality at work (Karkkola et al., 2019). Low role clarity and high role conflicts are associated with different psychological issues (Schmidt et

al., 2014), and role clarity has been supported as moderator for job satisfaction (Orgambídez, & Almeida, 2020). On the contrary, role ambiguity is associated with psychological distress (Oshio, 2021).

Considerable evidence is available on association between sense of organizational justice and health at work (Herr et al., 2020). The role of emotions at work also remained the focus of literature (Venz et al., 2020; Yang et al., 2020) regarding health outcomes. Framke et al. (2021) reported that high emotional demands at work can affect employees' health negatively. Similarly, Vemman et al. (2019) indicated that high emotional demands, related to the content of work, are associated with increased levels of exhaustion. Inversely these levels are reduced when work is considered emotionally inspiring and enriching.

Literature further supports that employee's health and wellbeing is positively associated with greater autonomy at work, where leaders encourage employee independence while performing their duties (Lee & Ravichandran, 2019; Ryan & Deci, 2017). Similarly, Blake et al. (2020) and other scholars have supported that precarious work results in damaging the well-being, it is also associated with occupational injuries of workers (Koranyi et al., 2018; Utzet et al., 2020), especially for those who have long practiced work precarity (Hyman, 2018).

Furthermore, past studies have found that effective leadership has a positive impact on employee mental health and well-being (Mullen & Kelloway, 2011). The findings of a meta-analysis by Montana and colleagues are consistent with the prior literature, on the positive associations between leadership and mental health and job performance of employees, while destructive leadership style is negatively related with mental health (Montano et al., 2017). In this context, sexual harassment has also been investigated as a significant stressor at work (Hoel & Einarsen, 2020), and outcomes of

sexual harassment have been recognized as threatening to mental wellness (Birinxhikaj & Guggisberg, 2017; Schneider et al., 1997).

Additionally, evidence supports that psychosocial hazards can negatively impact behaviors of workers that impact their health status, including unhealthy eating, sedentary lifestyle, and addiction of drugs and alcohol. Moreover, emotional and social hazards also result in low work involvement, missed workdays, frequent quitting from job and decline in worker's efficiency. It is also recognized that psychosocial hazards may interrupt the recovery from illness/injuries and consequently timely return-to-work (Goorts et al., 2020). The current study has selected the most relevant and less researched constructs, from the specific context of sanitary workers' work life with the related health issues. The selected variables for the study are as below.

Abusive Supervision

Abusive supervisors can negatively affect the health and well-being of their employees. They influence employees' quality of life through fostering a culture that disregards their well-being, and by holding irrational expectations and emotional demands from them. The significance of this issue grasped the attention of the researchers from the start of twenty first century, however harmful impacts of abusive supervision to psychological and physical health of workers have limited investigations, that demands further inquiry (Herscovis et al., 2020; Peltokorpia & Ramaswamib, 2021; Tepper et al., 2017). Recently, Bhattacharjee and Sarkar (2022) provided the literature support by conducting a systematic literature review (2000-2022). They reviewed 273 papers and revealed the research progress on abusive supervision during the past two decades. Review found that abusive supervision correlates positively with negative consequences for subordinates. The current study focused abusive supervision and physical and psychological well-being of sanitary workers, in the local context of

Pakistan, with the aim to highlight the health-related consequences. It examined the associations of abusive supervision with the moderating impacts and suggested that organizations should be vigilant about the supervisory abuse because of its potential consequences.

The essence of social exchange theory has provided the foundation for contemporary studies, conducted to explore the effects of abusive supervision (Martinko et al., 2013; Tepper et al., 2017). The social exchange theory posits that abusive supervision erodes the psychological contract between supervisors and subordinates (Vogel & Mitchell, 2017). Moreover, several other models are related to interpret the relationship of abusive supervision with employee health. For instance, the stress process model can help to elucidate how abusive supervision contributes to emotional, social, and somatic health problems. According to this model, exposure to abusive supervision triggers a cascade of psychological and physiological stress responses, leading to negative health outcomes over time (Pearlin et al., 1981). In addition, Oh and Farh (2015) have integrated theories of emotions to create a multiphase, episodic process model. The model explains that how initial attributions and appraisals lead to three distinct emotions: anger, fear, and sadness. These emotions drive various behavioral responses. Secondly, throughout the process, several personal and situational factors interact with each other to figure out the emotional and behavioral responses.

Generally, studies have supported the harmful impacts of abusive supervision (Tepper et al., 2017). Stress, anxiety, depression and emotional exhaustion (Fischer et al., 2021a; Peltokorpi & Ramaswami, 2019; Wang et al., 2022; Wu & Hu, 2009) have been explored as negative health outcomes of abusive supervision. Khan et al. (2023) explored the association between abusive supervision and stress and frustration at work.

They focused on elucidating the indirect impacts of heavy workload and pressure of time limits in this relationship.

The study was conducted within the Chinese service sector, and data collection followed a time-lagged design. Results revealed that abusive supervision directly and indirectly correlated with increased levels of both job strain and frustration among subordinates. The exacerbating impacts of work overload and time pressure in these associations were also reported.

Their study contributed to the literature on leadership and well-being of employees and emphasized the critical role of managers and the work demands, to allow effective task performance. They highlighted that abusive behaviors diminish resources, making subordinates vulnerable to negative outcomes (Harms et al., 2017; Moin et al., 2020). Khan and his colleagues suggested that training supervisors for appropriate conduct and, on the other hand, empowering service workers to identify and deal with abusive behaviors can mitigate harmful impacts (Bakker et al., 2014).

Additionally, studies also support some other negative emotional outcomes, including supervisor targeted aggression (Inness et al., 2005; Lian et al., 2014) and burnout (Chrusciel, 2023; Day et al., 2017). Similarly, the feelings of being abused can add to employees' sense of powerlessness (Li et al., 2021; Sun et al., 2023). Ego depletion and brawl with self-control (Zhou, 2020) emotional reactions such as fear and anger (Peng et al., 2019), paranoid symptoms (Lopes et al., 2019), and defensively silent behaviors (Kiewitz et al., 2016) can be experienced after being abused by supervisors. Moreover, destructive behaviors (Graham et al., 2022) reduced self-esteem (Vogel & Mitchell, 2017), fear of negative evaluation and prohibitive voice (Tahir et al., 2022), and keeping belief that their peers respect them less after being abused (Schaubroeck et al., 2016) are the reported experiences of abused employees.

Supervision can play an important role in workers' experiences of stress, particularly when they encounter conflicts at workplaces (Way et al., 2020).

Although literature, generally, supports that abusive supervision leads to several harmful emotional and physical health outcomes for employees (Liang et al., 2018; Peltokorpi & Ramaswami, 2021), however, information is limited regarding the mechanisms impacting the associations of abusive supervision. Biosciences explain that stressors can affect the hypothalamic-pituitary-adrenal axis. Stressful incidences stimulate the hypothalamic release of corticotrophin-releasing hormone (Sannes et al., 2021), and release of adrenocorticotrophic hormone, which in turn control glucocorticoid synthesis of the adrenal cortex (Smith & Vale, 2006), that contribute to different physical and psychological outcomes. Thus, the stressors through circulating glucocorticoids (Lowrance et al., 2016) may affect neuro inflammatory processes (Rijsdijk et al., 2014) and cause health problems.

Some of the studies have demonstrated a stronger impact of abusive supervision on physical health in comparison to mental health outcomes (Mullen et al., 2018; Zhang & Liao, 2015). Across a sequence of multiple studies, Sannes and his co-researchers associated subjective health complaints (Sannes et al. 2020), vertebral pains (Sannes et al., 2021) symptoms of insomnia (Sannes et al., 2022a), and stress induced headaches (Sannes et al., 2020; Sannes et al., 2023a) with abusive supervision.

Furthermore, abusive supervision has been investigated largely as predictor of organizational outcomes, including diminished organizational support, coworker manipulations and frustration (Harris et al., 2013), withdrawal from duties, low motivation and engagement (Peng et al., 2014; Wang et al., 2020) disruptive organizational citizenship behavior and counterproductive behaviors on job (Zhang et al., 2019; Kim et al., 2019). Moreover, service sabotage, lowered job satisfaction, and

reduced loyalty and devotion to work (Fischer et al., 2021; Haar et al., 2016; Hussain et al., 2020; Park et al., 2019) have also been examined in relation with abusive supervision. Similarly, Mullen et al. (2018) reported that supervisors' incivility and abusive supervision are the types of destructive behaviors by leaders, with intense damaging effects on employees' safety behaviors. The present study focused abusive supervision and physical and psychological well-being of sanitary workers, in the local context of Pakistan, with the aim to highlight the health-related consequences.

Limited research has focused on the adverse impact of abusive supervision through the moderating influence of proactive personality. Employing hierarchical regression and path analysis, a study analyzed data from 341 supervisors and employees' pairs, across 11 organizations. The results indicated that abusive behaviors of supervisors negatively affected the employees' creativity, partially mediated by their engagement in feedback-seeking behavior, and workers' positive personality traits moderated the mediation (Shen et al., 2020). Similarly, sleep patterns of employees are affected by abused behaviors of supervisors. Han et al. (2017) found that individuals who work with abusive supervisors are prone to experience sleep deprivation and are emotionally exhausted. In this context, Zhu et al. (2023) indirectly related abusive supervision with sleep problems through psychological contract violation and negative emotional states.

Moreover, it has been identified that both personal and contextual factors affect the patterns of relationship between abusive supervision and its consequences. Some personality aspects recognized by researchers include, self-esteem and history of regression (Inness et al., 2005; Schaubhut et al., 2004), conscientiousness and agreeableness (Tepper, 2001), employees' perceptions of organizational management style (Thau & Mitchell, 2006), motivation level and capacity to self-control (Lian et al.,

2014), narcissism, (Burton & Hoobler, 2011) and negative reciprocity belief (Mitchell & Ambrose, 2007). Moreover, Brees et al. (2016) positively associated the participants' negative attribution styles, negative affectivity and anger as trait with perceived abusive supervision.

Similarly, some situational factors also play an important role in the relationships between abusive supervision and the related outcomes, including procedural fairness, (Zellers et al., 2002), career progression (Tepper, 2000), subordinates' communication with management (Harvey et al., 2007; Tepper & Lockhart, 2007), vicarious supervisory abuse and humiliating treatment with peers (Harris et. al., 2013; Peng et al., 2014), and negative work climate (Mawritz et al., 2012). Literature supports that people with higher levels of resilience experience fewer adverse health outcomes, because of being better prepared to handle the negative effects of intimidating supervision (Yang et al., 2023). Similarly, coworkers' support has been identified as another vigorous protecting factor against the costs of domineering supervisory style. Studies have reported that perception of support at work decreases the damaging effects of intimidating supervision on employee health. Li and his colleagues added in the literature by exposing the mitigating role of workers perceived organizational support in positive association between toxic supervision and burnout (Li et al., 2016).

Tepper et al. (2017) discussed that since abusive supervision ascended as an important research area, several investigations have explored its consequences using the mediated frameworks. These frameworks typically address only one or mostly two mechanisms. Although these studies present valuable information, they fail to offer a comprehensive understanding of mechanisms and theoretical perspectives, which are most significant. Tepper et al. (2017) recommended the investigation regarding more

multi-pathway mechanisms, under specific circumstances to better clarify the relationship between abusive supervision and subordinates' behaviors.

Pradhan and Gupta (2021) investigated both the straight and indirect effects of subordinate's perceived abusive supervision on their experience of work to family and family to work conflict. Prior research primarily has revealed the direct effects, whereas, their study investigated the role of mediators such as obligatory citizenship behavior, stress transfer and burn out in explicating the indirect effect. The results showed the positive relationship between abusive supervision and work to family and family to work conflict. The study examined the direct and indirect effects of abusive supervision among Indian professionals.

Relying on the Conservation of Resources theory, scholars suggested that though abusive supervision has a direct impact on inter-role conflict, a significant indirect effect is also observed through critical resource depletion and the transmission of stress and burnout. The results highlighted that harsh supervision leads to a loss of critical resources, resulting in burnout, that partially mediates the association between perceived abusive supervisory style and work-family conflict. Additionally, the depletion of resources causes stress that falls over into the workers' family life and leads family-work conflict. The inferences of their study extend beyond theoretical contributions to practical recommendations for organizations.

Furthermore, Peltokorpi and Ramaswami (2021) investigated the effect of abusive supervision on work and health-related outcomes. Based on the stress-strain framework and conservation of resources theory, they assumed that employees' satisfaction level on job negatively mediates the relationship between abusive manners of supervisors and employees' mental and physical health. The findings indicated that

job satisfaction mediated the effects of abusive supervision with power distance orientation, which moderated the relationship between abusive supervision and job satisfaction. They suggested that future research should investigate other personal and situational factors that may mediate or moderate the link between abusive supervision and health related outcomes.

In Pakistan, negligible attention has been devoted to the impacts of abusive supervision (e.g., De Clercq et al., 2021; Hussain et al., 2020; Jahanzeb et al., 2019), specifically with reference to sanitary workers. Hussain et al. (2020) investigated the direct and indirect effects of abusive supervision on subordinate psychological well-being and intentions to quit the job, in service-oriented sector. Their study examined the mediating role of intrinsic motivation; 225 respondents participated in the study. Findings indicated that threatening supervision negatively affects both mental well-being and leaving intentions. Additionally, intrinsic motivation significantly mediated the relationship between abusive supervision and both psychological well-being, and turnover intentions. The study proposed that concerned personnel should design strategies to foster a civilized work culture to enhance employee performance. In Pakistan, as a high-power distance society, there is a strong need to investigate this phenomenon and its impacts in our local context.

Overall, abusive supervisory style is considered as a significant psychosocial hazard at workplaces, with detrimental effects on health of employees (e.g., Cortina et al., 2017). Although literature has documented extensive findings and a significant variability in the strength of these associations across studies exist, suggesting that the effects of abusive supervision are contingent on specific contextual factors or moderators (Fischer et al., 2021). The present study found out the relationship of abusive supervision with somatic symptoms, workplace cognitive failure and

aggressive behaviors, among sanitary workers. It is an area where scarcity of research invites researchers to explore this phenomenon in local contexts. Additionally, the relevant potential moderating impacts of resilience and coworkers' support, after controlling the negative affectivity, have added valuable information to the literature. Moreover, the present study explored the group differences on abusive supervision in terms of gender, employment types and shift work. This study has highlighted the need to nurture positive supervisory styles to promote healthier workplaces.

Everyday Discrimination

A large proportion of literature has been focusing on the impacts of racial discrimination as a stressor (Goosby et al., 2018; Chen & Mallory, 2021), that adversely affects the physical and psychological health of individuals. An extensive review, including 29 reviews published between 2013 to 2019, has supported its negative impacts (Williams et al., 2019) on health problems. Similarly, Marchiondo et al. (2021) found that racial discrimination is indirectly related to ill physical symptoms and emotional exhaustion. Conclusively, research reveals that exposure of discrimination may affect physical and mental health through various biological pathways (Cuevas et al., 2019; Lewis et al., 2015; Sharif et al., 2021). The current study focused on the impacts of everyday discrimination instead of racial discrimination, which sanitary workers face frequently, as guided by the qualitative data of the study.

Kearney et al. (2022) through a qualitative study, reported the health and wellness related outcomes among academic medical faculty, staff members, and students. Their study analyzed anonymously provided written narratives including self-stated incidences both observed and personal about discrimination at workplace. Participants belonged to schools or hospitals working on health issues and affiliated with the University of Pennsylvania from 2016. Feelings of being devalued,

overexerted and hopeless, loneliness, distress and intimidation remained the most stated emotional outcomes. Narratives also described the compromised emotional and physical health conditions, such as psychological wellbeing, posttraumatic stress, fluctuations in circulatory pressure, and disturbances of sleep patterns. Kearney with his colleagues recognized a range of undesirable ramifications for health and well-being of employees, related to the perception of everyday discrimination and continuous exclusion in the workplace.

Some other researchers also have contributed to the literature by revealing the association of everyday discrimination with augmented symptoms of anxiety and depression, suicide ideation and diminished health behaviors (Choo et al., 2023; Goodwill, 2021; Lawrance et al., 2022), lessened social support (Flores et al., 2010), reduced self-esteem (Brondolo et al., 2008), decreased sense of control (Williams et al., 2008) and higher risk of disorders including hypertension, cardiac diseases, and issues of blood sugar levels (Forde et al., 2020; Lewis et al., 2014). Similarly, scholars have found positive relation of everyday discrimination with elevated inflammation levels in the body (Chen et al., 2023) and poorer immune system functioning (Ong et al., 2017). The physiological stress responses due to facing everyday discrimination add to the raised levels of cortisol and contribute to the development of health problems.

Another study explored the relationship between enduring exposures of unfair treatment and allostatic load. It evaluated data from 233 African American adults, predominantly women. Participants reported their everyday unfair treatment experiences through a questionnaire. Allostatic load was determined by combining seven physiological system risk indices, covering glucose regulation, cardiovascular functions, profile of lipid levels, sympathetic nervous activities, parasympathetic nervous actions, inflammation, and hypothalamic-pituitary-adrenal axis function. Study

revealed that mistreatment was positively associated with elevated allostatic load, after accounting for several factors, including population characteristics, use of drugs, intake of alcohol, nicotine consumption, depressive indications, and overall stress levels. Findings suggested a potential trail, through which chronic discrimination may impact health in different dimensions (Ong et al., 2017). The present study examined the associations of everyday discrimination with somatic symptoms including digestive issues, pains in body and joints, sleep disturbance, etc., as physical outcome, and workplace cognitive failure and aggression as psychological consequences, among sanitary workers, and highlighted the importance of this issue in the context of Pakistan.

Hill et al. (2021) found out the relation between everyday discrimination and patterns of sleep in an ethnically diverse sample, and the potential moderating roles of sense of purpose. Seven hundred and fifty-eight participants, from Longitudinal study of personality and health Hawaii, provided data on everyday discrimination, malfunctioning of daytime activities due to sleep, sleep duration, quality of sleep, and meanings in life. Findings showed the positive associations of everyday discrimination with reduced sleep duration and quality, increased daytime dysfunction, and decreased sense of purpose, with consistent effects across groups, and purpose of life did not moderate these relationships. The findings suggested the negative impacts on sleep and emphasized the need to further explore the sleep related aspects and perceived discrimination, crucial for the overall wellbeing of individuals.

Moreover, trauma-related stress and feelings of isolation have been explored in this context. Wang et al. (2023) explored the correlation and investigated whether this correlation was influenced by perceived everyday discrimination among older Puerto Ricans, living in America. They explored a significant link between post trauma stress and heightened levels of loneliness. The interactive effect between post-traumatic stress

and perceived everyday discrimination on loneliness was found to be empirically significant. In particular, the positive relationship between post-traumatic stress and loneliness got strengthened as perception of everyday discrimination increased.

Transgender and individuals, who do not conform with their gender, reported everyday discrimination with amplified indications of depression, post-trauma distress and anxiety, and declined social support. The authors suggested that intrusions to reduce discrimination and enhancement of social support may be significant for better mental health outcomes (Flores et al., 2018). It is well documented that everyday discrimination is a common experience among individuals from marginalized groups. However, everyone is not equally affected by everyday discrimination, numerous factors can moderate relationships.

Slopen et al. (2016) reported that people who have less social support experience stronger association between everyday discrimination and physical health. Similarly, the negative association of everyday discrimination with psychological health is stronger for individuals who have a strong racial or ethnic identity (Brondolo et al., 2008; Molina et al. 2016). These moderating factors explain why some individuals are more resilient to the negative effects of everyday discrimination than others.

Mossakowski and Zhang (2014), with predisposition in stress process model, explored the mitigating impacts of social support in the relationship between discrimination and mental well-being among Asian Americans. They found that perceiving emotional support from family during serious issues helped to alleviate the effects of frequent discrimination. Surprisingly, other forms of family support, talking on the phone about routine worries and meetings with family members, and support from friends did not show significant buffering effects. The study demonstrated the

crucial role of social relationships for mental health and enhanced the understanding regarding the coping resource to deal with discrimination.

The scholars discussed that the protective effect, in their study, regarding family support may be because of collectivistic values, and attachment with family members. Whereas, opposing findings for support from friends might be due to friends' potential lack of genuine sharing, and the cultural inclination to avoid burdening friends with private issues. The research compared the perceived emotional support to received support, revealing that the mere perception of available support might serve to benefit mental health. It suggested further investigation regarding how different subgroups use social support, the social cultural norms of diverse ethnic groups, and the dynamic nature of social support impact the responses to discrimination. Their study further suggested that scholars also need to focus on personal coping resources, such as self-esteem, sense of control over life, ethnic identity, etc., and other strategies being applied by Asian Americans, to manage impacts of discrimination, by recommending qualitative and longitudinal research to explore the interactive relationships.

Furthermore, Earnshaw (2016) collected data from a community health survey involving 1299 adults, living in a lower-class town in United States, and related the frequency of everyday discrimination with various health indicators such as overall self-rated health, emergency department use, and the incidence of one or more chronic diseases. The positive association was found to be mediated by stress and depressive symptoms, operating sequentially. The associations remained consistent across individuals from different racial/ethnic backgrounds and continued even after controlling the factors including perceived neighborhood insecurity, food insecurity, and financial stress.

Additionally, among the consequences of everyday discrimination suicide is a significant cause of death among African American males. Goodwill and his colleagues investigated that everyday discrimination serves as a threatening factor to develop depressive symptoms and suicide ideation. Study utilized the data of 1271 participants to explore the relations between various forms of everyday discrimination (overall, race-based, and others) and mental health outcomes. Results indicated that everyday discrimination, on the basis of race, was associated with higher levels of depression and suicidal ideation. Moreover, the indirect pathway from race-based discrimination to suicide ideation through symptoms of depression was also significant. The findings suggested that every day discriminatory experiences, particularly related to race, contribute to elevated suicide ideation beyond their impact on depressive symptoms alone (Goodwill et al., 2019).

The study by Florez et al. (2020) investigated the association between exposure of discrimination and well-being, along with the mediating effects of social cohesion and resilience. Study applied the online survey, 255 respondents from a community of south London reported their exposures with discrimination over the past six months, as well as their levels of social cohesion, resilience, and wellbeing, including happiness and depressive symptoms. The findings revealed that ongoing discrimination related experiences negatively influenced their wellbeing, mediated both by a serial relationship involving social cohesion and resilience, and by resilience alone. These findings highlighted how recent discrimination depletes personal and social resources, leading to decreased wellbeing. The current study explored the moderating impacts of resilience and coworkers' support on the associations of everyday discrimination with workers physical and mental well-being and highlighted the counterintuitive effects. Moreover, the present study found out the significant gender difference on everyday

discrimination in terms of gender, shift work, and employment types, among sanitary workers in the local context.

Although exposures of discrimination are correlated with reduced health (Ong, 2022), however, cognitive health has limited investigations regarding its association with discrimination (Sutin et al., 2015). Though prior research, to a limited extent, has reported stress' effects on cognitive functions (Zaheed et al., 2021; Zahodne et al., 2020; Shankar & Hinds, 2017; Barnes et al., 2012), but the repercussions of everyday discrimination on cognition remained relatively a neglected and under researched area. There are theoretical reasons to believe that stressful experiences (such as facing everyday discrimination) result in negative ramifications for cognitive health (Klein & Boals, 2001; Majeed et al., 2023; Neblett et al., 2004).

Furthermore, experiencing stress is considered to consume people's limited cognitive reserves, which leaves lesser mental resources for ongoing cognitive functions (Smeekens & Kane, 2016). The current study explored the relationship between everyday discrimination and workplace cognitive failure, with moderating effects. Most available studies, on the effects of discrimination on cognitive functions, have examined the associations in a measured laboratory setting, where respondents were tasked to recall retrospectively (Barnes et al., 2013; Salvatore & Shelton, 2007). The unnatural laboratory environment, and the issue of recall bias, might had affected their findings. Hence, in the present study a better method was chosen to assess the relationship between everyday discrimination and workplace cognitive failure, through self-report method, where the participants could report in privacy with anonymity.

Majeed et al. (2023) applied daily diary methods involving young adults from Singapore and middle-aged adults from the United States. The study found that discrimination was related to declined cognitive functioning at both personal and group

levels and the association remained significant, even after considering demographic variables and daily stressors. Their study's daily diary approach allowed for more accurate data collection by reducing recall bias, which is often a limitation in studies, relying on retrospective accounts. Dairy method also enhanced the validity of the findings, as it captured discriminatory experiences in a real-life context, rather than a laboratory setting. Additionally, the empirical examination of within person and between persons' associations provided a significant insight. These findings, overall, underscored the significant negative impact of day to day experiences of discrimination on cognitive functioning, and highlighted the importance of increasing awareness about these adverse effects.

The general strain theory by Agnew (1992), can be related to explain that discrimination is one of the stressors that may endorse antisocial coping, considering it as hazardous for the person who is discriminated against. The theoretical groundwork of general strain theory is supported by empirical research showing a positive relationship between discrimination and aggression among adolescents. Similar findings have been reported from different populations including Latinx adolescents (Wright & Wachs, 2019), African American youth (Mulvey et al., 2020), and Chinese migratory adolescents/children (Xiong et al., 2021; Wang et al., 2022). Wright and Wachs (2019) revealed that higher levels of social support from parents, comrades, and mentors decreased the influence of discrimination from peer groups on adolescents' interpersonal aggression among Latinx adolescents.

Past research has inspected discrimination as a precursor to aggression (Mulvey et al., 2020; Wright & Wachs, 2019; Xie et al., 2020;), it has diverse impacts on reactive and proactive aggression. Dodge (1997) supported that reactive and proactive aggression ascends from distinct social experiences and grow autonomously. Reactive

aggression comes up as a punitive or self-protective response to incitement or frustration. It is often allied with increased levels of emotional difficulties, may be more likely to occur in reply to an adverse incident such as discrimination (Connor, 2004). Despite the evidence supporting the role of discrimination in provocation of reactive aggression, few studies have inspected the relationship between psychosocial hazards and aggression. To the scholars' knowledge, no study has explicitly investigated how everyday discrimination, resilience, co-workers' support and aggression are interrelated. This study focused on the model that integrated the role of moderators and co-variate, in the relationship between everyday discrimination and aggression, in local context.

Overall, continuous exposure to discriminatory behaviors and attitudes may lead to chronic stress. Discrimination based on race, gender, age, job status or any other factor has the potential to produce an unhealthy workplace. Everyday discrimination contributes to mental sickness such as anxiety related disorders, depression, emotional problems etc. Moreover, feeling undervalued, marginalized, or unfairly treated at work can harm self-esteem, leading to feelings of hopelessness and despair. The stress caused by everyday discrimination can have long-term effects on physical health. It can be manifested in several physical symptoms including headaches, muscle tension, and fatigue, moreover, cardiovascular disease, hypertension, and compromised immune function, etc. In addition, discrimination in the workplace can also spill over into employees' personal lives, affecting their relationships with family and friends. Repeatedly, experiencing discrimination can lead to irritability, mood swings, and social withdrawal, which can disturb personal relationships and reduce social support networks. Moreover, studies on discrimination rarely have targeted the population, which is discriminated against on basis of prestige of their work in society. The current

study focused on the relevant and less researched psychosocial hazards among the rarely researched group of workers in this context, who face severe discrimination by virtue of their work status, with physical and mental consequences. The present study highlighted the significance of inclusive and respectful workplaces for sanitary workers and guided for implementing anti-discrimination policies and diversity trainings, to foster healthier work settings through culture of equality, respect and tolerance.

Work- Family Conflict

Investigations on work-family conflict and related consequences have gained much importance recently, and it seems that contemporary circumstances will cause further impetus in future as well (Kao et al., 2020). In contemporary workplaces, harmonizing work and family responsibilities is an imperative psychosocial hazard for both male and female workers. This conflict arises when individuals prioritize either work or family obligations, neglecting the other. Work-family conflict is considered as a stressor, having adverse influences on health and well-being. It is also measured as a stress-reaction, particularly caused by work-related hazards.

Investigations have revealed the relations of work-family conflict with life quality, physical and mental health issues, turnover intention and job satisfaction, (Kocalevent et al., 2020; Nohe & Sonntag, 2014; Song, 2022; Zhang et al., 2012). Similarly, Jerg-Bretzke et al. (2020) observed significant correlations between work-family conflict and family-work conflict with psychosocial work stress and over commitment. Mental and physical health indicators showed significant positive associations with both the conflicts. Through regression analysis involving 844 participants, the study found that work family conflict predicted burnout. Moreover, emotional exhaustion, additional work, and over-commitment served as predictors for both types of conflicts.

Borgmann et al. (2019) conducted a review to find out and evaluate the information gaps regarding the related health costs of work-family conflicts. The set criteria for inclusion were the emphasis on work-family conflict, investigation of health-related outcomes, and presentation of empirical results. The review identified 25 papers on work-family conflict and health in Europe. The data showed that several tools were used to measure work-family conflict, and associations were found between work-family conflict and health in Europe.

The findings of the review revealed the associations between work-family conflict and poorer mental health, including symptoms of depression. In terms of physical health, studies showed positive associations between work-family conflict and psychosomatic symptoms, higher cholesterol levels, obesity, and lower physical fitness. Lastly, studies on other health outcomes like sleep, health-related behavior, and use of health services were found limited in numbers. One of the studies found that work-family conflict led to increased alcohol consumption in fathers, whereas another study indicated that work-to-family conflict enhanced the medication intake and health services utilization in mothers. Moreover, findings on gender-specific health outcomes remained inconsistent. This review strengthened the evidence for a relationship between work-family conflict and health, but mixed results regarding the direction of work-family conflict and high-risk groups remained discussion points.

The analysis highlighted the significant findings and identified the gaps in literature. Firstly, the research revealed a deficiency of studies in Eastern Europe, and a lack of inner European comparisons, which limited the understanding of regional differences. Additionally, less than half of the studies applied longitudinal designs, that undermined the robustness of the findings. The diversity in measurement tools and unclear operationalization of concepts further complicated the comparisons across

studies. Furthermore, the review highlighted the variations in the association of work-family conflict with health outcomes for mothers versus fathers and the intersection of gender with other social determinants, like education and financial position. It suggested that political and cultural contexts may moderate these associations, but the evidence was not consistent, indicating the need for more detailed comparative studies across different countries and contexts. The study concluded with a call for more longitudinal and intersectional researches, that integrate standardized measures and consider the cultural, and social contexts, to better understand the health impacts of work-family conflict, particularly in under-researched regions (Borgmann et al., 2019).

The current study has explored the associations among work-family conflict and somatic symptoms as physical outcomes, and workplace cognitive failure and aggressive behaviors as psychological outcomes. Moreover, present study has highlighted the role of coworkers' support and resilience as moderators, influencing the relationship between work-family conflict and outcome variables, after controlling the impacts of negative affectivity, in the specific context of Pakistan, with the findings regarding group differences.

Literature has reported several serious consequences, linked with work-family conflict of employees, such as symptoms of anxiety (Zhang et al., 2020), depression (Guille et al., 2017), stress (Tziner & Sharoni, 2014), burnout (Jerg-Bretzke et al., 2020; Terry & Woo, 2020), emotional exhaustion (Recuero & Segovia, 2021), depersonalization (Yeh et al., 2021), and poor psychological wellbeing (Ibrahim et al., 2020). Moreover, disruption in one's professional career and family cohesion, declined performance levels, and low physical and mental well-being of family members of employees (Kossek & Lee, 2022) have been reported as outcomes of work-family conflict.

Liu et al. (2015) conducted a study, utilizing daily diary data from 125 workers. The data was collected across four points to each workday, over the three following weeks. Multilevel modeling showed that at morning time family-to-work conflict had positive correlation with evening emotional exhaustion. This exhaustion, in turn, predicted displaced aggression to supervisors and coworkers later in the evening, as well as displaced aggression toward family members. Similarly, Chen (2016) investigated whether aggression in the workplace (from supervisors, coworkers, and customers) relates to workers' work-family conflict, as perceived by their partners or close family members.

He also investigated the modifying role of problem-focused coping of employees in association between aggression on work and negative affect, that in turn impacted work-family conflict. Sample of the study consisted of 457 workers and their close family members. The findings revealed the straight effects of aggression on work to family conflict. Higher levels of proactive coping mitigated the association between aggressive behaviors and negative affect. Furthermore, the research demonstrated that aggression in work setting spilled over into family life of employees through negative affect (emotions) and influenced their work-family conflict. Finally, a moderated-mediation pathway supported that the negative affect mediated the interaction effects of aggression at work and problem-focused coping on workers' work to family conflicts.

Additionally, blood pressure related problems, cardiovascular health (Shokley & Allen, 2013), musculoskeletal problems (Malakoutikhah et al., 2018), disturbed sleep quality with greater levels of fatigue and headaches (Shockley & Allen, 2020), and the overall physical wellbeing (Allen et al., 2017) are related with work-family conflict. Moreover, Bretzke, et.al. (2020) reported the positive relations between mental and

somatic health parameters and work-family conflict and family-work conflict. Similarly, Mohammed (2020) revealed the association between the psychosomatic health problems and work-family conflict among 186 female physicians in Egypt. He investigated the mediating role of negative affect in assumed associations of the study. The findings related work-family conflict with higher psychosomatic symptoms and negative affect (emotions) partially mediated the association. Scholar suggested that organizations must support their workers to balance work and family roles.

Literature also has revealed that social support, particularly organization and supervisor related work-family support, plays a role of moderator with positive effects. Kossek and his colleague examined the comparative impacts of four social support types on work-family conflict, including supervisory support, perception of organizational support, organizational work-family support, and supervisor's provided work-family support. Results demonstrated that provision of supervisory support, particularly related to their work to family conflict and organizational support, were more strongly associated with work-family conflict as compared to general supervisor support and organizational support, respectively. Furthermore, they conducted a mediation analysis, testing the combined effects of all measures simultaneously, and found that positive perceptions of both general and work-family-specific supervisor support indirectly influence work-family conflict through organizational work-family support. Findings of the study emphasized that work-family-specific support had the important role in influencing the experiences of work-family conflict (Kossek et al., 2011).

Minnotte and Yucel (2018) studied whether job insecurity modifies the relationships between work-to-family conflict and family-to-work conflict and self-reported ill physical and mental health. Results showed that work-to-family conflict

similarly family-to-work conflict have direct effects on deteriorated health. The job insecurity exacerbated the negative effect of work-to-family conflict on mental and physical health indicators, whereas no significant impact was found for family-to-work conflict. Moreover, study provided no evidence of gender differences significantly.

On the contrary, in another study, work-family enrichment was found to predict greater job satisfaction and life satisfaction levels (Zhang et al., 2018). Moreover, a study revealed that employees who scored high on resilience experienced low work-family conflict, irrespective of the levels of moral distress, additionally, employees who commonly used positive refocusing were less vulnerable to burnout (Bernuzzi et al., 2021b). In addition, autonomy on job and flexible working hours were both found to moderate the impacts of work to family conflict on work engagement and satisfaction levels of employees (Yucel, 2018).

Similarly, Arshadi and his colleague displayed a negative relationship between work-family conflict and general health and matrimonial satisfaction, also its positive association with workplace cognitive failure. Additionally, their study found that these relationships were moderated by sleep quality and work-family conflict related self-efficacy (Arshadi et al., 2015). In more intricate models work-family conflict has also been studied as a mediator in the stressor-strain associations, particularly between hazards at work and signs of impaired emotional health such as psychosomatic complaints, depressive indications, and work-related burnout (Demerouti et al., 2005).

Allen et al. (2020) investigated how cultural context influences the correlations of work-family conflict to its predictors (family time, and family demands) and outcomes (satisfaction levels related to job, family and general life). Study analyzed data from 332 studies representing 58 countries, using two approaches including personal cultural beliefs (collectivism, power distance, uncertainty avoidance) and

regional norms. Findings suggested that collectivism moderated the relationship between interference of work with family and family interference to work and satisfaction outcomes, showing weaker relationships in more collectivistic contexts. Weak evidence was found to support the uncertainty avoidance or power distance as personal cultural moderators. Their study further observed variations in the strength of the relationships of work-family conflict across regional clusters, supporting the use of collective approaches in understanding differences across cultures.

Cavagnis et al. (2023) aimed to systematically review previous research on coping strategies and protective factors used by women to mitigate work-family conflict. Following PRISMA guidelines, thorough literature searches across three databases yielded 13 relevant studies. Most studies were cross-sectional, whereas few of them were longitudinal. The findings demonstrated the importance of many personal aspects such as hardiness, self-esteem, and locus of control and interpersonal factors including family and work support, in mitigating the negative impact of work-family.

Furthermore, Zhou et.al. (2021) surveyed 223 school teachers from Shandong, China to explore the impact of work-family conflict on their occupational well-being. Work-family conflict was negatively associated with work-related well-being and psychological capital of the teachers. Moreover, psychological capital exhibited a significant positive correlation with occupational well-being and was found as a significant predictor. In addition, psychological capital mediated the relationship between work-family conflict and occupational well-being, among school teachers.

Additionally, literature has explored the gender differences on work family conflict (McElwain et al., 2005) and women, generally, report higher levels of work-family conflict, compared to men (Sekine et al., 2010; Byron, 2005). Gender-related expectations and societal norms contribute in the perception and coping with work-

family conflict, which in turn impacts health. Women, who often bear a larger share of family responsibilities, may experience work-family conflict more intensely. This conflict significantly affects well-being, especially for those women balancing caregiving and careers at a time. Identification of factors that protect women from this conflict is vital for them and their families' wellbeing. Similarly, the current study demonstrated the significant gender difference among sanitary workers on work-family conflict, moreover, the present study explored the differences in terms of employment types and shift work.

Chandola et al. (2004) investigated work-to-family conflict and family-to-work conflict impacting on mental health, considering multiple roles and gender differences. The study collected cross-sectional data of 1865 participants and designated that both types of conflict had effects on the psychological health of males and females independently of each other. Their study evaluated cross-sectional data from female and male public sector employees aged 35-60 in Helsinki, London, and the West Coast of Japan. The conflict types independently affected the psychological health of both genders; Females from Japan faced the greatest conflict and had the lowest mental health, while Helsinki women had the lowest level of conflicts and superior mental health.

In conclusion, work-family conflict is found to have negative relationships with anxiety, depressive symptoms, low subjective well-being, burnout, emotional fatigue, low job satisfaction, turnover, declined performance, somatic complaints, blood elevated levels, fatigue, cardiovascular health, musculoskeletal disorders, headaches, disturbed sleep qualities etc., and with overall quality of life among employees. Furthermore, workplace social support, job insecurity, self-efficacy, workplace negative emotions, coping behaviors have been identified as potential moderating

factors in relation between work to family conflict and physical and psychological wellbeing. Similarly, psychological capital, sleep quality, emotional intelligence etc. have mediated this stress- strain pathway. Gender based differences, although not largely established, were found in some researches.

Most of the studies, regarding the implications of work-family conflict for serious health outcomes among employees, have examined occupational stress in hospitals and universities settings, yet scientific research focusing on the relationships of work-family conflict with its outcomes needs to be conducted in other professions (Jerg-Bretzke et al., 2020). Moreover, much of the prevailing research on work-family conflict, according to scholar's knowledge, has focused on the managerial level employees. Thus, there is a need to investigate the impacts of work-family conflict among low ranked workers and the workers from diverse backgrounds.

Therefore, the current study focused on the work-family imbalance as psychosocial hazard at work in the sanitation sector, among sanitary workers. The present study targeted the impacts of experiencing the conflict between work and family demands, among a group of workers who have different social identity and low status in society. Furthermore, scholar recognized the need to investigate potential moderators that could add to the research findings. The current investigation, about the moderating impacts of coworkers' support and resilience after controlling the impacts of negative affectivity, examined the contributing role of personal attributes and social gradients. Moreover, studying this phenomenon in our local context highlighted the specific work culture among sanitary workers. This study has facilitated concerned organizations to device strategies and programs that can support sanitary workers to balance their work and family demands efficiently. It has provided help to improve the health and well-

being of this workforce, and ultimately the overall effectiveness of the concerned organizations.

Psychosocial Hazards and Physical Outcomes

Psychosocial hazards have the potential to cause physical harm to employees, and chronic exposure to psychosocial hazards has long-term consequences for physical health. Cardiovascular problems and musculoskeletal illnesses were among the first to be recognized as physical outcomes of stress. Over the years, studies found that work-related stress directly contributes to coronary heart disease and ischemic stroke (Niedhammer et al., 2021), complaints related to bodily pains, symptoms of sleeplessness (Sannes et al., 2022a), subjective health issues (Sannes et al., 2020), spinal pains (Sannes et al., 2021), and headaches (Sanees et al., 2023a). Additionally, somatic complaints (Allen et al., 2017), high blood pressure (Shokley & Allen, 2013), addiction (Wang et al., 2010), disturbed sleep patterns, ill body indications (Shockley & Allen, 2020), physical injury, and impaired wound healing (Gouin et al., 2011) are linked with psychosocial hazards at work.

In a study, Liu et al. determined that skilled workers experienced higher prevalence of musculoskeletal disorders, particularly issues with the shoulders and neck were closely related with psychosocial hazards including high psychological demands and low workplace justice (Liu et al., 2020). Similarly, Buskila et al. (2020) focused on the fibromyalgia syndrome; pains in multiple areas of body accompanied with fatigue, sleep troubles, memory and temperament issues. Findings showed that work-related stressful incidents had positive associations with fibromyalgia's symptoms, rather they served as triggers for the development of these symptoms. Moreover, Taouk et al. (2021) found the effects of psychosocial hazards on health and mortality of employees.

They further reported that demographic and socio-economic status made difference in these associations.

Mutambudzi and Henkens (2020) explored the relationship between long-lasting health conditions and three dimensions of work stress, including general stress, emotional strains, and physical demands. Results showed that the health conditions were independently linked with at least one or more stress dimensions. Specifically, sleep disorders, cardiovascular disease, and joint pains were linked to general stress, while respiratory diseases, sleep problems, and arthritis were associated with physical difficulties at work. Moreover, emotional strains were significantly associated with diabetes, sleep disorders, and arthritis. These findings highlighted the correlation between work stress and prevalent chronic health conditions. They discussed that further research is required to reveal the relationships between work stress and other chronic health conditions, to inform the interventions and encourage the health and productivity of workers. The present study identified the somatic symptoms as outcome of psychosocial hazards.

Somatic Symptoms

Long-lasting exposure to work stressors can dysregulate various physiological systems. Two well researched illustrations of somatic disorders, that are instigated by stress, include psychosomatic circulatory diseases, and irritable bowel disorder. People have diverse vulnerabilities which make them susceptible to different types of somatic symptoms (Bransfield & Friedman, 2019). Literature supports that individuals who are more prone to stress get affected more from somatic symptoms and related problems (Chueh et al., 2011; Jesper, 2020).

This phenomenon is explained by the biopsychosocial model, which advocates that stressors in the workplace stimulate the body's stress response system, and result

in physical manifestations such as headaches, muscle tension, fatigue (McGrady, 2007), and gastrointestinal problems (Chrousos, 2009). The disturbed body's stress response system leads to immune system dysfunction, inflammation, cardiovascular effects, and neurological deviations. Moreover, work stressors cause activation of the hypothalamic-pituitary-adrenal axis (HPA), which stimulates the release of stress hormones including cortisol and adrenaline. Extended stimulation of the HPA axis and dysregulation of cortisol levels in turn lead to immune system suppression, increased inflammation, and disruption of metabolic processes (Lowrance et al., 2016; Rijdsdijk et al., 2014; Sannes et al., 2021; Smith & Vale, 2006), that cause various health related issues.

The recognized class of somatic symptoms presents a multifaceted enigma within medical science, they are very common, yet the etiology of these conditions is unknown. It refers to a group of chronic diagnoses with no identifiable organic cause. They are categorized as unclear and non-specific symptoms, experienced by seemingly healthy people. It includes disorders, such as chronic widespread pain, temporomandibular disorder, irritable bowel syndrome, continuing fatigue (Afari et al., 2014), lower back pain, atypical face pain, non-cardiac chest pain, tension headache, palpitation, dizziness, gastrointestinal problems, cognitive dysfunction, sleep difficulties and insomnia (Mayou et al., 2005). The present study explored somatic symptoms, including digestive issues, pains in different body parts, joints pains, headache, pulmonary issue, weakness, fatigue and sleep disturbance as outcome of experiencing abusive supervision, everyday discrimination and work-family conflict among sanitary workers, in Pakistan.

Jesper (2020) examined the work-related stress and psychosomatic complaints and explored the gender differences in this association, among Swedish working adults.

The findings revealed that psychosomatic complaints were prevalent among individuals with higher stress levels, regardless of gender difference. The study employed Job demand control support model and investigated the workload, time pressure, and role conflicts (as stressors at work). His study highlighted the strong positive relationship between work-related stress and psychosomatic complaints, aligned with previous research in the field. However, it did not focus on the underlying mechanisms in depth. For example, while the study mentioned the role of poor leadership and high demands, it did not investigate the specific organizational structures or job characteristics that might exacerbate stress levels. Furthermore, no differences between men and women in terms of stress and psychosomatic complaints, suggested the equal effects for both genders. It may reflect a limitation regarding the study's design, possibly due to insufficient consideration of gender-specific stressors or coping mechanisms. This aspect could have been explored further to provide a more precise understanding of how work-related stress affects different demographic groups in terms of psychosomatic complaints. Similarly, Chueh et al. (2011) through multiple regression analysis, found that the police officers who experienced high stress during work, reported more psychosomatic symptoms and perception of social support moderated the association.

Wippert et al. (2021) reported that work stress disturbs homeostatic regulation and leads to lasting pains, depressive symptoms and tiredness. In one year of observational research, with four assessment points, involving 140 respondents aged 18 to 45 years. A total of 110 participants completed the baseline assessments, and 46 agreed to allostatic load index laboratory measurements. Various stress categories showed positive correlations with chronic lower back pain, weakness, and depressive mood. Specifically, extreme demands at work as stressors emerged as an important

factor in developing chronic pain disability. Additionally, interaction related stressors and over-commitment at work were linked to an increased likelihood of experiencing depressive mood within the following year.

Gu et al. (2019) proposed that occupational stress, among nurses, adversely impacted their psychosomatic wellbeing, encompassing anxiety, depression, low sleep quality, and somatic symptoms. A significant positive correlation was found between workload and time pressure with anxiety. Professional and career concerns were linked with quality and patterns of sleep and depressive symptoms, whereas care of patients and the quality of interaction were associated with disturbed somatic signs and anxiety. Moreover, interpersonal relationships and management issues were also related to anxiety, depression, and somatic symptoms.

Similarly, Guan et al. (2017) investigated work stress in relation with cardiopulmonary issues, general pain and fatigue. A cross-sectional data was collected from 6826 working women, from five municipal areas in China. The sample was drawn from physicians, nurses, school teachers, bank employees, and industrial workers. The study revealed that work stress was positively related with different somatic symptoms among Chinese employed women. Later, Liu et al. (2017) also showed the positive association between psychosocial stress and increased risk of hypertension. Similarly, Folkhälsomyndigheten (2017) reported that individuals can experience psychosomatic symptoms such as nervousness, depression, headache, stomachache, back pain and dizziness because of stress. Somatic symptoms are also associated with organizational consequences such as decreased productivity, absenteeism, and presentism (Koopman et al., 2002; Ricci et al., 2007). Furthermore, absence of social support from supervisors and peers may be the factor that intensifies stress and psychosomatic symptoms among

workers (Jasper, 2020). Similarly, Cohen and Willis (1985) explored that social support can act as a defensive barrier against stressful circumstances.

Overall, literature as a whole supports the negative relationship between work stress and somatic symptoms. In addition, some studies have addressed potential moderators. Despite these studies, according to scholars' knowledge, investigations regarding somatic symptoms as a consequence of psychosocial hazards is a less researched area. It needs further exploration, specifically in the occupational context of low ranked employees. Therefore, the current inquiry focused on the somatic symptoms, as a consequence of abusive supervision, everyday discrimination and work-family conflict, and highlighted the physical damage of these psychosocial hazards among sanitary workers. Additionally, investigations on moderating effects of resilience and coworker's support after controlling the negative affectivity, on somatic symptoms have added to the literature. Moreover, the present study has also demonstrated the difference on the basis of gender, shift work, and employment types on somatic symptoms. This understanding is essential for promoting sanitary workers' current well-being as well as for preventing long-term serious physical health problems.

Psychosocial Hazards and Psychological Outcomes

Psychosocial hazards also have the potential to cause psychological damage to employees, they are associated with a higher risk of mental health issues (Duchaine et al., 2020; Goorts et al., 2020). Hazards at work, including high job demands, unjust organizational practices and imbalance between efforts and rewards have exhibited the increased risk of stress related disorders (Van der Molen et al., 2020). Furthermore, emotional and physical demands of work are positively correlated with different dimensions of burnout (Fagerland Stahl et al., 2018; Rostamabadi et al., 2019).

Similarly, Bakker and Demerouti (2017) also proposed that high workload and interpersonal conflicts can lead to burnout syndrome.

Furthermore, Harvey et al. (2017) added in the literature by linking work related stress to the development of depression and anxiety. They reported evidence from multiple studies and revealed that psychosocial hazards such as low relational justice, low procedural justice and role stress are associated with a greater risk of developing common mental health problems. Moreover, hazards including workplace bullying, harassment, and lack of support can damage interpersonal relationships among colleagues. The environment of conflict and mistrust contributes to psychological distress and diminishes satisfaction levels at work (Francis et al., 2015).

Later, Nielsen et al. (2023) through cross-sectional design, indicated positive correlations between observing bullying and experiences of poor mental health, job dissatisfaction, and higher intention to leave the organization. Individuals who witnessed bullying reported more adverse effects on their mental health, felt dissatisfied, and expressed a higher likelihood of leaving their job. Findings suggest that the negative impact of observing bullying extends beyond the immediate victims to disturb the broader work setting, affecting employee morale and retention. Furthermore, lack of social support from superiors is linked with wellbeing-related consequences such as feeling generally and frequently stressed out and showing increased emotional exhaustion (Hammig, 2017).

Sun et al. (2022) conducted a meta-analysis, aimed at analyzing data from existing literature, focusing on the relation of psychosocial hazards with mental health in building industry. The review of 48 studies ($N = 13,083$) covered 14 identified psychosocial hazards and reported positive correlations between psychosocial hazards

with mental health issues. Role conflict was identified with the strongest correlation, followed by role ambiguity, job insecurity and interpersonal conflict.

Overall, various psychosocial hazards and their related psychological outcomes have been identified in the field of occupational psychology and researchers are diligently contributing to provide scientific evidence to understand the multifaceted interconnections. The present study attempted to explore less researched relevant areas, variables that go beyond commonly examined phenomena, by focusing on the workplace cognitive failure among sanitary workers, and their aggressive behaviors.

Workplace Cognitive Failure

Cognitive dysfunctions at work, such as lapses in attention, memory and motor function, can be induced by depletion of resources to process information or due to the excessive cognitive pressures (Wallace & Chen, 2005). Sometimes an individual may face difficulty in completing a specific cognitive task at a particular time, which they are capable of doing otherwise. This inability arises due to the occurrence of a breakdown in mental functioning (Elfferich et al. 2010). Wallace and Chen (2005) emphasized the importance of avoiding workplace cognitive failure through revealing its negative relations with appropriate work performance, and on the contrary, its positive association with health issues, injuries and mishaps at work.

Severe stress, due to the increase in stress-related hormones, impacts the cognitive capabilities (Olver et al., 2015; Roozendaal et al., 2009). Literature has revealed that episodic memory (McCullough et al., 2015), and the active/immediate memory (Oei et al., 2006; Olver et al., 2015) are negatively influenced by stress. Evidence further supports that stress is positively linked with impair executive functions (Shields et al., 2016) and attention related issues (Sänger et al., 2014). Latest research has also focused the stress' effects on memory (Shankar & Hinds, 2017;

Zaheed et al., 2021), perceptual or processing speed (Zahodne et al., 2020), verbal flow (Shankar & Hinds, 2017), and higher order functions, such as decision making (Zahodne et al., 2020). Research supports that stressors acute in nature, and existing for short period of time, can cause short-term and reversible damages in memory tasks, while chronic stress can lead to permanent loss of hippocampal neurons and cognitive damage (Lupien et al., 2009).

Emotions have an important role in manifestation of cognitive failure. Rau and his colleagues found out that anger positively predicted the occurrence of cognitive failure, whereas joy showed negative associations. Furthermore, cognitive failure, caused by personality traits, was reported as significant predictor of accidents at workplace (Rau et al., 2020). Similarly, environmental factors can affect the likelihood of cognitive failure at work. Different kinds of interruptions, and information overload are positively associated with decreased efficiency of workers and their poor wellbeing (Kalakoski et al., 2020). People experiencing prolonged work-related stress often complain of cognitive impairment (Eslildsen et al., 2017). High level of job demands such as workload (Kohan & Fathi, 2020), time pressure, role related strains, (Bakker et al., 2014; Elfering, 2012; Kakeman et al. 2019), and poor interpersonal relationships predict higher levels of cognitive failure (Kakeman et al. 2019; Trougakos et al., 2015). Moreover, job insecurity, role ambiguity, lack of autonomy (Lewis, 2021; Stan & Ciobanu, 2022; Yu et al., 2022;), work design (Parker et al., 2021), prolonged hours and shift work (Leso et al., 2021) are linked with cognitive issues over time. Hofstee et al. (2021) determined that cognitive performance is affected by expression focused emotion regulation, when individuals are directed or feel forced to modify their emotional expressions.

Parker et al., (2021) confirmed that job related difficulties, autonomy at work, relational work design, emotional and social demands, and given feedback as potential aspects, influence employees' cognitive abilities through different mechanisms. There are pathways that enhance cognition such as opportunities for engagement and accelerated learning, similarly pathways also exist that impair cognition, like strain-induced impairment. Over the long time, work characteristics can either preserve cognitive function or contribute to cognitive decline.

Furthermore, coping strategies and sleep quality were found to modify the relationship between psychosocial stressors and workplace cognitive failure (Alperin et al., 2019; Paans et al., 2018). Kohan and Fathi (2020) investigated job stress and workload in relation with cognitive failure, along with the mediating impact of organizational climate, among the staff members of physical education, in Iran. The results indicated that job stress and workload significantly contribute to cognitive failure, highlighting that an increase in these factors at work correlates with higher cognitive lapses. They discussed that workload essentially requires resources to meet the performance criteria. When it exceeds beyond available resources, it detrimentally affects workers' efficiency and productivity and potentially causes cognitive failures. Their study also demonstrated that job stress and workload can adversely impact the organizational climate, turning it from a supportive environment into the intimidating and distrustful setting, that further exacerbates the negative effects on workers' performance and wellbeing.

Moreover, their study found that the organizational climate mediates the relationship between job stress, workload, and cognitive failure. They suggested that a positive organizational climate can mitigate these effects, reducing stress and workload, thereby lowering the incidence of cognitive failures. Their study acknowledged some

limitations, including its focus on a specific population (physical education staff in Ardabil), that restricted the generalizability of the results. Additionally, the use of questionnaires as the primary data collection method, might introduce biases. The study elucidated the links between psychological factors with organizational dynamics to explain cognitive failure, moreover, it highlighted the importance of considering contextual and individual differences, while interpreting the impacts of organizational climate.

Similarly, researchers have supported that memory is negatively affected by stress (Yaribeygi et al., 2017) and age and gender are the important factors that influence the cognitive functions, and make difference (Sandi, 2013). In this context, Gafarov et al. (2021) reported that younger adults experiencing workplace stress have higher decrease in cognitive functions as compared to older adults.

Luers et al. (2020) examined the cortisol stress responses in association with memory and revealed the gender-based differences. Consistent with theoretical expectations, the findings indicated that increased cortisol stress responses were associated with a decline in working memory among men, however, the opposite trend was observed among women. It is important to attain insight into personality and environmental triggering factors in relation to workplace cognitive failure, to avoid various adverse outcomes at work setting (Batoool et al., 2018; Carrigan & Barkus, 2016; Hasanzadeh, 2019).

Furthermore, Sutin et al. (2020) explored aspects of five-factor model to find their relationships with cognitive failures, accounting for the influence of depressed affect. A sample of 5,133 respondents, ranging between 18 till 91, filled out digital questionnaires assessing character traits, cognitive dysfunction, and levels of distress. More cognitive failure was associated with higher neuroticism, while conscientiousness

and agreeableness were linked to fewer failures, even after controlling sociodemographic factors. Findings projected that individuals' subjective experiences of cognitive lapses are shaped by their fundamental personality traits. On the contrary, openness, agreeableness, and consciousness were not found to be related to workplace errors, in another study (Klockner & Hicks, 2015). Additionally, social consciousness and social anxiety have been reported as personality correlates of cognitive failures (Arnkoff & Glass, 1989).

Stress and its impact on cognitive processing is gaining importance (Ravalier & Walsh, 2018). However, despite the recognized importance of cognitive failure in occupational settings, there exists a relative scarcity of research, specifically examining workplace cognitive failure as a consequence of psychosocial hazard. Therefore, the current study investigated workplace cognitive failure as a consequence of abusive supervision, everyday discrimination and work-family conflict. This study highlighted the counterintuitive moderating role of resilience and coworkers' support, after taking negative affectivity as covariate, to influence workplace cognitive failure. Moreover, it explored the group differences on workplace cognitive failure on the basis of gender, employment types and shift work, and added value to the literature. The present study's investigation, about the relationship between psychosocial hazards and workplace cognitive failure, has assisted to improve safety, productivity, and employee well-being. Exploration of specific hazards and their impact on cognitive functioning of sanitary workers can facilitate the targeted actions and policies to prevent cognitive failure and promote better work settings for them.

Aggression

Workplace aggression is counterproductive; workers manifest aggression either overtly or covertly. Expression of overt aggression includes physical and direct acts,

with no effort to hide the identity of the aggressor. Whereas, most acts of aggression are covert, subtler and anonymous at workplace, using arguments rather than physical actions (Douglas & Martinko, 2001). Aggression is usually categorized into subtypes for conceptual and investigative purposes. One commonly utilized difference is between reactive and proactive aggression. Reactively aggressive individuals display aggressive behavior in response to threat, agitation or provocation, while proactively aggressive individuals involve in aggression to accomplish specific goal (Merk et al., 2004).

The General Aggression Model (Allen et al., 2018), and Frustration- Aggression Model (Berkowitz, 1962), both provide explanation to understand the aggressive behaviors of sanitary workers at work, either overt or covert. The General Aggression Model encompasses the individual characteristics that incline individuals to aggression, environmental factors that provoke aggressive behaviors, and the contribution of underlying genetical, physiological, neurocognitive, and emotional processes. The frustration-aggression model states that frustration comes from the blocking of goal-directed behavior and serves as a stimulus for aggressive responses.

Literature has examined aggression in organizations in multiple ways such as antisocial behavior, incivility, workplace deviance, counterproductive workplace behaviors, and retaliation. All these constructs differ in their specificity yet share a common focus. The personal and situational variables and the nature of stimulus influence the cognition, affect, and physiological arousal of an individual. Various stressors from the work settings can increase the inclination toward aggression, and it is found that aggression is most probably shown when an individual has lack of control over these situations (Warburton & Anderson, 2015). Naseem and Ahmed (2014) found

a positive link between work stress and aggression among 120 employees. Findings revealed that employees displayed more anger to express their high levels of stress.

Naseem and Ali (2023) expanded on their earlier research and further supported the workplace stress as having positive association with aggressive behavior. Their study demonstrated that work demand constraints significantly contribute to workplace bullying and lead to heightened psychological distress. Moreover, personality traits acted as moderators between work demand constraints and both workplaces bullying behavior, and psychological distress. Openness to experiences was identified as a trait moderating the relationship between work demand constraints, and workplace bullying. Additionally, agreeableness and openness to experiences were found to moderate the association between work demand constraints and psychological distress (Naseem & Ali, 2023).

Similarly, McLinton and Dollard (2010) examined that how work stress resulting from an imbalance between efforts and rewards correlates with driving anger in a sample of workers from a Japanese community. Study linked workplace stress with heightened sustained anger among employees. This sustained anger, in turn, led to increased feelings of aggression while driving. Stefanile et al. (2017) studied the connections between attitude toward violence, self-esteem, emotion dysregulation, anger, and aggression among both community men and women as well as male inmates. The study reported that self-image and inclination towards violence were significant predictors of aggressive behavior. Additionally, emotional dysregulation mediated the association of self-image and aggressive behavior.

Furthermore, anger served as a mediator between emotion dysregulation and aggressive behavior specifically among individuals in the community. The study further revealed that male inmates exhibited higher scores on inclination toward violence,

lower self-worth, higher levels of emotion dysregulation, more frequent aggressive behaviors, and propensity to experience anger, as compared to community men. Conversely, women displayed a less favorable attitude toward violence, lower self-esteem, higher levels of emotion dysregulation, and a greater tendency for anger, in comparison to men. In their study, no significant differences were observed in terms of aggressive behavior between genders.

Glomb (2010) reported that there is lack of research into the comparative strength of multiple sets of antecedents of aggression. In his study 366 respondents participated. Eleven antecedents of workers' aggression were explored, through questionnaire data, including situational factors (such as distributive, procedural and interpersonal justice, job-related stress, etc.), individual differences (Type A behavior, reactions to anger, trait anger, etc.), and reciprocal effects. The findings indicated that individual differences and experiencing aggression as a target impacted the incidence of reported workers' aggression.

Furthermore, Saleh et al. (2020) investigated the relationship between workplace violence and occupational stress. After surveying the emergency departments' staff through a cross-sectional study design in three Mashhad's hospitals, study reported positive relationships between the job stress and types of workplace violence, including physical assault, verbal aggression and bullying/harassment. The results revealed that incidences of workplace violence were more prevalent in males than females, attributed to different coping strategies and societal norms.

His study further suggested that workplace settings and socio-economic factors significantly influence stress and violence levels, signifying the need to tailor interventions. The role of sleep deprivation in worsening workplace violence, particularly in night shifts, underscored the important dimension to manage stress on

job. Moreover, the study identified the interpersonal relationship as a critical factor, to mitigate stress at work. Despite the insightful results, the small size of sample and survey design both limit its generalizability and advocate for larger, experimental design. Scholars suggested that future research should focus on coping skills and more precise environmental stressors, among healthcare workers.

Naseem and Munaf (2019) explored the relation between resilience and aggression in middle adulthood. Resilience was evaluated using the Brief resilience scale, while aggression was estimated with the Short Form of the Buss-Perry Aggression Questionnaire. Analysis revealed a significant negative correlation between resilience and aggression. Their study offered a valuable insight for mental health professionals for assisting individuals to cope with aggression.

Drawing upon existing literature, present research explored the aggression as outcome of abusive supervision, everyday discrimination and work-family conflict. The current study investigated resilience and coworkers' support as moderating factors for aggression after controlling the negative affectivity, among sanitary workers, in our local context. The present investigation regarding aggression as a consequence of psychosocial hazards, is crucial to understand the relationship between stress and behavioral outcomes. This study uncovered the psychological and social factors that drive aggressive behaviors among workers. It offered an insight that how abusive supervision, everyday discrimination and work-life imbalance is translated into aggressive actions. Additionally, the current study has provided guidance for future studies aiming to enhance workers' well-being and productivity, moreover, for the development of interventions targeting aggression at work.

Psychosocial Hazards and Role of Personal Attributes and Contextual Factors

People who encounter the same levels of stress or adverse circumstances do not necessarily have the same responses. Differential susceptibility is the concept that explains the differentiated responses and coping resources in challenging times. Some of the factors including social support (Clays et al., 2016; Ibrahim et al., 2021; Szkody et al., 2021), inclination to use social support (Pretorius, 1994), locus of control (Pedron et al., 2021; Strong & Gore, 2020), problem-solving appraisal (Heppner et al., 2019), safety evaluations (Padmanabhanunni et al., 2017), career calling (Wu et al., 2019), resilience, and sense of coherence (Jakovljevic, 2018) make individuals differentially vulnerable to different conditions, and are conceptualized to have either a direct, moderating, or mediating effect.

The role of defensive factors remained the common focus of literature in studying job stress. Moyle argued that some personality dispositions influence the individuals' experiences and interpretations in the work setting. Personality factors such as negative affectivity can increase the likelihood of job strain (Moyle, 1995), whereas evaluation of self turns as a buffer between job demands and strain reactions (Bipp et al., 2019; Van Doorn & Hülshager, 2015). Moreover, strong self-esteem, and emotional stability can strengthen workers' belief in their capability, thus support active coping in stressful situations (Judge & Bono 2001). Current study has focused on resilience, and coworkers' support as moderators, after controlling the impact of negative affectivity.

Resilience

Health practitioners have been investigating the attributes, processes and resources people already have, or can be harnessed to promote recovery and adaptation. In this context, resilience is shown as an important resource, that people retain to promote their wellbeing (Windle et al., 2011). Researchers have reported that resilience

positively contributes to life satisfaction (Prayag et al., 2020) and acts as a resource to hold a positive attitude despite the challenging circumstances in life (Kim et al., 2019; Clercq & Belausteguigoitia, 2023). Resilient workers remain honest to their authentic selves, demonstrate behaviors consistent with their values and beliefs, while encouraging strong connections and relationships with others. Despite facing stress, which is inevitable in life and often abundant in workplaces, resilient workers exhibit a tendency to monitor their thoughts during challenging times (Davis Laak, 2014).

Moreover, resilience's negative relation with emotional issues, including depressed mood and anxiety, is largely investigated (Zhang et al., 2020; Padmanabhanunni et al., 2023). Luo (2024) explored the moderating role of psychological resilience, in his very recently conducted study. A cross-sectional online survey was conducted, with 3366 Radiology department trainees, to assess the moderating influence of resilience on association between workload and depressive symptoms. He found that resilience buffered the positive association and weakened the impact of workload on depressive symptoms.

Similarly, in a systematic review, based on 26 research papers published during 2009 to 2020 from the healthcare sector, Bernuzzi et al. (2022 a) revealed that resilience served as a protecting factor against the negative impacts of work life interface. They systematically reviewed studies by focusing on the three key aspects, including work to life conflict, work to life enrichment, and work to life balance. In this review six studies were based on qualitative methods, whereas 20 studies had used quantitative approach, mainly examining resilience as a predictor of work-life outcomes. The review reported resilience as an antecedent, moderator, mediator, and outcome, within work-life contexts. Majority of studies, using quantitative methods, indicated that resilience

generally mitigated work-life conflict. However, its mediating or moderating roles showed varied results, due to different conceptualizations and mediation models.

Additionally, resilience was positively linked to work-life balance, indicating it as a personal resource that aids employees in managing multiple roles and reducing negative impacts of work-life imbalance on health. The Conservation of Resources theory emerged as the major theoretical framework to understand these relationships. Resilient employees, being better able to handle resource losses, are less prone to severe work-life conflict and its negative effects. Nonetheless, the relationship between career resilience and work-life interference yielded mixed results, indicating that high career resilience might sometimes conflict with family responsibilities. The review highlighted the need for more longitudinal and multi-source studies to explain resilience's role in work-life dynamics. Moreover, it suggested that organizations should implement resilience-building programs and establish family-friendly work environments, to enhance employee resilience and reduce work-life conflict. Despite the comprehensive and updated version, review discussed its limitations including the predominance of cross-sectional studies and the exclusion of non-English studies, pointed to areas for future research.

Furthermore, resilience's positive relationships with positive affect (emotions), affect balance and life satisfaction have been reported (Yildirim, 2019). Resilience provides a range of coping mechanisms and moderates the associations between disengagement coping and emotional state by influencing the people's appraisals (Amram-Vaknin et al., 2022). As a protective factor, it has also modified the relationship between job stressors and anxiety and depression, among Chinese workers (Song et al., 2021).

García-Izquierdo et al. (2018) investigated the resilience in association with components of burnout, and the psychological well-being of a group of nurses. Stepwise multiple regression analysis found that it protected the psychological health of nurses from the effects of emotional exhaustion and cynicism. Similarly, Padmanabhanunni et al. (2023) explored that resilience had an indirect effect on indicators of mental well-being. Furthermore, its buffering effects in the relation between job demands and sickness absence were supported, nurses with higher levels of resilience displayed a weaker negative impact of job demands on sickness absence (Le Blanc et al., 2017).

Lanz and Bruk-Lee (2017) explored the comparative impacts of relational conflict and work overload on job-related consequences, while exploring whether resilience modifies the indirect effects of predictors on job outcomes through negative affect. Nurses with high resilience demonstrated the ability to recover more effectively after facing conflicts, thus protective role of resilience against the adverse effects of social stressors was supported through the study. Similarly, Khahan et al. (2024) explored the moderating role of resilience in the relationship between self-leadership and innovative work behaviors. The sample comprised of 250 warehouse workers in the logistics industry. The results showed that increased levels of self-leadership enhanced innovative work behaviors, and resilience significantly strengthened this relationship. The study's reliability and validity were ensured through a systematic data collection process, including a three-round questionnaire, and the use of verified scales. Furthermore, organizational resilience was reported as a moderating variable in relation to job satisfaction and perceptions of stress among sample of 325 workers in the Spanish healthcare sector (Gonçalves et al., 2022). On the contrary, Li et al. (2023) did not find

the moderating role of resilience, rather resilience acted as mediator in the relationship between depressive symptoms and trauma severity.

Resiliency is viewed as a complex cultural construct (Luthar et al., 2000), that may vary depending on the context and can be evolved over time. People may not display resilience consistently across all domains of their lives because various life changeovers may require distinct coping strategies, social networks or spiritual fortitude (Tusaie & Dyer, 2004). Thus, resilience is affected by the interaction between the stressors, situations and personal characteristics. Al-Hawari et al. (2019) studied a sample of 192 frontline employees from various service organizations. By employing a time-lagged design, study related abusive supervisory style and customer incivility with increased emotional exhaustion. Employee resilience moderated the impact of customer incivility on emotional exhaustion, the indirect influence of customer incivility on customer satisfaction was high for workers with low resilience.

Generally, a large body of literature supports the idea that resilience is a protective factor against adverse outcomes. However, there is evidence that it might intensify the harmful effects. Annor and Amponsah-Tawiah (2020) investigated the correlation of bullying at work and subjective well-being and explored whether higher levels of resilience can mitigate this association. Cross-sectional survey was conducted for 631 participants, working across various organizations in Accra, Ghana. Findings of their study revealed that workplace bullying correlates with lower subjective well-being and resilience intensified this relationship, rather than mitigating it. The unexpected outcome suggests that resilience may have undesirable consequences, it can be counterproductive, particularly when individuals excessively depend on their personal strengths or endure bullying behaviors for too long.

The study challenged the existing protective role of resilience. However, the cross-sectional design of the study restricted its ability to determine causality. It might be possible that the relationship between bullying and well-being was bidirectional, where reduced well-being might have made employees more susceptible to bullying. Moreover, the study's focus on a single city in Ghana, and its reliance on a convenience sample, limited its broader applicability. Scholar suggested that future researchers should consider other resources, which may also play a protective role against workplace bullying. Their study also highlighted the importance of organizational measures, such as implementing anti-bullying policies and systems that encourage employees to report bullying without fearing retribution.

Similarly, Banni-Melhem et al. (2021) employing self-enhancement theory, reported that employees' resilience intensified the impact of abusive supervisory style on employee reactions, including turnover intention and innovative behaviors, through self-esteem. Data were collected from 205 workers, through two waves of surveys, from the hospitality organizations of United Arab Emirates. Contrary to the common belief that resilience is a positive trait, results indicated that the negative association between abusive supervision and self-esteem of employees was stronger among those with high resilience. These findings highlighted the less explored exacerbating role of employee resilience, on the negative effects of abusive supervision.

Their research contributed to the literature by finding out the potential double-edged nature of resilience in stressful work settings. Findings also supported the inferences of self-enhancement theory (Tesser, 1988), explaining that people who care strongly about their self-image are more likely to withdraw from their duties because of feeling low than non-resilient individuals (Britt et al., 2016; Burton et al., 2011; Van Doorn & Hülshager, 2015). Their study challenged the conventional view that

resilience is a protector and opened an avenue to explore that certain positive traits might have unintended negative consequences under specific conditions. Despite some limitations, the study provided valuable insights and practical recommendations for addressing abusive supervision in the hospitality industry.

Moreover, Huang et al. (2020) argued that resilient individuals may suppress their emotional reactions, which could lead to the accretion of stress and the development of health issues over time. Similarly, the concept of "toxic positivity," as discussed by Lomas et al. (2020) suggests that overly resilient individuals may suppress or deny negative emotions in favor of maintaining a facade of strength and positivity which may result in harmful effects of mistreatment on their health.

Generally, literature has revealed that resilience acts as a shielding factor against the negative impacts of stressors on health, whereas limited evidence also supports the strengthening impacts of resilience. To scholar's knowledge, there is a lack of research, specifically, addressing the moderating role of resilience on the associations of psychosocial hazards and physical and psychological well-being of employees. Thus, the present study explored this role of resilience, on the relationships between psychosocial hazards, such as abusive supervision, everyday discrimination and work-family conflict, and the health-related consequences including somatic symptoms, workplace cognitive failure, and aggression, while taking negative affectivity as co variate. This study has challenged the conventional view about resilience. It has practical implications for dealing with psychosocial stressors at work, as it has pointed out the need to develop the relevant and effective coping strategies that directly address these hazards, instead of only relying on resilience.

Coworkers' Support at Work

Social support provided by coworkers and supervisors can be instrumental or emotional (Swanson & Power, 2001). The social support at work and its association with health is well documented. Number of studies have associated social support with different physical and mental outcomes (Drummond et al., 2017; Yousaf et al., 2019). It is found that those with lower levels of social support have higher rates of poor health perception (Peters et al., 2016) and ill mental and physical health (Harrandi et al., 2017; O'Neill 2022). Thus, social support has been extensively studied both as a buffer in the stressor strain relationship, and as a direct cause of strain (Karasek & Theorell, 1990; Mathieu et al., 2019). Cooke et al. (2019) stated that there is a lack of understanding about the mechanisms by which workplace social support influences employees' coping abilities in difficult circumstances. They revealed a positive correlation between supportive leadership, coworker support, and employee resilience.

Geldart et al. (2018) supported the potential protective benefits of social support from coworkers on workers' well-being. In this context, the mistrust of coworkers for each other is linked with higher role uncertainty, poor quality of communication, low satisfaction on work, and poor emotional well-being (Cooper & Cartwright, 1994). Furthermore, workplace jealousy and envy, amongst employees, is associated with pathological outcomes (Srivastava et al., 2022). To explain the buffering effect of coworkers' support, mostly resource based models are referred, highlighting how social support protects employees from the negative impacts, induced by job demands (e.g., Conservation of resource theory). Coworkers' support is considered as a proactive source, particularly when the subject is emotionally tired. Almario and Forcada (2023) found a negative relationship between coworkers' social support and emotional exhaustion. Similarly, another study revealed that workplace violence positively

correlates with emotional psychopathology, particularly when coworkers' social support is low. However, workplace violence showed no significant association with emotional issues when coworkers' support was high (Brais et al., 2023).

Arshad et al. (2021) addressed the need to examine various coping mechanisms applied by employees dealing with abusive supervision. Their study investigated the workers' emotional and social resources that can alleviate the negative impacts of abusive supervision. Specifically, they focused on psychological and structural empowerment, resilience, and workplace friendships. Conducted over time, the study involves 146 postgraduate students with a minimum of two years of work experience. Workplace friendships were found to decrease the adverse effects of abusive supervision on structural empowerment. Inversely, another study yielded evidence regarding the link between social support and employees' physiological functioning and physical health outcomes. The study found the support for the hypotheses concerning supervisory support, while coworker support did not show the same correlation (Gonzalez-Mulé et al., 2022).

Social support can yield various beneficial outcomes for both employees and organizations, such as fostering stronger relationships, eliciting positive emotional responses, enhancing individual performance, and serving as a barrier for undesirable impacts of stressful work demands. The significance of social support has sparked a surge in research interest in the workplace context. However, this surge has brought forth several challenges. Firstly, the existing literature appears incoherent, employing numerous conceptual frameworks to forecast the functioning of social support in work environments. Secondly, many studies lack precision in definitions of social support, resulting in lack of conceptual clarity. Thirdly, there is a lack of consensus on a standard measure for social support. Lastly, literature on moderating impacts of social support is

inconclusive, raising questions about the reasons behind such discrepancies. Authors have pinpointed these challenges through an exhaustive examination of research on social support at the workplace. After exploring the challenges that hinder the understanding regarding social support in organizational contexts, they have suggested integrative frameworks to explore this phenomenon (Jolly et al., 2021).

Sen and Yildirim (2023) investigated the impact of perceived organizational, supervisory and co-workers' support on psychological well-being and job performance among nurses. The cross-sectional, correlational study included 1056 nurses from both public and private sectors, from Istanbul. Their findings revealed that all the three types of perceived support positively correlated with psychological well-being. Psychological well-being was further recognized as a mediator, influencing the relationship between available support and job performance. Similarly, Blomberg and Rosander (2020) proposed that perceived support from close co-workers and helpful leadership could buffer the damaging effects of experiences of bullying behaviors on health and well-being. The study applied moderated moderation analysis by using cross-sectional data, from a work environment survey involving 1383 respondents. Findings revealed that co-worker support moderated the relationship between exposure to bullying and health outcomes, whereas perceived supervisor support did not show a significant moderating effect. The findings suggested that the negative impact of workplace bullying on health and well-being is decreased when victims perceive strong support from their colleagues. However, this protective effect seems contingent upon perceived levels of supportive leadership. Insufficient supervisor support may diminish the beneficial impact of co-worker support.

The nature of interaction among co-workers is an important aspect in this context, Mastroianni and Walker (2014) through a qualitative study, framed by the

social ecological model, demonstrated that emotional states of well-being were heightened by work interactions which were trusting and supportive, as well as where members felt esteemed and respected. Whereas interactions were found detracted from wellbeing and health behaviors which were distrustful and negatively oriented also lacking justice and empathy.

Gray et al. (2020) reported that while support typically serves as a positive reserve for employees, it can also act as a stressor in the workplace. They identified many forms of unhelpful workplace social support, through a series of three studies. They developed a scale for unhelpful workplace social support. In the study, a framework of variables associated with unhelpful workplace social support was established. The findings linked unhelpful workplace social support to increased negative affect, diminished competence-based self-esteem, reduced coworker satisfaction, increased work-related burnout, raised organizational frustration, and augmented physical symptoms (such as headaches, nausea, and fatigue). The series of studies highlighted the unhelpful workplace social support as a significant job stressor that calls for further investigation.

Although a larger body of literature supports the buffering impacts of social support at work (Schreurs et al., 2012), however, the findings are inconsistent (Jolly et al., 2021), because contrary effects (Beehr et al., 2010) have also been observed. Kokoroko and Sanda (2019) reported higher workloads connections with increased job stress among nurses who had higher coworker support. Which points towards the circumstances where coworkers' support intensifies the relationship between hazards and their outcomes. Moreover, Deelstra et al. (2003) showed that imposed social support enhanced negative affect and signs of physical stress, also reduced self-esteem. The threat to self-esteem model (Fisher et al., 1982) appears to be particularly relevant

to understanding the effects of social support from another perspective. Additionally, Chong et al. (2023) assessed the moderating impact of workplace social support (including supervisors and coworkers) on association of job insecurity with job burnout, among hospitality employees in Malaysia. Their findings revealed that high levels of coworker support were found to strengthen the impact of job insecurity on job burnout, contrary to their assumptions.

Trottier and Bentein (2019) focused on the interplay between daily workplace experiences such as every day's workload and available support from colleagues, and its impact on negative affect (emotions), and subsequent same-day work-family conflict. The study presented two contrasting moderation hypotheses: buffering versus intensifying. Drawing from the Conservation of Resources theory (Hobfoll, 1989), coworker support was assumed as a resource that should weaken the relationship between daily workload and same-day work-family conflict by mitigating negative affect. Data from 130 pharmacists over five consecutive days underwent analysis via multilevel structural equation modeling. The findings rejected the hypothesis and revealed the intensifying conditional indirect effect. When individuals received coworker support during high workload periods, more negative affect was observed, subsequently leading to increased same-day work-family conflict. The threat to self-esteem model suggests that receiving social support may generate feelings of indebtedness or helplessness, potentially amplifying the influence of workload on same-day work-family conflict through increased negative affect.

Moreover, to investigate the link between initial levels of coworker social support and subsequent health care utilization, and absenteeism, Chen et al. collected data from 1240 employees across 33 worksites. The findings of the study presented that higher levels of initial coworkers' social support were significantly correlated with an

increased frequency of doctor visits. However, coworkers' social support exhibited a non-significant relationship with the number of hospitalizations and visits to the emergency department. Furthermore, emotional exhaustion and social support appeared as the primary mediating variables (Chen et al., 2020).

Coworkers' behaviors may be viewed as diplomatic or manipulative, and therefore it may not always be considered positive and productive. Receiving support from co-workers may suggest ineptitude for the person who accepts the support. Peers are usually viewed as equal, getting support from coworkers may indicate a lack of ability or independence to handle things without assistance (Ng & Sorenson, 2008). These arguments challenge the conventional notion that social support serves as a protective resource against stressors and mainstream hypothesis that views social support as an important resource. Further research is needed to explore the complexities of coworker support, particularly in the context of psychosocial hazards and its implications for employee health, as less researched area.

Overall, the role of social support from colleagues is multifaceted, capable of having both mitigating and amplifying impacts. Mostly, literature supports the idea that it often serves as a defensive factor against the development of mental and physical health issues. Support from coworkers can provide emotional validation, instrumental assistance, informational guidance, and social companionship. Workers, who receive greater support from their coworkers are less likely to experience distress, burnout, or somatic symptoms, while facing the workplace stressors. On the contrary, literature also supports the intensifying impacts of coworkers' support in relationship between stressors and their outcomes. This is a critical area of research with significant implications not only for workplace well-being, but also for overall organizational effectiveness. The current study explored the role of coworkers' support in the

associations of psychosocial hazards and health related outcomes, among sanitary workers, and challenged the conventional view about the colleague support at work. This study pointed out that overreliance, the quality and manners of support are crucial in determining the impacts of colleague social support. Therefore, organizations should prioritize the meaningful and effective coworkers' support, not merely the support, in addressing the psychosocial hazards at work.

Negative Affectivity

It is well documented that individual characteristics impact the association of stressors and strain (Hart & Cooper, 2000), negative affectivity is particularly relevant among them. Individuals high in negative affectivity are disposed to concentrate on the negative side of the world in general, they may observe high levels of interpersonal conflict (Watson & Clark, 1984) and experience poor self-concept. Negative affectivity strengthens the associations between work stress and their outcomes, because individuals high in negative affectivity are inclined to focus on the worrying and threatening aspects of their work environment (Mäkikangas et al., 2013). Studies support that negative affectivity amplify the undesirable impacts of psychosocial hazards on health outcomes (Paulus & Zvolensky, 2020).

Çivitcia (2015) explored that positive and negative affect moderated the association between social support and stress, among students who were studying in college. His findings revealed that as the level of negative affect (emotions) increased, the level of positive effect of social support on perceived stress decreased. Moreover, negative affect exhibited a positive correlation with perceived stress, and a negative correlation with perceived social support.

Furthermore, Cam-Kahraman et al. (2016) investigated the four potential effects: direct, inflation, mediation, and moderation of negative affectivity in the

relationship between job stressors and strain. The findings supported that negative affectivity had two distinct effects: direct and mediation. Moreover, Huang et al. (2022) explored that job resources reduced the psychological distress, by reducing negative affect, and increasing positive affect. In the study, the job demands increased negative affect, which was associated with higher psychological distress. Inversely, Ismail et al. (2018) indicated that the relationship between workplace incivility and hurt feelings were not moderated by negative affectivity.

Researchers consider negative affectivity as a confounding variable in the stressors-strain process (Burke et al., 1993), it may serve as a source of common method bias (Oliver et al., 2010). Individuals with high negative affectivity are vulnerable to respond in a negative way for both the stressors and strain, thus it blows up correlation between study constructs. Common method bias poses an opposing clarification for the observed relationship between self-reported stressors and strain (Podsakoff et al., 2003).

Studies generally have provided evidence that negative affectivity can amplify the negative impact of psychosocial hazards on health-related outcomes in the workplaces and workplace interventions by reducing the negative affectivity can promote the employee well-being. The current study controlled the impacts of negative affectivity, by including it as covariate on moderation pathways, to isolate the unique effects of the predictors under investigation. It has functioned not only to control the confounding impacts but also to reduce potential bias. It enhanced the validity and generalizability of this study and upheld the ethical standards. This inclusion allowed scholar to obtain more accurate and meaningful insights into sanitary workers' psychological processes and behaviors.

In conclusion, the overall magnitude of research supports the negative impact of psychosocial hazards on health-related outcomes. Over the last few decades, a growing body of evidence has investigated the impact of psychosocial hazards on workers' health, safety, well-being and performance. These hazards encompass various factors related to the social and psychological aspects of work such as job demands, job control, interpersonal relationships, organizational culture, work-life balance, etc. Today, these hazards are recognized as a global issue, distressing workers alike around the world. Although the effects of stress on health vary according to different individual and contextual factors, such as resilience, social support at work, working conditions, and low control, etc.

Psychosocial hazards at work intensely affect workers' health outcomes across many dimensions. They are strongly related to mental problems such as stress, anxiety, depression, burnout, post-traumatic stress disorders, and behavioral issues. These hazards are also extended to physical health, contributing to cardiovascular illnesses, musculoskeletal disorders, digestive issues, pain disorders, headaches and metabolic syndromes, leading to increased healthcare costs. The poor psychosocial conditions create risk for workplace safety, accidents and injuries, by harming cognitive function and decision-making capacities. Additionally, these hazards lessen workers' engagement and job satisfaction, which lead to counterproductive behaviors, higher turnover rates, and increased intentions to quit. Beyond individual level influences, these hazards adversely affect organizational performance, foster reduced productivity, diminish teamwork, and increase conflicts. Moreover, failure to address these hazards also carries legal and ethical implications.

After reviewing the extensive literature, it becomes evident that majority studies employ cross-sectional correlational designs, which limits the ability to establish

causality or infer temporal relationships between psychosocial hazards and health outcomes. Different approaches are used to assess psychosocial hazards at work. Self-reported questionnaires are frequently used to gather employees' perceptions of stress at work due to their cost-effectiveness and ease of analysis. Furthermore, subjective investigations, to a limited extent, also integrate interview data alongside self-reported health outcomes. In addition, observational methods using archival data and biological measures (Tabanelli et al., 2008) are utilized as alternative strategies to measure the level and severity of work-induced stress (Leka & Jain, 2010). Self-reported measures for both psychosocial hazards and health outcomes introduce potential biases, thus compromise the accuracy of reported associations. Moreover, in the field, the generalizability of findings may become limited due to specific sample characteristics or sampling bias, thereby constraining the applicability of results to broader populations. In addition, residual confounding may persist, in spite of all the efforts, as studies may fail to measure or adequately adjust for all relevant variables.

To enhance the reliability of assessments, it is crucial to integrate other measures along with self-reported measures, more frequently. Furthermore, employing multilevel modeling techniques is essential to account for the nested structure of data and explore the interaction between psychosocial hazards at different levels and their influence on health outcomes. There is a scarcity of research on effective interventions to address these hazards. Furthermore, there is a need for exploration into the long-term health implications of exposure to psychosocial hazards, encompassing chronic illnesses, disability, and mortality, to gain understanding of their impact on employee health throughout the lifespan.

Research is currently deficient in exploring mediating and moderating factors in this context. Exploring various aspects, such as coping mechanisms, types of social

support at work, personality traits, and genetic predispositions, can aid in identifying protective and vulnerability factors. Moreover, investigations regarding physiological pathways, psychological processes, and behavioral factors, can add value to existing literature. Furthermore, there is a research gap focused on examining the role of organizational factors in either alleviating or exacerbating the effects of psychosocial hazards on health outcomes. Studies on organizational characteristics such as leadership styles, organizational culture, and workplace policies can offer valuable insight. Additionally, insufficient research has been conducted on psychosocial hazards in relation to demographic factors, including race, gender, social identity, ethnicity, and socioeconomic status. It needs further investigations that how various dimensions, particularly social identity influences the experiences and consequences of psychosocial hazards on health.

Moreover, a considerable portion of the research on psychosocial hazards and health related outcomes is derived from studies conducted in Western, industrialized nations. There is a necessity for additional research in diverse cultural and occupational environments to comprehend the manifestation, and effects of psychosocial hazards on health across varied populations and contexts. By addressing some of these aspects, researchers can contribute to advance the understanding of the intricate interplay between psychosocial hazards and health outcomes at the workplace.

Psychosocial Hazards and Gender Based Differences

Men and women, both experience different kinds of psychosocial exposures, at work (Cifre et al., 2015; Cifre et al., 2019; Marinaccio et al., 2013). They experience psychosocial hazards and their outcomes differently due to a variety of factors, such as societal roles, personality traits, differences in coping mechanisms, etc. Literature supports that female workers often face higher levels of workplace stress, due to dual

responsibilities at work and home, higher expectations for emotional labor, and because of gender discrimination (Gyllensten & Palmer, 2005). Male workers experience more stress mostly related to job security, societal expectations, and exposure to physically unsafe work (Nelson & Burke, 2000). These differing stressors lead to varied outcomes. Women report more mental health issues, like anxiety and depression, while men exhibit physical symptoms, such as cardiovascular problems (Leka & Jain, 2010).

Work in masculine or feminine professions is associated with different masculine or feminine gender roles (Smith & Koehoorn, 2016), which can be a source of occupational stress, and related adverse outcomes. Biswas et al. (2021) analyzed peer-reviewed literature from 2009 to 2019, focusing on exposure disparities between men and women in various occupations. Key findings indicated that men are more exposed to physically demanding work. Whereas women face more bullying and discrimination. The comprehensive review emphasized occupational health disparities based on gender. These disparities lead to different responses with varied intensity. Although research has revealed that certain workplace psychosocial exposures have a stronger impact on women, while some others are more stressful for men, still there is scarcity of research in this area.

Rivera-Torres et al. (2013) found gender differences while studying the impact of perceived job demands, control, and support on job stress. The study revealed that among men, only quantitative demands significantly influenced job stress, and this effect was somewhat mitigated by control and support. Conversely, among women, emotional and intellectual demands (qualitative demands) were statistically significant. Additionally, social support had a more pronounced weakening effect on job stress levels in women as compared to men, even when they held the same profession.

Similarly, Karabiber et al. (2023) explored the potential impact of gender on the significant factors in psychosocial risk evaluations, among laborers in Turkey. The results presented that gender differences were observed in cognitive strains, growth opportunities and the meaning of work. Females reported lower scores compared to males in these areas. However, there was no significant difference found in quantitative demands, burnout, emotional demands and job satisfaction in terms of gender.

Padkapayeva et al. (2018) explored the differences between males and females concerning the correlations among psychosocial factors and stress levels in both personal and work life within a sample of Canadian workforce. Significant differences were observed on supervisory support, work stress levels, job insecurity, and job strain on the basis of gender. Specifically, increased supervisory support was linked with reduced work stress in women but not in men. On the contrary, low job control proved as a direct protective impact on life stress for men but not for women. While high job strain directly increased life stress among women but not in men. Moreover, higher levels of job insecurity were notably linked to elevated life stress among men as compared to women. However, the association between work stress and life stress remained consistent across both genders.

Furthermore, several studies have reported that women experience burnout more frequently than men (Bakker et al., 2002). It has been established that women are more frequently exposed to monotonous tasks compared to men and are less inclined to engage in roles requiring problem-solving or learning. They also encounter greater limitations in choosing when to take breaks during work and are more susceptible to interruptions from unexpected tasks (Gunkel et al., 2007), which ultimately affect their stress levels.

Literature further validates that women show higher level of somatic complaints than men (Farahi et al., 2022). Redondo-Flórezs et al. (2020) examined the gender related variances in stress-related factors, among faculty members of university. Findings revealed that female professors exhibited higher levels of perceived stress, neuroticism and emotional exhaustion, related to burnout as compared to their male colleagues. Moreover, females also reported experiencing more frequent physical symptoms than male counterparts.

On the contrary, the research evidence also suggests that genders do not vary for all the manifestations of job-related stress. For example, investigators found no difference between women and men on perceived role conflicts (Wong et al., 2007), and self-worth/well-being (Feldman et al., 2008). Similarly, Jasper (2020) examined the difference between males and females in the relationship between work-related stress and psychosomatic symptoms among working adults in the Swedish population and reported no difference on the basis of gender.

The current study attempted to reveal the gender difference on psychosocial hazards and related health outcomes. Examining gender difference is important for understanding the complex dimensions of behaviors, cognition, and social interactions (Wood & Eagly, 2013), among sanitary workers. It offered the distinctions and provided the insight into attitudes and lived experiences (Hyde, 2014) of both genders. The present study has highlighted the gender differences on psychosocial hazards, physical and psychological health, and the perceived social support of sanitary workers. This investigation on gender differences has not only enhanced scholarly understanding but also holds significant practical implications. Research on gender difference can contribute to the development of evidence-based practices, tailored to meet the diverse

needs of workers (Myers et al., 2019). Moreover, recognizing these variations can be helpful to promote gender equality, and cultivate inclusivity (Eagly, 2018).

Psychosocial Hazards and Employment Types

Numerous factors have been identified in relation to employment types but investigating differences in terms of employment types on psychosocial hazards, and health of employees is not a commonly researched area. Fixed-term employment/contractual job is one of the most visible manifestations of job insecurity, which is associated with anxiety, depression, psychosomatic complaints, (Nella et al., 2015), reduced self-esteem and psychiatric symptoms (Burgard et al., 2012), etc. Whereas, in terms of physical health, job uncertainty has been related with increased morbidity, lower levels of self-reported health, and increased rates of hypertension, coronary heart disease, myocardial death (Lee et al., 2004; László et al., 2013) and musculoskeletal disorders (Nella et al., 2015). Moreover, employment type is also linked with job satisfaction (De Cuyper et al., 2006), commitment, productivity (De Cuyper et al., 2011) and employees wellbeing (Vander Elst et al., 2014).

Schumann et al. (2020) investigated that fixed-term employment effects the emotional and mental well-being of workers, measured by their subjective experiences of happiness, sadness, fear, anger, and overall life satisfaction. Their study revealed that employees who were working on fixed terms/contracts, generally reported lower emotional well-being, as compared to permanent employees, although their cognitive well-being showed minimal change. Transitioning from permanent to fixed-term contracts was associated with increased self-reported experiences of fear and sadness. Whereas, transitioning in the opposite direction led to decreased frequencies of these emotions. Moreover, only shifting from contractual to permanent employment showed a positive effect on life satisfaction. While the effect on fear was masked by job

security, acting as a mediating factor. The effect on sadness remained significant when the model was controlled for job security. Thus, by treating cognitive and affective well-being as separate constructs, the study provided new insights into the psychological costs of fixed-term contracts and revealed the strong impact of fixed-term employment on self-reported experiences of sadness.

Scheuring (2020) attempted to study the impacts through a comparative control group design, exploring both upward (permanent employment) and downward (unemployment) dimensions, as compared to fixed term employment. His study reported that workers appointed on fixed-term consistently showed lower subjective well-being than their permanent counterparts in each country. Moreover, other studies have reported on fixed term employment for the downwards comparison (unemployment), seemed to have a higher well-being (Gebel & Voßemer, 2014; Chambel et al., 2016). However, even though there is a higher number of studies on the upwards comparison (permanent employment), the findings are more than mixed (Cuyper et al., 2008). Literature on the repercussions of different forms of fixed-term employment have been summarized within various literature reviews (Imhof & Andresen, 2018; Hünefeld et al., 2020), which invites the researchers to explore the area further.

The inquiry regarding differences based on employment type is essential for organizations to effectively manage the workforce and create environments conducive to employee success, satisfaction and wellbeing. Therefore, the current study intended to investigate this under researched area, a potential factor to make differences in experiencing psychosocial hazards and related outcomes, among sanitary workers. It has promoted awareness by providing evidence about a relevant factor, which may influence their health status. Moreover, this study offered support to the concerned

organizations for figuring out the sensitive policies regarding employment contracts. This knowledge can empower sanitary workers, to take informed decisions regarding their career paths, and to negotiate for suitable employment types.

Psychosocial Hazards and Shift Work

Extended single shifts and lacking sufficient rest breaks can result in fatigue, stress, and reduced productivity. Additionally, irregular or unpredictable single shift schedules have the potential to disrupt circadian rhythms, impacting sleep quality, and overall well-being (Ferguson et al., 2012; Kalmbach & Arnedt, 2020). Similarly, the limited time available for relaxation and personal activities during double shifts can adversely affect mental health and work-life balance (Dall'Ora et al., 2023). Literature approves that double shifts carry higher risks due to extended exposure and restricted rest intervals. International Labor Organization have suggested that sufficient rest breaks, advocacy for healthy sleep practices and provision of assistance for mental health and well-being can alleviate the adverse impacts of shift work (International Labour Organization, 2020).

Furthermore, an integrative literature review indicated that shift workers suffer more from sleep problems, depression, burnout and fatigue (Bamonde et al., 2020). In addition, obesity, a wide range of chronic diseases and accidents (Caruso, 2014) have also been related to long working hours. Frida et al. (2019) investigated shift workers and reported the harmful impacts of job related emotional and social stressors on their health, in a consensus report. Research generally supports that a shift system, involving double shifts/long working hours, has a negative relationship with health-related well-being and recovery, whereas positive associations exist between work shifts and poor health outcomes (Misiak et al., 2020; Khan & Sultan, 2022).

On the contrary, during a span of two years, comparing the 8- hours and 12- hours shifts, Battle and Temblett found no significant difference on sickness rates and personal injuries between the two data collection periods, among nursing staff. The results of burn-out related investigations demonstrated that emotional exhaustion and depersonalization improved, from the 8-hours to 12-hours shifts. The study suggested that work shifts covering 12-hours, for nursing staff, can be implemented safely into the critical care units (Battle & Temblett, 2018).

Research has consistently shown that extended working hours (double shifts) can affect employees' health and job performance. Generally, both single and double shifts can profoundly impact on workers' health, depending upon the working conditions. Although single shifts may provide a more structured workload and predictable timetable, still it is essential to closely monitor work hours and breaks, to minimize potential health hazards. On the other hand, double shifts particularly require increased attention. While working in double shifts, managing fatigue and ensuring adequate rest periods is crucial to protect workers' well-being. The large number of studies have highlighted the adverse effects of prolonged working hours and double shifts, particularly among healthcare professionals. Whereas, the current study assessed the association of psychosocial hazards with the wellbeing of sanitary workers, who mostly do shift work, and endure long working hours. The current research is significant in both academic and practical contexts. It provided understanding that extended work shifts can impact on employees' physical and mental health and emphasized the importance of implementing favorable work schedules that prioritize sanitary workers' health.

Psychosocial Hazards Among Sanitary Workers

The importance of a healthy environment in the development of any society cannot be overstated, and sanitary workers have played a crucial role in nurturing such environments for centuries. Regardless of their highly valuable contributions, sanitary workers often remain unnoticed and hold low ranking within organizations. The working circumstances of these indispensable workers have been consistently ignored by the authorities responsible for their well-being over the years. The term sanitary worker refers to all people employed or otherwise responsible for cleaning, maintaining hygiene, collecting and handling waste, and operating sanitation technology, at any step of the sanitation work. This includes toilet cleaners and the workers who are involved in cleaning household, public, and institutional settings; they empty pits and septic tanks, handle fecal sludge, clean sewers and manholes, and work at sewage and fecal waste treatment and disposal sites (Dalberg Advisors, 2017; Gomatti & Kamala, 2020; WHO, 2018).

Sanitary workers frequently encounter fecal sludge and wastewater in direct or close proximity, operating within confined and frequently hazardous environments. They face exposure to dangerous gases as well as chemical agents while performing duties in septic tanks, sewers, pumping stations, and treatment plants (WHO, 2018). Manual sanitation work even imposes greater dangers because mostly these workers are not protected by adequate health and safety measures. The reported medical conditions that are related with sanitation work include headaches, giddiness, high temperature, fatigue, asthma, cholera, typhoid, liver diseases, schistosomiasis, puncture wounds and cuts, blunt force trauma, fatality (WHO, 2018) leptospirosis, salmonellosis, typhoid fever, and tetanus (Gomati& Kamala, 2020).

Similarly, recent evidence also support that they are exposed to health hazards like musculoskeletal disorders (Gomati & Kamala, 2020; Tolera et al., 2024), gastrointestinal infections, respiratory issues (Gomati & kamala, 2020; Oza et al., 2022) burning sensation, redness and irritation in eyes due to exposure to pollutants, allergic diseases like cough, sneezing, runny nose, etc., (Orisa-Ubi et al., 2023) and dermatological problems (Yan et al., 2015). Several other infections caused by unhygienic habits, such as eating, and smoking with contaminated hands also not using personal protective equipment, (Chaudhry et al., 2004) are reported among this group of workers.

Literature, as a whole, indicates similar results regarding the health problems of sanitary workers (Joy et al., 2018; Haleema et al., 2019; Moorthy et al., 2023), which make their lives miserable. Rajan (2016) conducted descriptive research in Indian city Tirunelveli. In his study mainly, data was collected through the use of surveys, whereas secondary data were sourced from literature including websites, books and journals. Results indicated that sanitary workers in both single and multi-specialty hospitals commonly experience health issues such as shoulder, back, and neck pains, low energy levels, difficulty in sleeping and getting up, weight loss, loss of appetite, hair loss, irregular sleep patterns, hypertension, and digestive disorders. Furthermore, skin problems, respiratory issues, and work-related injuries were found to be more predominant among sanitary workers in multi-specialty hospitals compared to those in single-specialty hospitals.

Rajan (2019) uncovered that majority of sanitary workers are ignorant of the various risks related to lifting heavy weights, poor personal hygiene, and unbalanced diet. They suffer from prolonged body bending, prolonged periods of standing, lack of immunization, inadequate rest, unwarranted workload, an autocratic leadership style

from supervisors, and an imbalance between work and personal life. They commonly face life threatening accidents and injuries. Additionally, smoking cigarettes, sleep disturbance and alcohol consumption at work make their lives more miserable (Tolera et al., 2023; (SNV, Netherlands Development Organization, 2016).

Moreover, a comparative analysis concluded that different financial challenges (Irregular payment, temporary or informal job, low income, etc.) social challenges (social discrimination and social stigma, allocation of work as per caste hierarchy, intergenerational transmission of discrimination, lack of dignity, etc.) and legislative challenges (related to legal protection) are faced by the sanitary workers (World Bank et al., 2019). Similarly, Gomati and Kamala (2020) demonstrated that financial instability and social issues such as social stigma and intergenerational discrimination affect sanitary workers negatively. Additionally, their own health and nutritional needs are ignored due to lack of awareness.

Furthermore, a study from Delta state Nigeria explored the challenges faced by road sweepers. The study reported that they are often hired on contract and face serious concerns about job security. The challenging nature of their work takes a toll on both their mental and physical well-being. Road sweepers, mostly older ones, are susceptible to accidents like slips and falls. Also, their low income contributes to feelings of inequality and unhappiness. The stress and pressure of the job lead to emotional difficulties among them (Orisa-Ubi, 2023).

Rajan (2012) analyzed and compared the causes of occupational stress and the coping strategies being followed by sanitary workers. The research explored that stressors originated from the following four different dimensions: firstly, stressors were related to rank, role, and motivation, secondly, stressors were connected with work shifts and working hours. Thirdly, stressors were linked to the organization, and lastly,

stressors specific to sanitary workers' life were investigated. The study investigated the outcomes of these stressors across two key domains: the individual's life, particularly at the workplace, and their health, family, and social interactions. A sample of 120 sanitary workers from 40 private hospitals was selected using convenient sampling methods. Primary data was collected through scheduled interviews method. The analysis of the data identified that mostly stressors from all dimensions and their impacts on individual, family and social life were equally experienced by sanitary workers in different hospitals.

Some of the identified stressors included inadequate support from authority figures and coworkers, undefined roles and responsibilities, use of abusive language by supervisor and manager, lack of respect and recognition, and humiliation at work. Moreover, the pressures for overtime duties without remuneration, being compelled to come to the duty even during week off and official leaves, lack of salary, unavailability of adequate protective devices, unfair and biased performance evaluation, and fear of job insecurity were found as common stressors at their workplaces. Sanitary workers also reported that undue and strict monitoring, unequal workload for shift workers, performing multiple tasks at a time, work overload because of insufficient staffing, and non-availability of replacement in case of leave are experienced by them very frequently. Furthermore, being forced to carry out the supervisors' household work, facing criticism from departmental staff, blames for thefts, and disputes with colleagues were acknowledged as stressors, faced by the sanitary worker by the virtue of their job.

The impacts of the above-mentioned stressors were also explored, and some of them included feeling tired, generalized body pain, disturbance in sleeping and awakening, depression, anger, and lack of cooperation and support towards coworkers and other departmental staffs. Moreover, quarrels and unreasonable anger for family

members and friends, and inability to balance work and family life were the outcomes of job-related stressors, experienced by sanitary workers commonly. Rajan also observed that engaging in conversation with others was the most effective coping strategy, being followed by sanitary workers.

Rajan (2019), in his series of studies, further strengthened his findings and reported that sanitary workers experience long and unsocial working hours, irregular shift work, and heavy workload. The majority of respondents stated numerous instances of unfair treatment and insufficient support at the workplace, including bias in workload dispersal, unfair provision of work areas, discrimination based on caste, community and religion, disinclination to adopt advancements in the field, and display of rudeness and disrespect from people around. The study offers recommendations aimed at enhancing leadership qualities and managerial approaches to alleviate the heavy workload and other hazards experienced by sanitation workers.

Furthermore, in the context of sanitary workers' family life, Rayen and Nisee (2016) reported that most of the workers receive insufficient salaries, making it difficult to fulfill their children's educational requirements, cover medical expenses, pay for nutritious food, and meet even their basic necessities. This monetary tension greatly contributes to the stress in their lives.

Moreover, the stigma about dealing with feces strengthens a cycle of poverty spanning multiple generations among sanitation workers. This stigma aggravates their social marginalization, limiting opportunities for progression and career transitions, often resulting in discrimination across successive generations. Social exclusion and marginalization within their communities or workplaces are compounded by limited access to social networks and opportunities for involvement. Many sanitation workers,

in order to safeguard their families' safety and well-being, choose to maintain a low profile and conceal their professional identity (World Bank et al., 2019).

The negative societal perceptions produce feelings of shame or inadequacy (Link & Phelan, 2001). The pursuit of a job believed low in societal status significantly impacts individuals' psychological health, self-esteem, identity, and overall sense of well-being, as well as their self-confidence, social status, and family dynamics. Such situations may lead to feelings of frustration, disappointment, or inadequacy stemming from the perceived undervaluation of their societal contributions. Furthermore, Gomathi and Kamala (2020) reported that sanitation workers do not concentrate on their own health and nutritional status due to lack of awareness. Mostly, they work without any proper protective gears, some of the workers, even, do not know about such tools (Sathyaseelan, 2010; Kannolath, 2019).

Rajavel (2015) carried out a descriptive study among female sanitation workers who had come across health issues in Thanjavur, India. The researcher applied a census method to gather data, socio-demographic data was composed through semi-structured interviews, aimed at assessing their quality of life. Results revealed that 60% of the sample reported experiencing gender discrimination. Commonly women (81%) had no formal education, and 67% of female sanitation workers had suffered from skin illnesses. The study recognized a significant relationship between women's age and their quality of life as sanitation workers.

Literature, as a whole, strongly supports that sanitary workers face a range of physical and psychological challenges at their work. Physically, the nature of their job exposes them to hazardous circumstances. The physical demands of their job result in several health-related outcomes. Sanitary workers also experience stress, anxiety, and many other psychological problems. These issues shoot out from unfavorable working

conditions, heavy workload, insufficient job satisfaction, insecurity about job stability, tensed relationships among colleagues, communication gaps, emotional turbulences, financial crisis, role conflict, instances of sexual harassment at the workplace, etc. Moreover, the stigma accompanying their profession leads to shameful feelings and cause low self-esteem. In addition, the social seclusion and lack of recognition for their essential role in maintaining public health and sanitation contribute to the feelings of undervaluation and ill health.

Addressing both the physical and psychological challenges confronted by sanitary workers is crucial to ensure their well-being and efficiency in this important profession. Therefore, the current study after identifying the relevant constructs, guided by the qualitative data, explored the relationships between psychosocial stressors and physical and mental health of sanitary workers, in the context of Pakistan. Moreover, the present research has highlighted the moderating role of their resilience and perceived coworkers' support, after controlling the negative affectivity. Additionally, in this study sanitary workers have been investigated to find out the group differences on psychosocial hazards and well-being related consequences.

Sanitary Workers in Pakistan

In Pakistan, sanitary workers are constantly exposed to substantial hazards, most of them are educated till primary school level. They lack formal training and relying mostly on informal training; to fulfill the demands of their jobs brings high levels of stress and hardship to them. A majority are employed in the public sector, although the private sector also hires sanitation workers in large clusters, but unavailability of records and incomplete information make it difficult to accurately assess their total count. Most sanitation workers employed by public sector organizations are placed in the lowest job grades. They are often forced to undertake

risky tasks without proper safety equipment or tools, which greatly increase their vulnerability to health hazards (Siddique, 2020).

Fatmi et al. (2022) investigated the impact of occupational and socio-demographic factors on the well-being, and consequently the health-related outcomes, among sanitation and sewage workers in Karachi, Pakistan. They explored the harmful work environments, inadequate earnings, absence of preventative measures, pervasiveness of chronic diseases, societal discrimination, and improper living conditions among sewage workers. The study demonstrated that majority of these workers, particularly, experience a very low quality of life and encounter several health problems.

Moreover, Chaudhry et al. (2004) found that sanitary workers are exposed to biological, physical and toxic substances routinely. Similarly, Ittefaq et al., (2021) reported that both sewage and sanitation workers do their duties manually. These workers are among the lowest-paid and most relegated employees in the city, and their working conditions are very bad. Furthermore, Aqeel and Gill, (2019) focused the city of Lahore, in Pakistan. Their study used qualitative and quantitative data to explore different aspects of these workers. Study reported that sanitation work is stigmatized and particularly associated with Christians community, coming from the lowermost Dalit caste called 'Chuhra'. It was found that only the most vulnerable and marginalized section of society is forced into this occupation. Their work is life-threatening, intimidating, unhygienic and financially insecure, and causes physical and psychological health related worst consequences.

Siddique (2020) conducted a survey, by focusing on the two main institutions: The Water and Sanitation Agency (WASA) and the Lahore Waste Management Company (LWMC), both the bodies employ these workers. The findings indicated that

98% of temporary employees stated serious concerns about job security. Within WASA, 83% of sanitation workers reported using obsolete tools such as ropes, bamboo sticks, buckets, hoes and picks for sewer line maintenance. LWMC reported 70 casualties among sanitation workers alone in 2019, fatalities were often linked to contact to toxic gases while unblocking sewer lines. The study also exposed that 80% of workers did not undergo regular medical check-ups, and 69% noted the absence of recognized protocols for handling accidents and emergencies. Furthermore, due to the eradication of permanent positions, sanitation jobs are increasingly being outsourced, leading to temporary contracts with low wages.

Literature, from the local context, supports that their conditions are worst in Pakistan. Unsafe work environment, manual work, absence of safety measures, prevalence of chronic diseases, discrimination, inappropriate living conditions, job insecurity, heavy workload, and low wages, impact their quality of life. Despite the several challenges confronted by sanitary workers, there is a significant gap in research in addressing the work-related stressors, and the related health outcomes, particularly from a psychosocial perspective. The research has paid very little attention on emotional and social strains these workers endure, which may lead to serious health issues. Therefore, the present research focused on the psychosocial aspects of their work, including perceived abusive supervision, everyday discrimination and work-family conflict, and related mental and physical well-being, in terms of somatic symptoms, workplace cognitive failure and aggressive behaviors. To scholar's knowledge, this is the first study of this nature, considering sanitary workers as target population, to investigate the impacts of identified relevant psychosocial hazards on their health-related outcomes. The present study added to the existing body of literature in the field of occupational health psychology. This inquiry with low-ranked employees

offered a valuable insight, into the workplace dynamics (Brown et al., 2020), and challenges faced by this low-grade workforce (Dannals et al., 2020). Moreover, this study has highlighted the importance of positive and respectful work culture, recognition, and work-life balance for sanitary workers, which can improve their health status by reducing stress.

Organizations work efficiently and effectively when employees function well, and they function optimally when their well-being is protected, and they are provided with resources, trust and safety from workplace hazards. The emotional and social hazards and health issues of sanitary workers are critical concerns that not only affect their quality of life, but rather it impacts the overall effectiveness of the organizations.

Rationale of the Study

The rationale of the study is rooted in the importance of understanding and addressing psychosocial hazards among sanitary workers, to promote occupational health and safety, enhance their well-being, improve productivity and performance, reduce costs, and to fulfill ethical obligations. Sanitary workers devote a significant amount of time at work; therefore, their well-being is closely connected to their work environment. The current study has attempted to impart knowledge about the adverse circumstances sanitary workers face every day, and the related outcomes. It also endeavors to reveal the general undeserved attitudes of people towards this segment of the workers, which come up as great stressors, and eventually affect their physical and psychological health.

This investigation has identified the areas requiring improvement at their workplaces, to encourage sanitary workers' wellbeing, and finally the overall effectiveness of the organizations concerned. Although physical injuries and illnesses are often obvious, conducting research on the psychological ramifications of

psychosocial hazards is more insightful, to reinforce workers' well-being, and to sustain healthy and productive work settings.

This study reveals the related cost, workers, employers and society at large bears, and emphasizes the importance of investing in preventive initiatives. Exploring the health-related outcomes can extract early indicators and obstruct future health complications. Through offering a deeper understanding of these work-related aspects, the study has provided a valued insight into the workplace dynamics, in the context of Pakistan. This can be helpful for concerned and authorities to make necessary modification, by eliminating the stressors at work through sensitive organizational policies and procedures. This research furnishes evidence to inform the development and enforcement of occupational regulations, ensuring both physical and mental health, and safety concerns. Exploring these connections can guide the development of related interventions, geared toward enhancing the health and well-being (Leka & Cox, 2008) of sanitary workers.

Moreover, the study has the potential to grab the attention of scholars to explore similar issues in other vulnerable populations, particularly susceptible to the repercussions of psychosocial hazards. These hazards are pervasive on a global scale; therefore, this study holds wide significance and stands to aid varied populations of workers across diverse sectors, and geographical contexts.

The present study focusses the under researched and relevant constructs to explore this phenomenon, by figuring out an exclusive framework. Recently, a meta review (Niedhammer et al., 2021) presented a clear picture of the most studied hazards at work and their outcomes. Which inspired the scholar to explore some less focused and pertinent hazards and their outcomes. The comprehensive review of 72 literature reviews, with meta-analysis including an average of 20 primary studies, that were

published during 2000-2020, covered all forms of psychosocial work exposures, and related health outcomes. Meta review findings indicated that the job strain model exposures were the most frequently studied exposures including job demands, high and low latitudes and strain levels (comprised of 37 reviews, 51% of the total).

Long working hours were found out as the second most frequently studied exposure (23 reviews, 32 % of the total), covering a big portion of the total research. Whereas, psychological demands and decision latitude (17 reviews, 24% of the total) were rated as the third most explored hazards, almost equal to the literature focused on social support. Moreover, research on effort-reward imbalance and job insecurity or temporary employment, constituting a substantial portion of literature, were rated as the most studied area after the first three exposures. The phenomena of workplace bullying or violence and organizational injustice were the subject of examination, though comprised of a relatively small percentage of the total studies. At least, two of the reviews focused on emotional demands, while another two centered on work-life imbalance. Furthermore, a considerable portion of the reviews, which is 19% of the total, investigated multiple exposures.

The review highlighted that most frequently studied outcomes encompassed cardiovascular diseases, particularly coronary heart disease, stroke, behavioral risks, and other unspecified cardiovascular ailments. Mental health outcomes also covered a major area of inquiries, with examining depression-related outcomes and sleep problems. Anxiety or burnout, psychotropic medication use, and suicide-related outcomes were also explored in different reviews. Additionally, the included reviews focused on unspecified common mental disorders, pregnancy related outcomes, and musculoskeletal disorders. Moreover, cancer and digestive diseases were less explored outcomes comparatively, investigated in some reviews.

Thus, after considering the above-mentioned review, the present study has focused on the three mainly less researched psychosocial hazards, including abusive supervision, everyday discrimination and conflict between work and family life as predictors, and three under researched constructs, such as, somatic symptoms, workplace cognitive failure and aggression as outcomes. Moreover, by integrating the moderating role of resilience, and coworkers' support and negative affectivity as covariate, study highlights the phenomena through interactive effects. The moderating hypotheses of this research are grounded in the premise, that exploring the interactional effect of contextual factors and individual characteristics (Larivière et al., 2016) is critical, when examining the impact of workplace hazards. Additionally, focus of this investigation on group differences, in terms of gender, shift work, and employment type, on psychosocial hazards and outcomes among sanitary workers, in local context, further adds the value to the study.

The rationale to study abusive supervision stems from the significant impacts that leadership behaviors have on employee well-being. Abusive supervision is widely researched (Tepper et al., 2017) in relation to organizational outcomes, however, its potential impacts on employee health is relatively a neglected area. The adversative effects of abusive supervision on mental and physical well-being of employees require additional evidence (Martinko et al., 2013; Tepper et al., 2017). Thus, by examining abusive supervision and its effects on employees' health, the study contributes to the healthier workplaces and positive work cultures, also to the development of strategies that organizations can implement to mitigate these negative behaviors. The study has investigated its associations with somatic symptoms, workplace cognitive failure and aggression. Though generally it is less explored (in the context of employees' health) but particularly abusive supervision in relation to workplace cognitive failure has very

limited exploration. The study highlights the cognitive dysfunction (which involves attention lapses, memory problems, and action-related errors) of sanitary workers, a very serious aspect that may affect their performance, safety and overall wellbeing. Moreover, the somatic symptoms and aggressive behavior of sanitary workers in association with the abusive behavior of supervisors provides important insight into the broader implications of supervisory abuse to physical and mental health of workers.

The impact of abusive supervision is modified by different factors (Fischer et al., 2021). The study identifies the interactive effects of abusive supervision and resilience, that reveals the role of personal characteristics of workers in responding to abusive supervision. Moreover, the current study provides evidence regarding the importance of interactive effects of social interactions that may affect the health of employees. Literature supports the inconsistent findings about the moderating effect of coworkers' support. The coworkers' social support has proved either to mitigate (Pradhan & Jena, 2017) or exacerbate (Caesens et al., 2019) the negative effects of work stress.

Additionally, the present study examines abusive supervision in our indigenous context, where workers are mostly expected to comply with supervisors and to respect authority figures even in case of unfair treatment. The research provides the insight into the organizational culture, supervisory style, and its related costs in sanitation sector of Pakistan. Furthermore, in this study, investigation on gender differences uncovers the experiences of male and female workers on abusive supervision. Study has highlighted areas where one gender is particularly vulnerable or disadvantaged. Moreover, differences in terms of shift work, and employment types on experiencing abusive supervision has added a valuable insight with practical implications to create conducive work settings.

Recently, research has focused on the biological mechanisms through which stressors, like discrimination, affect health related issues (Cuevas et al., 2020; Priest, 2021). Generally, research has focused on racial/ ethnic discrimination, whereas this study focuses on everyday discrimination, by the virtue of someone's job, in relation with physical and psychological health. Moreover, in this context sanitary workers did not remain focus of research, despite facing this hazard extensively.

Generally, literature supports that stress diminishes individuals' cognitive reserves, leaves fewer mental capital available for the cognitive functions (Smeekens & Kane, 2016). Despite the significant amount of research on stress and cognitive function, still everyday discrimination as predictor of workplace cognitive failure is not well researched yet. Therefore, the present study explored memory lapses, attention deficits, and performance failures at the workplaces, as consequences of everyday discriminatory experiences. A distinctive feature of the study is that it aims to uncover evidence while including day-to-day routine matters through self-report method unlike the prior research, that were mainly conducted in controlled conditions (Barnes et al., 2012; Salvatore & Shelton, 2007) of laboratory settings.

Furthermore, the existing literature has generally treated racial discrimination as an antecedent of aggression (Mulvey et al., 2021; Xie et al., 2020), however, studies have not yet largely unfolded the relationship of everyday discrimination with reactive aggression. Additionally, to scholars' knowledge, no study has particularly tested how everyday discrimination, resilience, coworkers' support, negative affectivity and aggression are interrelated. Moreover, the underlying motivation to study gender differences in experiencing everyday discrimination among sanitation workers lies in the recognition of persistent disparities and inequities based on gender.

The current study focuses work-family conflict as predictor of physical symptoms, workplace cognitive failure and aggression, with the interactive impacts of resilience and coworkers' support, a framework that has not been examined largely yet, according to scholar's knowledge. Particularly, exploring the association between work-family conflict and workplace cognitive failure is an important, but neglected area. This study highlights that exhausting efforts to fulfill the responsibilities of work and family life at the same time can produce extreme levels of stress. Resultantly, this intense and chronic stress may impair cognitive functioning, making it difficult to focus, remember, or make decisions effectively. Additionally, it points out that dealing with work-family conflict may deplete mental resources, that are essential for preserving optimal cognitive performance. Similarly, when they are preoccupied with family issues, they may get distracted and have difficulty concentrating on work-related tasks. The current study aims at exploring this under researched phenomenon, specifically in local context.

In the study, work-family conflict as predicting variable for aggression, offers a distinct angle. Investigation regarding the conflict arising from contradictory demands and responsibilities that are translated into aggressive behaviors, both overtly and covertly, uncovers the important aspect of sanitary workers work life' and its harmful health related outcomes for them. Moreover, though large literature has focused work-family conflict from gender perspective but recognizing these gender differences among sanitary workers specifically in the context of Pakistan, adds a significant value to the literature from developing world. Additionally, study explores how other dimensions, such as employment types and shift work make differences on the experiences of work- family conflict.

The status or prestige of a profession in a society can profoundly affect multiple dimensions of individuals' lives, such as their social standing, self-esteem and interpersonal relationships. The societal stigma causes them to experience social marginalization in living communities and workplaces (Fabbre et al., 2019; Williams et al., 2018). Engaging in a job perceived as low in status exerts a significant psychological influence on workers' overall life. In the study, addressing these challenges, associated with this low-status job, contributes towards a new dimension, and can be helpful to facilitate social awareness campaigns to improve sanitary workers' well-being.

Apart from prior research, the current study has included somatic symptoms with moderation effects rather than simple bivariate relationships. Present study intends to investigate the moderating effects of coworkers' support and resilience on somatic symptoms, which is a distinguishing feature of the study. In literature, to an extent, the negative correlation has been reported between somatic symptoms and perceived social support (Das et al., 2020). Whereas the relationship's dynamics and moderating effects of resilience on somatic symptoms need further evidence.

Furthermore, inquiry, regarding gender differences on somatic symptoms among sanitary workers, aims at exploring how male and female workers might differently manifest physical symptoms in response to psychosocial hazards at workplaces. Whether these symptoms are experienced more frequently or intensely by one gender due to their work environment.

Although the impact of stress on cognitive processes is becoming more significant (McManus et al., 2020; Rodrigues et al., 2018), however still there is a relative scarcity of research exploring cognitive processes in occupational settings. The current study explores the workplace cognitive failure, as a consequence of conditional

effects of psychosocial hazard. The idea holds practical relevance for concerned organizations aiming to enhance safety, productivity, and workers' well-being. To scholar's knowledge, workplace cognitive failure as outcome of abusive supervision, everyday discrimination and work-family conflict has also received limited attention before.

Generally, traditional job demands such as high workload, time pressures, and a lack of control have been found to be associated with cognitive stress at work (Albertsen et al., 2010; Elfering et al., 2011; Vuori et al., 2014). The focus of this research on both the work stressors, and the ways through which employees encounter their work hazards, adds up to the new avenue. Moreover, the study indicates gender differences on workplace cognitive failure, a relatively new and under researched area, though there is some reported evidence, but the findings are not consistent. Similarly, the study investigates the differences in workplace cognitive failure, in terms of employment types and shift work. Examination of these differences between permanent and contractual workers, also single and double shift workers have practical implications, to promote conducive work environment.

Moreover, the individual and contextual antecedents of aggression (Glomb, 2010; Rodwell et al., 2015), specifically at work, has not been largely examined. Mostly it has been observed as predictor, and very few studies have focused on it as outcome variable of workplace stress (Naseem & Ahmed, 2014). In the present study, aggression as the outcome of psychosocial hazards, among sanitary workers with the interactive effects, adds to the existing literature of occupational health. This study's assumption is aligned with the prior research, reporting the link between psychosocial hazards with sustained anger (Chu & Zhu, 2022; McLinton & Dollard, 2010).

Current study has focused on reactive aggression (active and passive both), as an outcome of abusive supervision, everyday discrimination and work-family conflict. Research in this area addresses less explored phenomenon, that is a distinctive feature of the study. It is very important to investigate these associations, as the aggression originating from psychosocial hazards has the potential to affect counterproductive behaviors, negative workplace culture, physical and mental damage, rather overall compromised quality of sanitary workers' lives. Past literature generally supports that employees who experience high levels of stress/conflicts, may be less productive, and contribute to violent behaviors (Huang & Wang, 2018).

The role of resilience as a mediator has received much attention in comprehending the association between work hazards, and a decline in employees' work performance and wellbeing (Kose et al., 2021; Maidaniuc-Chirilă, 2015). Whereas this study focusses at investigating the moderating impacts of resilience on health-related outcomes, that is a distinguishing feature of the study. Although the limited prior research supports that resilience mitigates the adverse effects of abusive supervision (Good et al., 2023; Al-Hawari et al., 2020), and work to family conflict (Bernuzzi et al., 2022a, 2022b). While the interactive effect of resilience with everyday discrimination is specifically not well documented yet, according to scholar's knowledge. Furthermore, the moderating role of resilience on workplace cognitive failure is another dimension, which is not examined so far according to scholar's knowledge. Moreover, analyzing the interaction effect of resilience and work-life conflict by focusing sanitary workers is another important aspect of the study, because most of the past literature has focused on nurses and healthcare professionals (Bernuzzi et al., 2022a, 2022b).

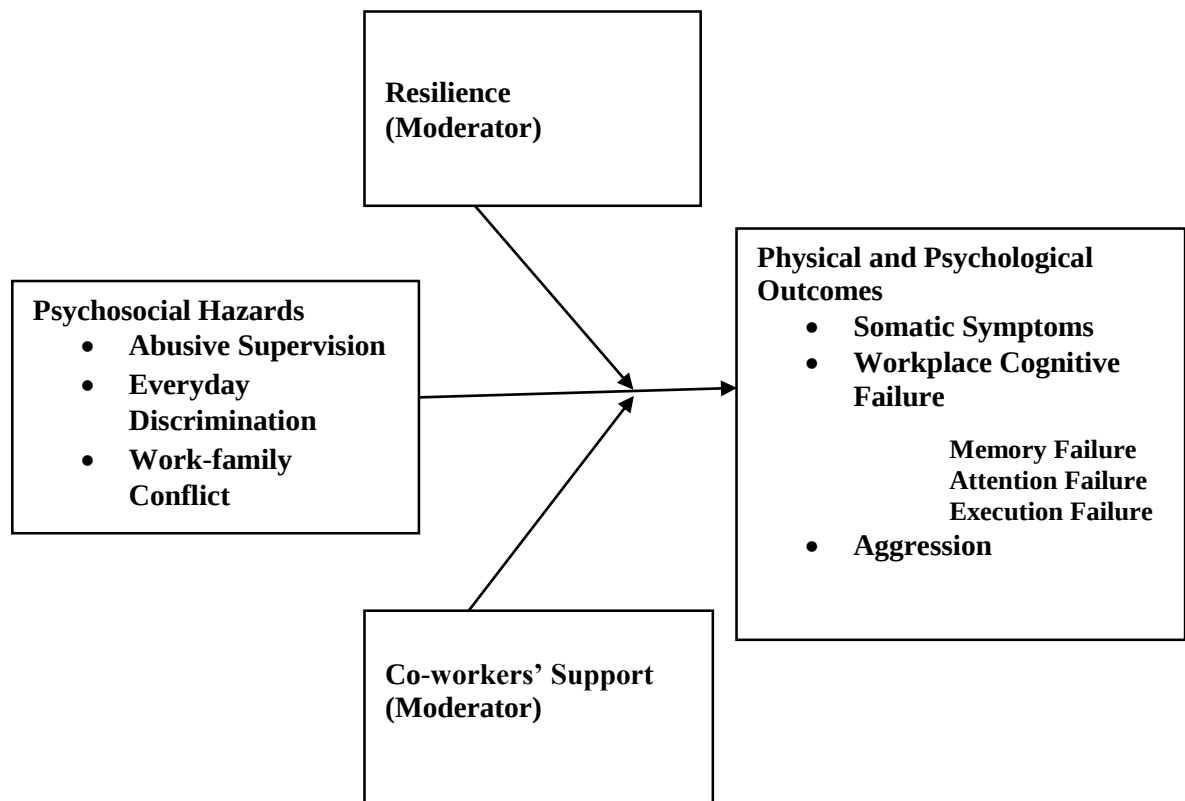
Furthermore, studies have demonstrated that social support at work may indeed act as a buffer (Pluut et al., 2018; Schreurs et al., 2012). However, there are distinctions worth exploring, where it might have exacerbated the relationship between hazards, and employee ill health (Beehr et al., 2010; Deelstra et al., 2003; Gray et al, 2020). The threat to self-esteem model appears to be particularly relevant to understand the effects of social support in this context. Considering the inconsistency in past findings, study explores the modifying effects of coworkers' support in relationship between psychosocial hazards and outcomes.

Moreover, several factors have been recognized in relation to employment type, however, exploring differences based on employment type on workplace cognitive failure, and work-family conflict is not well addressed in previous documented literature. Exploration of these differences has great importance for employers and policy makers, to protect workers' wellbeing and enhance the productivity of the organizations. Additionally, study endeavors to find out the differences in terms of shift work on abusive supervision, workplace cognitive failure and work-family conflict. Literature supports that extended (double) and unpredictable work shifts have the potential to affect overall well-being of employees (Brown et al., 2020). Past literature has explored the adversative effects of double shifts, particularly among healthcare professionals, whereas current study has attempted to assess these differences among sanitary workers. They commonly perform double shifts and suffer in terms of psychological and physical consequences.

Additionally, the study has focused on the most neglected occupational group of sanitary workers in the local context. Literature highlights that overall, more attention has been given to the white-collar employees in exploring work stress and its impacts, whereas, present study has focused blue-collar, low ranked employees, who

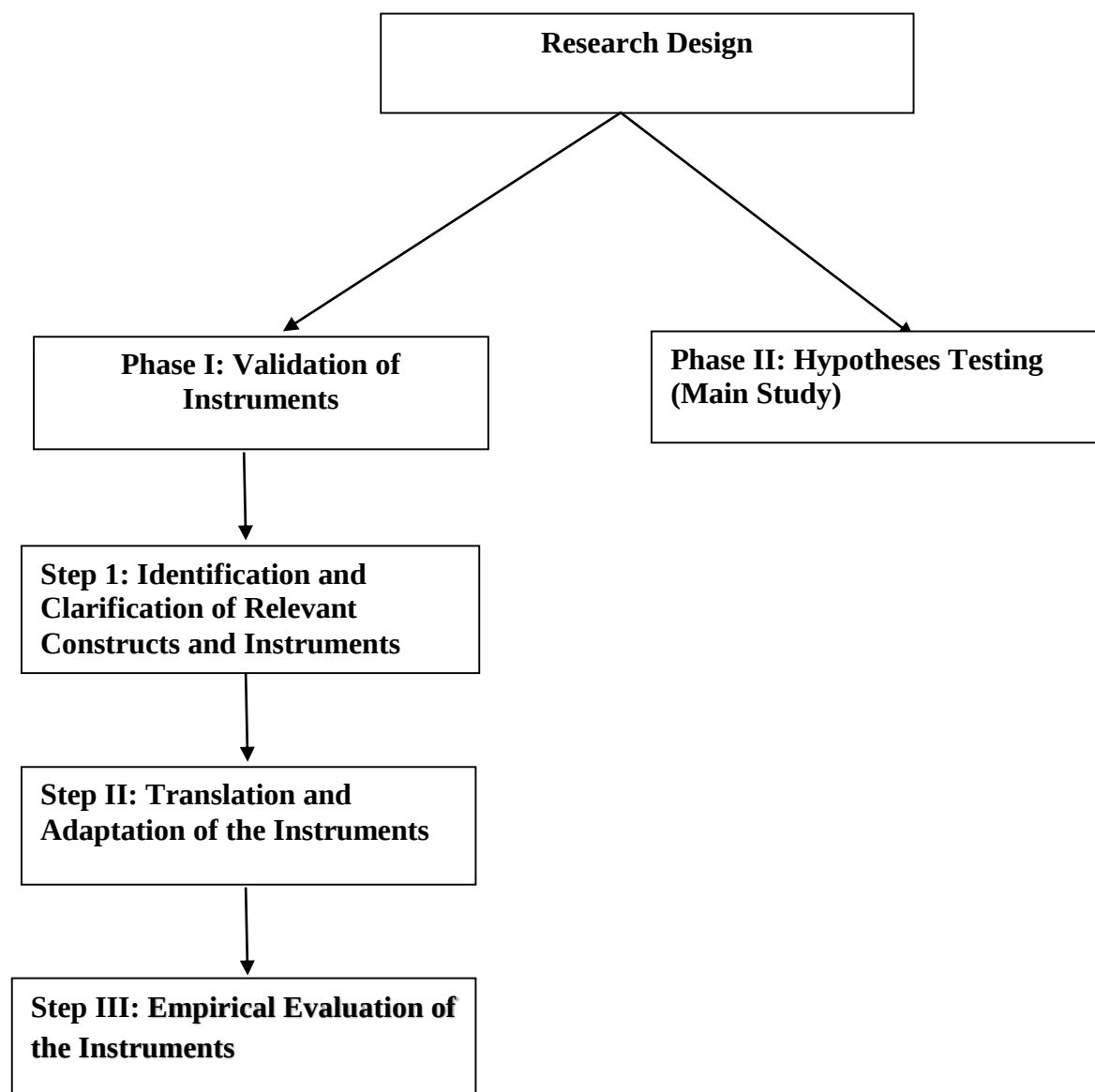
have higher risk of stress, and its consequences as compared to white-collar workers (Elser et al. 2019).

Furthermore, health outcomes resulting from psychosocial hazards have been broadly researched in developed countries, as compared to the developing and underdeveloped countries. However, some studies have replicated the findings (Chopra, 2009; Kortum & Leka 2014), but still evidence shows the significant research disproportion in the developing world. The current study bridges this gap by offering valuable insights from this part of the world.

Figure 1*Conceptual Framework*

Chapter 2**Method****Objectives**

1. To examine the relationship between psychosocial hazards and physical wellbeing (somatic symptoms).
2. To investigate the relationship between psychosocial hazards and psychological wellbeing (workplace cognitive failure and aggression).
3. To study the moderating role of resilience and coworkers' support in association between psychosocial hazards and physical wellbeing.
4. To investigate the moderating role of resilience and coworkers' support in association between psychosocial hazards and psychological wellbeing.
5. To study psychosocial hazards with reference to gender, employment types and shift work.

Figure 2*Research Design*

Research Design

A cross-sectional survey design was used in the study. In order to achieve two varying purposes of the research it was conducted in two phases. Phase-1 consisted of three steps, aimed to validate the instruments which were to be used in the main study. Whereas, Phase-II (the main study) focused on hypothesis testing. Details of the study and its proceeding phases are as below.

Phase-1

In phase-1, the issues of constructs' identification, clarification, and adaptation of the instruments, including their empirical evaluation, were intended in local context. Phase 1 consisted of three steps, which are as follows:

Step-I. The primary objective of this phase was to appraise the relevance of the constructs with reference to Pakistani sanitary workers, as well as the selection of relevant instruments. In order to accomplish these objectives, an interview guide was developed (on the basis of the information gathered through exploratory interviews and after reviewing literature) and forty semi-structured interviews with sanitary workers and eight interviews with field experts were conducted, working in municipal corporations and cantonment boards of Punjab, Pakistan.

Step-II. After clarifying the relevant constructs and selecting their respective instruments, step II aimed the translation and adaptation of these instruments. The decision of translating the selected instruments was taken by the scholar because sanitary workers were not able to understand the English language.

Step-III. To empirically evaluate the instruments, a tryout of the adapted versions of the instruments was carried out. Item analysis was performed on the data of two hundred respondents. Additionally, fifty sanitary workers were also contacted to appraise their comprehension of Urdu items. This step ensured the validity and

reliability estimates of the study measures. Moreover, the exploratory factor analysis was conducted for work family conflict scale because of the addition of newly generated items, and after finalizing the valid and reliable tools study proceeded for hypotheses testing.

Phase-II

In this phase all the hypothesized relationships among study constructs, provided in theoretical framework, were tested on a sample of 662 sanitary workers. Additionally, before hypotheses testing confirmatory factor analysis was conducted to assess measurement models of all the study instruments. Detailed description of each phase and their steps are as following.

Phase- I

Objectives

1. To find out the relevant constructs in local context among sanitary workers.
2. To select the most relevant and appropriate instruments.
3. To translate all the selected instruments.
4. To determine the psychometric properties of the instruments.

Step-1: Identification and Clarification of the Relevant Study Constructs and Instruments

The first step of the phase I aimed to identify and clarify the study constructs with reference to Pakistani sanitary workers, as well as the selection of the appropriate research tools to measure the selected variables.

Interviews with Sanitary Workers

Qualitative approach was used, and 40 semi-structured interviews were conducted to attain precision on suitability and applicability of the constructs in local context. Convenience sampling technique was used to select samples for interviews. All the 40 participants (including 11 females and 29 males, age ranged between 20-55) were working in public sector. Scholar conducted all the interviews to ensure consistency in approach. Each interview lasted approximately 45 minutes on average. Tea and snacks, also incentive (token money) were offered to participants. Which facilitated rapport building and encouraged open, relaxed conversation. The participants were involved with the aim of identifying and clarifying the relevant constructs to be explored in the main study later. These participants were not included in phaseII, the main study.

Semi-structured interviews were conducted on different times depending upon the availability of the workers, after getting the required information from their

authorities. Researcher introduced herself and research purpose, also written paper was disseminated to explain the purpose and requirements of the interviews. Respondents were requested to read the consent form and ask questions in case of any ambiguity.

Scholar developed an interview guide under supervisors' guidance before conducting these semi-structured qualitative interviews, which followed a structured process. It was developed on the basis of the information gathered through literature review, which helped to identify recurring themes and gaps in existing knowledge, and initial exploratory interviews. Exploratory interviews (informal conversations) were conducted with a small group of 8 participants. These interviews helped to identify the key areas and concerns relevant to the study, which were then incorporated into the interview guide for main qualitative interviews (Stebbins, 2001; Flick, 2014). Open ended and non leading questions were formulated and organized around central topics for interview guide. Moreover, probes and follow up questions were included to excavate sanitary workers' responses. It was ensured that the guide was aligned with the research objectives and all questions were contributing meaningfully to the study's aims.

A pilot test with 3 participants was conducted to evaluate the guide's clarity and appropriateness. The complete process included an introduction, warm up questions main inquiry, and closing reflections. Ethical considerations were undertaken such as participant respect, and sensitivity throughout the process, ensuring that the guide was flexible and appropriate for meaningful data collection (Kallio, et al., 2016; Creswell & Poth, 2018). The interview guide focused the areas such as sanitary workers' health conditions, work environment, workplace support, day-to-day dealings with people, family related issues, psychological problems and the coping skills they adopt to meet everyday challenges.

Transcripts of the forty semistructured qualitative interviews were carefully reviewed and analyzed to identify recurring themes and key findings. Thematic analysis was employed to systematically organize and interpret the qualitative data obtained from the sanitary workers. Scholar followed Braun and Clarke's (2006) approach, process started with data familiarization by transcribing interview recordings, followed by the thorough and repetitive readings of the transcripts and written notes. During this phase, scholar made initial observations and noted impressions to build a strong basis for analysis, and to gain an in-depth understanding of the content.

The next step was initial coding, scholar systematically identified and marked notable data segments, relevant to the research objectives. This coding was carried out manually on dataset. At the theme development phase, scholar grouped related codes to form broader patterns of meaning. Thematic tables were used to explore interconnections among codes, which helped in forming coherent and potentially important themes.

In the theme review phase, scholar under supervision of research supervisor examined these preliminary themes, both in relation to their associated coded data and the overall qualitative data. This review process ensured that each theme was well-supported, internally consistent, and distinct from others. The themes were adjusted and refined where necessary. The next phase involved defining and labeling themes, scholar established detailed descriptions for each theme by identifying their needed characteristics and relevance to the current research. Suitable labels were given to each theme, and codes illustrated more specific aspects within a broader theme. Lastly, findings were reported through thematic tables.

The interviews were conducted in Urdu, and the raw data was initially processed and analyzed in the original language to preserve the authenticity and depth of

participants' responses. Only themes and categories were translated into English for reporting purposes, because of the challenges associated with translating large volumes of text, by following the principles and recommended practices. The translation of codes and themes was carried out with the assistance of bilingual experts, and under the guidance of subject matter experts to ensure accuracy, conceptual equivalence, and conformity to participants' intended meanings. This process helped maintain the credibility and trustworthiness of the findings while making them accessible to an English-speaking academic audience (Temple & Young, 2004; van Nes et al., 2010).

The qualitative data ensured the existence and relevance of the study variables among sanitary workers. Furthermore, satisfactory reviews from three subject matter experts were also taken on the analysis who agreed upon the emerged themes.

Interviews with Field Experts

Interviews with field experts were conducted to enrich the research process and examine the coherence of ideas between experts' opinion and sanitary workers' experiences. The purpose of these interviews was to get the benefit of the specialized knowledge, observation and experience of individuals who possessed expertise in the relevant field. Experts were contacted as per their availability; all the eight male experts, age ranged between 40 to 55 years, with minimum experience of 15 years, from six different cities selected for data collection, were serving on managerial positions in municipal corporations and cantonment boards. These interviews focussed on the existing work hazards and related physical and psychological outcomes, and the coping strategies of sanitary workers. The same interview guide was used to elicit insights, opinions, and perspectives from the experts. Probing questions were used to go deeper into specific areas of interest and to clarify responses as needed. Detailed notes were taken during the interviews because they did not allow the audio recordings. Researcher

analyzed the information thoroughly and drew conclusions. The interviews with sanitary workers and experts revealed a high degree of coherence. Which was indicator of uniformity in perspectives and reinforced the reliability of the findings.

The following themes were emerged from the qualitative data of the study.

Table 1

Themes Identified Through Interviews

Themes	Identified Indicators/ Category Codes
Abusive Supervision	1. Frequent use of foul language 2. Reminders of incompetence 3. Humiliating attitude 4. Blaming and misbehaving 5. No deserved appreciation 6. Unjustified strict control
Everyday Discrimination (Due to their work)	1. Disrespect, experiences of disregard and hate due to their work 2. Blames of dishonesty 3. Use of abusive language by people 4. Discriminating behaviors by people in routine matters 5. Harassment
Work –Family Conflict	1. No quality time for family 2. Missed recreational activities with family 3. Unfulfilled responsibilities towards family due to work 4. Bad temper due to work stress at home 5. Status of work in society and its negative impact on family 6. Discrimination towards family due to sanitary work

Physical Symptoms

7. Unfulfilled family needs / financial requirements

1. Headaches
2. Joint pains
3. Body aches
4. Sleep disturbance
5. Stomach related problems
6. Fatigue
7. Weakness
8. Shortness of breath
9. Shoulder pain
10. Heart related issues

Workplace Cognitive Failures

1. Difficulty in remembering things.
2. Pressured nerves/mental occupation
3. Forgetting things about work procedures
4. Forgetting personal belongings at workplace
5. Unintentional acts
6. Wrong implementation
7. Confusions at work
8. Distraction from the actual work
9. Inability to focus or daydreaming while at workplace
10. Inability to comprehend or remind tasks or instructions

Aggression

1. Emotional burst
2. Quarrels
3. Use of abusive language
4. Bed tempers with family
5. Anger/ hostility
6. Suppressed anger

Resilience

1. Self-counseling

2. Bouncing back ability
3. Problem solving approach
4. Intensity to feel a problem
5. Duration to get out of the problem

Co-workers' support

1. General support from colleagues
2. Favorable relationship with co-workers
3. Support during duties and tasks
4. Understanding and unity among employees
5. Appreciation at work
6. Sharing regarding personal issues

Negative Affectivity

1. Frequent negative emotions
2. Low emotional stability
3. Interpersonal sensitivity
4. Sadness
5. Fearfulness
6. Anger
7. Restlessness
8. Fatigue

Sufferings of Family Members (Due to their occupation)

1. Discrimination against family members due to sanitary work
 2. Derogatory behaviors against children being offspring of sanitary workers
 3. Families hide their identities
 4. No quality time with children and wife
 5. Social exclusion of children in school because of their occupation
-

Semi-structured interviews allowed scholar to iteratively refine the understanding of the variables by participants and experts' engagement. During interviews participants shared their perspectives and experiences which provided insight into factors that influence the phenomenon being studied. It also provided a valuable source for selecting and developing the appropriate tools in the local context.

Selection of the Relevant Instruments

After examining different scales, available in literature, the following relevant scales were selected to collect the data. Selected scales include:

- Abusive Supervision Scale (Teeper, 2000)
- Everyday Discrimination Scale (Williams et al., 1997)
- Work- Family Conflict Scale (Haslam et al., 2015)
- Social Support Scale (Caplan et al., 1980, Urdu version by Jan 2011).
- International Positive and Negative Affect Schedule- Short Form (Thompson, 2007)
- Brief Resilience Scale (Smith et al., 2008)
- Somatic Symptoms Scale-8 (Gierk et al., 2014)
- Workplace Cognitive Failure Scale (Wallace & Chen 2005)
- Buss -Perry Aggression Questionnaire Short-Form (Bryant & Smith, 2001, Urdu version by Khalid & Hussain 2001)

To make the scale more effective for the target population, six new items were added in the work-family conflict scale (Haslam et al., 2015). In the process of developing new items scholar focused on the research objectives, followed by a

thorough literature review to identify the existing gaps specifically in local context. An initial pool of 22 items (after screening 56 realted items) was generated for assessment. These items were designed to capture an important dimension of the construct among sanitary workers. Clear, concise, and relevant items, based on the acquired insight through qualitative data of the study, were crafted under the guidance of supervisor. Face validity was checked through informal peer feedback (from relevant field), and content validity was assessed by the help of subject matter experts using structured forms. The item pool was given to a panel of 5 subject matter experts. Each item was evaluated for relevance, clarity, and representativeness to explore a distinct dimension of work-family conflict in local context. Finally, 6 items were selected on the basis of subjective feedback and after calculating item level content validity index (above 0.78) (DeVellis, 2017). The selected items were then pilot tested with five participants from the target population to identify issues realted to clarity or interpretation. In this way, after adding the items in work-family conflict scale a new scale came out in the local context (see exploratory factor analysis of work-family conflict scale). Moreover, details of all the instruments have been added to the main study.

Review by Subject Matter Experts

To assess the content validity of the scale, subjective evaluation by subject matter experts was conducted, focusing on item relevance, clarity and representativeness. All the selected scales were reviewed by two categories of experts: subject matter experts and field experts. Five subject matter experts were contacted to assess the content, on the basis of their academic qualifications and professional expertise. Furthermore, two field experts were contacted to evaluate the suitability with reference to sanitary workers' everyday jobs' requirements, responsibilities and other related aspects. The full set of scales were provided to each expert along with

definitions of the key constructs. They were asked to independently review and provide qualitative feedback for the given categories. Their feedback was collected using structured forms and considered for qualitative analysis. Minor adjustments related to wordings, to enhance precision and contextual relevance, were suggested to improve clarity which were incorporated in translation and adaptation phase. This review process provided validation support without employing a formal content validity index (DeVellis, 2017; Polit & Beck, 2006). The valuable input ensured that the instruments were reflective of the participants' subsisted experiences or contextually relevant and effective. In addition to subject matter experts, field experts reviewed the scale and affirmed the suitability and relevance of the items within practical and real worksettings in local context.

Sanitary workers mostly have low levels of educational qualifications. Hence, there was a need for translation and adaptation of the instruments in national language. Details of translation and adaptation process have been stated in the next step.

Step-II: Translation and Adaptation of Instruments

After an appropriate selection of scales, the next step was translation and adaptation of these scales. The scholar realized the need because the level of sanitary workers' education was mostly middle school to intermediate. They could not understand and read English language properly. Seven instruments were translated and adapted by the scholar, whereas available translated and adapted Urdu versions of two instruments were used as translated versions. Measures were planned to be used across culture, so the items were not only translated well linguistically but also adapted culturally to maintain the content and construct equivalence. Overall, this step looked at both the literal translation and cultural adaptation issues (Shamali, 2018). The scholar undertook this effort to address language differences, cultural sensitivity, content

validity and reliability, ethical considerations, and to prevent biases. It was an essential process which facilitated the conduct of meaningful and ethical research.

All the instruments, selected in Step-I were part of the process of translation and adaptation except the two already adapted scales; Social Support Scale (French et al., 1982), and Buss -Perry Aggression Questionnaire Short-Form (Bryant & Smith, 2001).

Procedure

In order to translate the scales, back translation technique was used (Brislin, 1970). The technique involved a cyclic process of forward translations, back translations, and expert evaluation. The goal was to achieve conceptual equivalence between the original and translated instruments. Below mentioned steps were followed in order to translate the scales.

Forward Translation. Scales were given for Urdu translation to five bilingual individuals for forward translation; four individuals had a minimum education of 18 years in the subject of psychology whereas the fifth one had 18 years of education in Urdu language. As a result, five Urdu translations against each statement of the scales were attained

Committee Approach after Forward Translation. Committee approach was followed through which best versions of Urdu translation were chosen, after getting the Urdu translations of the scales. The Urdu translations were chosen while keeping the conceptual equivalence of the English statements in consideration. Three members; the scholar, one member with 18 years of education in Urdu language and one member with 18 years of education in psychology participated in the process.

Back Translation. Then backward translation was conducted for translating finalized Urdu versions of the scales back into English version, which involved five bilinguals with minimum education of 18 years in psychology and linguistics (four from

the field of psychology and one from the field of English language). A significant consideration was that the individuals who remained part of the forward translation were not contacted for backward translation to achieve the notion of objectivity in translation process. The intention behind was that individuals who were involved in forward translations were cognizant of the scales' statements and this familiarity could affect the selection of appropriate statements.

Committee Approach after Back Translation. The next step was comparing the received English version with original English version and accordingly final changes were made. The researcher, one member with 18 years of education in English language, and one member with 18 years of education in psychology were members of this committee.

Selection of Final Translated Scales after Consultation with Expert. After comparing the original and back translated English versions, selection of the Urdu version was finalized by the researcher and three subject matter experts to identify any further need for correction in terminologies used and concepts translated. Scales were finalized with the consent of the subject and linguistic experts and a booklet for data was made after receiving satisfactory responses.

Amendments in Translated and Adapted Version of Scales

Abusive Supervision Scale (Tepper, 2000) is a unidimensional scale. Mostly items were easy to translate. Whereas item number three (Gives me the silent treatment), item number four (puts me down in front of others), item number five (Invades my privacy), and item number seven (Does not give me credit for jobs requiring a lot of efforts) were translated as “Urdu Text” and came up with the requirement to develop conceptual compatibility. The rest of the items were translated with maximum original content.

In Everyday Discrimination Scale (William et al., 1997), item number four (people act as if they think you are not smart), item number five (people act as if they are afraid of you), and item number eight (you are called names) needed conceptual equivalence, transformed in “Urdu text”. The rest of the items were translated according to the maximum original content. Item number eight was divided into two items to avoid double barrel items.

Work-Family Conflict Scale (Haslam et al., 2015) was the easiest to adapt and translate because maximum original content was relevant and easily understandable. Only one sub scale having five items, between two sub scales, was translated for the study. A minor change in item number three “my family missed out because of my work commitment” was translated using easy and relevant words as Urdu text. Furthermore, six distinct items developed by scholar were also added to make it indigenous and more relevant. In this way, eleven items including five translated from the original scale and six newly developed items by the researcher were used for the study purpose.

Somatic Symptom Scale-8 (Griek, 2014) was translated by making few minor changes. Item number three was felt as double barreled, so it was divided into three items, in this way total eight items were converted into ten items. To translate and adapt Workplace Cognitive Failure Scale (Wallace & Chen 2005), there were certain items which needed to be changed according to the situation of the sanitary workers who were working in municipal corporation and cantonment board. In item number five, “forget where you have put something you use in your job”, the related examples in the original questionnaire were not suitable, so things related to sweeping were added. Sanitary workers do not use emails systems bulletin boards so in order to make item number six more relevant, it was rephrased as “you cannot remember the instructions and notices

from department”. The phrase used in item number seven “do not fully listen to instructions” was translated and adapted as you cannot fully understand the instructions related to your work. In item number twelve things mentioned in parenthesis (examples) were changed with relevant articles such as gloves, tools used in cleaning etc.

Two translated available versions were selected for the study purpose. Adapted version of Buss-Perry Aggression Questionnaire Short-Form by Bryant and Smith (2001), translated by Khalid and Hussain (2001), was selected for the study. It was found relevant according to the sanitary workers’ work setting. Also, Social support scale originally developed by Caplan et al. (1980), and translated in Urdu by Jan (2011), was designated for the study. It consists of three subscales; Administrative support, Colleagues support, and Supervisory support and comprises of 18 items; six items for each subscale. The present study used only one of the translated sub scales; named “Colleagues support” (six items) to measure the co-workers’ support among sanitary workers.

In Brief Resilience Scale (Smith et al., 2008) all the six items were demanding. Items were translated and adapted in Urdu text with taking care of retaining the easy language and conceptual equivalence. Words and phrases like bounce back, making it through, hard to snap back, come through difficult times, setbacks in my life, and take me too long were challenging to translate and adapt without losing the true essence and cultural connotations. It was done professionally with the help of subject and linguistic experts.

International Positive and Negative Affect Schedule- Short Form (Thompson, 2007) was nominated to measure the study variables. It was easy to translate all of the affects either positive or negative, because they were relevant and easily understandable for the sanitary employees.

Changes were made in number of items, while translating and adapting instruments, only for Everyday discrimination scale and Somatic symptom scale-8, to avoid double barrel questions, whereas, for the rest of the scales there was no change made in number of items. Consent form and demographic sheet were developed and attached with the instrument booklet, to get permission for data collection and other information which could elaborate the research purpose.

STEP -111: Empirical Evaluation of the Instruments

This phase commenced in order to establish the psychometric properties of the translated instruments. Regardless of using the theory driven instruments, there is always a need to address the relevance and appropriateness of the instruments in indigenous context (Groh, 2018; Ghiselli, 2012).

Tryout of the Instruments

Try out of the translated scales on small sample was the second objective of step II. It aimed to verify the comprehension of Urdu version of the scales by the study sample and to determine the internal consistency. This step was further divided into two parts; a convenient sample of fifty sanitary workers were contacted for the subjective assessment at the first step of tryout of translated scales. All the fifty participants (including 18 females and 32 males, age ranged between 20-55) were working in public sector; twenty-eight were employees of municipal corporation, whereas twenty-two were working for cantonment boards. Respondents were requested to review the booklet, while considering its content, illustrations given in statements, and pertinence of instructions, which were arranged in four different orders. The average time noted for filling the complete booklet was between thirty to forty minutes. All the fifty participants considered the scales appropriate, relevant and easily understandable and

no recommendations were made. At the second step of try out, data from 200 respondents was collected to conduct item analysis.

Item-Total Correlation and Corrected Item-Total correlation

After subjective assessment of the scale, item total correlation and corrected item total correlation was conducted to ensure the quality and internal consistency of items. It was planned to address the issues regarding scale reliability, item redundancy, validity assessment, and to identify the items having problems such as ambiguity, wording issues, and other factors that could affect the performance of items. Corrected item-total correlation further provided a more refined estimation by adjusting the potential biases. Both the analyses provided supportive evidence to use the scales for the main study.

A purposive sample of two hundred respondents (165 males and 35 females, age ranged between 20-55 years) was collected to conduct item total correlation and corrected item total correlation. Sample was gathered from six different cities of Pakistan including Mirpur, Mangla/ Dina, Jhelum. Gujranwala, Sohawa, Rawalpindi/ Islamabad, working in municipal corporations and cantonment boards. Respondents could read and write Urdu language. Details of the item total correlation and corrected item total correlation are as below.

Table 2

Item-total Correlations and Corrected Item-total Correlation of the Adapted Version of Abusive Supervision Scale (N = 200)

Item No	Item-total correlation	Corrected item-total correlation
1	.65**	.58
2	.71**	.65
3	.47**	.37
4	.74**	.69
5	.53**	.44
6	.61**	.54
7	.63**	.55
8	.57**	.48
9	.65**	.59
10	.66**	.60
11	.56**	.48
12	.76**	.72
13	.55**	.48
14	.70**	.64
15	.71**	.66

Note. ** $p < .01$.

Table indicates the values of item-total correlations and corrected item total correlation of adapted version of Abusive supervision scale. The findings of the analyses reveal that all the items have significant positive association with the total test scores.

Table 3

Item-total Correlations and Corrected Item-total Correlation of the Adapted Version of Everyday Discrimination Scale (N = 200)

Item No	Item-total Correlation	Corrected Item-total Correlation
1	.77**	.67
2	.77**	.69
3	.72**	.64
4	.71**	.60
5	.66**	.52
6	.70**	.60
7	.67**	.58
8	.56**	.48
9	.68**	.59
10	.48**	.46

Note. ** $p < .01$.

Table indicates the item-total correlation and corrected item-total correlation of the adapted version of Everyday discrimination scale. The findings revealed that the total score of the scale was positively associated with each item in the study. Which provided the evidence that all the items are satisfactory and positively contributing to the main construct.

Table 4

Item-total Correlation and Corrected Item-total Correlation of Adapted Version of Work-Family Conflict Scale (N = 200)

Item No	Item-total Correlation	Corrected Item-total Correlation
1	.83**	.78
2	.79**	.73
3	.79**	.72
4	.75**	.67
5	.78**	.70
6	.55**	.45
7	.53**	.43
8	.66**	.58
9	.60**	.51
10	.62**	.55
11	.47**	.34

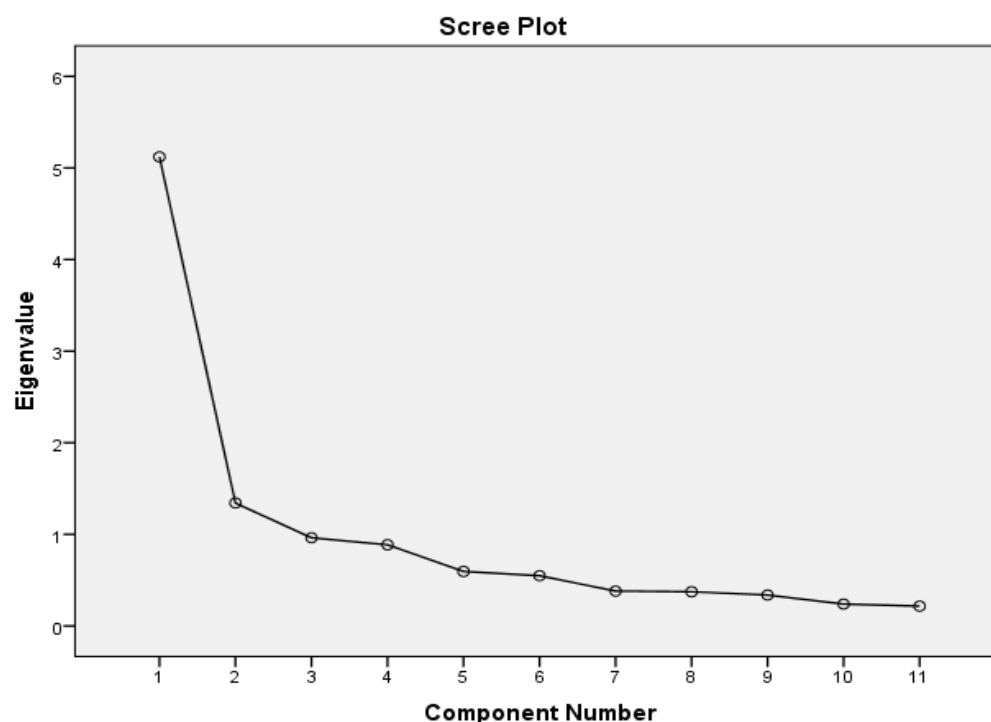
Note. ** $p < .01$.

Table presents the item-total correlations and corrected item total correlation of the adapted version of work-family conflict scale after adding the six new indigenous items. The results revealed that the total score of the scale is positively associated with each item in the scale and provided evidence for internal consistency for the study sample.

Exploratory Factor Analysis of Adapted Version of Work-Family Conflict Scale. The absence of a well-established structure and clear theoretical guidance on variable clustering highlighted the need to conduct exploratory factor analysis for work-family conflict scale. It was aimed to evaluate whether the new items maintain alignment with the existing items of the scale or introduce new dimensions. Item-total correlations and corrected item-total correlations ensured the properties of items in the scale, as mentioned in table 4, led the proceeding to exploratory factor analysis.

Figure 3

Scree Plot of the Adapted Version of Work-Family Conflict Scale



For the current study sample, an eigenvalue and scree plot suggested a two-factor solution (Cattell, 1966; Kaiser, 1960) for Work-family conflict scale after adding the six new items. Cronbach's alpha reliability of this work-family conflict scale was determined as .91. Furthermore, Cronbach's alpha reliability of factor 1, titled as work-family conflict at the personal level, was .90, while for factor 2, work-family conflict at family level, was established as .81. The study sample was adequate while comparing to the overall items of the work-family conflict scale (Guadagnoli & Velicer, 1988). The varimax method was employed to identify appropriate items using a principal component analysis technique. The descriptive statistics (Field, 2013b) were also applied to examine all items of the work-family conflict scale. Furthermore, the Kaiser–Meyer–Olkin (KMO) value was used to analyze the suitability of the sampling (Guttman, 1954; Kaiser, 1970; Tucker & MacCallum, 1997). The results of the present

study exposed that the value of KMO is .88, indicating that the current sample is suitable for EFA (Kaiser, 1970; Field, 2013b; Tabachnick & Fidell, 2013; Shresta et al., 2021). Further, the value of Bartlett's test of sphericity, $\chi^2(55) = 1041.76, p < .000$ (small values less than 0.05 of the significance level indicate that a factor analysis may be useful with the data (Guttman, 1954; Tucker & MacCallum, 1997) reveals that there is evidence of interrelations among the variables and the present study sample was appropriate for factor analysis.

Table 5

Factor Loadings of 11 Items of Adapted Version of Work- Family Conflict Scale (N = 200)

Items	M	SD	Factors	
			1	2
3	5.43	1.03	.85	
5	5.39	1.12	.80	
2	5.40	1.00	.80	
4	5.32	1.09	.78	
1	5.37	.93	.77	
11	3.37	1.09	.45	
8	4.27	.80		.82
9	4.01	.83		.75
7	4.08	.85		.70
10	4.20	.78		.65
6	3.77	.91		.51
Eigen Values			5.12	1.34
% of Variance			46.55	12.10
Cumulative Variance				58.65

Note. Factor 1= Work family conflict at personal level; Factor 2= Work family conflict at family level.

Exploratory factor analysis explored the underlying structure of the data by identifying patterns of relationships and the underlying constructs. Study revealed that

the items on work-family conflict scales were clustered together in meaningful way. It explored two key factors of the adapted version of work-family conflict scale; factor one was labeled as work-family conflict at personal level and factor 2 as work-family conflict at family level.

The eigenvalues for each factor provided information about the amount of variance explained by that factor; the factors having eigenvalue greater than one were retained (Pallant, 2010; Pallant, 2020; Verma, 2013; Kaiser, 1960; Kaiser, 1970). Factor one captures a significant and meaningful portion of the variability among the observed variables. Whereas factor two indicates less variance, but meaningful contribution, to explain the variability in the data as compared to factor one.

Five subject matter experts contributed their perspectives to determine the content validity of the work-family conflict scale. Every one of the experts was trained in psychological testing. All of them were regular faculty members in the departments of Psychology in different universities. They were asked to assess each item's relevance, clarity, and representativeness in relation to the main construct, to confirm the content validity. Experts provided their feedback that items were adequately capturing the content domain of the main construct and no concerns were raised regarding item ambiguity, redundancy, or absence of essential aspects. All the experts agreed with the suggested factors and their labels.

Factor one (item numbers 1, 2, 3, 4, 5, and 6) consists of six items, which examine the work family conflict at personal level. Whereas factor two (item number 7, 8, 9, 10, and 11) comprises five items that investigate the work-family conflict at family level. Findings of exploratory factor analysis reveal dissimilar yet interrelated dimensions within the scale. Overall, the newly adapted work-family conflict scale consists of 11 items, intended to measure the sanitary workers' perceptions of work-

family conflict. The development of this scale represents a valuable contribution to the ongoing advancement of measurement tools within the discipline, facilitating deeper insights into the phenomena under investigation.

Table 6

Item-total Correlation and Corrected Item-total Correlation of Adapted Version of Somatic Symptoms Scale (N = 200)

Item No	Item-total Correlation	Corrected Item-total Correlation
1	.52**	.37
2	.68**	.56
3	.73**	.59
4	.68**	.51
5	.62**	.45
6	.56**	.44
7	.47**	.29
8	.53**	.39
9	.34**	.32
10	.37**	.34

Note. ** $p < .01$.

Table displays the item-total correlations and corrected item-total correlations of the adapted version of Somatic symptoms scale. Findings reveal that the total score of Somatic symptoms scale is positively associating with each item of the scale and contributing to the main construct.

Table 7

Item-total Correlations and Corrected Item- total Correlation of the Adapted Version of Workplace Cognitive Failure Scale (N = 200)

Item	Item Total Correlation	Corrected Item total correlation
Memory failure		
1	.73**	.57
2	.72**	.55
3	.72**	.53
4	.78**	.63
5	.71**	.52
Attention Failure		
6	.58**	.32
7	.69**	.48
8	.61**	.33
9	.73**	.52
10	.58**	.30
Execution Failure		
11	.62**	.37
12	.66**	.43
13	.64**	.41
14	.73**	.56
15	.75**	.56

Note. ** $p < .01$.

Table shows the scores of item-total correlations and corrected item total correlation of the adapted version of workplace cognitive failure scale along with its

subscales, memory failure, attention failure and execution failure. The analyses reveal that the total score of each subscale of workplace cognitive failure scale are positively associated with each item of the subscales in the study. All the items are positively contributing for each dimension and ensure the appropriateness of the scale for hypotheses testing.

Table 8

Item-total Correlations and Corrected Item-total Correlation of Adapted Version of Buss and Perry Aggression Questionnaire - Short Form (N = 200)

Items	Item total correlation	Corrected Item total correlation
1	.59**	.48
2	.62**	.52
3	.45**	.35
4	.60**	.48
5	.63**	.53
6	.73**	.66
7	.51**	.40
8	.50**	.36
9	.70**	.61
10	.64**	.54
11	.61**	.51
12	.63**	.53

Note. ** $p < .01$.

Table displays the values of item-total correlations and corrected item total correlation of adapted version of short form of Buss-Perry aggression scale. The

findings demonstrate that there is a positive correlation between the total score and all the items, which provides the evidence for internal consistency of the scale.

Table 9

Item-total Correlations and Corrected Item-total Correlation of the Adapted Version of Colleague Support Scale (N = 200)

Item No	Item-total correlation	Corrected item-total correlation
1	.84**	.77
2	.84**	.76
3	.82**	.73
4	.79**	.69
5	.84**	.76
6	.85**	.77

Note. ** $p < .01$.

Table displays the values of item-total correlations and corrected item-total correlation of Colleagues' support scale. The results of the analyses revealed that the total score of the scale is positively associated with each item for the study sample, thus all of the items are appropriate to further use in the study.

Table 10

Item-total Correlations and Corrected Item-total Correlation of the Adapted Version of Brief Resilience Scale (N = 200)

Item No	Item total correlation	Corrected item total correlation
1	.88**	.83
2	.78**	.69
3	.90**	.84
4	.87**	.81
5	.86**	.80
6	.83**	.77

Note. ** $p < .01$.

Table exhibits the values of item-total correlations and corrected item total correlations of the adapted version of Brief resilience scale. The analysis reveals that the total score of resilience scale is positively associated with each item, which gives evidence of internal consistency and suitability of the scale for the study sample.

Overall item total correlation of all the scales revealed that all the values lie within an acceptable range (should be above than 0.3 or 0.4), indicating satisfactory alignment between items and the overall constructs (Cristobal et al., 2007; Loiacono et al., 2002) and contributing meaningfully. This analysis served as a crucial step in evaluating the psychometric properties of the scales and ensured the accuracy and effectiveness of the scales.

Similarly, the corrected item total correlation was also calculated for all the scales, which revealed that all the values lay under acceptable range (should be 0.2 or 0.3) (Ferketich, 1991; Hobart & Cano, 2009). Estimates established the relationship between individual items and the total scores also addressed the issue of potential bias

introduced by the impact of the item itself on the total score. These findings provided the more precise measure of the item's contribution to the overall construct, disentangled the exclusive contribution of each item to the total score.

Discussion

The first step of phase I was undertaken to ensure the relevance of the study constructs in the context of Pakistani sanitary workers, as well as to select the relevant scales. Through a series of forty semi-structured interviews, qualitative data helped to explore the occurrence of different events and aspects of their lives such as facing abusive supervision, discriminatory behaviors by the people around, issue of work-family conflict, sufferings of family members, the physical and psychological health related problems, and the available resources to meet the emotional challenges at workplaces.

Thematic analysis provided valuable information about sanitary workers' perceptions, perspectives and experiences. Scholar analyzed and interpreted the participants' responses and uncovered the recurring themes, with the help of interview transcripts, which enabled the scholar to draw conclusions and develop hypotheses. The present study uncovered the meaningful insight that contributes towards theory and future research directions.

Eight more interviews were also conducted to take the opinion of the field experts, serving on managerial positions and dealing with this group of workers. Experts shared their observation and experiences about the hazards and outcomes faced by sanitary workers in the same way as was shared by the workers. These interviews provided a valuable insight which facilitated the succeeding selection of instruments.

Scholar translated and adapted the research instruments with the help of experts, which allowed cross-cultural applicability and enhanced the generalizability of results.

Study preserved the integrity of the questionnaires' structure throughout the translation process. Scholar emphasized the linguistic distinctions and cultural sensitivities to ensure the accuracy and conceptual equivalence of translated versions. Scholar employed a systematic approach of forward and back translation and confirmed the preservation of meaning and intent of items across languages. In this process necessary adjustments were made on the basis of the feedback received from experts. Subject matter expert opinions brought extensive knowledge and experience and addressed the issues of cultural and linguistic appropriateness. This process provided a base for accurate assessment in the next phase. Among all the scales Brief resilience scale was the challenging one. In other scales although content was adapted according to the requirements but mostly it was originally understandable.

Study conducted a tryout to identify the issues with comprehension or cultural relevance. During the tryout session of instruments, a concern regarding the length of the instrument was highlighted by the participants, later in data collection it was managed by giving them a tea break in the mid of the process. Moreover, item total correlation and corrected item total correlation were calculated for each scale and subscale. The analysis revealed that all item total correlations and corrected item total correlations were within an acceptable range and indicated the effectiveness of the items. The careful adaptation process enhanced the strength of the study measures. By the end of this step, it was concluded that the scales were precisely measuring the intended constructs and can facilitate more meaningful and generalizable findings.

Moreover, the study recognized the need to incorporate six new items into an already existing reliable scale for work-family conflict. This decision was motivated by the need to address an emergent theme/ dimension, which existing instruments did not sufficiently cover. Drawing upon the validated measure available in the field, five items

(a sub scale) were selected from a widely used Haslam's Work-family conflict scale, while an additional six items were generated specifically to address indigenous aspects of the phenomenon. This approach ensured the incorporation of well-established constructs, while also allowed the inclusion of new dimensions tailored to the specific context of the study.

Exploratory factor analysis was performed for Work-family conflict scale after adding the six new indigenous items. EFA provided a two-factor solution for Work-family conflict scale, where factor one explained approximately 46.55% of the total variance in the data, demonstrating that it captures a significant portion of the underlying structure. On the other hand, factor two accounted for approximately 12.10% of the variance, suggesting a smaller but meaningful contribution. The development and validation of a new scale hold important implications for both research and practice in the field. By combining established components with innovative addition, the instrument offers an opportunity for investigating multifaceted construct of work-family conflict with precision and accuracy in our local setting. Overall, all the selected instruments demonstrated satisfactory indicators through item total correlation, corrected item total correlation, and exploratory factor analysis and ensured the effectiveness of items within each scale.

Chapter 3**Phase II (Main Study)**

Main study was the continuation of the phase I, in which adapted and validated instruments were used to test the assumed hypotheses. Before proceeding to hypotheses testing, the study conducted confirmatory factor analyses. This phase focused on the below mentioned objectives:

Objectives

1. To address the construct validity of the scales through confirmatory factor analyses.
2. To examine the relationship between psychosocial hazards and physical wellbeing (somatic symptoms).
3. To examine the association between psychosocial hazards and psychological wellbeing (workplace cognitive failure and aggression).
4. To investigate the moderating role of resilience and coworkers' support in association between psychosocial hazards and physical wellbeing.
5. To investigate the moderating role of resilience and coworkers' support in association between psychosocial hazards and psychological wellbeing.
6. To study the psychosocial hazards and their outcomes with reference to gender, shift work and types of employment.

Hypotheses

To fulfill the study objectives following hypotheses were generated. Three types of hypotheses have been generated; hypotheses for direct effects, interactive effects, and group differences.

Direct Effects

- H1: Abusive supervision is associated with outcomes, more specifically:
- H1a: Abusive supervision is positively associated with somatic symptoms.
 - H1b: Abusive supervision is positively associated with workplace cognitive failure.
 - H1c: Abusive supervision is positively associated with aggression.
- H2: Everyday discrimination is related with outcomes, more specifically:
- H2a: Everyday discrimination is positively correlated with somatic symptoms.
 - H2b: Everyday discrimination is positively correlated with workplace cognitive failure.
 - H2c: Everyday discrimination is positively correlated with aggression.
- H3: Work-family conflict is related with outcomes, more specifically:
- H3a: Work- family conflict is positively related with somatic symptoms.
 - H3b: Work- family conflict is positively related with workplace cognitive failure.
 - H3c: Work- family conflict is positively related with aggression.

Interactive Effects

- H4: Resilience moderates the relationship between psychosocial hazards and outcomes, more specifically:
- H4a: Resilience will moderate the relationship between abusive supervision and somatic symptoms.
 - H4b: Resilience will moderate the relationship between abusive supervision and workplace cognitive failure.

- H4c: Resilience will moderate the relationship between abusive supervision and memory failure.
- H4d: Resilience will moderate the relationship between abusive supervision and attention failure.
- H4e: Resilience will moderate the relationship between abusive supervision and execution failure.
- H4f: Resilience will moderate the relationship between abusive supervision and aggression.
- H4g: Resilience will moderate the relationship between everyday discrimination and somatic symptoms.
- H4h: Resilience will moderate the relationship between everyday discrimination and workplace cognitive failure.
- H4i: Resilience will moderate the relationship between everyday discrimination and memory failure.
- H4j: Resilience will moderate the relationship between everyday discrimination and attention failure.
- H4k: Resilience will moderate the relationship between everyday discrimination and execution failure.
- H4l: Resilience will moderate the relationship between everyday discrimination and aggression.
- H4m: Resilience will moderate the relationship between work-family conflict and somatic symptoms.
- H4n: Resilience will moderate the relationship between work-family conflict and workplace cognitive failure.

- H4o: Resilience will moderate the relationship between work-family conflict and memory failure.
- H4p: Resilience will moderate the relationship between work-family conflict and attention failure.
- H4q: Resilience will moderate the relationship between work-family conflict and execution failure.
- H4r: Resilience will moderate the relationship between work-family conflict and aggression.
- H5: Co-workers' support moderates the relationship between psychosocial hazards and outcomes, more specifically:
 - H5a: Co-workers' support moderates the relationship between abusive supervision and somatic symptoms.
 - H5b: Co-workers' support moderates the relationship between abusive supervision and workplace cognitive failure.
 - H5c: Co-workers' support moderates the relationship between abusive supervision and memory failure.
 - H5d: Co-workers' support moderates the relationship between abusive supervision and attention failure.
 - H5e: Co-workers' support moderates the relationship between abusive supervision and execution failure.
 - H5f: Co-workers' support moderates the relationship between abusive supervision and aggression.
 - H5g: Co-workers' support moderates the relationship between everyday discrimination and somatic complaints.

- H5h: Co-workers' support moderates the relationship between everyday discrimination and workplace cognitive failure.
- H5i: Co-workers' support moderates the relationship between abusive supervision and memory failure.
- H5j: Co-workers' support moderates the relationship between abusive supervision and attention failure.
- H5k: Co-workers' support moderates the relationship between abusive supervision and execution failure.
- H5l: Co-workers' support moderates the relationship between everyday discrimination and aggression.
- H5m: Coworkers' support moderates the association between work-family conflict and somatic complaints.
- H5n: Co-workers' support moderates the association between work-family conflict and workplace cognitive failure.
- H5o: Co-workers' support moderates the relationship between work-family conflict and memory failure.
- H5p: Co-workers' support moderates the relationship between work-family conflict and attention failure.
- H5q: Co-workers' support moderates the relationship between work- family conflict and execution failure
- H5r: Co-workers' support moderates the association between work family conflict and aggression.

Group Differences

- H6: There are differences between male and female workers on psychosocial hazards and outcomes, more specifically:

- H6a: Male sanitary workers experience less abusive supervision as compared to female sanitary workers.
- H6b: Male sanitary workers experience more everyday discrimination as compared to female sanitary workers.
- H6c: Female sanitary workers experience more somatic symptoms than male sanitary workers.
- H6d: Female sanitary workers experience more work- family conflict as compared to male sanitary workers.
- H6e: Female sanitary workers experience more workplace cognitive failure as compared to male sanitary workers.
- H6f: Female sanitary workers experience more co-workers' support as compared to male sanitary workers
- H7: There are differences between permanent workers and contractual workers on psychosocial hazards and outcomes, more specifically:
- H7a: Contractual sanitary workers experience less workplace cognitive failure as compared to permanent sanitary workers.
- H7b: Permanent workers experience more work-family conflict as compared to contractual workers
- H7c: Daily wagers experience more abusive supervision as compared to permanent workers.
- H8: There are differences between single shift workers and double shift workers on psychosocial hazards and outcomes, more specifically:
- H8a: Double shift workers experience the higher level of workplace cognitive failure as compared to single shift workers.

H8b: Double shift workers experience the higher level of Work-family conflict as compared to single shift workers.

Operational Definition of the Study Variables

Abusive Supervision

Abusive supervision has been operationally defined as sanitary workers' perceptions about the extent to which supervisors get involved in the incessant demonstration of hostile verbal and nonverbal behaviors, except physical contact (Tepper, 2000, p.178). It happens in different ways such as when employees are ridiculed by their supervisors, supervisors give them silent treatment, remind them of past failures, fail to give proper credit, wrongfully assign blame or blow up in fits of temper etc. It involves a leader making derogatory comments about subordinates (Tepper, 2000) and telling them that their thoughts and feelings are injudicious (Mithchell & Ambrose, 2007). In order to measure the construct of abusive supervision in the current study, Tepper's (2000) unidimensional Adapted Version of Abusive Supervision Scale was found suitable. It measures employees' perceptions of sustained hostile verbal and nonverbal behaviors displayed by their supervisors, excluding physical aggression. It assesses the frequency of such behaviors through 15-items scale.

Everyday Discrimination

The everyday discrimination has been conceptualized as daily subjective experiences of discrimination in routine affairs or day-to-day incidents of unfair treatment such as the frequency of encounters in which sanitary workers perceive that they are treated unfairly (e.g., treated with less courtesy than others, receive poorer service than others, are disrespected, blamed for some bad happening, considered dishonest and inferior etc.) (Williams et al., 1997), because of their job status. To measure this variable adapted version of Everyday Discrimination Scale (Williams et

al., 1997) was used. Scale evaluates how frequently individuals encounter derogatory and discriminatory behaviors in daily life. It focuses on perceived unfair treatment in routine social interactions.

Work- Family Conflict

Work-family conflict has been defined as a phenomenon which occurs when workers' experiences discordant demands at work which generate imbalance between work and family roles (Greenhaus & Beutell, 1985). Engagement and commitments at work such as extensive, irregular, or inflexible work hours, work overload, interpersonal conflicts (Lavassani & Movahedi, 2014), unfulfilled family related responsibilities and family's sufferings because of their work, also no/less time to self-satisfying activities result in an individual experience of stress, which further affect his/her physical and mental wellbeing. Adapted Version of Work-family Conflict Scale by Haslam et al. (2015) was selected to investigate the construct. It measures the extent to which work demands interfere with family responsibilities. It assesses perceived conflict through self-reported items reflecting time-based and strain-based interference. Whereas family related sufferings were measured with the help of additional items.

Somatic Symptoms

It has been conceptualized as the chronic medically unexplained symptoms or persistent physical symptoms (one or multiple) that are troublesome enough for the person to consult a doctor but are not classified as disease (cannot be attributed to a known somatic disease) (Roenneberg et al., 2019). In the study the following somatic symptoms such as digestive problems, back pain, pain in arms, legs and joints, headaches, chest pain or shortness of breath, dizziness, feeling tired or having low energy and sleep problem have been considered as somatic symptoms. They are thought to arise from a complex interaction of biological and psychosocial factors (Roenneberg

et al., 2019). Adapted Version of Somatic Symptom Scale-8 (Griek, 2014) was selected to measure the construct. It is a brief self-report instrument, used to assess the severity of somatic symptoms related to pain, fatigue, cardiopulmonary, and gastrointestinal issues.

Workplace Cognitive Failure

It has been conceptualized as errors made at work such as lapses in attention, memory and motor function, induced by resource-depleting information-processing or excessive cognitive strains (Wallace & Chen, 2005). It is an incapability of an individual to perform a certain cognitive task for which a person is capable of doing otherwise (Elfferich et al., 2010). While taking it as failure at three levels, an individual encounters attention failure while recognizing or registering a piece of information. Memory failure appears when one tries to retrieve the memorized information, and execution failure occurs when individual is not able to execute a task which is also known as action slip (Wallace & Vodanovich, 2003). Adapted version of Workplace Cognitive Failure Scale (Wallace & Chen 2005) was applied in the study. Which measures the frequency of cognitive lapses, such as memory, attention, and action related errors, experienced by employees at work, that have the potential to impact the job performance.

Aggression

It has been conceptualized as a personality factor manifested in a multifarious response, such as a set of cognitive (harmful intentions or feelings of injustice), emotional (biological stimulation and preparation for aggression), and motor reactions. It is categorized into four components physical aggression, verbal aggression, anger, and hostility (Buss & Perry, 1992). It is a phenomenon that can take many forms, ranging from relatively minor acts (such as disagreeing, arguing, name calling,

threatening, losing self-control) to more serious acts (such as hitting, kicking, or punching). Urdu version of Buss-Perry Aggression Questionnaire Short Form (Bryant & Smith, 2001, translated by Khalid & Hussain 2001) was used to quantify the construct. It measures individual differences in aggression across four dimensions: physical aggression, verbal aggression, anger, and hostility. It is a succinct tool to assess both the emotional and behavioral components of aggressive tendencies.

Coworkers' Support

It has been operationalized as the perception by and from a co-worker supporting another co-worker at work when needed, by sharing knowledge and or expertise as well as providing encouragement and support (Bateman, 2009). Moreover, respect for each other and having open communication has been conceptualized as part of the co-worker's support at work. Urdu version of a sub scale of Social Support Scale by Jan (2011), originally developed by Caplan et al., (1980), titled as "Colleagues' support" was opted to measure the construct. It assesses the perceived emotional and practical support an individual receives from coworkers and the quality of interpersonal relationships at work.

Resilience

The construct of resilience has been defined as the ability to bounce back or recover from stress (Smith et al., 2008), to 'bounce back' mentally or emotionally when facing the challenges (Craig et al., 2021). A personal attribute that helps individuals to get through or deal with setbacks and overcome obstacles (Denz-Penhey & Murdoch, 2008). Adapted version of Brief resilience scale (Smith et.al 2008) was designated to measure the construct because it evaluates an individual's ability to bounce back or recover from stress and adversity.

Negative Affectivity

It has been conceptualized as an affective state with negative valence (Bradburn, 2015), such as sadness, hostility, embracement, fearfulness and nervousness (Díaz-García et al., 2020). It is a mental state which involves evaluative feelings (Parkinson et al., 1996; Parkinson & Totterdell, 1999). Adapted version of International Positive and Negative Affect Schedule- Short Form (Thompson et al., 2007) was used in the study, its dimension named as negative affect appraises the extent of negative emotions experienced by an individual.

Instruments

Seven translated and adapted scales in Urdu language by the scholar and two available translated Urdu versions were used to collect data for study variables. Respondents were delivered consent form and demographic sheets to get their permission for data collection; relevant verbal information was also provided which helped to elaborate the research purpose.

The following instruments were administered to collect the data:

Adapted Urdu Version of Abusive Supervision Scale

Adapted version of Abusive Supervision Scale, originally developed by Tepper (2000), is 15 items, 5-point Likert scale. Scores range from 1 (cannot remember him/her using this behavior with me) to 5 (he/she uses this behavior very often with me). Scale uses a set of abusive behaviors derived from the kinds of interpersonal relationships. It is a unidimensional measure but also has been reported as multidimensional in some studies (Mithchell & Ambrose, 2007; Wulani et al., 2014). Validity and reliability of the original version of scale is well established (Tepper, 2000; Cortese et al., 2020). Similarly adapted version also showed good internal consistency and validity with good

model fit indices. Reliability co-efficient for the adapted version in the study was determined as .93.

Adapted Urdu Version of Everyday Discrimination Scale

The adapted version of Everyday Discrimination Scale originally developed by Williams et al. (1997) is a unidimensional, 10-items, 6-point Likert-type scale. It was designed to capture day-to-day incidents of unfair treatment (e.g., treated with less courtesy than others, receive poorer service than others). Scholar followed the reverse scoring recommended technique in the process of adaptation, in a way that higher scores mean more frequent experiences of everyday discrimination (0 for never and 6 for almost every day). Additional information was also collected regarding sanitary workers' perception of the main cause of everyday discrimination.

The original version has demonstrated good reliability and has adequate construct validity in multiple studies (e.g., Stucky et al., .2011; Williams et al., 1997). Adapted version for the study sample demonstrated satisfactory internal consistency and validity with good model fit indices. Reliability co-efficient for the adapted version in the study was calculated as .92.

Adapted Urdu Version of Work-Family Conflict Scale

Adapted version of Work-Family Conflict Scale, a new inventory with two factors, originally developed by Haslam et al. (2015), consists of 11 items. It is a 7-point Likert type scale where scores range from 1 (very strongly disagreed) to 7 (very strongly agreed). Original version of Work-family conflict scale (Haslam et al., 2015) consists of 10 items and is comprised of two dimensions. Both the dimensions have good internal consistency and construct validity (Haslm et al., 2015).

Study selected one dimension from the original scale, consisting of 5 items, according to the requirement of the research plan. The dimension measures the conflict

that occurs when an individual experiences incompatible demands between work and family roles, resultantly cannot justify both the roles at the same time (Haslam et. al 2015). Additionally, six distinct items were added: relevant to the experiences of family members of sanitary workers, to make the scale more indigenous. In new inventory the dimensions were named as work-family conflict at personal level (5 items) and work family conflict at family level (6items). The reliability index for the adapted version of Work-family conflict scale was estimated as .90; factor 1 exhibited a reliability of .90, while factor 2 demonstrated it as .82. CFA confirmed this factor structure and showed good model fit indices for the study sample.

Adapted Urdu Version of Brief Resilience Scale

Adapted version of Brief Resilience Scale, originally developed by Smith et al. (2008), is a five-point Likert scale, consists of 6 items, where scores range from 1 (strongly disagree) to 5 (strongly agree). Reverse scoring was done for item number 2, 4 and 6. The BRS was developed to assess the perceived ability to bounce back or recover from stress when come across the challenges and adversities (Craig et al., 2021; Smith et al., 2023). Psychometric evaluations of the original version have showed the good internal consistency, factorial and construct validity, also good criterion validity (Fung, 2020; Smith et al., 2008). Similarly adapted version showed good reliability and validity with good model fit indices for the study sample. Reliability index was calculated as 0.91 in the study.

Adapted Urdu Version of International Positive and Negative Affect Schedule Short Form

Adapted version of International Positive and Negative Affect Schedule Short Form, originally developed by Thompson et al. (2007) is 10 items, 5-point Likert scale, scores range from 1(never) to 5 (very often) and it measures positive and negative affect. The ten items are derived from the original 20 items of PANAS (Watson et al., 1988). The study used only one dimension named negative affect, consisting of five

negative affective states including afraid (item no 9), nervous (item no 6), upset (item no 1), hostile (item no 2), and ashamed (item no 4), felt during a specified time. The original version of the scale has shown good cross-sample stability in past research, internal consistency, and desirable convergent and criterion-related validities; scale has proved as psychometrically acceptable (Thompson et al., 2007; Liu et al., 2020; Meimann, 2016). Adapted version also displayed desirable reliability and validity estimates. Reliability co-efficient for the adapted version of negative affectivity dimension was determined as 0.71 in the study.

Urdu Version of Colleagues' Support Scale

Study applied an Urdu version of Social Support Scale translated and adapted by Jan (2011), originally developed by Caplan et al. (1980). Scale consists of three subscales, having six items for each: administrative support, colleagues support, and supervisory support. The study used its one of the translated sub scales; “Colleagues support”, containing six items, on four-point Likert scale, ranging from never (1) to always (4) to measure the available co-workers’ support at work among sanitary workers. Original version has been widely used in research to understand how social support influences well-being, coping, and job-related outcomes. Adapted version showed good reliability and validity with good model fit estimates. Alpha reliability coefficient of the translated version of the sub scale for the present sample is .90.

Adapted Urdu Version of Workplace Cognitive Failure Scale

Adapted version of Workplace Cognitive Failure Scale originally developed by Wallace and Chen (2005), is a 5-point Likert scale. It consists of 15 items and has three sub scales including memory failure (item number 1-5), attention failure (item number 6-10) and execution failure (item number 11-15). The response categories of all the items range from 1 (complete disagreement) to 5 (the complete agreement). The validity and reliability of the original version of scale are well established (Wallace & Chen,

2005). In study, the reliability of the adapted version of scale was determined as .86. Whereas for its dimensions it was calculated respectively as memory failure= .83, attention failure= .77 and execution failure=.74. Item analysis and CFA results ensured that the scale is reliable and valid for measuring the intended construct.

Adapted Urdu Version of Somatic Symptoms Scale-8 (SSS-8)

The adapted version of Somatic Symptoms Scale -8, originally developed by Gierk et al. (2014), consists of 10 items, utilizes a 5-point Likert scale where scores range from 0 for "never" to 4 for "very frequently". The original version consists of 8 items. It measures the enduring medically unexplained persistent physical symptoms which cannot be attributed to a known somatic disease, yet mutilate the person's everyday functioning (Roenneberg et al., 2019). Scale evaluates the following somatic symptoms such as stomach / digestive problems, back pain, pain in arms, legs and joints, headaches, chest pain or shortness of breath, dizziness, feeling tired or having low energy and troubles in sleeping. It is an abbreviated version of the Patient Health Questionnaire -15 (Kronke et al., 1998). The item characteristics, reliability and validity of the original version of SSS-8 are well established (Gierk et al., 2014; Petrelis & Domeyer, 2021; Li et al., 2022). Similarly adapted version also demonstrated good reliability and validity, and CFA confirmed the factor structure. Alpha reliability coefficient for the adapted version of SSS-8 for the present sample is .85.

Urdu Version of Buss-Perry Aggression Questionnaire - Short Form (BPAQ-SF)

Buss-Perry Aggression Questionnaire - Short form (Bryant & Smith, 2001), translated and adapted by Khalid and Hussain (2001), is a 5-points Likert scale, scores range between 1 (completely disagreed) to 5 (completely agreed). It is a short version of the Buss and Perry Aggression Questionnaire (1992). It consists of 12 items, grouped into four sub scales of three items each: physical aggression (items 1, 4, 8), verbal

aggression (items 2, 5, 9), anger (items 6, 10, 12), and hostility (items 3, 7, 11). It measures aggression as a personality's feature manifested in a set of cognitive emotional and motor reactions. The original version of BPAQ-SF has demonstrated good psychometric properties in terms of factor structure, internal consistency and other validity evidence (Pechorro et al., 2016). The alpha reliability coefficient for the present sample is .90. Item-total correlations, corrected item-total correlations and CFA's results confirmed that the measure is valid and reliable to use for hypotheses testing.

Sample

A sample of 662 sanitary workers (male = 528, female = 134), age ranged between 20 to 55 years ($M=31.2$, $SD = .91$), employed in public sector were approached through purposive sampling technique. Initially, 720 workers were contacted, data collection response rate remained at 91.94%. Data was collected from six different cities of Pakistan, including Mirpur, Mangla/ Dina, Jhelum, Gujranwala, Sohawa, Rawalpindi/ Islamabad. Sanitary workers who were working in municipal corporations and cantonment boards were included in the study. The minimum qualification of the employees was primary school passed. Moreover, majority of the sample was permanent employees ($n = 373$), whereas the remaining were working on contracts ($n = 231$) and daily wages ($n = 58$). Furthermore, sanitary workers were working in two shifts, single shift ($n = 367$) and double shifts ($n = 295$).

Inclusion criteria

Only those employees were included in the research who had minimum five years of overall job experience with minimum primary school level education, and those who could speak and understand urdu language. This criterion of five years of work experience was set according to the recommendation of field experts on the basis of their observation.

Exclusion Criteria

Any employee with less than 5 years of employment and employees with any physical or mental health related condition, for which they were taking medicine, were not included in the sample.

Procedure

In order to carry out the main study concerned authorities from municipal corporations and cantonment boards were contacted to get permission for data collection. They allowed data collection from potential respondents according to their availability. In addition to the permission from concerned authorities' individual consent was also acquired from each worker. Some employees were contacted after their lunch break and some before lunch break as well as in the evening. Initially 200 respondents were contacted to collect data to conduct item analyses and an exploratory factor analysis. After getting evidence of reliability and validity of the scales further data was collected.

The act of filling the questionnaire was divided into two parts after filling almost half of the booklet of scales, respondent was offered tea and snacks and this way researcher got the time to generate discussion. The purpose of the research and other related instructions were briefed to the respondents to make them able to have clear understanding of the constructs while answering the questions, in a convenient way. After getting ethical approval scholar collected a total of 720 survey forms among sanitary workers. After eradicating 58 invalid or incomplete questionnaires, this study recovered a total of 662 useable questionnaires, thereby presenting a response rate of 91.9%.

Respondents were invigorated to ask questions in case of any ambiguity regarding statements or response options. Also, respondents were conveyed that they

had the right to withdraw from the research process at any time. Sanitary workers filled the questionnaire without any time restrictions. Researcher assured physical presence during the entire process of data collection to facilitate the clarification of statements for participants in case of any ambiguity. Questionnaires were then collected and inspected for missing data and respondents were thanked for their participation. Main data of the study was collected through self-reported survey methods and to avoid the problem of common method variance different techniques were used in the study, which are as follow:

Anonymity was allowed to get natural responses from the participants. They were asked not to write their original names instead they could write any other name to get them secure from the threat of assumed consequences and to ensure honest responses. Also, they were guaranteed, through consent form as well, that their responses will be kept unidentified (Ong et al., 2000; Craighead et al., 2011).

Before disseminating the questionnaire, they were assured that there is no right or wrong option in scale, nothing is being expected from them, they just need to mark the response statements which they find most appropriate for themselves. All of this was commenced to reduce social desirability and acquiescence bias (Johnson et al., 2018; Craighead et al., 2011).

To subside the impacts of monotony and fatigue tea and snacks were served during a short break while filling the questionnaires, almost at the mid.

Sanitary workers were made sure of confidentiality of their responses and that none of their responses would be shared with their concerned authorities or with any other person, and data collection process will not affect their job in any case. In this way, genuine responses were attained (Forrest et al., 2022; Bingley, 2021).

In order to hold the order effect different sequences of scales were offered to participants in the tryout phase (Strack, 1992; McClendon, 1991). Through subjective assessment (differences in means) study addressed the order related issues. No noticeable differences were observed among the three questionnaire orders, which facilitated the selection of an appropriate sequence.

In order to lessen the probabilities of random responses, the scales' items were improved (where needed) to make them easily understandable, to clear ambiguities and to avoid guessing (Craighead et al., 2011). To achieve this objective, translation and adaptation of every scale was undertaken, as well as their validity and reliability were also determined in the study before hypotheses testing.

Chapter 4

Results

By using SPSS 23, Hayes process Macro 4.2, and AMOS 23 scholar performed data analysis. To determine the means, standard deviations, and frequency distributions of the variables of interest, descriptive statistics were calculated. Additionally, distributional characteristics, including skewness and kurtosis, were examined to assess the normality of the data. Item analysis was performed to ensure the quality of items for each scale. Bivariate correlation analysis was performed to highlight the relationships among study variables; by using Pearson's correlation coefficient to determine the strength and direction of the correlations. Confirmatory factor Analysis and exploratory factor analysis were performed to explore and confirmed the factor structure. Multiple regression analysis was employed to test study hypotheses. The significance and direction of the moderation effects were interpreted based on the beta coefficients. Group differences were examined through t-test and one-way ANOVA. This analysis plan provided the evidence for empirical validation, associations and potential moderation effects between the variables of interest, contributing to our understanding of the experiences of sanitary workers in Pakistan.

Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) of all the scales in the local context was conducted. Whereas, for work-family conflict scale first exploratory factor analysis (EFA), was performed and after that CFA was conducted. To conduct CFA there were two main concerns, first the sample size and secondly the parameters of the varying indices of CFA: to extract right inferences from the analysis. In order to address the first concern Cohen's (2013) recommendations (subject to variable ratio should be 5) were followed which indicated that study's sample size was appropriate.

To meet the second criteria, Chi-Square, Comparative Fit Index (CFI), Tucker-Lewis index (TLI), Incremental fit index (IFI), and Root Mean Square Error of Appropriateness (RMSEA) were considered. The chi-square divided by degree of freedom as a measure of model fit, with the values of 5 or less being a common benchmark (Cohen, 2013) and the criteria for model fit indices as recommended by Portela (2012) were set in order to validate the fit of the measurement models.

According to Portela (2012), values of CFI, TLI, IFI are considered very good if it is equal to or greater than 0.95, good when lies between 0.9 and 0.95, suffering when ranges between 0.8 and 0.9 and bad if it is less than 0.8. RMSEA is considered as very good if it is equal to or less than 0.05, good between 0.05 and 0.08, mediocre between 0.08 and 0.10 and unacceptable if it is higher than 0.10 (Portela, 2012). Additionally, as per recommendations of Datallo (2013) as well as Hoyle and Isherwood (2013), designated categories for the values of RMSEA mostly used in social sciences are; good fit (.00-.05), fair fit (.05-.08), moderate fit (.08-.10) and poor fit (more than .10).

Confirmatory Factor Analysis of Adapted Version of Abusive Supervision Scale

Confirmatory factor analysis of Urdu version of Abusive Supervision Scale (Tepper, 2000) confirmed the one factor structure, which is aligned with the findings of Tepper (2000) and Cortese et al. (2020). Similarly, Gatti et al. (2019) proposed a validation of its Italian version and confirmed the one factor structure with satisfactory fit indexes. Literature provides the evidence mostly from western context and general research has largely reported it as one-dimensional construct. However, in some investigations it was also found as multi -dimensional. The study of Ghayas and Jabeen (2020) suggested abusive supervision as a four-dimensional construct. Similarly, Mithchell and Ambrse (2007) introduced the abusive supervision scale with two

factors: including active abusive behavior and passive abusive behavior. Moreover, Wulani et al. (2014) confirmed its three dimensions: anger-active abuse, humiliation-active abuse, and passive abuse.

Table 11

Standardized Factor Loading by Confirmatory Factor Analysis of Adapted Version of Abusive Supervision Scale (N = 662)

Items No	S. E	β
1	-	.76
2	.04	.76
3	.05	.46
4	.04	.79
5	.05	.61
6	.04	.73
7	.04	.65
8	.04	.66
9	.04	.68
10	.04	.73
11	.04	.68
12	.04	.82
13	.05	.62
14	.04	.80
15	.04	.74

Note. *** $p < .001$.

Table indicates the factor loadings of the adapted version of abusive supervision scale for all items. Results demonstrated that the range of factor loading lies between

(.46 to .82), all the factor loadings are satisfactory and positively contribute to the main construct and describe the overall goodness of fit of the model.

Figure 4

Measurement Model of Adapted Version of Abusive Supervision Scale (15 items)

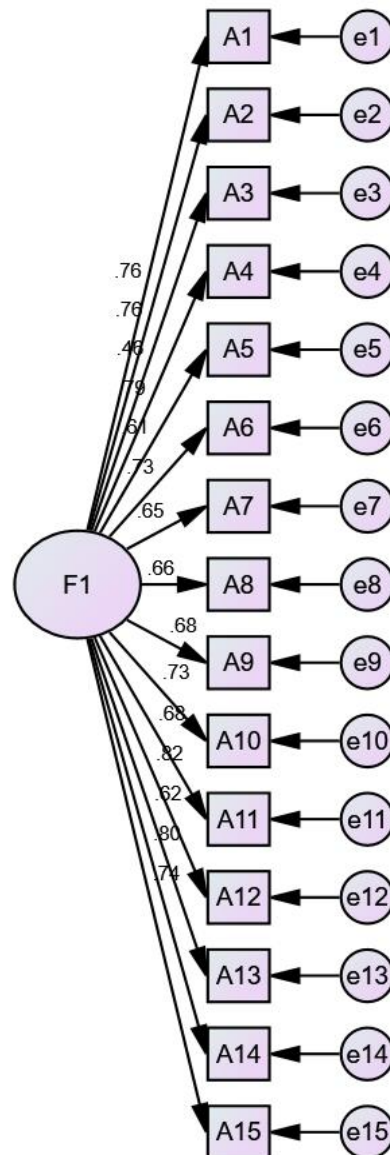


Table 12

Indices of Model Fit of Adapted Version of Abusive Supervision Scale Using Confirmatory Factor Analysis (N = 662)

Scale	χ^2	df	χ^2/df	CFI	IFI	TLI	RMSEA	RMSEA 90 % CI
ABS	487.18	90	5.41	.92	.92	.91	.08	(.07,.08)

Note. ABS = Abusive Supervision Scale; CFI = Conformity fit index; IFI = Incremental fit index; TLI = Tucker-Lewis Index; CI = Confidence interval; RMSEA = Root-mean- square error of approximation.

The findings demonstrated that the fit indices of adapted version of Abusive supervision were found good for the original factor structures (uni-factor). The chi-square to df ratio is acceptable, the values of CFI, IFI, TLI are greater than .9 which indicate good fit (Portela, 2012). Additionally, the RMSEA value is equal to .08 which further gives the evidence of good fit of this model (Portela, 2012).

Confirmatory Factor Analysis for Adapted Version of Everyday Discrimination Scale

CFA for adapted version of Everyday discrimination scale was performed for study sample. Originally the Everyday discrimination scale (Williams et al.,1997) is a unidimensional scale, and most commonly used tool to measure perceptions of everyday discrimination (Seabra et al., 2023; Bastos et al., 2010; Paradies, 2006). This widely used measure has also been reported as unidimensional among African Americans, with satisfactory construct validity (Stucky et al., 2011). In the study, Urdu version of everyday discrimination scale proved as one factor scale, showing good model fit indices.

Table 13

Standardized Factor Loadings by Confirmatory Factor Analysis of Adapted Version of Everyday Discrimination Scale (N = 662)

Items No	S.E.	β
1	-	.80
2	.03	.83
3	.05	.74
4	.05	.74
5	.05	.74
6	.06	.68
7	.05	.72
8	.05	.64
9	.04	.76
10	.05	.52

Note. *** $p < .001$.

Table shows that the factor loadings of the everyday discrimination scale for all items are satisfactory and positively contribute to the main construct. The estimates ranged from 0.52 to 0.83, being satisfactory, showing the overall goodness of model fit.

Figure 5

Measurement Model of Adapted Version of Everyday Discrimination Scale (10 items)

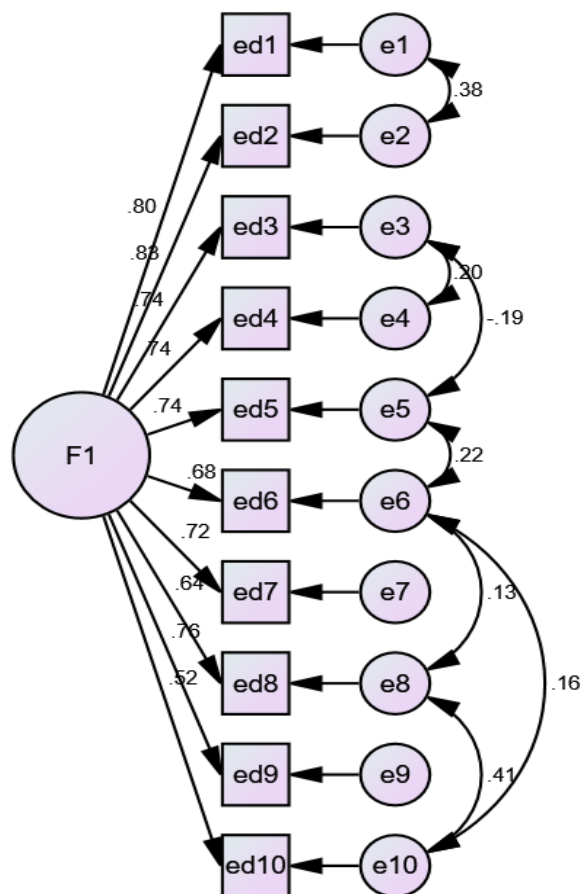


Table 14

Indices of Model Fit of Adapted Version of Everyday Discrimination Scale Using Confirmatory Factor Analysis (N = 662)

Model	χ^2	df	χ^2/df	CFI	IFI	TLI	RMSEAS	RMSEA 90 %CI
1 EDS	395.32	35	11.29	.90	.90	.88	.13	(.11, .13)
2 EDS	111.48	28	3.98	.97	.98	.97	.06	(.05, .08)

Note. EDS = Everyday discrimination Scale; CFI = Conformity fit index; IFI = Incremental fit index; TLI = Tucker-Lewis Index; CI = Confidence interval; RMSEA = Root-mean- square error of approximation.

Table indicates the fit indices of Everyday discrimination scale. Model 1 contains the values of default model, whereas model 2 indicates the values of CFI, IFI, TLI, and RMSEA after adding error co-variances. In model 1, values indicate that chi-square to df ratio is not acceptable, though CFI and IFI are showing good fit indices but the values of TLI and RMSEA are not adequate.

In order to rectify the model, error co-variance was added among items 1,2,3,4,5,6,8 and 10. After adding these seven co-variances chi square to df ratio dropped to 3.98 and values of CFI, IFI further improved, indicating a very good fit (Portela,2012). Similarly, after adding error co-variances TLI and RMSEA also improved and demonstrated the good model fit (Portela, 2012). The study's findings verified the fit indices of the Everyday discrimination scale for the original factor structure for the study sample.

Confirmatory Factor Analysis for Work-Family Conflict Scale

After the exploratory factor analysis which came up with two factors, the confirmatory factor analysis was conducted for the study sample. Model fit indicators are as below:

Table 15

Factor Loadings for the Adapted Version of Work-Family Conflict Scale Using Confirmatory Factor Analysis (N = 662)

Items no	S.E.	β
Factor 1		
1	-	.88
2	.03	.87
3	.03	.88
4	.04	.81
5	.04	.80
6	.04	.47
Factor 2		
1	-	.65
2	.06	.73
3	.06	.68
4	.06	.69
5	.07	.75

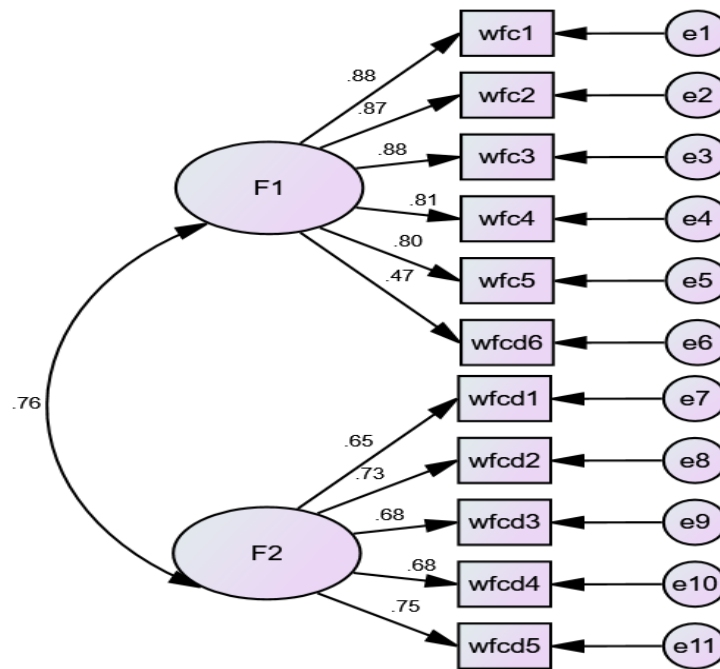
Note. Factor 1 = Work-family conflict at personal level; Factor 2 = Work-family conflict at family level,

*** $p < .001$.

The table displays the factors loading of the work-family conflict scale for all the items. Results demonstrate that the range of factor loading lies between (.47 to .88), all the factor loadings are satisfactory and positively contribute to the related factor and indicate the goodness of fit of this model.

Figure 6

Measurement Model of Adapted Version of Work-family Conflict Scale (N = 662)

**Table 16**

Indices of Model Fit for the Adapted Version of Work-Family Conflict Scale Using Confirmatory Factor Analysis (N = 662)

Model	χ^2	df	χ^2/df	CFI	IFI	TLI	RMSEA	RMSEA 90 %CI
WFC (11)	249.17	43	5.79	.95	.95	.93	.08	(.07, .09)

Note. WFC = Work Family conflict scale; CFI = Conformity fit index; IFI = Incremental fit index; TLI = Tucker-Lewis Index; CI = Confidence interval; RMSEA = Root-mean- square error of approximation.

The study's findings demonstrated that the fit indices of work family conflict scale were found good for the two-factors structure, the values of CFI, IFI, and TLI are greater than .9 (Portela, 2012). Additionally, the RMSEA value is equal to .08 which gives the evidence of good fit of the model (Portela, 2012). The analysis determined

that the data can verify the relationship between observed variables and their underlying latent construct, reflected by the work-family conflict scale.

Confirmatory Factor Analysis for Adapted Version of Brief Resilience Scale

Confirmatory factor analysis of Brief resilience scale proved as one factor scale, with good model fit indices, aligned with other findings (smith et al., 2008). Brief resilience scale has met the criteria for good model fit (Fung, 2020) among Chinese population. Lai¹ and Yue (2014) examined the utility of an adapted version of the Brief resilience scale to measure Chinese undergraduates' ability to bounce back from stress. The results suggested that the BRS proved as a reliable and valid instrument for Chinese undergraduates. Similarly, Nogueira et al. (2018) found a satisfactory fit for the scale, and it appeared as a valid and reliable tool to assess resilience among Brazilian athletes.

Table 17

Standardized Factor Loadings by Confirmatory Factor Analysis of Adapted Version of Brief Resilience Scale (N = 662)

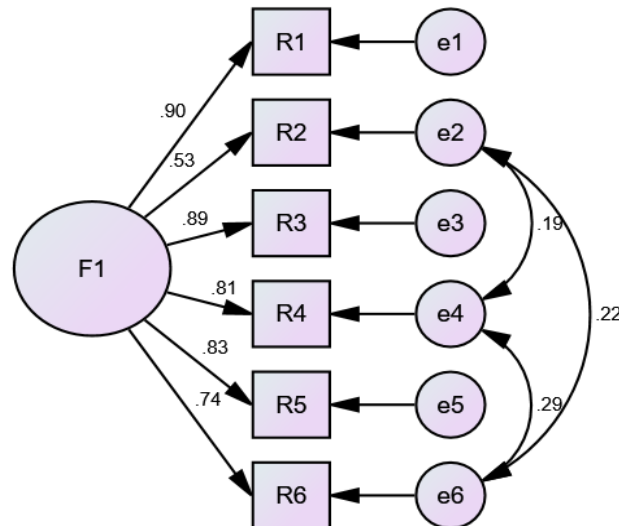
Items No	S.E.	<i>B</i>
1	-	.90
2	.03	.53
3	.03	.89
4	.03	.81
5	.03	.83
6	.03	.74

Note. *** $p < .001$.

Table represents the factor loadings of the adapted version of Brief resilience scale, ranged between .53 to .90. Results established that all the factor loadings are satisfactory and positively contribute to the key construct. The item estimates pronounced the overall goodness of fit of the model.

Figure 7

Measurement Model of Adapted Version of Brief Resilience Scale (6 items)

**Table 18**

Indices of Model Fit of Adapted Version of Brief Resilience Scale Using Confirmatory Factor Analysis (N = 662)

Model	χ^2	Df	χ^2/df	CFI	IFI	TLI	RMSEA	RMSEA 90 %CI
1 Rs	79.36	9	8.81	.97	.97	.95	.11	(.08, .13)
2 Rs	8.74	6	1.45	.99	.99	.97	.02	(.00, .06)

Note. RS = Resilience scale; CFI = Conformity fit index IFI = Incremental fit index; TLI = Tucker-Lewis Index; RMSEA = Root-mean- square error of approximation; CI =Confidence interval.

The analysis was carried out to find out the indices for model fit. The study's findings demonstrated that in Model 1 the chi-square to *df* ratio was not in acceptable range also the RMSEA value of the resilience scale was also not satisfactory. Whereas CFI, IFI and TLI were showing very good fit in model 1. Model 2 presents the values of model fit indices after adding 3 error co-variances among item numbers 2, 4, and 6. Chi-square to *df* ratio dropped to 1.45 and the value of RMSEA decreased to .02

showing a very good fit (Portela, 2012). Whereas the values of CFI, IFI and TLI further improved.

Confirmatory Factor Analysis for Colleagues' Support Scale

Study conducted the confirmatory factor analysis to find out the factor structure of coworkers' support scale. Scheck et al. (1995) found that combining the measures of instrumental and emotional social support into a single measure fit the data best.

Adapted version of Coworkers' social support scale proved as unidimensional for the study sample, with good model fit indices.

Table 19

Standardized Factor Loadings by Confirmatory Factor Analysis of Adapted Version of Colleagues' Support Scale (N = 662)

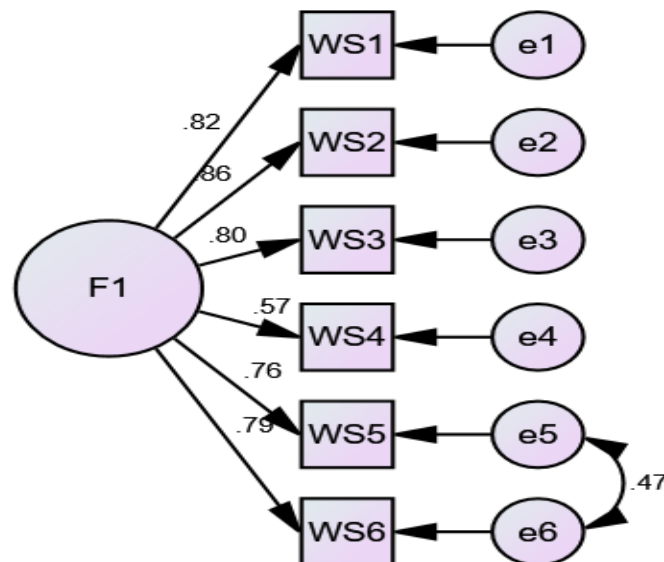
Items No	S.E.	<i>B</i>
1		.82
2	.043	.86
3	.045	.80
4	.048	.57
5	.042	.76
6	.047	.79

Note. *** $p < .001$.

Table displays the factor loadings of the co-workers' support scale for all the items; which are significant and positively contributing to the main construct. The estimates ranged from 0.57 to 0.86, presenting the goodness model fit for the study sample.

Figure 8

Measurement Model of Adapted Version of Colleagues' Support Scale (6 items)

**Table 20**

Standardized Factor Loadings of Adapted Version of Colleagues' Support Scale (N = 662)

Model	χ^2	df	χ^2/df	CFI	IFI	TLI	RMSEA	RMSEA 90 %CI
WPSS 1	15.029	09	15.02	.94	.94	.91	.14	(.12,.16)
WPSS 2	21.389	08	2.67	.99	.98	.99	.05	(.02,.07)

Note. WPSS = Coworkers' social support; TLI = Tucker-Lewis Index; IFI = Incremental fit index;

CFI = Conformity fit index; CI = Confidence interval; RMSEA = Root-mean- square error of approximation.

Table reveals that in model 1 the chi-square to *df* ratio was not in acceptable range and the RMSEA value of the scale was unacceptable for the one factor solution. Whereas CFI, IFI and TLI showed good fit even in model 1. Model 2 presents the values of model fit indices after adding 1 error co-variance between item numbers 5 and 6. Chi-square to *df* ratio dropped to 2.67 (Cohen, 2013) and the RMSEA's value

decreased to .05, which indicated a good fit (Portela, 2012). The values of CFI, IFI and TLI further improved in model 2 and showed a very good model fit.

Confirmatory Factor Analysis for the Adapted Version of Somatic Symptoms Scale

In the study the adapted version of somatic symptom scale proved as one-dimensional scale with good model fit indices. All ten items of the scale were loaded on a single factor, indicating that they collectively assess a single underlying dimension. Griek et al. (2014) revealed the good fit indices for the higher-order general factor model among German population for Somatic symptom scale. The results of the confirmatory factor analyses supported the organization of individual somatic symptoms in 4 clusters (gastrointestinal, pain, cardiopulmonary, and fatigue) as aspects of the general somatic burden. SSS-8 was found as a reliable and valid self-report measure of somatic symptom burden with satisfactory item characteristics, good reliability and strong evidence of validity.

Petrelis and Domeyer (2021) reported favorable construct validity for the Greek version of the Somatic Symptom Scale-8. Moreover, Li et al. (2022) conducted confirmatory factor analyses among Chinese sample which resulted in the replication of a three-factor model (cardiopulmonary symptoms, pain symptoms, gastrointestinal and fatigue symptoms), showing the good model fit.

Table 21

Standardized Factor Loadings for the Adapted Version of Somatic Symptoms Scale (N = 662)

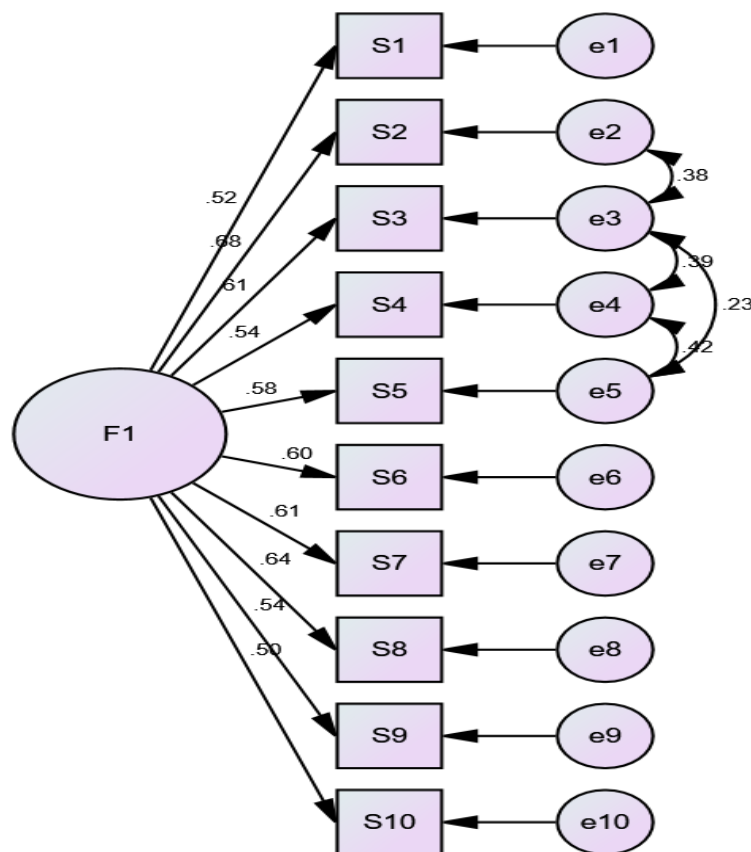
Items No	S.E.	<i>B</i>
1	-	.52
2	.117	.68
3	.108	.61
4	.105	.54
5	.113	.58
6	.093	.60
7	.123	.61
8	.113	.64
9	.093	.54
10	.110	.50

Note. *** $p < .001$.

Table indicates the factor loadings of the somatic symptoms scale. Results demonstrated that the factor loadings for all the items are satisfactory and positively contribute to the main construct. The items' estimates ranged from 0.50 to 0.68, displaying that all the items are positively contributing for the main construct and are appropriate for hypotheses testing.

Figure 9

Measurement Model of Adapted Version of Somatic Symptoms Scale (10 items)

**Table 22**

Indices of Model fit of Adapted Version of Somatic Symptoms Scale by Using Confirmatory Factor Analysis (N = 662)

Model	χ^2	df	χ^2/df	CFI	IFI	TLI	RMSEA	RMSEA 90 %CI
1 (SS,10 items)	335.38	35	9.58	.86	.85	.81	.11	(.10, .12)
2 (SS, 10 items)	101.45	31	3.27	.96	.97	.95	.06	(.04, .07)

Note. SS = Somatic Symptoms; CFI = Conformity fit index; TLI = Tucker-Lewis Index; IFI = incremental fit index; CI = Confidence interval; RMSEA = Root-mean- square error of approximation.

Table indicates the model fit indices of somatic symptoms scale. Model 1 contains the values of default model, whereas model 2 depicts the values after adding

error covariance. Findings revealed that in model 1 the chi-square to *df* ratio (Cohens, 2013), the RMSEA value and the values of CFI, IFI, and TLI are not adequate for one factor structure (Portela, 2012).

In order to rectify the model, error covariance was added. Model 2 presents the values after adding the 4 error co-variances between item numbers 2, 3, 4 and 5. The Chi-square to *df ratio fell* to 3.27 (Cohen, 2013) and the RMSEA's value decreased to .06, which indicated a good fit (Portela, 2012). Whereas, the values of CFI, IFI and TLI improved and showed very good model fit (Portela, 2012) after modification.

Confirmatory Factor Analysis for the Adapted Version of Workplace Cognitive Failure

Prior literature (Wallace & Chen, 2005) demonstrated the presence of three factors of the construct; memory failure, attention failure and execution failure. Kalakoski et al. (2012) replicated the factorial structure of the original workplace cognitive failure scale in Finland, encompassing its memory, attention, and action dimensions. Through the inclusion of supplementary cognitive failure items, they identified four subdivisions describing perception of relevant information, forgetting work tasks, multitasking challenges, and environmental responsiveness. In the study, aligned with the findings of Wallace and Chen (2005), adapted version of workplace cognitive failure scale proved as three-dimensional and showed good model fit indices. Results supported the validity and utility of the measure in assessing the workplace cognitive failure for the study sample.

Table 23

Standardized Factor Loading for the Adapted Version of Workplace Cognitive Failure Scale (N = 662)

Items no	S.E.	β
Attention Failure		
1	-	.69
2	.06	.73
3	.06	.64
4	.06	.74
5	.07	.69
Memory Failure		
6	-	.75
7	.06	.81
8	.06	.42
9	.05	.64
10	.06	.38
Execution Failure		
11	-	.42
12	.23	.66
13	.21	.54
14	.11	.40
15	.14	.49

Note. *** $p < .001$.

Table reveals the factor loadings of the workplace cognitive failure scale for all items. Results demonstrated that the total score on the workplace cognitive failure scale

was positively associated with each subscale in the study. Estimated ranges described the goodness of model fit for the study sample.

Figure 10

Measurement Model of Adapted Version of Workplace Cognitive Failure Scale (N = 662)

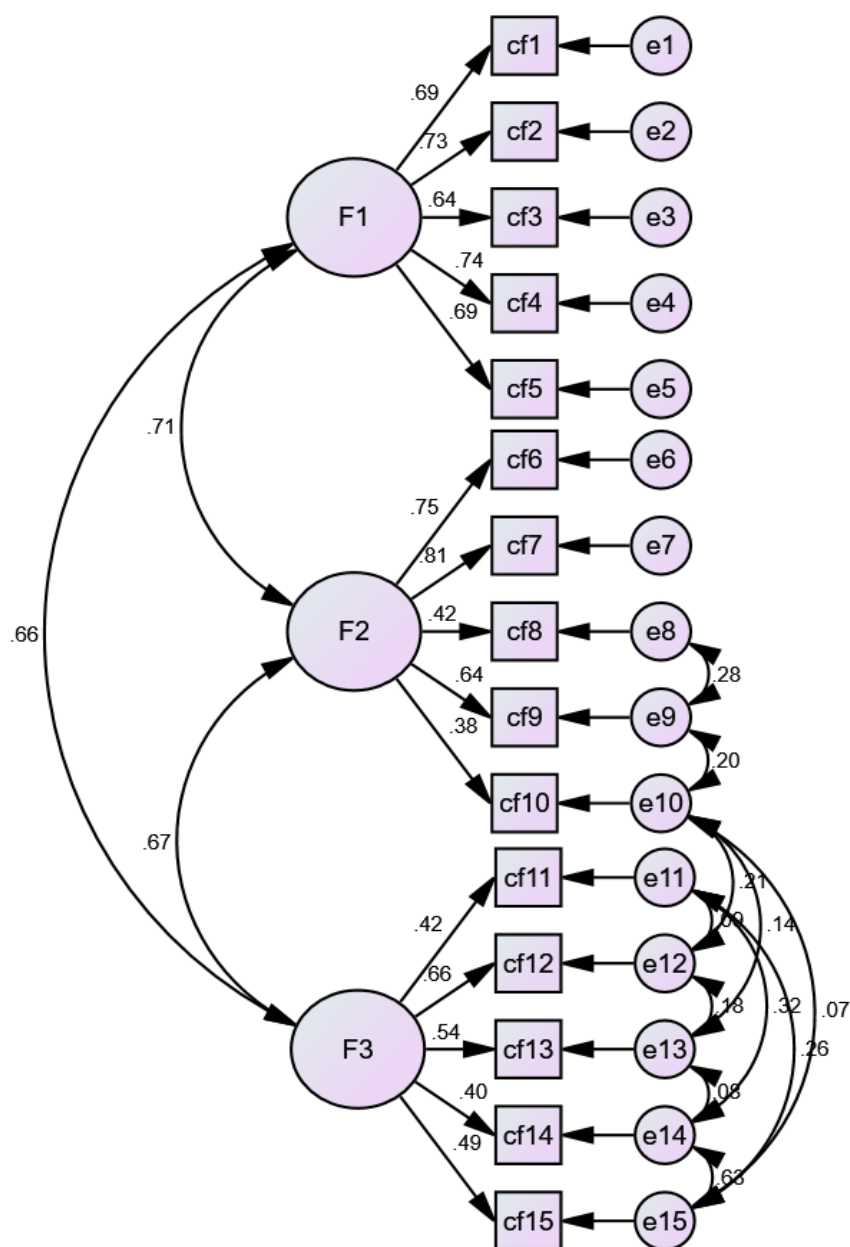


Table 24

Indices of Model Fit for the Adapted Version of Workplace Cognitive Failure Scale Using Confirmatory Factor Analysis (N = 662)

Model	χ^2	df	χ^2/df	CFI	IFI	TLI	RMSEA	RMSEA 90 %CI
1 (WCF,15 items)	721.96	87	8.29	.82	.82	.79	.11	(.09, .11)
2 (WFC, 15 items)	396.66	76	5.21	.91	.91	.90	.08	(.70, .88)

Note. WCF = Workplace cognitive failure; CFI = Conformity fit index; IFI = Incremental fit index; TLI = Tucker-Lewis Index; CI = Confidence interval; RMSEA = Root-mean- square error of approximation.

Table indicates the model fit indices of workplace cognitive failure for the three factors. Model 1 contains the values of default model whereas, model 2 depicts the values after adding error covariance. Findings established that in model 1 the chi-square to *df* ratio (Cohens, 2013), the RMSEA value and the values of CFI, IFI and TLI are not adequate for the original three factor structures (Portela 2012). Model 2 presents the values of model fit indices after adding 11 error co-variances between item numbers 8,9,10,11,12,13,14 and 15. After adding the error co-variance, the chi-square to *df* ratio dropped and the RMSEA's value decreased. Whereas the values of CFI, IFI and TLI improved after modification and indicated good model fit (Portela, 2012). The study's findings revealed the good fit indices of the adapted version of workplace cognitive failure scale, for the original three factor structures, for the study sample of sanitary workers.

Confirmatory Factor Analysis for the Adapted Version of Buss and Perry Aggression Questionnaire - Short Form (BPAQ-SF)

Zimonyi et al. (2021) found good model fit for short form of the BPAQ on Hungarian sample. CFA-related statistics showed adequate fit for the four factors in their study. Similarly, Pechorro et al. (2016) validated it among Portuguese juvenile

delinquents. The Portuguese version of the BPAQ-SF found support for the four factors of original BPAQ and demonstrated good psychometric properties in terms of internal consistency, convergent validity, discriminant validity, predictive validity and known-groups validity among Portuguese youth. Confirmatory factor analysis for Urdu version of Buss and Perry aggression questionnaire short- form came up as one-dimension scale, contrary to factor structure of original version (Brant & Smith, 2001), with good model fit indices.

Table 25

Standardized Factor loading for the Adapted Version of Buss and Perry Aggression Questionnaire-Short Form Using Confirmatory Factor Analysis (N = 662)

Items no	S. E	<i>B</i>
1	-	.67
2	.05	.60
3	.04	.62
4	.05	.66
5	.06	.69
6	.05	.79
7	.04	.51
8	.06	.69
9	.05	.72
10	.06	.73
11	.05	.66
12	.06	.67

Note. *** $p < .001$.

Table 25 indicates the factor loadings of the adapted version of short form of Buss-Perry aggression questionnaire. Values demonstrate that the factor loadings for all the items are satisfactory and positively contribute to the main construct. The items' estimates show the overall goodness model fit.

Figure 11

Measurement Model of Adapted Version of Buss and Perry Aggression Questionnaire-Short Form (N = 662)

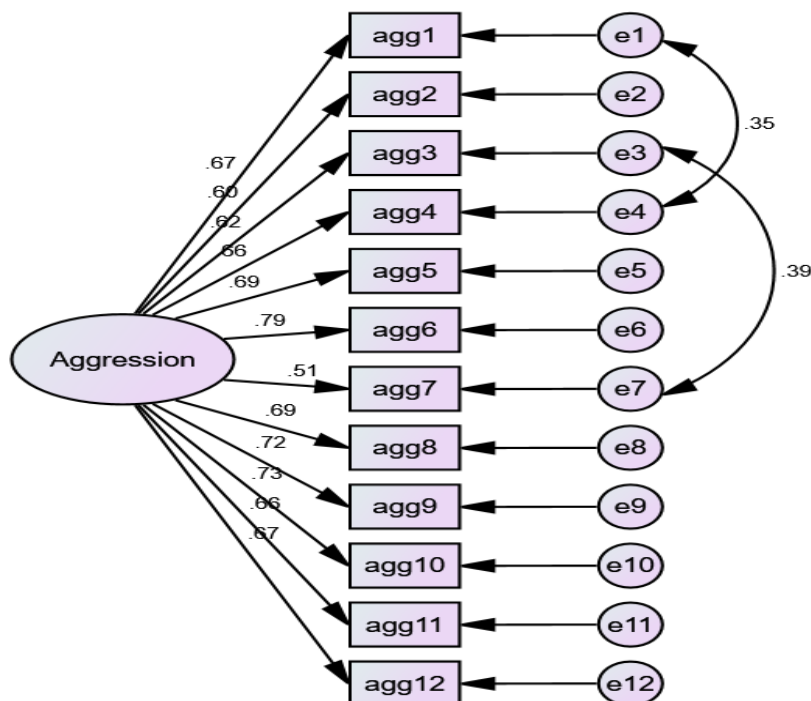


Table 26

Indices of Model Fit for the Adapted Version of Buss-Perry Aggression Questionnaire Short- Form Using Confirmatory Factor Analysis (N = 662)

Scale	χ^2	df	χ^2/df	CFI	IFI	TLI	RMSEA	RMSEA 90 % CI
M 1	480.72	54	8.902	.88	.88	.86	.10	(.10, .11)
M 2	298.04	52	5.73	.93	.93	.91	.08	(.07, .09)

Note. Agg = Buss-Perry Aggression Questionnaire short -form; CFI = Conformity fit index; IFI = Incremental fit index; TLI = Tucker-Lewis Index; CI = Confidence interval; RMSEA = Root-mean-square error of approximation.

Table indicates the model fit indices of the adapted version of Buss-Perry Aggression Questionnaire Short-form. Model 1 contains the values of default model whereas, model 2 depicts the values after adding error covariance. Findings established that in model 1 the chi-square to *df* ratio (Cohens, 2013), the RMSEA value and the values of CFI, IFI and TLI are not adequate for the one-factor structure (Portela, 2012). Model 2 presents the values of model fit indices after adding 2 error co-variances between item numbers 1, 3, 4 and 7. After adding these error co-variances, the chi-square to *df* ratio dropped and the RMSEA's value decreased, indicating a good fit (Portela, 2012). After modification the values of CFI, IFI and TLI improved and verified the good model fit (Portela, 2012). Overall, table displays that the fit indices of the adapted version of short form of Buss-Perry aggression questionnaire are good for the one factor structure, for the study sample of sanitary workers in the local context.

Confirmatory factor analyses for all the adapted versions of study measures were conducted to verify whether the selected instruments were valid and reliable enough to be used for hypotheses testing. Results of the empirical evaluation indicated that all the scales are reliable and valid. Factor structures were aligned with the former

literature and indicated good model fit indices, thus could be used for hypothesis testing.

Descriptive Statistics and Reliability Estimate

Mean, standard deviation, skewness and kurtosis and reliability estimates of Abusive supervision scale, Everyday discrimination scale, Work- family conflict scale, Brief resilience scale, Co-workers support scale, Somatic symptoms scale, Positive and negative affect scale, Work place cognitive failure scale and Aggression scale were calculated for the sample of sanitary worker ($N = 662$) to highlight the distribution of data and to analyze its appropriateness for the study sample.

Table 27*Descriptive Statistics and Alpha Reliability Values of all the Scales Used in Main Study**(N = 662)*

Scales	No of items	α	Min	Max	<i>M</i>	<i>SD</i>	Skew	Kurt
ABS	15	.93	15.00	73.00	49.94	12.33	-.38	-.58
EDS	10	.92	9.00	53.00	36.08	9.01	-.40	-.37
WFC	11	.91	13.00	65.00	46.45	9.46	-.45	-.03
WF1	6	.90	6.00	40.00	27.48	6.45	-.36	-.34
WF2	5	.82	6.00	25.00	18.96	3.81	-.56	.15
RS	6	.91	6.00	27.00	17.84	5.94	-.22	-1.29
WPSS	6	.90	6.00	24.00	16.35	4.80	-.27	-.90
SS	10	.85	.00	32.00	18.82	6.24	-.35	-.22
WPCF	15	.86	15.00	71.00	45.67	10.96	-.29	-.42
CF1	5	.83	5.00	25.00	15.46	4.89	-.22	-.58
CF2	5	.77	5.00	25.00	16.99	4.37	-.61	.02
CF3	5	.74	5.00	25.00	13.21	4.36	.17	-.58
Agg	12	.90	14.00	60.00	43.34	9.78	-.36	-.58

Note. ABS = Abusive supervision; EDS = Everyday discrimination; WFC = Work-family conflict, WF1 = Work family conflict at personal level, WF2 = Work family conflict at family level; Rs = Resilience; WPSS = Co-workers' support; SS= Somatic symptoms; WPCF=Workplace cognitive failure, CF1= Memory failure, CF2 = Attention failure, CF3 = Execution failure; Agg = Aggression.

Table indicates that the values of Cronbach's alpha, means, standard deviations, score ranges, skewness and kurtosis of all the scales and their respective subscales. Alpha co-efficient of all the scales ranged between .7 to .9, which ensured that the scales were reliable (Pallant, 2020) for hypotheses testing. Values of skewness and kurtosis are in the desired range of -2 to +2, considered acceptable in order to prove normal univariates distribution (George & Mallery, 2010). Ultimately, mean, standard deviation, skewness and kurtosis for the scales also the reliability estimates were found appropriate for the current study sample, ensuring data's utility for further analyses.

Correlations

Table 28

Correlational Matrix of all Variables of the Main Study (N = 662)

Variables	1	2	3	4	5	6	7	8	9	10	11
1.ABS	-	.79**	.78**	-.12**	-.15**	.62**	.57**	.41**	.58**	.40**	.77**
2.EDS		-	.83**	-.13**	-.17**	.64**	.60**	.46**	.57**	.44**	.71**
3.WFC			-	-.14**	-.25**	.63**	.59**	.44**	.56**	.42**	.76**
4. WPSS				-	.46**	-.23**	-.07 ^{n.s}	-.01 ^{n.s}	-.18**	.006 ^{n.s}	-.29**
5.Rs					-	-.24**	-.18**	-.16**	-.22**	-.05 ^{n.s}	-.34**
6.SS						-	.57**	.42**	.55**	.42**	.64**
7.WPCF							-	.83**	.80**	.77**	.61**
8.CF1								-	.52**	.45**	.44**
9.CF2									-	.43**	.61**
10.CF3										-	.43**
11.Agg											-

Note. ABS= Abusive supervision scale; EDS=Everyday discrimination scale; WFC=Work-family conflict scale; WPSS= Co-workers' social support; Rs= Brief resilience scale; SS= Somatic symptoms scale; WPCF=Workplace cognitive failure scale, CF1= Memory failure, CF2= Attention failure, CF3=Execution failure; Agg=Aggression; *** $p < .001$, ** $p < .01$, * $p < .05$.

The table demonstrates that all three predictors; abusive supervision, everyday discrimination and work- family conflict have significant positive associations with the outcome variables (Cohen, 1988) including somatic symptoms, workplace cognitive failure and aggression.

Table 29*Multiple Regression Analysis Showing the Effects of Predictors on Somatic Symptoms**(N = 662)*

Variable	β	SE	<i>t</i>	<i>p</i>
Constant	-	.900	- .694	.488
Abusive supervision	.24	.03	4.79	.000
Everyday discrimination	.27	.04	4.79	.000
Work-family conflict	.21	.04	3.81	.000
R^2	.460			
F	186.21***			

Note. *** $p < .001$.

Table 29 shows the values of multiple regression analysis. It was conducted to examine the significant impacts of abusive supervision, everyday discrimination and work-family conflict on somatic symptoms. The overall model is statistically significant ($F = 186.210$). The value of R^2 indicates that model explains 46% of the variance. The standardized beta coefficient for abusive supervision is .243 ($p = < .001$), representing significant positive relationship between abusive supervision and somatic symptoms. The beta coefficient for everyday discrimination .270 ($p = < .001$) similarly suggests the significant positive association between everyday discrimination and somatic symptoms. Lastly, work-family conflict's beta coefficient of .214 ($p = < .001$) also indicates the significant positive association between work-family conflict and somatic symptoms. Overall, findings suggest that all three predictors have a significant positive impact on somatic symptoms, with variable everyday discrimination having the slightly strongest effect. Result supports that these variables are the significant predictors in explaining the variance in somatic symptoms.

Table 30

Multiple Regression Analysis Showing the Impacts of Predictors on Workplace Cognitive Failure (N = 662)

Variable	β	SE	t	p
Constant	-	1.656	8.28	.000
Abusive supervision	.18	.05	3.42	.001
Everyday discrimination	.30	.07	5.05	.000
Work-Family Conflict	.20	.07	3.43	.001
R^2	.405			
F	149.52***			

Note. *** $p < .001$.

Table 30 displays the impacts of abusive supervision, everyday discrimination and work-family conflict on workplace cognitive failure. The overall model is statistically significant ($F = 149.523$) and shows that all the three predictors have significant positive associations with workplace cognitive failure. The value of R^2 indicates that model explains 40.5 % of the variance. The standardized coefficient for abusive supervision is .182 ($p = < .01$), representing a significant positive relationship between abusive supervision and workplace cognitive failure. Similarly, the value of beta coefficient for everyday discrimination .30 ($p = < .001$) is indicating a significant positive association between everyday discrimination and workplace cognitive failure. Lastly, the beta for work-family conflict also suggests a significant positive association by showing the value of .201 ($p = < .01$). The findings of the analysis reveal that all three predictors have significant impacts on workplace cognitive failure, and everyday discrimination carries the strongest impact among the three.

Table 31

Multiple Regression Analysis Presenting the Impacts of Predictors on Aggression (N = 662)

Variable	β	SE	t	P
Constant	-	1.111	5.379	.000
Abusive supervision	.44	.03	11.13	.000
Everyday discrimination	.15	.05	3.32	.001
Work-Family Conflict	.37	.05	8.33	.000
R^2	.664			
F	433.482***			

Note. *** $p < .001$.

Table 31 presents the significant impacts of abusive supervision, everyday discrimination and work-family conflict on aggression. The model is statistically significant ($F = 433.482$) and reveals that abusive supervision, everyday discrimination and work-family conflict have significant positive relationship with aggression. The value of R^2 indicates that model explains 66.4 % of the variance. The standardized regression coefficient for abusive supervision is .444 ($p = < .001$), indicating a significant positive relationship between abusive supervision and aggression, with carrying the strongest impact. Similarly, the beta coefficient for everyday discrimination .154 ($p = < .01$) also indicates that everyday discrimination has significant positive relationship with aggression. Lastly, the beta value of .370 ($p = < .001$) for work-family conflict is also showing the significant positive association between work-family conflict and aggression. Finally, the findings suggest that abusive supervision, everyday discrimination and work-family conflict have significant impacts on aggression as predictors.

Table 32

Moderating Effect of Resilience on the Relationship Between Abusive Supervision and Attention Failure (N = 662)

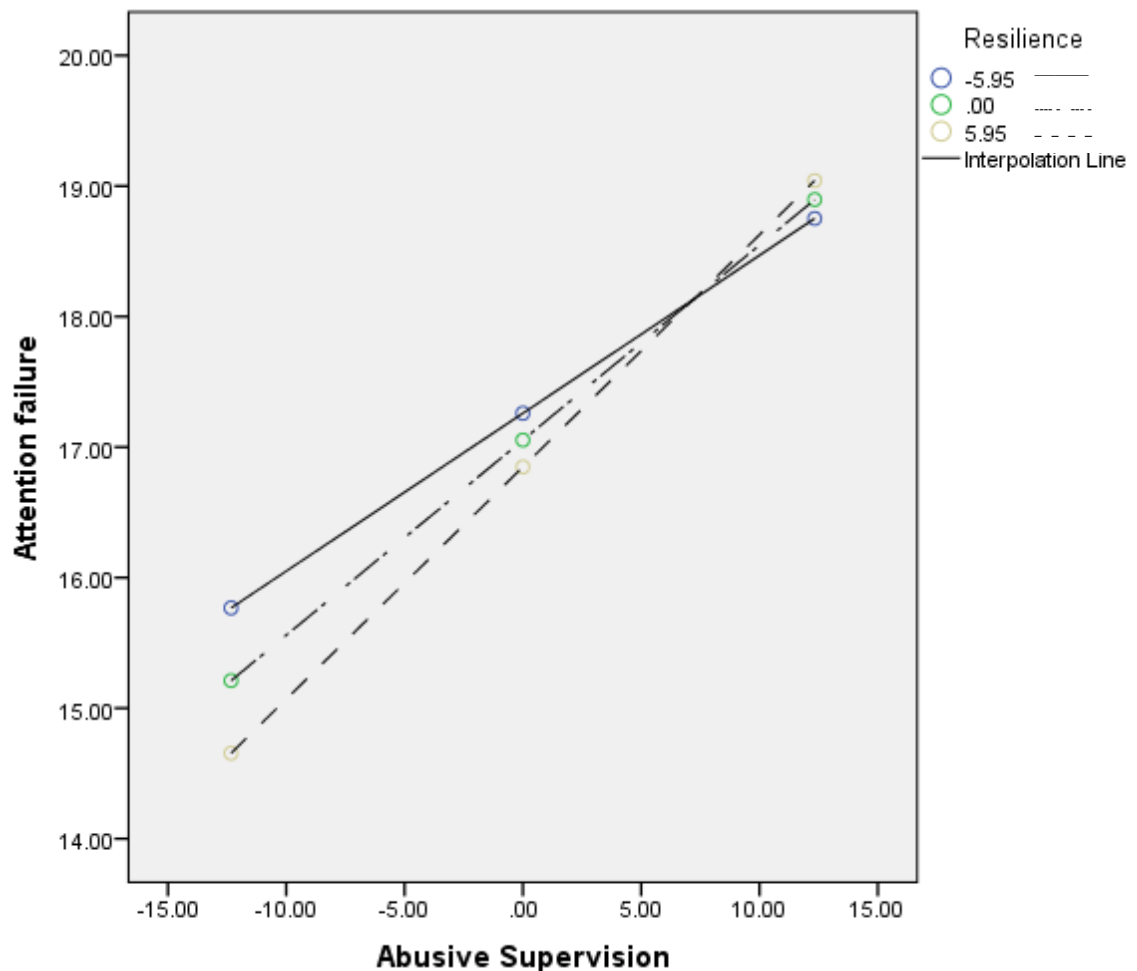
Variable	β	SE	95%CI		
			p	LL	UL
Constant	12.66	.65	.000	11.38	13.94
ABS	.15	.01	.000	.124	.175
RS	-.035	.02	.161	-.083	.014
ABS $\times$ RS	.005	.00	.007	.001	.008
NA	.280	.04	.000	.200	.360
R	.64				
R^2	.41				
ΔR^2	.007				
F	7.37**				

Note. ABS = Abusive supervision scale; RS=Resilience scale; AB*RS =Interaction between abusive supervision and resilience scale; NA= Negative affectivity (as covariate); ** $p < .01$.

Table displays the moderating role of resilience in relationship between abusive supervision and attention failure among sanitary workers. Sanitary workers who reported higher than the average level of resilience experienced a greater effect of abusive supervision on attention failure. Findings indicated that resilience significantly strengthen this relationship. After controlling the impacts of negative affectivity, it explains 41 % of variance. Moderation effect has been further elaborated using a mod graph in the following figure.

Figure 12

Mod graph Showing the Conditional Relationships Between Abusive supervision and Attention failure at Different Levels of Resilience



The moderation effect graph displays the varying effect sizes across different levels of resilience on the relationship between abusive supervision and attention failure. At low level of resilience, the effect size is 0.12. As the resilience level increases to a moderate level, the effect size slightly rises to 0.15 level. However, at high levels of resilience, the effect size reaches its peak at 0.18, suggesting its strongest influence on the relationship. The t values, at the low level of the resilience: $t = 7.217$ $p < .001$, at the moderate level of the resilience: $t = 11.522$ $p < .001$ and at the high level: $t =$

10.728 $p < .001$, are showing the statistical significance of the conditional effects. The positive and steeper slopes of each moderation line (Aiken & West, 1991) suggest that the relationship between abusive supervision and attention failure get strengthened as the resilience increases. Additionally, divergence and convergence of the moderation lines are also indicating the strength and direction of the moderation effect. Furthermore, the region of significance is highlighting the point where the moderation effect is most pronounced, with the intersection point marking the neutral point of the moderation effect. Overall, the figure presents significant moderation by resilience, and the conditional effects differ across different levels.

Table 33

Moderating Effect of Resilience on the Relationship Between Everyday discrimination and Workplace Cognitive Failure (N = 662)

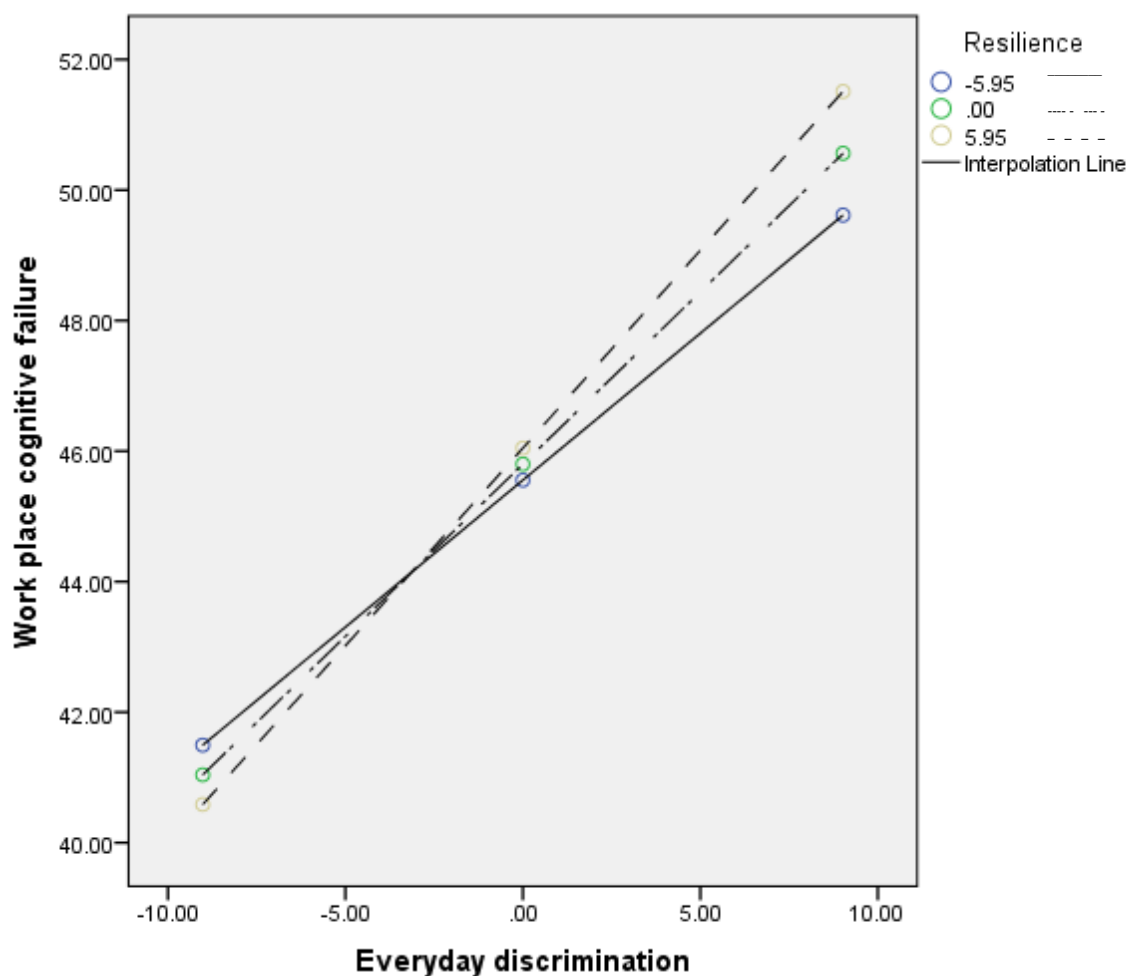
Variable	β	SE	95%CI		
			p	LL	UL
Constant	33.290	1.59	.000	30.17	36.41
EDS	.528	.043	.000	.443	.613
RS	.041	.060	.492	-.077	.160
EDS $\times$ RS	.013	.006	.029	.001	.025
NA	.80	.099	.000	.603	.992
R	.66				
R^2	.44				
ΔR^2	.004				
F	4.81*				

Note. EDS = Everyday discrimination. RS= resilience. EDS * RS =Interaction between everyday discrimination and resilience; NA= Negative affectivity (as covariate); * $p < .05$.

Table displays the moderating role of resilience in the relationship between abusive supervision and workplace cognitive failure among sanitary workers. Results show that resilience significantly exacerbates the impact of abusive supervision on work place cognitive failure after controlling the impact of negative affectivity it explains 44 % of variance. Sanitary workers who reported higher than average level of resilience experienced greater impacts of everyday discrimination on workplace cognitive failure.

Figure 13

Mod graph Showing the Conditional Effects of Everyday Discrimination on Workplace Cognitive Failure at Different Levels of Resilience



Moderation lines display that the relationship between everyday discrimination and workplace cognitive failure changes at different levels of resilience, the high level of resilience is representing the larger impact. The effect sizes associated with these conditional effects respectively are as follows, at the low level of resilience = .450 $p < .001$, at the moderate level of the resilience: .528 $p < .000$ and at the high level of the resilience = .606 $p < .001$, indicating the large effect sizes with increasing trends. Which elucidates that the moderation effect becomes stronger as the resilience level increases. The t values at the low level of the resilience: $t = 7.911 p < .001$, at the moderate level of the resilience: $t = 12.154 p < .001$ and at the high level of the resilience: $t = 10.962 p < .001$ are showing the significance of the conditional effects.

The steeper slopes are indicating strong interaction effects whereas, the positive slope suggests that the relationship between abusive supervision and attention failure is strengthened as the resilience increases. Additionally, the divergence of the moderation lines also showing the strength and direction of the moderation effect. The region of significance is highlighting the point where the moderation effect is noticeable, while intersection points are marking the neutral point of the moderation effect. Overall, it appears that the relationship between everyday discrimination and workplace cognitive failure is significantly moderated by the resilience with large impact and the conditional effects differ across different levels.

Table 34

Moderating Effect of Resilience on the Relationship Between Everyday Discrimination and Attention Failure (N = 662)

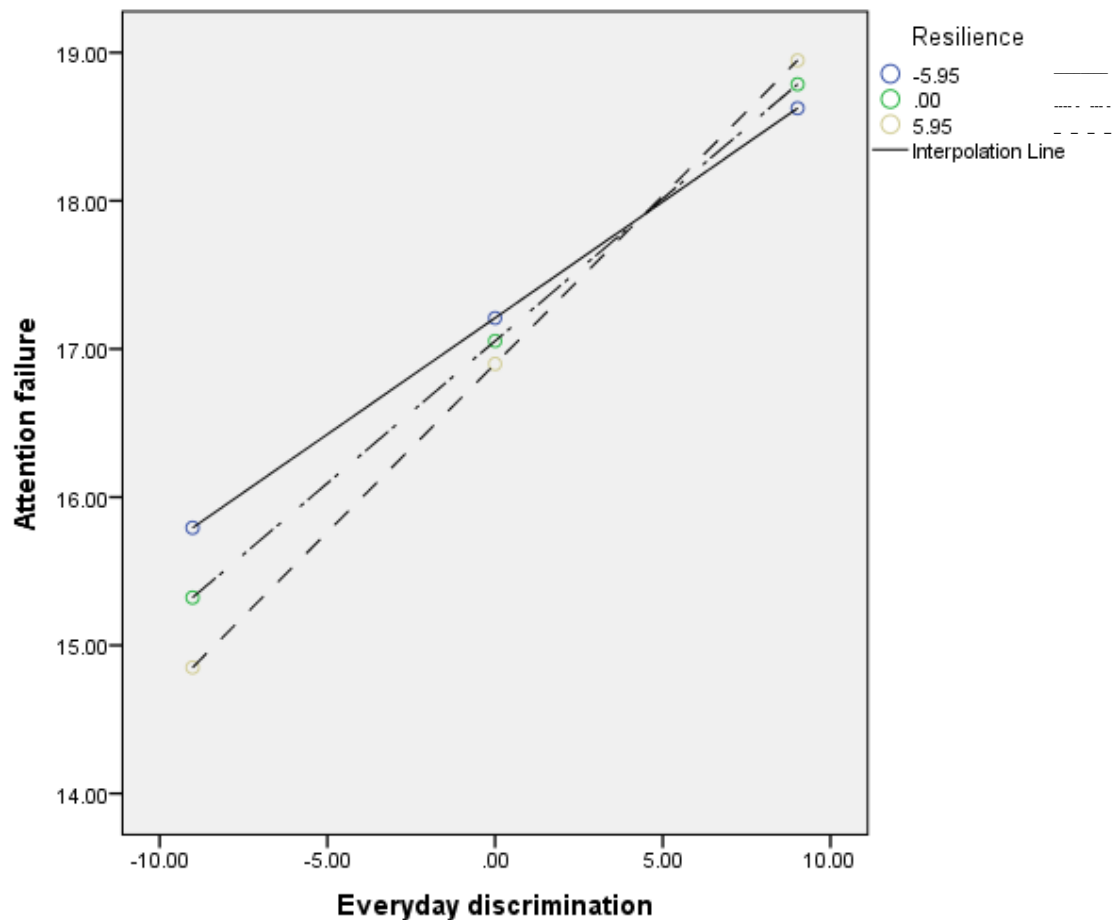
Variable	β	SE	95%CI		
			p	LL	UL
Constant	12.38	.658	.000	11.091	13.673
EDS	.192	.018	.000	.157	.227
RS	-.026	.025	.296	-.075	.023
EDS $\times$ RS	.006	.002	.017	.001	.011
NA	.298	.041	.000	.217	.378
R	.63				
R^2	.40				
ΔR^2	.005				
F	5.73**				

Note. EDS = Everyday discrimination; RS= resilience; EDS * RS =Interaction between everyday discrimination and resilience; NA= Negative affectivity (as covariate); ** $p < .01$.

Table shows the moderating role of resilience in relationship between everyday discrimination and attention failure among sanitary workers. It depicts that resilience significantly exacerbates the relationship between everyday discrimination and attention failure. After controlling the impacts of negative affectivity, it is explaining 40% of variance. Participants who experienced higher than average level of resilience reported more effects of everyday discrimination on attention Failure.

Figure 14

Mod Graph Showing the Conditional Effects of Everyday Discrimination on Attention Failure at Different Levels of Resilience



Moderation effect lines display that the relationship between everyday discrimination and attention failure changes at different levels of resilience. The high level of resilience represents the strongest impact. The effect sizes related to these conditional effects respectively are as subsequent, at the low level of resilience = .157, at the moderate level = .192 and at the high level = .227, indicating the increasing trend from moderate to large effect sizes. It explains that the moderation effect becomes stronger as the resilience level increases. The t values at the low level of the resilience: $t = 6.668p < .001$, at the moderate level: $t = 10.690p < .001$ and at the high level of

the resilience: $t = 9.941$ $p < .001$ are showing the statistical significance of the conditional effects. Moreover, steepness of slopes is showing the strong interaction effects. Overall, the relationship between everyday discrimination and attention failure is significantly moderated by the resilience and the conditional effects vary across different levels.

Table 35

Moderating Effect of Resilience on the Relationship Between Everyday Discrimination and Execution Failure (N = 662)

Variable	β	SE	95%CI		
			P	LL	UL
Constant	8.417	.728	.000	6.987	9.847
EDS	.139	.020	.000	.100	.178
RS	.091	.028	.001	.037	.145
EDS $\times$ RS	.007	.003	.010	.002	.012
NA	.310	.045	.000	.221	.399
R	.50				
R ²	.25				
ΔR^2	.008				
F	6.71**				

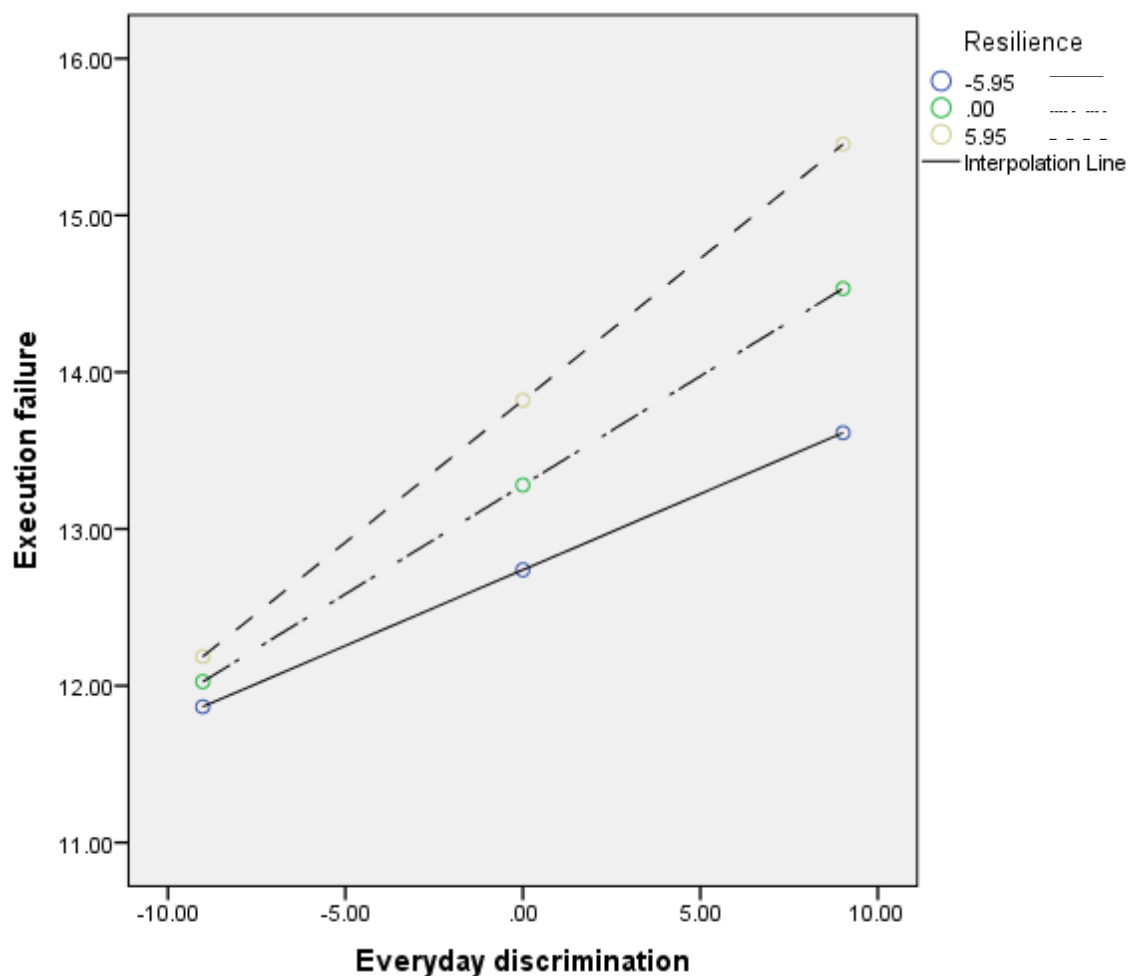
Note. EDS = Everyday discrimination; RS= resilience; EDS * RS =Interaction between everyday discrimination and resilience; NA= Negative affectivity (as covariate); ** $p < .01$.

Table reveals the moderating role of resilience in relationship between abusive supervision and execution failure among sanitary workers. Results show that resilience significantly exacerbates the impact of everyday discrimination on execution failure, after controlling the impact of negative affectivity it explains 25% of variance. Workers

who experience more than average level of resilience reports greater impacts of everyday discrimination on execution failure.

Figure 15

Mod Graph Showing the Conditional Effects of Everyday Discrimination on Execution Failure at Different Levels of Resilience



Mod graph presents that the relationship between everyday discrimination and execution failure differs at different levels of resilience. The high level of resilience represents the strongest impact. The effect sizes respectively are as follows, at the low level of resilience= .11, at the moderate level of resilience=.140 and at the high level of resilience= .181, indicating the increasing trend. It elucidates that the moderation effect

is higher as the resilience level increases. The t values at the low level of the resilience: $t = 3.715$ $p < .001$, at the moderate level of the resilience: $t = 6.983$ $p < .001$ and at the high level of the resilience: $t = 7.153$ $p < .001$ are showing the statistical significance of the conditional effects. Positive, steep and divergent lines also displaying the strength and direction of interaction effects. Overall, it appears that the relationship between everyday discrimination and execution failure is significantly exacerbated by the resilience with moderate effect size and the conditional effects vary across diverse levels.

Table 36

Moderating Effect of Resilience on the Relationship Between Work-Family Conflict and Attention Failure (N = 662)

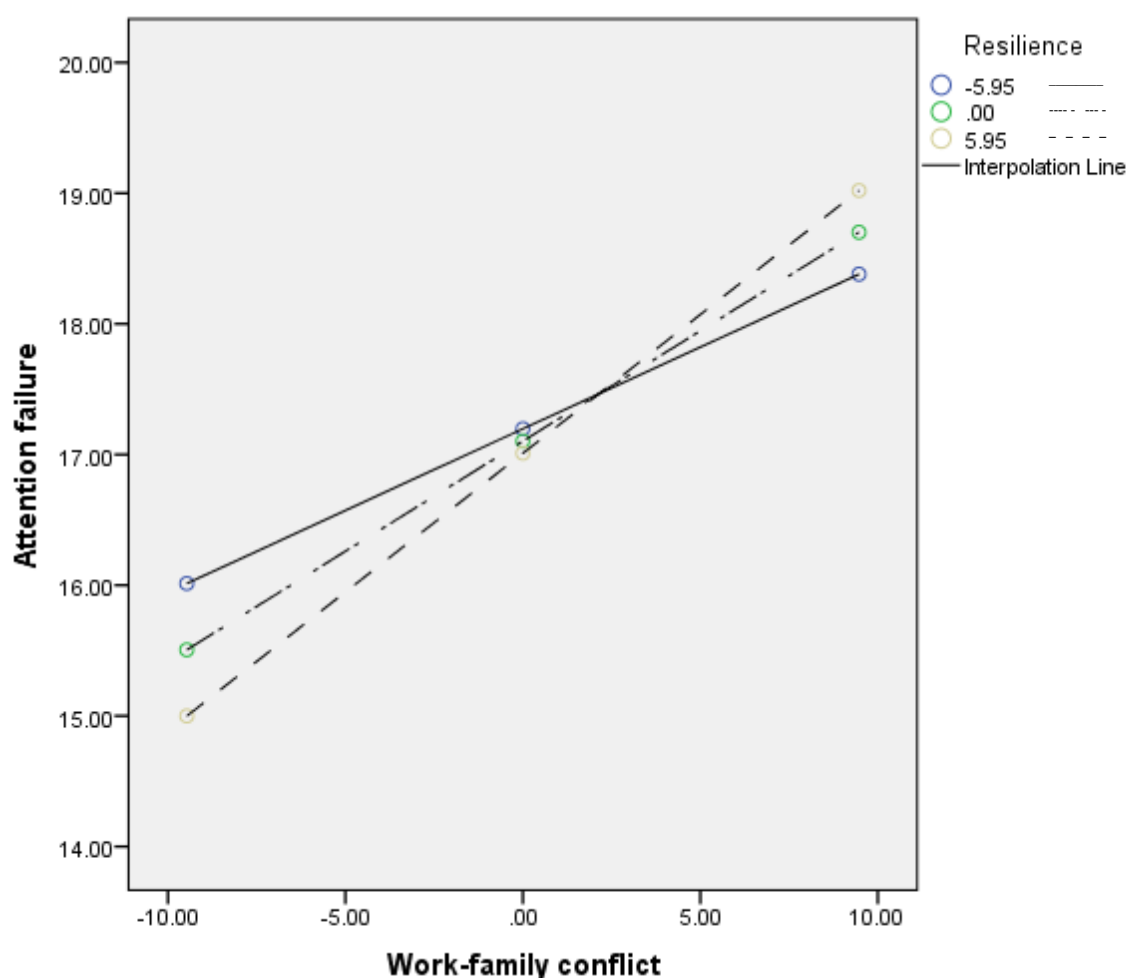
Variable	β	SE	p	95%CI	
				LL	UL
Constant	12.61	.72	.000	11.20	14.018
WFC	.17	.02	.000	.131	.206
RS	-.02	.02	.537	-.065	.034
WFC $\times$ RS	.01	.002	.002	.003	.012
NA	.29	.04	.000	.198	.375
R	.61				
R ²	.37				
ΔR^2	.01				
F	9.503**				

Note. WF = Work-Family Conflict; RS = Resilience scale; WF * RS = Interaction between work family conflict and resilience scale; NA = negative affectivity (as covariate); ** $p < .01$.

Table exhibits the moderating role of resilience on relationship between work-family conflict and attention failure among sanitary workers. Values show that the resilience significantly exacerbates the impacts of work-family conflict on attention failure. It explains 37% variance, after controlling the impact of negative affectivity. Sanitary workers who had more than average level of resilience reported greater impact of work-family conflict on attention failure.

Figure 16

Mod Graph Showing the Conditional Effects of Work-Family Conflict on Attention Failure at Different Levels of Resilience



Moderation effect lines display the relationship between work-family conflict and attention failure at different levels of resilience, showing the strongest impact at the high level of resilience. The effect sizes related with these conditional effects respectively include at low level of resilience= .12, at moderate level= .17 and at the high level of the resilience= .21. The values are demonstrating the increasing trend, explaining that the moderation effect is higher as the resilience level increases. The t values at the low level of the resilience: $t = 5.081$ $p < .001$, at the moderate level of the resilience: $t = 8.833$ $p < .001$ and at the high level: $t = 9.255$ $p < .001$ are showing the statistical significance of the conditional effects. It appears that the association between work-family conflict and attention failure is significantly strengthened by resilience.

Table 37

Moderating Effect of Co-workers' Support in the Relationship Between Everyday discrimination and Workplace Cognitive Failure (N = 662)

Variable	β	SE	p	95%CI	
				LL	UL
Constant	32.376	1.507	.000	29.41	35.33
EDS	.519	.043	.000	.435	.604
WPSS	.196	.070	.005	.058	.333
EDS $\times$ WPSS	.019	.008	.011	.004	.034
NA	.855	.094	.000	.671	1.040
R	.67				
R ²	.44				
ΔR^2	.005				
F	6.477**				

Note. EDS = Everyday discrimination scale; WPSS = Co-workers' support scale; EDS* WPSS =

Interaction between everyday discrimination and Co-workers' support; NA = Negative affectivity

(as covariate); ** $p < .01$.

Table displays the moderating role of co-workers' support. It indicates that co-workers' support significantly intensifies the impact of everyday discrimination on workplace cognitive failure. After controlling the impact of negative affectivity, it explains 44% of variance.

Figure 17

Mod graph Showing the Conditional Effects of Everyday Discrimination and Workplace Cognitive Failure at Different Levels of Co-workers' Support

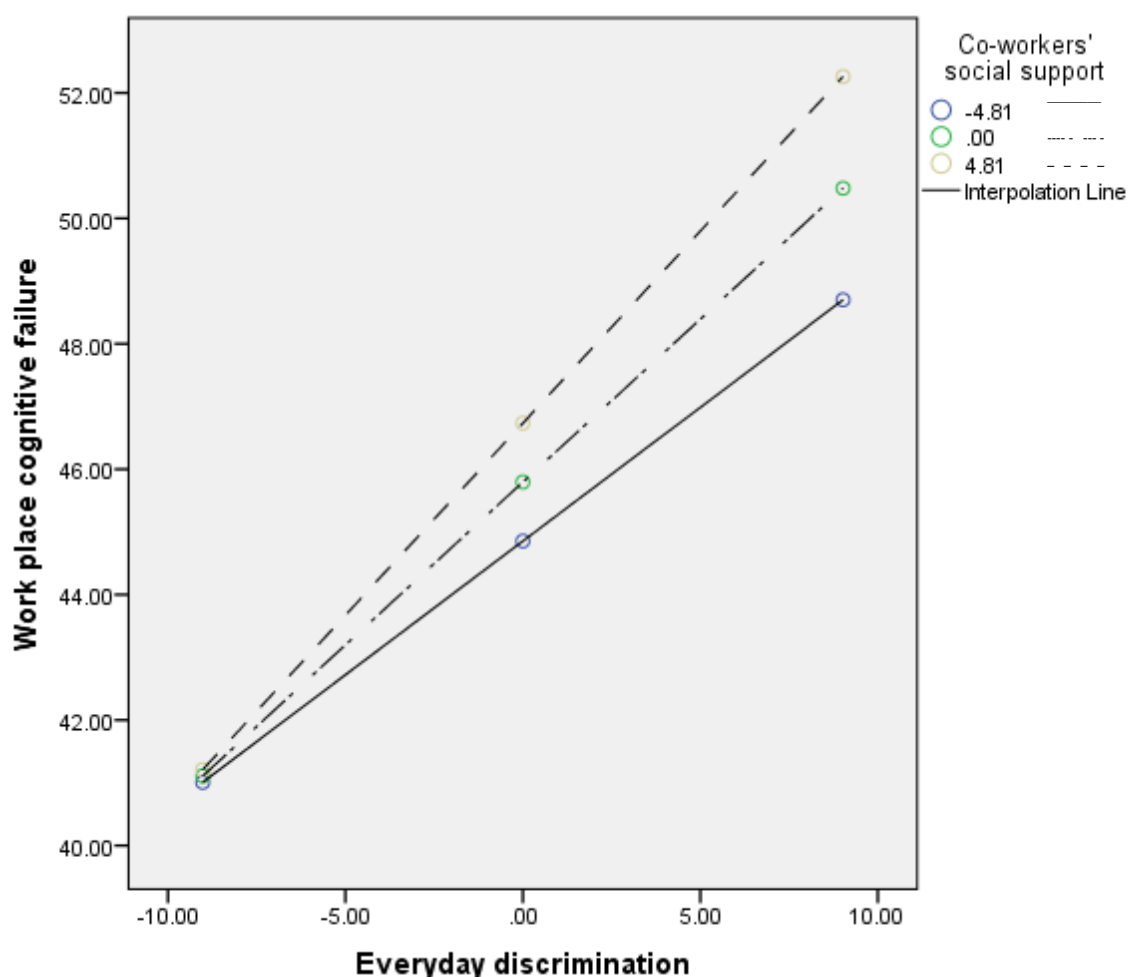


Figure displays the association between everyday discrimination and workplace cognitive failure at different levels of coworkers' support. The association is significantly intensified by coworkers' support. The effect sizes related to these

conditional effects are at the low level of resilience= .430, at the moderate level of resilience: .520 and at the high level of resilience= .612, representing the increasing trend with large effect sizes. The t values at the low level of the resilience: $t = 7.281$ $p < .001$, at the moderate level of the resilience: $t = 12.005$ $p < .001$ and at the high level of the resilience: $t = 11.268$ $p < .001$, are showing the statistical significance of the conditional effects. Steep, positive and divergent slopes also indicating the strength and direction of interaction effect.

Table 38

Moderating Effect of Co-workers' Support on the Relationship Between Work-Family Conflict and Workplace Cognitive Failure (N = 662)

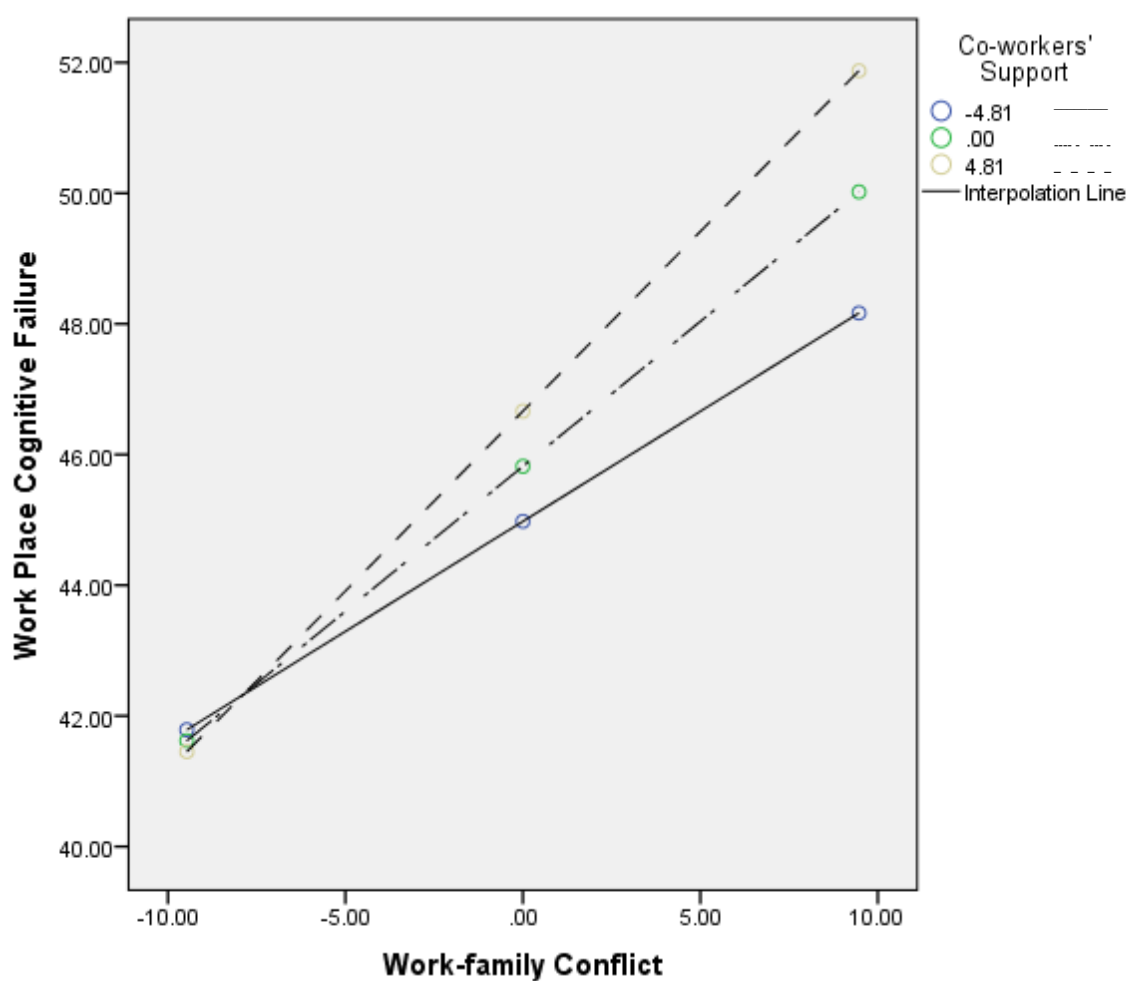
Variable	β	SE	p	95%CI	
				LL	UL
Constant	33.072	1.702	.000	29.729	36.415
WFC	.44	.047	.000	.352	.535
WPSS	.18	.072	.016	.033	.318
WFC $\times$ WPSS	.02	.008	.003	.007	.037
NA	.81	.107	.000	.603	1.022
R	.64				
R ²	.41				
ΔR^2	.008				
F	8.761**				

Note. WFC = Work Family Conflict; WPSS = Co-workers' support scale* WPSS = Interaction between work family conflict and Co-workers' support scale; NA = Negative affectivity (as covariate); ** $p < .01$.

Table presents the intensifying role of co-worker's support in relationship between work family conflict and workplace cognitive failure among sanitary workers. Findings indicate that after adding the negative affectivity as covariate it explains 41% variance. Sanitary workers who received higher than average level of co- workers' support reported greater effects of work-family conflict on workplace cognitive failure.

Figure 18

Mod graph Showing the Conditional Relationships Between Work-Family Conflict and Workplace Cognitive Failure at Different Levels of Co-workers Support



Moderation effect lines display the relationship between work-family conflict and workplace cognitive failure at different levels of the co-workers' support. The high value of co-workers' social support represents the strongest impact. The effect sizes related to these conditional effects respectively are as subsequent; at low level of resilience = .34, at moderate level of the resilience = .44 and at the high level of resilience = .55, representing the increasing trend with large effect sizes. It explains that the moderation effect is higher as the co-workers' social support increases. The *t* values at the low level of the resilience: $t = 5.37$ $p < .001$, at the moderate level of the resilience: $t = 9.47$ $p < .001$ and at the high level of the resilience: $t = 9.96$ $p < .001$ are showing the statistical significance of the conditional effects. Positive, steep and divergent lines are displaying the strength and direction of the interaction effect.

Table 39

Moderating Effect of Co-workers' Support on the Relationship Between Work-Family Conflict and Memory Failure (N = 662)

Variable	β	SE	p	95%CI	
				LL	UL
Constant	11.905	.867	.000	10.203	13.606
WFC	.165	.024	.000	.119	.212
WPSS	.097	.037	.009	.025	.169
WFC $\times$ WPSS	.009	.004	.024	.001	.016
NA	.231	.054	.000	.124	.337
R	.480				
R ²	.230				
ΔR^2	.006				
F	5.155*				

Note. WFC = Work-Family Conflict; WPSS = Co-workers' social support scale* WPSS = Interaction between Work family conflict and workplace social support scale; NA = Negative affectivity (as covariate); * $p < .05$.

Table determines the intensifying impacts of co-workers support in relationship between work family conflict and memory failure, among sanitary workers. After controlling the impact of negative affectivity, it explains 23% of variance. Participants who receive more than average level of co-workers support experience greater effects of work-family conflict on memory failure.

Figure 19

Mod Graph Showing the Conditional Relationships Between Work-Family Conflict and Memory Failure at Different Levels of Co-workers' Support

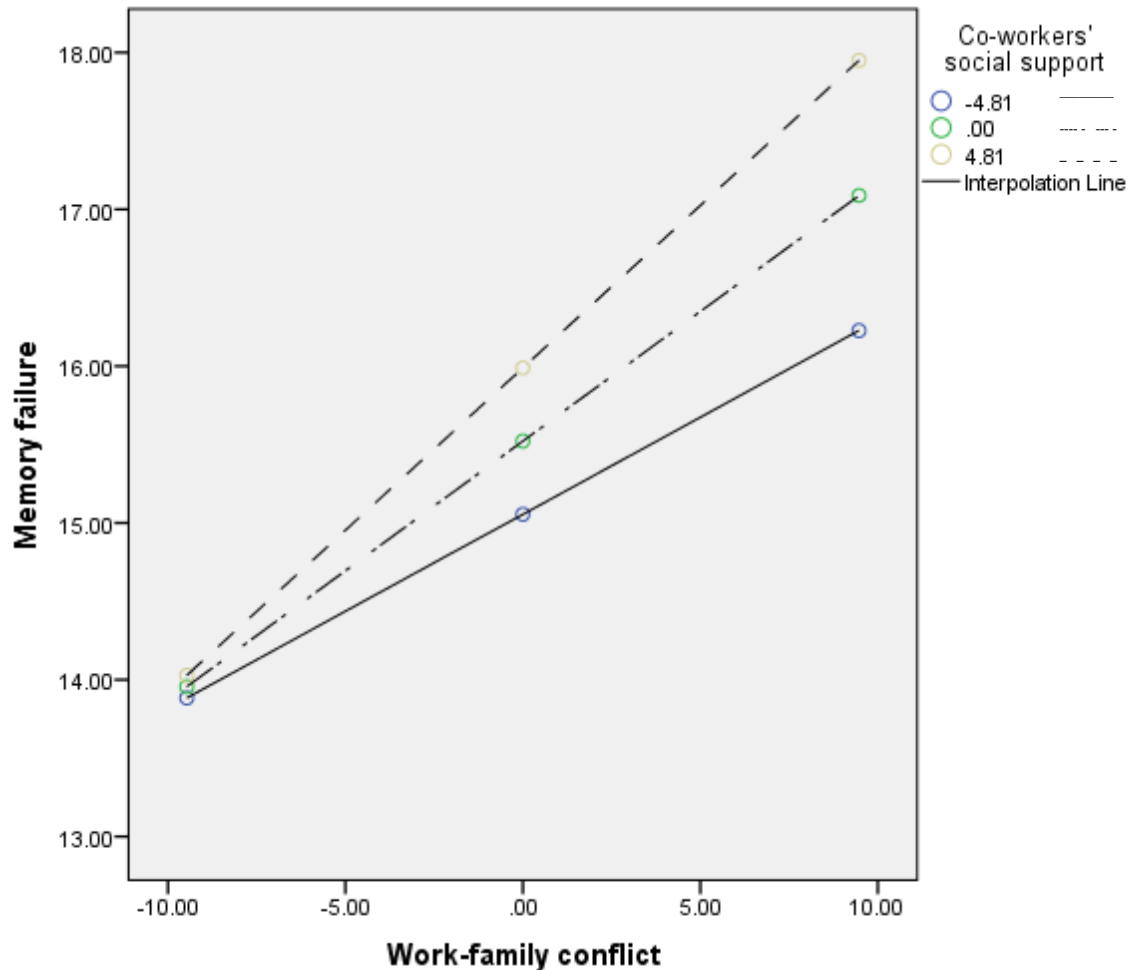


Figure presents the relationship between work-family conflict and memory failure at different levels of co-worker's support. The impact is strongest when moderator is at its highest level. The effect sizes related to these conditional effects are as subsequent; at the low level of resilience= .124, at the moderate level of the resilience= .165 and at the high level of the resilience= .210. These effect sizes being representative of growing trend clarify that the moderation effect is higher as the coworkers' support expands. The t values at the low level of resilience: $t = 3.875$ $p < .001$, at the moderate level of resilience: $t = 6.940$ $p < .001$ and at the high level of

resilience: $t = 7.365$ $p < .001$ are displaying the statistical significance of the conditional effects. Positive, steep and divergent lines are also an indicator of the strength and direction of interaction effect.

Mean Differences

Table 40

Mean Wise Gender Difference on Study Scales Along with Subscales (N = 662)

Variables	Male (n = 528)		Female (n = 134)		<i>t(df)</i>	<i>p</i>	90%CI	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			<i>LL</i>	<i>UL</i>
ABS	49.31	12.72	52.44	10.28	-2.63	.009	-5.46	-.79
EDS	35.45	9.23	38.56	7.64	-3.59	.000	-4.80	-1.41
WF	45.56	9.62	49.93	7.94	-4.84	.000	-6.13	-2.59
WF1	26.65	6.50	30.74	5.07	-6.78	.000	-5.28	-2.90
WF2	18.91	3.93	19.18	3.32	-.73	.462	-.99	.45
Rs	18.06	5.83	16.97	6.32	1.89	.050	-.03	-2.21
WPSS	16.83	4.74	14.45	4.57	5.22	.000	1.48	3.27
SS	18.11	6.35	21.61	4.92	-5.94	.000	-4.66	-2.34
WPCF	45.00	10.93	48.32	10.72	-3.14	.002	-5.38	-1.24
CF1	15.29	4.86	16.12	4.97	-1.75	.080	-1.75	.10
CF2	16.57	4.47	18.67	3.49	-5.07	.000	-2.92	-1.29
CF3	13.13	4.37	13.51	4.33	-.89	.371	-1.20	.45
Agg	42.39	9.92	47.08	8.21	-5.05	.000	-6.52	-2.87

Note. ABS = Abusive supervision; EDS = Everyday discrimination; WFC = Work-family conflict, WF1 = Work-family conflict at personal level, WF2 = Work-family conflict at family level; Rs = Resilience; WPSS = Co-workers' support; SS = Somatic symptoms; WPCF = Workplace cognitive failure; CF1 = Memory failure, CF2 = Attention failure, CF3 = execution failure, Agg = aggression, *M* = mean, *SD* = standard deviation, **p* < .05. ***p* < .01. ****p* < .001.

The findings of the independent sample *t*-test demonstrate the mean differences between male and female sanitary workers on all the scales and their respective subscales. Female sanitary workers significantly scored higher on abusive supervision,

everyday discrimination, work-family conflict (with its subscales), somatic symptoms, workplace cognitive failure (with all its dimensions) and aggression as compared to male sanitary workers. The differences on work-family conflict at family level, memory failure and execution failure are not statistically significant ($p > .05$). Moreover, females scored low significantly as compared to male workers on coworkers' social support and resilience.

Table 41

Mean Wise Difference Between Single Shift and Double Shift Workers on Scales Along Subscales (N = 662)

Variables	Single shift (n = 367)		Double shift (n = 295)		<i>t(df)</i>	<i>p</i>	90%CL	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			<i>LL</i>	<i>UL</i>
ABS	47.02	12.11	53.47	11.64	-6.92	.000	-8.28	-4.62
EDS	34.08	9.14	38.50	8.22	-6.44	.000	-5.76	-3.07
WF	43.68	9.60	49.81	8.10	-8.73	.000	-7.51	-4.75
WF1	25.61	6.56	29.74	5.49	-8.63	.000	-5.06	-3.19
WF2	18.07	3.90	20.07	3.40	-6.93	.000	-2.57	-1.43
RS	18.27	5.85	17.25	6.00	2.19	.033	.10	1.92
WPSS	16.58	4.74	16.03	4.86	1.45	.153	-.19	1.28
SS	17.86	6.37	20.00	5.90	-4.43	.000	-3.08	-1.19
WPCF	43.62	11.65	48.12	9.41	-5.36	.000	-6.15	-2.85
CF1	14.78	5.14	16.27	4.40	-3.94	.000	-2.23	-.74
CF2	16.11	4.72	18.06	3.61	-5.81	.000	-2.60	-1.28
CF3	12.72	4.65	13.79	3.90	-3.14	.001	-1.73	-.40
Agg	41.56	9.93	45.53	9.17	-5.26	.000	-5.43	-2.48

Note. ABS = Abusive supervision, EDS = Everyday discrimination, WFC = Work-family conflict, WF1 = Work-family conflict at personal level, WF2 = Work-family conflict at family level, Rs = Resilience, WPSS = Co-workers' support, SS = Somatic symptoms, WPCF = Workplace cognitive failure CF1 = Memory failure, CF2 = Attention failure, CF3 = execution failure, Agg = aggression; *M* = mean, *SD* = standard deviation, **p* < .05 ***p* < .01 ****p* < .001.

The findings of an independent sample t-test demonstrate that there are significant mean differences between single shift workers and double shift workers. Double shift workers scored high both on predictors and outcomes variables, which indicates that they experience more psychosocial hazards and physical and psychological problems. Whereas they scored low on resilience and co-workers' support; mean difference on co-worker's social support is statistically not significant (*p* > .05).

Table 42

Mean Wise Difference Among Permeant Workers, Contract workers, and Daily Wagers on Study Scales Along with Subscales (N = 662)

Variables	Permeant (n = 373)		Contract (n = 231)		Daily wages (n = 58)		F	p
	M	SD	M	SD	M	SD		
ABS	51.55	11.90	48.31	11.60	46.05	15.21	8.27	.000
EDS	37.41	8.89	35.09	8.34	31.51	10.43	13.36	.000
WFC	47.7	9.07	45.58	8.94	41.50	11.84	12.91	.000
WF1	28.18	6.22	27.17	6.24	24.18	7.58	10.29	.001
WF2	19.57	3.66	18.40	3.63	17.31	4.64	13.17	.000
RS	18.05	5.74	17.85	6.13	16.44	6.39	1.83	.161
WPSS	16.76	4.65	15.61	4.93	16.65	5.01	4.19	.010
SS	19.11	6.11	18.69	5.89	17.44	8.12	1.87	.153
CFT	47.45	10.52	44.57	10.56	38.68	12.05	18.79	.000
CFT1	16.29	4.69	14.75	4.80	12.98	5.25	15.89	.000
CFT2	17.15	4.23	17.26	4.16	14.93	5.49	7.28	.000
CFT3	14.00	4.39	12.54	4.02	10.77	4.19	18.83	.001
Agg	43.88	9.42	43.19	9.63	40.48	12.03	3.09	.040

Note. ABS = Abusive supervision, EDS = Everyday discrimination, WFC = Work-family conflict, WF1 = Work family conflict at personal level, WF2 = Work family conflict at family level, Rs = Resilience, WPSS = Co-workers' support, SS = Somatic symptoms, WPCF = Workplace cognitive failure CF1= Memory failure, CF2 = Attention failure, CF3 = execution failure, Agg = aggression; M = mean, SD = standard deviation. * $p < .05$ ** $p < .01$ *** $p < .001$.

The findings of the one-way ANOVA demonstrate that there are significant mean differences among permanent, contractual and daily wages workers. Permanent

employees scored significantly highest as compared to contractual and daily wagers on psychosocial hazards and outcomes; except somatic symptoms where results are non-significant. It reveals that they experience more psychosocial hazards and their outcomes. Contractual workers scored significantly higher as compared to daily wagers on the study variables except co-worker's support. The results for somatic symptoms and resilience are non-significant. Daily wagers scored significantly low on all the study variable except co-workers' social support as compared to contractual employees. Results revealed that the scores on resilience and somatic symptoms are statistically not significant ($p > .05$).

Table 43*Summary of Hypothesized Relationships for all the Analyses of Main Study*

Hypotheses	Supported / Not Supported
H1a	Supported
H1b	Supported
H1c	Supported
H2a	Supported
H2b	Supported
H2c	Supported
H3a	Supported
H3b	Supported
H3c	Supported
H4d	Supported
H4h	Supported
H4j	Supported
H4k	Supported
H4p	Supported
H5h	Supported
H5n	Supported

Hypotheses	Supported/ Not supported
H5o	Supported
H6a	Supported
H6b	Not Supported
H6c	Supported
H6d	Supported
H6e	Supported
H6f	Not Supported
H7a	Supported
H7b	Supported
H7c	Not Supported
H8a	Supported
H8b	Supported

Chapter 5**Discussion**

The current study was undertaken to investigate the associations between psychosocial hazards and physical and psychological wellbeing of sanitary workers. In this context abusive supervision, everyday discrimination and work-family conflict were taken as predictors, whereas somatic symptoms, workplace cognitive failure and aggression as health-related outcomes. This study also identified the moderating role of resilience and coworkers' support for these relationships, by taking negative affectivity as co-variate. The study further aimed to reveal the group differences based on gender, employment type, and work shifts on psychosocial hazards and related outcomes. The research was conducted in two phases. Phase I addressed the adaptation and initial validation of the study measures, in local context. Whereas Phase II of the study was concerned with testing the assumed hypotheses. All the adapted instruments in phase I were also subjected to confirmatory factor analysis in phase II before hypotheses testing. The results offered support to the validity of the measures in local context. The congruence between the dimensions identified in the translated versions and those depicted in the original versions are the significant findings of the study. The validation process not only supported the scales' applicability for future research, in similar contexts, but also revealed their utility for other researchers, seeking to employ empirically supported measures in their investigations.

The primary objective of the main study was hypotheses testing, in which three different types of hypotheses; direct, interactive and related to group differences were generated. Abusive supervision being one of the predictors showed the deleterious effects of abusive supervision on physical and psychological health related well-being of workers, which is aligned with the prior research (Hussain et al., 2020; Peltokorpi &

Ramaswami, 2021; Harvey et al., 2007). Bhattacharjee and Sarkar (2022), in a systematic literature review (2000-2022), revealed the enormous progress on intimidating supervision and reported its damaging consequences for the subordinates.

Abusive supervision though emerging as an argumentative matter in the service-based organizations of Pakistan (Hussain et al., 2020), yet there are limited studies focusing on this issue. Current study aimed to uncover the cost of abusive supervision paid by the sanitary workers and attempted to fill this dearth. This research hypothesized (H1a) that abusive supervision is positively associated with somatic symptoms and disclosed the significant positive relationship between harsh supervision and somatic complaints. It is an under researched area, previously very rare evidence has been reported regarding these associations (Liang et al., 2018; Velez & Neves, 2016; Folkhälsomyndigheten, 2017). In societies like Pakistan, where workers are abused and exploited, mostly they are not encouraged to voice out their problems against supervisors or have less/no hope for justice, face extreme stress and wellbeing related issues (Jahanzeb et al., 2019; Hussain et al., 2020; De Clercq et al., 2021). The positive association of abusive supervision with somatic symptoms such as body aches, headaches, sleep issues, digestive issues etc., can be explained through stress strain pathway. The chronic and extreme stress which sanitary workers bear because of the demeaning supervision may influence physiological functions (through hypothalamic, pituitary and adrenalin axis) that, finally, may result in somatic symptoms.

The present study added in the literature by revealing the significant positive association of abusive supervision with workplace cognitive failure (H1b). Scholar could not find any prior investigation, specifically on this relationship. While few studies have been conducted on the associations of abusive conduct of supervisors and creativity and innovative performance (Shah et al., 2021; Han et al., 2017; Fang et al.,

2023). According to scholars' knowledge, impacts of abusive supervision on workplace cognitive failure (memory, attention, and execution dysfunction) among sanitary workers, with the moderating effects, have been investigated for the first time in this study.

Abusive supervision may impair sanitary workers' cognitive functions because of the induced chronic stress. This persistent stress may lead to the excessive production of cortisol, which affects memory, attention, and decision related processes (Olver et al., 2015; Roozendaal et al., 2009), by impacting different spheres of brain such as hippocampus and prefrontal cortex. Psychological impacts of abusive supervision, like anxiety, annoyance, and attenuated self-esteem, may also damage their cognitive abilities. Victims of abusive supervision may remain hyper-vigilant to possible threats, leading to cognitive overload and decline in focus. Moreover, bullying from supervisors may disrupt their sleep patterns, which in turn hampers their cognitive functions. The combined effects of these factors may severely affect sanitary workers' ability to perform cognitive tasks effectively which may ultimately lead to workplace cognitive failure.

Moreover, the study has demonstrated the positive significant interrelationship of abusive supervision and aggression (H1c). Which is congruent with the findings of Burtoen and Hoobler (2011), who explored that coercive leadership/supervision positively relates with aggressive behavior of under command personnel. In the study, the positive associations may indicate that sanitary workers who cannot directly react to their supervisors may generally release their aggression on family, friends (using the defenses of scapegoating and replacement), and sometimes it may take the form of inward hostility. Qualitative data of the study also supported that they have frequent quarrels with spouses, family and co-workers, moreover, domestic violence is common

among them. Hoobler and Brass (2006) also supported that abused staff's family members face negative emotions and undesirable appraisals by those workers, at home.

Findings on all the assumed associations of abusive supervision reported that it has adverse impacts on physiological and mental well-being of sanitary workers in Pakistan. Workers who face higher levels of abusive supervision experience more somatic symptoms. They encounter more challenges in maintaining focus and experience problems of memory, which consequently affect their execution related abilities or cognitive performance. Moreover, workers exposed with higher levels of abusive supervision are more likely to experience aggression and engage in retaliatory behaviors (Tepper, 2000). Thus, among sanitary workers, already facing different challenges (Gomathi & Kamala, 2020), the presence of abusive supervisory manners aggravates the burden they bear (Fischer et al., 2021), therefore, due to its serious repercussions it needs to be further investigated and addressed.

The existing body of research on discrimination largely focuses on racial discrimination. Cenat et al. (2022) reported the positive correlation between racial discrimination and psychosomatic symptoms, that was, partially, mediated by resilience and negatively moderated by gender. Similarly, Williams et al. (2019) revealed the adverse mental and physical health outcomes of racial discrimination. While the present study focused on everyday discrimination and hypothesized its positive relation with somatic symptoms (H2a). The findings provided support for the hypothesis. Everyday discrimination for sanitary workers, due to the status of their job in our hierarchy-based society, may produce damaging effects through hurt self-esteem and feelings of injustice and helplessness. Sanitary work is placed lowest at the ladder of employment status and is perceived to belong to the specific community. The social stigma attached to handling feces forces social banishing and hinders sanitary workers' social inclusion,

this unfair treatment may result extreme stress and eventually different somatic health related issues.

The relation between everyday discrimination and workplace cognitive failure is a new avenue, though work stress has been widely related to cognitive changes. Literature supports that psychosocial stress may negatively impact upon episodic memory processes (Yonelinas & Ritchey, 2015), working memory (Shankar & Hinds, 2017; Sutin et al., 2015), perceptual or processing speed (Zahodne et al., 2020), selective and sustained attention (Sänger et al., 2014), higher order mental operations (Zahodne et al., 2020), and flow of speech (Shankar & Hinds, 2017). This study assumed the positive relationship between everyday discrimination and workplace cognitive failure (H2b) and affirmed the hypothesis.

The positive association between everyday discrimination and workplace cognitive failure is a multifaceted phenomenon. Experience of daily discrimination may lead to heightened stress levels, inflammation, and temporary changes in neurobiological processes, all of which ultimately affect cognitive function in adverse manners. Additionally, these exposures may contribute to cognitive load, moreover, constant dealing with the emotional toll may divert rather deplete cognitive resources, resulting in decreased cognitive competence and efficiency. Study suggested that encounter of day-to-day discrimination among sanitary workers may result in deteriorated cognitive processes.

Furthermore, literature has focused the discrimination as a precursor to aggression (Wright & Wachs, 2019; Mulvey et al., 2020; Xie et al., 2020). Everyday discrimination in relation to aggression seems positive. Xiong et al. (2022) reported that less emphasis has been placed on how discrimination, aggression and negative emotions are interconnected. Moreover, whether social support moderates the

relationship of discrimination and aggression. Their findings indicated that discrimination raised negative emotional state, which in turn elevated the reactive aggression. Moreover, the provision of socio-emotional support alleviated the harmful effects of perceived discrimination on reactive aggression, through weakening the relation of discrimination and negative emotions.

The present study assumed the positive association between everyday discrimination and aggression (H2c), and the findings supported the hypothesis. Aggression among sanitary workers may be taken as a way to ventilate against the perceived injustice and humiliation. Findings are aligned with a body of literature that emphasizes the deleterious impacts of everyday discrimination on individual's well-being and behavioral responses. Drawing upon social psychology and related fields, this study supports theoretical frameworks like frustration-aggression theory (Dollard et al., 1939), and social learning theory (Bandura, 1977). The experiences of everyday discrimination may produce frustration and aggressive response, or they may learn aggressive behaviors as coping mechanism, by observing others' reactions in response to everyday discrimination.

The investigations regarding work to family conflict and its repercussions have become more substantial, and the current circumstances suggest that its importance will continue to rise in the coming times as well (Kao et al., 2020). The contradictory demands, originated from work and home, have emerged as one of the pertinent psychosocial hazards in present work era, for both male and female workers. The current study assumed the positive association of work-family conflict with somatic symptoms (H3a), and the hypothesis was accepted. The results showed the negative impacts of work-family dissonance on somatic symptoms, which is aligned with the preceding research (Bretzke et al., 2020; Mostafa, 2020). This conflict may not allow

them to have enough quality time to spend with their families. They may not fulfill their household responsibilities properly. Drawing upon theories, the study provides supportive evidence for the idea that the strain experienced to balance work and family responsibilities may be manifested in adverse somatic symptoms. Prolonged exposure to stress hormones like cortisol may weaken their immune systems, increase inflammation, and elevate blood pressure, eventually, contribute to a range of physical health problems among sanitary workers. Findings of this study accentuate the significance of preventative measures, and necessary interventions aimed at enhancing the work-home balance to promote physical well-being of sanitation employees.

Arshadi et al. (2015) negatively related work-family discord to the overall health, and positively with workplace cognitive failure (self-efficacy moderated the relationship). Whereas Laurent et al. (2012) reported positive relation between family interference to work with increased workplace cognitive failure. Present study proposed the positive significant interrelationship between work to family conflict and workplace cognitive failure and supported the assumed hypothesis (H3b). The continuous stress due to their non-availability for family may occupy them during work. They may also remain affianced with the guilt of not fulfilling the needs of the family, which may further worsen their mental conditions. The positive relation of work-family conflict with workplace cognitive failure can be explained by considering the Conservation of resources theory (Hobfoll, 1989), and the Transactional stress model (Lazarus & Folkman, 1984). The constant efforts to meet conflicting demands may make it difficult for sanitary workers to concentrate, make decisions, and retain information effectively. Chronic stress may deplete their mental resources, needed for optimal performance, and contribute to more frequent cognitive failures among them. Moreover, they may appraise the requirements and pressures of both work and family roles and similarly the

capacity or available resources to cope with them, the disproportion between the demands and available coping resources may lead the raised stress levels and consequently impaired cognitive functions.

Literature generally supports that conflict between work and family related responsibilities has serious consequences for employees' psychological health (Nigatu & Wang, 2018; liu et al., 2022). Similarly, empirical research supports the affirmative relations of work-family conflict and various forms of aggression, including verbal aggression, hostility, and workplace incivility (Naseem & Ali, 2023; Saleh et al., 2020; Naseem & Ahmed, 2014). This study focused on an under researched framework and hypothesized the positive association between work-family conflict and aggressive behaviors among sanitary workers (H3c) and found significant support. Work-home discord may lead to frequent clashes and enhance domestic violence and verbal abuse among couples. Work-home conflict and aggression in positive relationship among sanitary workers can be explained through various theoretical framework such as the spillover and crossover models (Bronfenbrenner, 1979; Bakker & Demerouti, 2009). The stress and strain resulting from the conflict between work and family may spill over into interpersonal interactions with family and at workplace. This spillover effect may come up as irritability, frustration, and emotional exhaustion and may influence sanitary workers to react aggressively in response to perceived conflict. Furthermore, the pressure because of the ongoing conflict may impair their self-regulation mechanisms, making it more difficult for workers to control impulsive or aggressive behaviors. Results of the present study highlight the importance of recognizing and addressing work to family conflict, as a significant risk factor for aggression in both familial and organizational contexts, advocating for proactive interventions and supportive policies.

Employees face challenges as well as adversities in their organizations often or even every day; however, individual resilience is critical for employees to overcome these various challenges and hardships (Hartmann et al., 2020). The existing research has examined the impacts of individual resilience on psychological health mostly focusing on depression, anxiety (Zhang et al., 2020; Padmanabhanunni et al., 2023) and burnout (Harker et al., 2016). Moreover, performance and prosocial organizational behaviors (Paul et al., 2019; Hartmann et al., 2020) has also been researched in this context.

Resilience is generally associated with qualities and skills that can help individuals manage workplace challenges effectively and reduce stress. However, there are studies where it intensified the negative effects (Annor & Amponsah-Tawiah, 2020). In the study of Annor and Amponsah-Tawiah (2020) resilience's mitigating impact in relationship between bullying and victims' well-being was not supported, rather resilience strengthened the damaging impact of bullying at work on subjective well-being. Their findings highlighted a latent side of resilience in case of workplace bullying. Results suggested that depending on individuals' personal resilience may not be effective in decreasing the negative impacts of workplace bullying.

Annor and Amponsah-Tawiah argued that resilience may lead victims to persistently try to overcome bullying, a goal that may be unreachable or extremely exhausting (Chamorro-Premuzic & Lusk, 2017). They may excessively depend on their personal resources to cope with bullying or become unreasonably tolerant of it. Moreover, individuals with higher resilience may typically adopt active coping styles in adverse circumstances, which are usually seen as positive, but such coping styles can have negative outcomes when individuals have little control (Reknes et al., 2016).

Additionally, high resilience, with its associated high tolerance and overindulgence may deplete coping resources more quickly and significantly diminish well-being.

Similarly, Banni- Melhem et al. (2021) supported the intensifying impacts of resilience on relationship between abusive conduct of supervisors and intentions to quit the job, and innovative behaviors (via self-esteem). They argued that resilient individuals give a high value to their self-image, and they like to get engaged in tasks/jobs which enhance their self-esteem. Whereas they are discouraged and try to get disengaged from the environment that promote feelings of low self-esteem, compared to those who are less resilient (Britt et al., 2016; Van Doorn & Hülshager, 2015). In their study the resilience strengthened the assumed associations, resilient employees might get more affected in comparison to less resilient workers due to their high concerns for self-esteem. The findings of their study can be related to self-enhancement theory (Tesser, 1988).

The present study assumed the moderating impacts of resilience (H4d), and displayed that resilience exacerbated the adverse impact of abusive supervision on attention failure. Similarly, resilience strengthened the relationship between everyday discrimination and workplace cognitive failure (H4h), attention failure (H4j), and execution failure (H4k). Similarly, resilience also intensified the interrelationship between the work-family conflict and attention failure (H4p). Whereas, in the study the resilience did not moderate the other associations significantly. The study revealed that resilience only played a significant intensifying role in the associations of all the three predictors with workplace cognitive failure.

The current study challenges the conventional view that resilience is always beneficial, which is a key contribution of this investigation. It contributes to the existing literature by offering a different perspective on resilience, to deal with work related

challenges. The phenomenon that resilience has intensifying impacts on the relationship between psychosocial hazards and workplace cognitive failure, among sanitary workers, can be explained through different theoretical perspectives. In this context, understanding of resilience's intensifying effects through the Challenge-Hindrance Stressor Framework (Cavanaugh et al., 2000) can be helpful. Model classifies stressors in two categories: challenge stressors and hindrance stressors, that can lead stress and frustration (Horan et al., 2020). Resilient sanitary workers may primarily perceive psychosocial hazards as hindrance stressors, as challenges to be overcome initially. However, as these stressors keep on and escalate, they may struggle to endure and contest back and may experience even increased frustration or disenchantment. Eventually, their increased stress levels, as compared to those workers who do not confront back, may result in higher workplace cognitive failure.

Similarly, resilience's intensifying impacts for workplace cognitive failure can further be clarified through Conservation of Resources theory (Hobfoll, 1989). Resilient sanitary workers may invest extensive resources to cope with stressors and meet challenges, which causes resource depletion, if not replenished. They may prioritize meeting work challenges and keep confronting difficult circumstances, that may result in overtiredness and increase the vulnerability to workplace cognitive failure. Moreover, resilient workers may feel compelled to excel in various life domains at a time, such as work, household, and personal quests. This balancing act may drain their resources across multiple zones, intensifying stress and strain which ultimately causes cognitive failure at work.

Furthermore, assuming a mindset in which they may persevere through difficult situations without seeking external support or assistance (Reich et al., 2010; Kobasa, 1979; Kobasa et al., 1982), and often by overturning emotions and disregarding signs

of distress, resilient workers may get more affected as compared to less resilient workers. Thus, resilience sometimes may strengthen stress responses by depleting resources and promoting or preserving mismatch of resource distribution.

Past studies have shown that suppressing emotions can endanger physiological and emotional well-being (Patel & Patel, 2019). Suppression of distress is a coping mechanism that resilient sanitary workers may practice when confronted with distressing circumstances, originated by psychosocial hazards. It may provide them with temporary relief from irresistible stressful emotions (Huang et al., 2020). Moreover, resilient workers may have the propensity to maintain a positive outlook (Lomas et al., 2020). They may deny the negative emotions while experiencing the hazards, in favor of keeping an image of strength and positivity, also by masking and piling up the distress their resilience may intensify the associations of psychosocial hazards with cognitive dysfunctions at work. Similarly, Resilient sanitary staff who strive for perfection may become overly focused on getting everything right. This intense focus may lead to higher cognitive fatigue and ultimately cognitive impairment.

Moreover, the personality of resilient individuals has different dimensions. Ego resiliency is strongly related with higher levels of extrovert tendencies, agreeableness, and conscientiousness (Alessandri et al., 2014; Reich et al., 2010). Similarly, taking more responsibilities, setting higher expectations for themselves, and social commitments may contribute to strengthening their stress responses. Ego resiliency, with its emphasis on adaptability, is different from general resilience (Block & Block, 2014). Ego resiliency is a personality trait (Kołodziej-Zaleska et al., 2023), and it is related with ego control. It represents the level to which one can alter impulse restraint in response to conflicting situational aspects (Murzyn, 2020). Higher ego resiliency

with greater related pressures may have exacerbated the relationship between psychosocial hazards and cognitive issues among sanitary employees.

In conclusion, though literature generally supports that resilience enhances an employee's ability to manage stress and challenges, however, in some situations it may increase the strength of negative consequences. Higher cognitive lapses have been reported, due to a variety of situational and individual factors, even in those who are highly resilient. The current study presented that resilience acted as an intensifier in associations of psychosocial hazards including abusive supervision, everyday discrimination and work-family conflict with workplace cognitive failure. It did not protect sanitary workers from negative impacts of psychosocial hazards, rather make the situation worse. Reported higher workplace cognitive failure among resilient workers raises the need to implement precisely relevant measures, which can help in reducing the risk of this hazard at work. It emphasizes that organizations should address psychosocial hazards directly rather than relying merely on resilience.

Coworkers' social support is considered a resource with buffering effects (Mesmer-Magnus & Viswesvaran, 2009). Generally, research has shown that social support at job can protect against the harmful impacts of stressful factors (Alsakarneh et al., 2022; Patterer et al., 2023; Schreurs et al., 2012). Supportive work environment and positive social interactions with colleagues often contribute positively and weaken the stressors and outcomes relationships. Conversely, many empirical studies have also supported its potential intensifying impacts (Trottier & Bentein, 2018). Mostly these findings are explained by "The threat to self-esteem model" (Fisher et al., 1982), which suggests that sometimes social support can be harmful by eliciting negative emotions. According to this perspective, social support may become a threat to an individual, depending on his personality traits and the setting in which the support is provided.

Similarly, Korokosa and Sanda (2019) supported the strengthening impacts of colleagues' support on relationship between workload and job stress. The higher job stress was reported by the OPD nurses who were receiving more support from coworkers. Korokosa and Sanda discussed that as support level increased, nurses might overrate their workload which might have caused an increase in stress levels. Beehr (1985) also explained that colleague may sometimes negatively shift their coworkers' perspectives, making situations seem worse. Similarly, Liang et al. (2001) also provided supporting arguments in this context and discussed that reliance on others and inability to manage one's affairs during stress may increase psychological distress, negating support benefits.

Aligned with prior literature (Trottier & Bentein, 2018; Kokoroko & Sanda, 2019; Beehr et al., 2010; Beehr, 1985; Liang et al., 2001), the present study also supported the amplifying effects of coworkers' support. The findings revealed that colleagues' support exacerbated the relationship between everyday discrimination and workplace cognitive failure (H5h), similarly, between work-family conflict and workplace cognitive failure (H5n). It also strengthened the association between work-family conflict and memory failure (H5o). Which suggested that there may be situations or contexts in which co-workers' support can contribute oppositely (Trottier & Bentein, 2019).

The Threat to Self-Esteem Model (Fisher et al., 1982; Bolger & Rafaeli, 1988; Kernis, 2003) is applicable to understand the exacerbating effects of coworkers' support among sanitary workers in the study. It explains that threats to individuals' self-esteem can trigger negative emotions such as anxiety, depression, and stress. Social support from colleagues among sanitary workers may threaten their self-esteem and they perceive themselves as unable to handle their challenges independently. Which may

lead to an emotional state of inadequacy or dependency and ultimately this perceived inadequacy may contribute to increased stress. Moreover, the Transactional stress model (Lazarus & Folkman, 1984) suggests that the availability of social support influences individuals' appraisal of stressors and their coping strategies. In the study coworkers' support might have affected the appraisals of the sanitary workers and amplified the relation of psychosocial hazards and their outcomes.

Furthermore, the phenomenon can be elucidated through Social comparison theory (Festinger, 1954) as well. The theory presents that people have an innate drive to appraise their ideas, abilities, and attributes by comparing themselves to others. These social comparisons serve as a way for individuals to understand their own abilities, validate their opinions, and gauge their standing within social groups. Coworkers' social support among sanitary workers may trigger comparisons which may make the situations more stressful. It may cause the strengthening impacts in relationship between psychosocial hazards and workplace cognitive failure.

Other possible explanations for exacerbating impacts of coworkers' support include interrupted workflow due to the excessive socialization and noise, also the peer pressure to engage in social activities or their opinions may remain distracting for sanitary workers and may enhance cognitive lapses. Furthermore, overly intrusive, disruptive and emotionally loaded conversations, which is very common among sanitary workers, may also hinder the cognitive performance (Thompson, et al. 2021; Yang, et al. 2023; Nasir, 2024; Cherry, 2024). It was also reported during interviews that sometimes unclear or incomplete information led to misunderstandings or errors, which might have contributed to the reported results. Moreover, sanitary workers sometimes may become overly dependent on co-workers for assistance or guidance, to

the point where they may not trust their own cognitive abilities. Which may cause low self-esteem and ultimately stress and impaired cognitive functions.

Additionally, several potential reasons may clarify why protective effects of moderators were not supported in the study. The primary reason may lie in the support found for the main effects. The main effects of being potentially strong may reduce the interaction effects. Furthermore, sanitary workers may not fully believe the genuineness of the support provided by the co-workers and it might have acted opposite. To address the negative effects of co-worker social support on cognitive functions, it is essential for the concerned bodies to promote a work culture that encourages both collaboration and focused work, according to the needs of the workers. Similarly, professional services like employee assistance programs and stress management workshops, to promote productive social gradient, can be helpful in this context. Additionally, enhancement of self-esteem through different initiatives and increasing the workers' autonomy can also facilitate the situation.

This study has highlighted the importance of the quality of colleagues' support, that potentially determines its impact on employee related outcomes. It suggests that organizations should prioritize the provision of high-quality support, through targeted training and development programs, ensuring that the offered support must be meaningful and effective.

Furthermore, literature supports that higher levels of negative affectivity intensify the damaging impacts of psychosocial hazards on health outcomes (Paulus & Zvolensky, 2020). Positive and negative affects, two contrasting emotions, may operate differently in the context of stressors-outcomes relationship. Research reveals that the increase in negative affect results in the decline of positive affect (Çivitcia, 2015). The findings of the present inquiry are aligned with the former studies and support the

amplifying impacts of negative affectivity. After controlling the effects of negative affectivity, the resilience and co-workers' social support exacerbated the associations among psychosocial hazards and outcomes with lesser strength.

Job stress shows different patterns in both genders on different outcomes (Rivera-Torres et al., 2013; Padkapayeva et al., 2018; Farahi et al., 2022). The findings of this study on gender differences are in accordance with former research (Biswas et al., 2021; Rivera-Torres et al., 2013). Results revealed that generally female workers scored higher than male workers on all the investigated psychosocial hazards and outcomes. Findings supported that male workers scored low on abusive supervision (H6a), whereas the hypothesis (H6b) that male sanitary workers score high on everyday discrimination, was not supported in the study. Moreover, the study reported that female scored high on somatic symptoms (H6c), work-family conflict (H6d) and workplace cognitive failure (H6e). Which supports that female sanitary workers in Pakistan experience more psychosocial hazards and negative outcomes. Females' higher scores may indicate a blend of factors including gender discrimination, societal norms, greater responsibilities for domestic tasks, barriers to career development and workplace harassment. These experiences may result in the form of higher stress levels and ultimately the adverse consequences.

On the contrary, female workers scored low on coworkers' support and not supported the hypothesis of the study (H6f). The findings on coworker support are not consistent with most of the past research because previously women have been reported as emotionally more responsive to social relationships than men. Jiang and Hu (2015) found the stronger favorable effect of colleague relationships on life satisfaction amongst females, as compared to male members. In our context, may be the weak moral values, excessive competition, and a predominant materialistic approach towards life

are contributing to perceived low coworkers' support among female workers. Exploring sources and kinds of social support in forthcoming studies are needed to better understand these differences.

Greater economic challenges have produced greater levels of uncertainty, unpredictability, and risk for employees, with a subsequent upsurge in their stress and anxiety. Investigations regarding fixed-term employments (contractual) and its well-being related outcomes have been summarized within various literature reviews (Imhof & Andresen, 2018; Hünefeld et al., 2020). Since most of the evidence so far has been assuming that contractual/fixed-term employment lies on a continuum from the highest job security (when compared with unemployment) to the utmost job insecurity (when compared with permanent employment), commonly scholars compare fixed-term employees to one of these two ends.

This investigation, with its findings, is aligned with some of the prior studies, that employees who work on fixed term employment contracts have a higher level of wellbeing (Gebel & Voßemer 2014; Chambel et al., 2016). However, even though there are large number of studies which do not support these findings (Cuyper et al., 2008). In the present study contractual workers scored significantly lower as compared to the permanent workers. Study supported the hypotheses that contractual workers score low on workplace cognitive failure (H7a) as compared to permanent workers, and permanent workers score high on work-family conflict as compared to contractual workers (H7b). It was also assumed that daily wagers score high on abusive supervision, as compared to permanent employees (H7c), which was not supported. Current study revealed that contractual sanitary workers experience less hazards, and have better physical and psychological health, as compared to permanent workers,

whereas the daily wagers had the lowest scores on experiencing psychosocial hazards and outcomes.

Contractual workers experience less hazards, and related outcomes may be due to the following factors. Firstly, they might be less interested in workplace politics, their temporary status may often keep them outside of these dynamics. Furthermore, these workers may approach their status with a different attitude, not having the pressure of long-term commitment which ultimately may contribute to lower stress levels. Lastly, the nature of their contract may reduce the pressure of extra unpaid tasks and duties that permanent workers carry. In this study, permanent workers scored high on all the psychosocial hazards and outcome variables except on attention failure, where they scored equal to contractual workers. Lowest scores of daily wagers may be explained in terms of their free choice to do other tasks side by side, low expectations from the organization and to have more time to manage household responsibilities.

Furthermore, several studies have indicated that the psychosocial environment is more taxing for shift workers (Sultan, 2022; Bamonde et al., 2020; Misiak et.al, 2020). The results of this study supported that double shift workers scored high on workplace cognitive failure (H8a) and work-family conflict (H8b). Double shifts demand more engagement and long hours' commitment, which may affect sanitary workers' physical health due to the over tiredness and absence of recovery time. It may also affect the workers' psychological health because of the stress of not having time for family and recreational activities. Thus, it is important to address the issue of work schedules at work among sanitary workers.

Limitations, Implications and Suggestions

The current study has certain limitations. Firstly, the use of self-report method in hypotheses testing phase might create response biases. Therefore, inclusion of mixed

method for hypotheses testing could have brought about response variability or diary method could be the more useful method for this investigation. Secondly, sample was only gathered from Punjab province of Pakistan, which limits the generalizability of the findings. Thirdly, the primary design is cross sectional, whereas the upcoming investigations should consider the possibility of longitudinal design. Which can enable the researcher to reveal the temporal dynamics between psychosocial hazards and outcomes.

Furthermore, the study focused on sanitary workers in a specific local context, which may limit the findings' applicability to other cultural settings. Moreover, to certain extent, the results cannot be generalized to entire industry of sanitary work around the world and even in Pakistan, because organizations differ in their work standards from place to place. Similar study can be conducted in future, covering a greater number of workers, and more districts also comparing the stress of sanitary workers with other low ranked employees from different professions.

The current study holds a range of strengths and practical implications as well. This study enhances the understanding of emotional and social stressors, experienced by the sanitary workers at work. Moreover, it has added knowledge on the potential outcomes of psychosocial hazards among these workers. It can be used to sensitize organizations to provide the desirable environment, by making necessary modification at policy level, and taking steps to address the issues related to sanitary workers emotional and physical health. Also, the information can be utilized to plan social campaigns for public regarding their attitude and behaviors toward these low rank employees. Moreover, it can assist strategies to promote awareness among the groups of sanitary workers about the impact of these hazards and related consequences.

This study further can contribute to future research scholars to get into the issue deeper and enables them to use it as secondary data for their research. Investigation on psychosocial hazards in an Asian country, an area which has not yet been explored largely, moreover by focusing the most susceptible and unnoticed occupational group, the present study adds value to the literature and fills the dearth of research gap. Furthermore, study also points towards the need that future research should investigate potential moderators and mediators. Various other factors except the study's moderators are likely to exert a substantial influence on these relationships. Additionally, study holds important implications within the local cultural context, as cultural factors perform a crucial role in shaping perceptions and responses to psychosocial hazards.

Thus, the study's findings are critical for protecting workers, enhancing workplace safety and well-being, and reducing the burdens associated with work-related damages. The study paves the path for implementing effective preventive measures to foster a healthier work environment. Moreover, study can provide support to develop the policies, training programs and interventions to manage the psychosocial challenges, present in sanitary workers' occupational life. The following suggestions can be helpful to prevent and overcome the explored psychosocial hazards and health-related outcomes:

To address the issue of abusive supervision, the manager and supervisor should receive instructions, as part of work policy, to treat these workers with respect and dignity, to reduce their stress levels and improve their self-worth. It is crucial to establish a system for workers to appraise their supervisors, which can help to keep check on supervisors for their abusive behaviors. Communication channels should be strengthened to allow employees to directly convey problems and issues to higher

management. For instance, an external complaint box can be placed outside the office of the concerned authority to facilitate the workers in submitting written complaints anonymously. The fair communication channels can offer avenues for workers to express their concerns or grievances without fear of revenge and any expected harm. Moreover, interdepartmental meetings should be promoted regularly to foster cooperation and minimize conflicts. Similarly, providing training on stress management and assisting workers to develop positive coping mechanisms, can be helpful to deal with the challenge of abusive supervision they face at workplaces.

Furthermore, recognizing and appreciating the contributions of sanitation workers through regular appreciation events or incentives can assist to improve their image among others. Similarly, promoting awareness about the importance of their contribution through media, and challenging stereotypes to restore the dignity and respect for sanitary workers, can be supportive to reduce or eliminate everyday discrimination faced by them. Additionally, authorities should implement procedures to prevent everyday discrimination at the workplace, a system to take immediate actions in case of any complaint. Gender-specific issues, particularly those affecting female workers, should be addressed through sensitive strategies.

Moreover, to avoid work-family conflict workers should be consulted regarding their leave plans and working hours, shift schedules should be standardized to eight-hours. Overtime should be voluntary and compensated, as unpaid overtime causes extreme stress. Similarly, sufficient staffing should be maintained to prevent employees from taking on extra duties due to co-worker absences. Additional duties due to staff shortages or emergencies should be managed by daily wagers. Most importantly, it should be prohibited, as part of policy, to assign workers the tasks that are given to them on the personal requests of the authorities.

Furthermore, short breaks should be implemented as an essential part of their working hours to support sanitary workers, engaged in demanding tasks. This approach can reduce stress levels and can mitigate the risk of adverse physical as well as psychological outcomes. Moreover, regular health check-ups and vaccinations, and on spot medical assistance should be provided to ensure the health of sanitation workers. Additionally, counseling units should be established to offer support for psychological issues of these workers.

Overall, the aim to improve the well-being of sanitary workers requires a multifaceted approach addressing their physical, emotional, and social needs. Dedicated efforts to promote healthier workplaces, that foster respect and recognition, can increase their satisfaction levels. Similarly, encouraging open communication networks to voice out worries and suggestions, along with sensitive policies to prevent discrimination, can meaningfully improve their overall well-being. Moreover, exerting efforts to harmonize their work and home life can strongly contribute to reduce their stress levels. Additionally, ensuring the safe work practices, emotional support, and medical assistance are essential for safeguarding and promoting their overall welfare.

Conclusion

This study intended to investigate the relationship between psychosocial hazards and physical and psychological health related outcomes of sanitary workers, with a particular emphasis on the moderating impacts of resilience and coworkers' support. Study examined the differences on psychosocial hazards and outcomes with reference to gender, employment types and shift work. The study also addressed the issue of construct validity of measures in local context.

The validation of measurement scales provided strong evidence of their reliability and validity, enhancing the methodological precision of this research. The positive associations identified between psychosocial hazards and outcomes emphasized the profound adverse impacts. Study supported that sanitary workers who experience higher levels of abusive supervision, everyday discrimination and work-family conflict exhibited increased adverse health outcomes including somatic symptoms, workplace cognitive failure and aggression. Moreover, the moderation effects explicated in the study highlighted the importance of considering the personal and contextual factors in understanding the implications of psychosocial hazards and outcomes. The findings revealed that resilience and co-workers' support strengthened the positive relationships between predictors and workplace cognitive failure.

Resilient sanitary workers may invest extensive resources to cope with psychosocial hazards and meet challenges, overindulgence and high tolerance may deplete their coping resources more quickly. Prioritization of meeting work challenges and persistent confrontation with the difficult circumstances for prolonged period of time may result in cognitive fatigue and increases their vulnerability to workplace cognitive failure. Moreover, resilient sanitary workers may place high value to their self-image and feelings of low self-esteem (threatened self-esteem) because of abusive

supervision, everyday discrimination and not meeting the needs of the family may cause higher pressures for resilient sanitary workers as compared to those who are less resilient.

Furthermore, sanitary workers who have high ego resiliency may bear greater burden of modifying and adapting their impulses, that may lead to the intensifying impacts on the relationship between psychosocial hazards and cognitive dysfunctions. Additionally, resilient sanitary staff may have a mindset in which they survive through difficult situations without seeking external assistance, that may result in higher stress levels among them. Moreover, suppression of distress and overturning of emotions as a coping mechanism, and maintenance of a positive outlook may become a source of more workplace cognitive failure among resilient workers, due to the increased emotional exhaustion and greater disappointments. Furthermore, their balancing act of performing best in all domains of life may also drain their resources across multiple zones and intensifies stress and strain, which ultimately causes cognitive failure at work.

Similarly, in the study, co-workers support exacerbated the negative impacts of psychosocial hazards on workplace cognitive failure. The higher levels of coworkers' social support may threaten the self-esteem of sanitary workers, which may promote feelings of inadequacy or dependency and finally the increased stress levels may contribute to workplace cognitive failure. Furthermore, the availability of colleague social support may impact on the workers' appraisal of psychosocial hazards and available coping resources negatively, which may upsurge strain and ultimately produce more cognitive failure. Additionally, interrupted workflow due to the excessive socializing and noise also troublemaking and emotionally loaded discussions may also cause decline in cognitive performance by raising stress levels.

In the study, the exploration of group differences revealed significant disparities in how several demographic cohorts experience and respond to psychosocial stressors. Female sanitary workers exhibited higher experiences of psychosocial hazards and outcomes as compared to their male counterparts. Results supported the potential gender specific variations among sanitary workers. Moreover, contractual workers reported low scores in comparison to permanent workers, suggesting that permanent job type may cause higher pressures among sanitary workers. In addition, the findings of the study revealed that double shift workers experience more psychosocial hazards and outcomes as compared to single shift workers and highlighted the effects of extended work hours for workers' well-being. Findings on group differences emphasize the importance of considering gender, employment type and shift work, while addressing the issues of psychosocial hazards and related outcomes among sanitary workers.

The study adds valuable information to the existing body of literature, by offering theoretical connections, and practical implications in local context. Examination of these relationships within the indigenous setting, among this marginalized populations, not only advances academic knowledge but also informs about the directions of efforts to promote healthier, and more productive work environments. The results exhibit the critical need for organizations to address psychosocial hazards proactively. Employers must prioritize the implementation of effective stress management programs to better manage different hazards at work. Initiatives to promote culture of mutual respect, flexible work schedules, employee assistance programs, and physical and psychological wellness activities can be helpful to alleviate the negative effects of psychosocial hazards. Additionally, training of supervisors in identifying and addressing psychosocial hazards among their subordinates

can contribute for the promotion of a healthier workplace. Thus, this research not only uncovers the serious health risks associated with psychosocial hazards but also gives a call to action for employers to device and implement strategic interventions that can support sanitary workers' well-being.

References

- Afari, N., Ahumada, S. M., Wright, L. J., Mostoufi, S., Golnari, G., Reis, V., & Cuneo, J. G. (2014). Psychological trauma and functional somatic syndromes: a systematic review and meta-analysis. *Psychosomatic Medicine*, 76 (1), 2-11. doi.org/10.1097/PSY.0000000000000010
- Agnew, R., & White, H. R. (1992). An empirical test of general strain theory. *Criminology*, 30(4), 475-500. doi.org/10.1111/j.1745-9125.1992.tb01113.x
- Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions*. sage.
- Alessandri, G., Vecchione, M., Donnellan, B. M., Eisenberg, N., Caprara, G. V., & Cieciuch, J. (2014). On the cross-cultural replicability of the resilient, under controlled, and over controlled personality types. *Journal of Personality*, 82(4), 340-353. doi.org/10.1111/jopy.12065
- Al-Hawari, M. A., Bani-Melhem, S., & Quratulain, S. (2020). Do Frontline employees cope effectively with abusive supervision and customer incivility? Testing the effect of employee resilience. *Journal of Business and Psychology*, 35(2), 223–240. doi.org/10.1007/s10869-019-09621-2
- Allen, J. J., Anderson, C. A., & Bushman, B. J. (2018). The general aggression model. *Current Opinion in Psychology*, 19, 75-80. doi.org/10.1016/j.copsyc.2017.03.034
- Allen, T. D., & Martin, A. (2017). The work-family interface: A retrospective look at 20 years of research in JOHP. *Journal of Occupational Health Psychology*, 22(3), 259–272. doi.org/10.1037/ocp0000065

- Allen, T. D., French, K. A., Dumani, S., & Shockley, K. M. (2020). A cross-national meta-analytic examination of predictors and outcomes associated with work–family conflict. *Journal of Applied Psychology, 105*(6), 539. doi.org/10.1037/apl0000442
- Almario Forcada. J. (2023). *Diversity & Inclusion in the Workplace: Shedding light into the Relationship between Extraversion Dissimilarity and Emotional Exhaustion* (Master's thesis). Utrecht University.
- Alperin, N., Wiltshire, J., Lee, S. H., Ramos, A. R., Hernandez-Cardenache, R., Rundek, T., ... & Loewenstein, D. (2019). Effect of sleep quality on amnesic mild cognitive impairment vulnerable brain regions in cognitively normal elderly individuals. *Sleep, 42*(3), 254. doi.org/10.1093/sleep/zsy254
- Alsakarneh, A., Fraihat, B. A. M., Otoom, A., Mustafa, S. M. B., Nawasra, M., & Eneizan, B. (2022). How to Motivate Employees to Perform Better? The Impact of Social Support on Employees' Performance in the Hotel Industry. *Journal of System and Management Sciences, 12*(6), 487-510. doi:10.33168/JSMS.2022.0629
- Amram-Vaknin, S., Lipshits-Braziler, Y., & Tatar, M. (2022). Psychological functioning during the COVID-19 lockdown: The role of exposure to continuous traumatic stress in conflict-ridden regions. *Peace and Conflict: Journal of Peace Psychology, 28*(2), 151-161. doi.org/10.1037/pac0000585
- Annor, F., Amponsah-Tawiah, K. (2020). Relationship Between Workplace Bullying and Employees' Subjective Well-Being: Does Resilience Make a Difference? *Employ Response Rights, J 32*, 123–135. doi.org/10.1007/s10672-020-09348-w

- Aqeel, A. & Gill, M. (2019). *Shame and Stigma in Sanitation: an Initial Assessment with Recommendation*. Centre for Law and Justice, Pakistan.
- Aqeel, A. & Gill, M. (2022) International assistance and impoverished religious minorities in Pakistan, in M. Tadros (ed) *What about Us? Global Perspectives on Redressing Religious Inequalities*, Brighton: Institute of Development Studies, 221–250.
- Aqeel, A. (2020). *The Index of Religious Diversity and Inclusion in Pakistan, Lahore*: Center for Law and Justice. <http://www.clj.org.pk/wp-content/uploads/2020/02/The-Index-of-Religious-Diversity-and-Inclusion-in-Pakistan.pdf>
- Arnkoff, D. B., & Glass, C. R. (1989). Cognitive assessment in social anxiety and social phobia. *Clinical Psychology Review*, 9 (1), 61-74.
doi.org/10.1016/0272-7358(89)90047-0
- Arshad, A., Sun, P. Y., & Desmarais, F. (2021). Abusive supervision and employee empowerment: the moderating role of resilience and workplace friendship. *Journal of Leadership & Organizational Studies*, 28(4), 479-494.
doi.org/10.1177/15480518211005449
- Arshadi, N. (2015). The relationship of work-family conflict with overall health, workplace cognitive failure, and marital satisfaction: The moderating role of sleep quality and work-family conflict self-efficacy. *International Journal of Behavioral Sciences*, 8(4), 295-305.
- Australian Bureau of Statistics. (2021-22). *Work-Related Injuries*. ABS.
www.abs.gov.au/statistics/labour/earnings-and-working-conditions/work-related-injuries/latest-release.

- Azizian Kohan, N., & Fathi, D. (2020). Prediction of Cognitive Failure at Work Based on Job Stress and Workload with the Mediating Role of Organizational Climate in Physical Education Staff. *Journal of Occupational Health and Epidemiology*, 9(2), 110-116.
- Bakker, A. B., & Costa, P. L. (2014). Chronic job burnout and daily functioning: A theoretical analysis. *Burnout Research*, 1(3), 112-119.
doi.org/10.1016/j.burn.2014.04.003
- Bakker, A. B., & Demerouti, E. (2007). The Job Demands-Resources model: State of the art. *Journal of Managerial Psychology*, 22(3), 309–328.
doi.org/10.1108/02683940710733115
- Bakker, A. B., & Demerouti, E. (2009). The crossover of work-related stress and strain between partners: A closer look at the role of empathy. *Journal of Managerial Psychology*, 24(3), 220-236.
doi.org/10.1108/02683940910939313
- Bakker, A. B., & Demerouti, E. (2017). Job demands–resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology*, 22(3), 273–285. doi.org/10.1037/ocp0000056
- Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2002). Validation of the Maslach burnout inventory-general survey: An internet study. *Anxiety, Stress & Coping*, 15(3), 245-260. doi.org/10.1080/1061580021000020716
- Bakker, A. B., van Veldhoven, M., & Xanthopoulou, D. (2010). Beyond the demand-control model: Thriving on high job demands and resources. *Journal of Personnel Psychology*, 9(1), 3–16. doi.org/10.1027/1866-5888/a000006
- Bamonde, J., Pinto, C., Santos, P., & Couto, G. (2020). *O mpacto do trabalho por turnos na saúde dos enfermeiros: revisão integrativa [The Impact of Shift*

- Work on Nurse's Health: Integrative Review*]. *Revista de Investigação & Inovação em Saúde*, 3(2), 101–110 doi:10.37914/riis. v3i2.85.
- Bandura, A. (1977). Social learning theory. *Englewood Cliffs*.
- Bani-Melhem, S., Quratulain, S., & Al-Hawari, M. A. (2021). Does employee resilience exacerbate the effects of abusive supervision? A study of frontline employees' self-esteem, turnover intention, and innovative behaviors. *Journal of Hospitality Marketing & Management*, 30(5), 611-629.
doi.org/10.1080/19368623.2021.1860850
- Barnes, D. E., Santos-Modesitt, W., Poelke, G., Kramer, A. F., Castro, C., Middleton, L. E., & Yaffe, K. (2013). The Mental Activity and exercise (MAX) trial: a randomized controlled trial to enhance cognitive function in older adults. *JAMA Internal Medicine*, 173(9), 797-804.
doi:10.1001/jamainternmed.2013.189
- Barnes, L. L., Lewis, T. T., Begeny, C. T., Yu, L., Bennett, D. A., & Wilson, R. S. (2012). Perceived discrimination and cognition in older African Americans. *Journal of the International Neuropsychological Society*, 18(5), 856-865. doi.org/10.1017/S1355617712000628
- Bastos, J. L., Celeste, R. K., Faerstein, E., & Barros, A. J. (2010). Racial discrimination and health: a systematic review of scales with a focus on their psychometric properties. *Social Science & Medicine*, 70 (7), 1091-1099.
doi.org/10.1016/j.socscimed.2009.12.020
- Bateman, G. (2009). *Employee perceptions of co-worker support and its effect on job satisfaction, work stress and intention to quit* [Master's dissertation, University of Canterbury].

<https://ir.canterbury.ac.nz/server/api/core/bitstreams/90900abe-6608-4d6f-b1ac-0be406378599/content>

- Batool, I., Afzal, N., Khakwani, M., & Khan, F. (2018). A Study of Cognitive Failures, Perceived Stress and Everyday Memory among Insomnia Patients. *Isra Medical Journal*, 10 (4).
- Battle, C., & Temblett, P. (2018). 12-Hour nursing shifts in critical care: A service evaluation. *Journal of the Intensive Care Society*, 19 (3), 214-218.
doi.org/10.1177/1751143717748094
- Baumgartner, H., Weijters, B., & Pieters, R. (2021). The biasing effect of common method variance: Some clarifications. *Journal of the Academy of Marketing Science*, 49, 221-235. doi.org/10.1007/s11747-020-00766-8.
- Beehr, T. A. (1985). The role of social support in coping with organizational stress. *Human Stress and Cognition in Organizations: An Integrated Perspective*, 375-398.
- Beehr, T. A., Bowling, N. A., & Bennett, M. M. (2010). Occupational stress and failures of social support: when helping hurts. *Journal of Occupational Health Psychology*, 15(1), 45. doi.org/10.1037/a0018234
- Benavides, F. G., Wesseling, C., Delclos, G. L., Felknor, S., Pinilla, J., & Rodrigo, F. (2014). Working conditions and health in Central America: a survey of 12 024 workers in six countries. *Occupational and environmental medicine*, 71(7), 459-465. doi.org/10.1136/oemed-2013-101908
- Berkowitz L. (1962) *Aggression: A Social-Psychological Analysis*. New York: McGraw-Hill.
- Berkman, Lisa F.; Treder, Kathryn (2020), Theorell, Töres (ed.), "Work and Health", *Handbook of Socioeconomic Determinants of Occupational Health: From*

- Macro-level to Micro-Level Evidence, Handbook Series in Occupational Health Sciences, Cham: Springer International Publishing, pp. 53–70, doi:10.1007/978-3-030-31438-5_31, ISBN 978-3-030-31438-5, retrieved 2024-02-06.
- Bernstein, K. S., Park, S. Y., Shin, J., Cho, S., & Park, Y. (2011). Acculturation, discrimination and depressive symptoms among Korean immigrants in New York City. *Community Mental Health Journal*, 47(1), 24–34.
- Bernuzzi, C., Setti, I., Maffoni, M., & Sommovigo, V. (2022, b). From moral distress to burnout through work-family conflict: the protective role of resilience and positive refocusing. *Ethics & Behavior*, 32 (7), 578-600.
doi.org/10.1080/10508422.2021.1955682
- Bernuzzi, C., Sommovigo, V., & Setti, I. (2022, a). The role of resilience in the work-life interface: A systematic review. *Work*, 73(4), 1147-1165.
doi.org/10.3233/WOR-205023
- Best, T., Visser, R., & Conradson, D. (2020). Stress and the New Zealand Forest Industry Workforce. School of Forestry, University of Canterbury.
https://www.researchgate.net/profile/Rien-Visser-2/publication/370927466_Stress_and_the_New_Zealand_Forest_Industry_Workforce/links/6469a1fc9533894cac8307d5/Stress-and-the-New-Zealand-Forest-Industry-Workforce.pdf
- Bhattacharjee, A., & Sarkar, A. (2024). Abusive supervision: a systematic literature review. *Management Review Quarterly*, 74(1), 1-34. doi.org/10.1007/s11301-022-00291-8
- Bies, R. J., Tripp, T. M., & Kramer, R. M. (1997). At the breaking point. *Antisocial behavior in organizations*, 18-36.

- Bingley, W. J. (2021). *The psychology of information access regulation: how confidentiality shapes our social world* [Doctoral dissertation, School of Psychology, The University of Queensland]. <https://doi.org/10.14264/908865e>
- Bipp, T., Kleingeld, A., & Ebert, T. (2019). Core self-evaluations as a personal resource at work for motivation and health. *Personality and Individual Differences, 151*, 109556. doi.org/10.1016/j.paid.2019.109556
- Birinxhikaj, M., & Guggisberg, M. (2017). The wide ranging impact of sexual harassment in the workplace: An Australian pilot study. *International Journal of Employment Studies, 25*(1), 6-26.
- Biswas, A., Harbin, S., Irvin, E., Johnston, H., Begum, M., Tiong, M., ... & Smith, P. (2021). Sex and gender differences in occupational hazard exposures: a scoping review of the recent literature. *Current Environmental Health Reports, 1*-14. doi.org/10.1007/s40572-021-00330-8
- Blake, H., Bermingham, F., Johnson, G., & Tabner, A. (2020). Mitigating the Psychological Impact of COVID-19 on Healthcare Workers: A Digital Learning Package. *International Journal of Environmental Research and Public Health, 17*(9), Article 9. doi.org/10.3390/ijerph17092997
- Block, J. H., & Block, J. (2014). The role of ego-control and ego-resiliency in the organization of behavior. In *Development of Cognition, Affect, and Social Relations* (39-101). Psychology Press.
- Blomberg, S., & Rosander, M. (2020). Exposure to bullying behaviors and support from co-workers and supervisors: A three-way interaction and the effect on health and well-being. *International Archives of Occupational and Environmental Health, 93*(4), 479-490. doi.org/10.1007/s00420-019-

- Bolger, N., & Rafaeli, R. B. (1988). A diary study of reactions to negative and positive events: Associations among mood, social interaction, and health outcomes. *Journal of Personality and Social Psychology*, 55(5), 864-878.
- Bolger, N., & Zuckerman, A. (1995). A framework for studying personality in the stress process. *Journal of Personality and Social Psychology*, 69(5), 890–902. doi.org/10.1037/0022-3514.69.5.890
- Bollen, K. A. (1989). Structural equations with latent variables. New York: Wiley.
- Bollen, K., & Lennox, R. (1991). Conventional wisdom on measurement: A structural equation perspective. *Psychological Bulletin*, 110, 305–314
- Borgmann, L.-S., Rattay, P., & Lampert, T. (2019). Health-related consequences of work-family conflict from a European perspective: Results of a scoping review. *Frontiers in Public Health*, 7. doi.org/10.3389/fpubh.2019.00189
- Borritz, M., Rugulies, R., Bjorner, J. B., Villadsen, E., Mikkelsen, O. A., & Kristensen, T. S. (2006). Burnout among employees in human service work: Design and baseline findings of the PUMA study. *Scandinavian Journal of Public Health*, 34(1), 49–58. doi.org/10.1080/14034940510032275
- Bowling, N. A., Alarcon, G. M., Bragg, C. B., & Hartman, M. J. (2015). A meta-analytic examination of the potential correlates and consequences of workload. *Work & Stress*, 29(2), 95-113. doi.org/10.1080/02678373.2015.1033037
- Bradburn, N. M. (2015). The affect balance scale: Subjective approaches (3). *Global handbook of Quality of Life: Exploration of Well-Being of Nations and Continents*, 269-279.
- Brais, N., Setlack, J., Keough, M. T., & Johnson, E. A. (2023). Perceived coworker social support: A protective factor against workplace violence and

- psychopathologies in paramedics and firefighters. *Journal of Aggression, Maltreatment & Trauma*, 32(3), 346-364.
doi.org/10.1080/10926771.2022.2082905
- Bransfield, R. C., & Friedman, K. J. (2019, October). Differentiating psychosomatic, somatopsychic, multisystem illnesses and medical uncertainty. In *Healthcare* (Vol. 7, No. 4, p. 114). MDPI.
doi.org/10.3390/healthcare7040114
- Brees, J., Martinko, M., & Harvey, P. (2016). Abusive supervision: subordinate personality or supervisor behavior? *Journal of Managerial Psychology*, 31(2), 405-419. doi.org/10.1108/JMP-04-2014-0129
- Bremner, J. D. (1999). Does stress damage the brain? *Biological Psychiatry*, 45(7), 797-805. doi.org/10.1016/S0006-3223(99)00009-8
- Brislin, R. W. (1970). Back-Translation for Cross-Cultural Research. *Journal of Cross-Cultural Psychology*, 1(3), 185-216.
doi.org/10.1177/135910457000100301. Corpus ID: 146188546
- Britt, T. W., Shen, W., Sinclair, R. R., Grossman, M. R., & Klieger, D. M. (2016). How much do we really know about employee resilience? *Industrial and Organizational Psychology*, 9(2), 378–404. doi:10.1017/iop.2015.107
- Broadbent, D. E., Cooper, P. F., FitzGerald, P., & Parkes, K. R. (1982). The Cognitive Failures Questionnaire (CFQ) and its correlates. *British Journal of Clinical Psychology*, 21(1), 1–16. doi: 10.1111/j.2044-8260.1982.tb01421.x
- Brondolo, E., Hausmann, L. R., Jhalani, J., Pencille, M., Atencio-Bacayon, J., Kumar, A., ... & Schwartz, J. (2011). Dimensions of perceived racism and self-reported health: examination of racial/ethnic differences and potential mediators. *Annals of Behavioral Medicine*, 42(1), 14-28.

- Bronfenbrenner, U. (1979). *The ecology of Human Development: Experiments by Nature and Design*. Harvard University Press.
- Brown, J. P., Martin, D., Nagaria, Z., Verceles, A. C., Jobe, S. L., & Wickwire, E. M. (2020). Mental health consequences of shift work: an updated review. *Current Psychiatry Reports*, 22, 1-7.
- Brown, Z. C., Anicich, E. M., & Galinsky, A. D. (2020). Compensatory conspicuous communication: Low status increases jargon use. *Organizational Behavior and Human Decision Processes*, 161, 274-290.
doi.org/10.1016/j.obhdp.2020.07.001Get rights and content
- Bryant, F. B., & Smith, B. D. (2001). Refining the architecture of aggression: A measurement model for the Buss-Perry Aggression Questionnaire. *Journal of Research in Personality*, 35(2), 138-167 doi.org/10.1006/jrpe.2000.2302
- Bulduk, E. Ö. (2019). Work-related stress levels and musculoskeletal disorders among municipal solid waste collectors in Ankara. *Work*, 63(3), 427-433 doi: 10.3233/WOR-192949.
- Bull, F. C., Al-Ansari, S. S., Biddle, S., Borodulin, K., Buman, M. P., Cardon, G., ... & Willumsen, J. F. (2020). World Health Organization 2020 guidelines on physical activity and sedentary behaviour. *British Journal of Sports Medicine*, 54(24), 1451-1462.
- Bureau of Labor Statistics, U.S. Department of Labor, *The Economics Daily*, 2.8 million nonfatal workplace injuries and illnesses occurred in 2018 at <https://www.bls.gov/opub/ted/2019/2-point-8-million-nonfatal-workplace-injuries-and-illnesses-occurred-in-2018.htm> (visited March 01, 2024).
- Burgard, S. A., Kalousova, L., & Seefeldt, K. S. (2012). Perceived job insecurity and health: the Michigan Recession and Recovery Study. *Journal of Occupational*

and Environmental Medicine, 54(9), 1101-1106. doi:

10.1097/JOM.0b013e3182677dad

Burke, M. J., Brief, A. P., & George, J. M. (1993). The role of negative affectivity in understanding relations between self-reports of stressors and strains: A comment on the applied psychology literature. *Journal of Applied Psychology*, 78(3), 402–412. doi.org/10.1037/0021-9010.78.3.402

Burton, J. P., & Hoobler, J. M. (2011). Aggressive reactions to abusive supervision: The role of interactional justice and narcissism. *Scandinavian Journal of Psychology*, 52(4), 389-398. doi.org/10.1111/j.1467-9450.2011.00886.x

Burton, J. P., Hoobler, J. M., & Kernan, M. C. (2011). When research setting is important: The influence of subordinate self-esteem on reactions to abusive supervision. *Organization Management Journal*, 8 (3), 139–150. doi:10.1057/omj.2011.24

Buskila, Y., Chen-Levi, T., Buskila, D., Jacob, G., & Ablin, J. J. (2020). Effects of workplace-related factors on the prevalence of fibromyalgia among Israeli kindergarten teachers. *Pain Research and Management*, 2020. doi.org/10.1155/2020/3864571

Buss, A. H., & Perry, M. (1992). The Aggression Questionnaire. *Journal of Personality and Social Psychology*, 63(3), 452–459. doi.org/10.1037/0022-3514.63.3.452

Byron, K. (2005). A meta-analytic review of work-family conflict and its antecedents. *Journal of Vocational Behavior*, 67, 169–198. doi.org/10.1016/j.jvb.2004.08.009

- Caesens, G., Nguyen, N., & Stinglhamber, F. (2019). Abusive supervision and organizational dehumanization. *Journal of Business and Psychology*, 34, 709-728. doi.org/10.1007/s10869-018-9592-3
- Çam Kahraman, F., & Özalp Türetgen, I. (2016). The role of negative affectivity structure in the job stress process. *Journal of Workplace Behavioral Health*, 31(3), 144-161. doi.org/10.1080/15555240.2016.1195694
- Canadian Centre for Occupational Health and Safety (2021). Ministry of Labor report (p. 39). <https://www.ccohs.ca/ccohs/reports/annual/2021/annual2122.html>
- Caplan, R. D., & Van Harrison, R. (1993). Person-Environment Fit Theory: Some History, Recent Developments, and Future Directions. *Journal of Social Issues*, 49, (4), 253–275. doi.org/10.1111/j.1540-4560.1993.tb01192.x
- Carl, D. E., Javidan, M., & Gupta, V. (2004). Power distance. In House R. J. Hanges, P. J., Javidan, M., Dorfman, P. W. & Gupta, V. (2004). *Culture, leadership, and organizations: The GLOBE study of 62 societies*. Thousand Oaks, CA: Sage, 513-59.
- Carlson, D., Ferguson, M., Hunter, E., & Whitten, D. (2012). Abusive supervision and work–family conflict: The path through emotional labor and burnout. *The Leadership Quarterly*, 23(5), 849-859. doi.org/10.1016/j.leaqua.2012.05.003
- Carrigan, N., & Barkus, E. (2016). A systematic review of cognitive failures in daily life: Healthy populations. *Neuroscience & Bio Behavioral Reviews*, 63, 29-42. doi.org/10.1016/j.neubiorev.2016.01.010
- Caruso, C. C. (2014). Negative impacts of shiftwork and long work hours. *Rehabilitation Nursing Journal*, 39(1), 16-25. DOI: 10.1002/rnj.107
- Cattel, R.B. (1973). *Factor analysis*, Greenwood Press, Westport, CT.

- Cattell, R. B. (1966). The Scree Test for The Number of Factors. *Multivariate Behavioral Research*, 1(2), 245–276.
https://doi.org/10.1207/s15327906mbr0102_10
- Cavagnis, L., Russo, C., Danioni, F., & Barni, D. (2023). Promoting Women’s Well-Being: A systematic review of protective factors for work–family conflict. *International Journal of Environmental Research and Public Health*, 20(21), 6992. doi.org/10.3390/ijerph20216992
- Cavanaugh, M. A., Boswell, W. R., Roehling, M. V., & Boudreau, J. W. (2000). An empirical examination of self-reported work stress among US managers. *Journal of applied psychology*, 85(1), 65-74. 10.1037/0021-9010.85.1.65
- Cénat, J. M., Kouamou, L. N., Farahi, S. M. M. M., Darius, W. P., Dalexis, R. D., Charles, M., & Kogan, C. S. (2022). Perceived racial discrimination, psychosomatic symptoms, and resilience among Black individuals in Canada: A moderated mediation model. *Journal of Psychosomatic Research*, 163, 111053. doi.org/10.1016/j.jpsychores.2022.111053
- Center for Disease Control and Prevention, (2018). Emerging Infectious Diseases. <https://wwwnc.cdc.gov/eid/page/2018-Journal-Report>.
- Chambel, M. J., Lopes, S., & Batista, J. (2016). The effects of temporary agency work contract transitions on well-being. *International Archives of Occupational and Environmental Health*, 89, 1215-1228. doi.org/10.1007/s00420-016-1158-y
- Chamorro-Premuzic, T., & Lusk, D. (2017). The dark side of resilience. *Harvard Business Review*, 16, 1-4. <https://hbr.org/2017/08/the-dark-side-of-resilience.%20Accessed%2016%20August%202018>.

- Chamorro-Premuzic, T., & Lusk, D. (2017). The dark side of resilience. *Harvard Business Review*, 16, 1-4. <https://providenceroundtable.org/wp-content/uploads/sites/189/2022/09/The-Dark-Side-of-Resilience-2.pdf>
- Chandola, T., Martikainen, P., Bartley, M., Lahelma, E., Marmot, M., Michikazu, S., ... & Kagamimori, S. (2004). Does conflict between home and work explain the effect of multiple roles on mental health? A comparative study of Finland, Japan, and the UK. *International Journal of Epidemiology*, 33(4), 884-893. doi.org/10.1093/ije/dyh155
- Chaudhry, M. A., Hyat, A., Qureshi, S. M., et al. (2004). Health hazards of sanitary workers, *Pakistan Armed Forces Medical Journal*, 54 (2), 253-258.
- Chen, E., Yu, T., Brody, G. H., Lam, P. H., Goosby, B. J., & Miller, G. E. (2023). Discrimination and inflammation in adolescents of color. *Biological Psychiatry Global Open Science*, 3(2), 204-212. doi.org/10.1016/j.bpsgos.2022.02.008
- Chen, J., Li, J., Cao, B., Wang, F., Luo, L., & Xu, J. (2020). Mediating effects of self-efficacy, coping, burnout, and social support between job stress and mental health among young Chinese nurses. *Journal of Advanced Nursing*, 76 (1), 163-173. doi.org/10.1111/jan.14208
- Chen, S. C. (2016). The relationships between multifocal workplace aggression and work-family conflict. *The International Journal of Human Resource Management*, 29(9), 1537-1564. doi.org/10.1080/09585192.2016.1255983
- Chen, S. W., & Peng, J. C. (2021). Determinants of frontline employee engagement and their influence on service performance. *The International Journal of Human Resource Management*, 32(5), 1062-1085. doi.org/10.1080/09585192.2018.1505764

- Chen, S., & Mallory, A. B. (2021). The effect of racial discrimination on mental and physical health: *A Propensity Score Weighting Approach. Social Science & Medicine*, 285, 114308. doi.org/10.1016/j.socscimed.2021.114308
- Cherns, A. (1976). The principles of sociotechnical design. *Human relations*, 29(8), 783-792. doi.org/10.1177/001872677602900806
- Cherry, K. (2024). What happens in your brain when you're angry, according to psychology? *Verywell Mind*. <https://www.verywellmind.com/what-happens-in-your-brain-when-youre-angry-8753372>
- Chirico, F., Heponiemi, T., Pavlova, M., Zaffina, S., & Magnavita, N. (2019). Psychosocial risk prevention in a global occupational health perspective. A descriptive analysis. *International Journal of Environmental Research and Public Health*, 16 (14), 2470. doi.org/10.3390/ijerph16142470
- Chong, C. A., Ng, L. P., & Chen, I. C. (2023). The impact of job insecurity on job burnout among hospitality employees during COVID-19 pandemic: the moderating role of supervisor and co-worker support. *International Hospitality Review*. ISSN: 2516-8142. doi.org/10.1108/IHR-08-2022-0034
- Choo, S., Kim, R., Lee, H., Eom, Y. J., Yi, H., Kim, R., & Kim, S. S. (2023). Associations between discrimination experiences and symptoms of depression and anxiety among transgender adults: a nationwide cohort study of 269 transgender adults in South Korea. *Social Psychiatry and Psychiatric Epidemiology*, 1-11. doi.org/10.1007/s00127-023-02554-5
- Chopra, P. (2009). Mental health and the workplace: issues for developing countries. *International Journal of Mental Health Systems*, 3, 1-9. doi.org/10.1186/1752-4458-3-4

- Chrousos, G. P. (2009). Stress and disorders of the stress system. *Nature Reviews Endocrinology*, 5(7), 374-381. doi.org/10.1038/nrendo.2009.106.PMid:19488073
- Chrusciel, A. (2023). *Manager's Abusive Supervision, Organizational Support, and Employee burn-out* (Postgraduate dissertation). Hellenic Open University.
- Chu, K., & Zhu, F. (2022). Impact of effort–reward imbalance on undergraduates' aggressive behavior: The mediating role of perceived justice and hostile attribution. *Social Behavior and Personality: an international journal*, 50(5), 1-10. doi.org/10.2224/sbp.11414
- Chueh, K. H., Yen, C. F., Lu, L., & Yang, M. S. (2011). Association between psychosomatic symptoms and work stress among Taiwan police officers. *The Kaohsiung journal of medical sciences*, 27(4), 144-149. doi.org/10.1016/j.kjms.2010.12.008
- Cifre, E., & Vera, M. (2019). Psychosocial risks and health at work from a gender perspective. *Frontiers in psychology*, 10, 1392. https://doi.org/10.3389/fpsyg.2019.01392
- Cifre, E., Vera, M., & Signani, F. (2015). Women and men at work: Analyzing occupational stress and well-being from a gender perspective. *Revista Puertorriqueña de Psicología*, 26(2), 172–191.
- Çivitci, A. (2015). The moderating role of positive and negative affect on the relationship between perceived social support and stress in college students. *Educational Sciences: Theory and Practice*, 15(3), 565-573.
- Clays, E., Casini, A., Van Herck, K., De Bacquer, D., Kittel, F., De Backer, G., & Holtermann, A. (2016). Do psychosocial job resources buffer the relation between physical work demands and coronary heart disease? A prospective

- study among men. *International Archives of Occupational and Environmental Health*, 89, 1299-1307. doi.org/10.1007/s00420-016-1165-z
- Cobb, S. (1976). Social support as a moderator of life stress. *Psychosomatic Medicine*, 38(5), 300-314. doi.org/10.1097/00006842-197609000-00003
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. L. Erlbaum Associates.
- Cohen, J. (2013). *Statistical power analysis for the behavioral sciences* (2nd ed.). Routledge. ISBN: 9780203771587. https://doi.org/10.4324/9780203771587
- Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, 98(2), 310. doi.org/10.1037/0033-2909.98.2.310
- Commission on Social Determinants of Health (CSDH). (2008). *Closing the Gap in a Generation: Health Equity through Action on the Social Determinants of Health* (Final Report). Geneva: World Health Organization.
- Connor, D. F. (2004). *Aggression and Antisocial Behavior in Children and Adolescents: Research and Treatment*. Guilford Press. books.google.com
- Constitution of the World Health Organization. (n.d.). Retrieved January 24, 2024, from https://www.who.int/about/accountability/governance/constitution
- Cooke, F. L., Cooper, B., Bartram, T., Wang, J., & Mei, H. (2019). Mapping the relationships between high-performance work systems, employee resilience and engagement: A study of the banking industry in China. *The International Journal of Human Resource Management*, 30(8), 1239-1260. https://doi.org/10.1080/09585192.2015.1137618
- Cooke, F. L., Wang, J., & Bartram, T. (2019). Can a supportive workplace impact employee resilience in a high-pressure performance environment? An

- investigation of the Chinese banking industry. *Applied Psychology*, 68(4), 695-718. doi.org/10.1111/apps.12184
- Cooper, C L., & Cartwright, S., (1994). Healthy mind; healthy organization: proactive approach to occupational stress. *Human Relations*, 47,455-471.
doi.org/10.1177/001872679404700405
- Cooper, C. L., & Davidson, M. (1987). Sources of stress at work and their relation to stressors in non-working environments. *Psychological Factors at Work and their Relation to Health*, 99-123.
- Cortese, C. G., Gatti, P., & Caputo, A. (2020). An Initial validation of Tepper's abusive supervision scale. *Applied Psychology Bulletin*, 284(5), 1–16.
doi.org/10.26387/bpa.284.5's_Abusive_Supervision_Scale
- Cortina, L. M., Kabat-Farr, D., Magley, V. J., & Nelson, K. (2017). Researching rudeness: The past, present, and future of the science of incivility. *Journal of Occupational Health Psychology*, 22(3), 299–313.
doi.org/10.1037/ocp0000089
- Cox, T., & Griffiths, A. (2000). *Occupational Stress Interventions*. Sudbury: HSE Books.
- Cox, T., & Griffiths, A. (2005). The nature and measurement of work-related stress: theory and practice. In J.R. Wilson & N. Corlett (Eds.), *Evaluation of Human Work* (3rd ed.). CRS Press. doi.org/10.1201/9781420055948.ch19
- Cox, T., & Griffiths, A. (2010). *Work-Related Stress: A theoretical perspective*. *Occupational Health Psychology*, 31.
- Cox, T., & Mackay, C. J. (1981). A transactional approach to occupational stress. *Stress, work Design and Productivity*, 10 (1), 34.

- Cox, T., Griffiths, A., & Rial-González, E. (2000). *Research on Work-Related Stress*. European Agency for Safety and Health at Work. Luxembourg: Office for Official Publications of the European Communities. Retrieved from <http://osha.europa.eu/en/publications/reports/203>
- Craig, S. L., Eaton, A. D., Kirkland, A., Egag, E., Pascoe, R., King, K., & Krishnan, S. (2021). Towards an integrative self: A digital photo elicitation study of resilience among key marginalized populations of sexual and gender minority youth. *International Journal of Qualitative Studies on Health and Well-being*, 16 (1), 1961572. doi.org/10.1080/17482631.2021.1961572
- Craighead, C. W., Ketchen, D. J., Dunn, K. S., & Hult, G. T. M. (2011). Addressing Common Method Variance: Guidelines for Survey Research on Information Technology, Operations, and Supply Chain Management. *IEEE Transactions on Engineering Management*, 58(3), 578. doi.org/10.1109/TEM.2011.2136437.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE Publications.
- Cristobal, E., Flavian, C., & Guinaliu, M. (2007). Perceived e-service quality (PeSQ): Measurement validation and effects on consumer satisfaction and web site loyalty. *Journal of Retailing and Consumer Services*, 14(6), 426-438 https://www.researchgate.net/post/What_is_the_minimum_acceptable_item-total_correlation_in_a_multi-dimensional_questionnaire
- Cuevas, A. G., & Boen, C. (2021). Tip of the iceberg: Measuring racial discrimination in studies of health. *Stress and Health*, 37(5), 1043-1050. doi.org/10.1002/smi.3047

- Cuevas, A. G., Wang, K., Williams, D. R., Mattei, J., Tucker, K. L., & Falcon, L. M. (2019). The Association between Perceived Discrimination and Allostatic Load in the Boston Puerto Rican Health Study. *Psychosomatic medicine*, 81(7), 659. doi.org/10.1097/PSY.0000000000000715
- Dai, Y.-D., Zhuang, W.-L., & Huan, T.-C. (2019). Engage or quit? The Moderating Role of Abusive Supervision between Resilience, Intention to leave and Work Engagement. *Tourism Management*, 70, 69–77. doi.org/10.1016/j.tourman.2018.07.014
- Dalberg Advisors (2017). Sanitation worker safety and livelihoods in India: A blueprint for action—phase 1: Understanding the problem. Dalberg Advisors. <http://sanitationworkers.org/wp-content/uploads/2018/04/Phase-1-Understanding-the-Problem-Part-I.pdf> & <http://sanitationworkers.org/wp-content/uploads/2018/04/Phase-1-Understanding-the-Problem-Part-II.pdf>
- Dall'Ora, C., Ejebu, O. Z., Ball, J., & Griffiths, P. (2023). Shift work characteristics and burnout among nurses: cross-sectional survey. *Occupational Medicine*, 73(4), 199-204. doi.org/10.1093/occmed/kqad046
- Dannals, J. E., Reit, E. S., & Miller, D. T. (2020). From whom do we learn group norms? Low-ranking group members are perceived as the best sources. *Organizational Behavior and Human Decision Processes*, 161, 213-227. <https://doi.org/10.1016/j.obhdp.2020.08.002>
- Das, S., Mandal, U. S., Nath, S., & Mondal, A. (2020). Relationship between perceived social support and severity of symptoms in persons with somatoform disorder. *J. Evol. Med. Dent. Sci*, 9, 320-323. doi.org/10.14260/jemds/2020/73

- Dattalo, P. (2013). *Analysis of Multiple Dependent Variables*. Oxford University Press, USA.
- Davis-Laack, P. (2014). Seven things resilient employees do differently. Psychology Today. Retrieved from <https://www.psychologytoday.com/us/blog/pressure-proof/201410/seven-things-resilientemployees-do-differently>
- Day, A., Crown, S. N., & Ivany, M. (2017). Organizational change and employee burnout: The moderating effects of support and job control. *Safety Science*, 100, 4–12. doi.org/10.1016/j.ssci.2017.03.004
- De Clercq, D., & Belausteguigoitia, I. (2023). When do ruminations about life-threatening crises threaten Creativity? The critical role of Resilience. *Creativity Research Journal*, 1-17. doi.org/10.1080/10400419.2023.2205702
- De Clercq, D., Jahanzeb, S., & Fatima, T. (2021). How abusive supervision ultimately might enhance performance ratings among silent, neurotic employees. *Personnel Review*, 50(5), 1297-1315. doi.org/10.1108/PR-01-2020-0007
- De Clercq, D., Kundi, Y. M., Sardar, S., & Shahid, S. (2021). Perceived organizational injustice and counterproductive work behaviors: mediated by organizational identification, moderated by discretionary human resource practices. *Personnel Review*, 50(7/8), 1545-1565. doi.org/10.1108/PR-06-2020-0469
- De Cuyper, N., & De Witte, H. (2006). The impact of job insecurity and contract type on attitudes, well-being and behavioral reports: a psychological contract perspective. *Journal of Occupational and Organizational Psychology*, 79(3), 395-409. doi.org/10.1348/096317905X53660

- De Cuyper, N., De Witte, H., & Van Emmerik, H. (2011). Temporary employment: Costs and benefits for (the careers of) employees and organizations. *Career Development International*, 16(2), 104-113. ISSN: 1362-0436
doi.org/10.1108/13620431111115587
- De Cuyper, N., Notelaers, G., & De Witte, H. (2009). Job insecurity and employability in fixed-term contractors, agency workers, and permanent workers: Associations with job satisfaction and affective organizational commitment. *Journal of Occupational Health Psychology*, 14(2), 193–205. doi.org/10.1037/a0014603
- De Dreu, C. K., Van Dierendonck, D., & Dijkstra, M. T. (2004). Conflict at work and individual well-being. *International Journal of Conflict Management*, 15(1), 6-26.
- De Jonge, Dollard, M. (2002) Stress in the workplace: Australian Master OHS and Environment Guide, CCH.
- De Jonge, J., & Dormann, C. (2003). The DISC model: Demand-induced strain compensation mechanisms in job stress. In *Occupational Stress in the Service Professions* (pp. 43-74). CRC Press. doi.org/10.1201/9780203422809.ch2
- De Jonge, J., & Dormann, C. (2003). The DISC model: Demand-induced strain compensation mechanisms in job stress. In *Occupational stress in the service professions* (pp. 43-74). CRC Press. ISBN 9780429221118.
- De Jonge, J., Dormann, C., & Van Den Tooren, M. (2008). The Demand-Induced Strain Compensation model: Renewed theoretical considerations and empirical evidence. In K. Naswall, J. Hellgren, & M. Sverke (Eds.), *The Individual in the Changing Working Life* (1st ed., pp. 67–87). Cambridge University Press. doi.org/10.1017/CBO9780511490064.004

- De Sio, S., Cedrone, F., Sanità, D., Ricci, P., Corbosiero, P., Di Traglia, M., ... & Stansfeld, S. (2017). Quality of Life in Workers and Stress: Gender Differences in Exposure to Psychosocial Risks and Perceived Well-Being. *BioMed Research International*, (1), 7340781.
doi.org/10.1155/2017/7340781
- Dėdelė, A., Miškinytė, A., Andrušaitytė, S., & Bartkutė, Ž. (2019). Perceived stress among different occupational groups and the interaction with sedentary behaviour. *International Journal of Environmental Research and Public Health*, 16 (23), 4595. doi.org/10.3390/ijerph16234595
- Deelstra, J. T., Peeters, M. C., Schaufeli, W. B., Stroebe, W., Zijlstra, F. R., & Van Doornen, L. P. (2003). Receiving instrumental support at work: when help is not welcome. *Journal of Applied Psychology*, 88(2), 324.
doi.org/10.1037/0021-9010.88.2.324
- Demerouti, E., Bakker, A. B., & Schaufeli, W. B. (2005). Spillover and crossover of exhaustion and life satisfaction among dual-earner parents. *Journal of Vocational Behavior*, 67(2), 266-289. doi.org/10.1016/j.jvb.2004.07.001
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86(3), 499–512. doi.org/10.1037/0021-9010.86.3.499
- Denz-Penhey, H., & Murdoch, C. (2008). Personal resiliency: Serious diagnosis and prognosis with unexpected quality outcomes. *Qualitative Health Research*, 18(3), 391-404. doi.org/10.1177/1049732307313431
- DeVellis, R. F. (2016). *Scale Development: Theory and Applications* (4th ed.). Sage Publications.

- Dewe, P. (1991). Measuring work stressors: The role of frequency, duration, and demand. *Work & Stress*, 5(2), 77-91. doi.org/10.1080/02678379108257006
- Dewe, P. J. (1991). Primary appraisal, secondary appraisal and coping: Their role in stressful work encounters. *Journal of Occupational Psychology*, 64(4), 331–351. doi.org/10.1111/j.2044-8325.1991.tb00564.x
- Dewe, P., & Cooper, C. L. (2014). Occupational stress and work: From theory to interventions. In Positive human functioning from a multidimensional perspective, Vol. 1: *Promoting Stress Adaptation*. (pp. 15–35). Nova Science Publishers.
- Diamond, P. M., Wang, E. W., & Buffington-Vollum, J. (2005). Factor Structure of the Buss-Perry Aggression Questionnaire (BPAQ) with Mentally Ill Male Prisoners. *Criminal Justice and Behavior*, 32(5), 546–564. doi.org/10.1177/0093854805278416
- Díaz-García, A., González-Robles, A., Mor, S., Mira, A., Quero, S., García-Palacios, A., ... & Botella, C. (2020). Positive and Negative Affect Schedule (PANAS): psychometric properties of the online Spanish version in a clinical sample with emotional disorders. *BMC psychiatry*, 20, 1-13. doi.org/10.1186/s12888-020-2472-1
- Dodge, K. A., Lochman, J. E., Harnish, J. D., Bates, J. E., & Pettit, G. S. (1997). Reactive and proactive aggression in school children and psychiatrically impaired chronically assaultive youth. *Journal of Abnormal Psychology*, 106(1), 37. doi.org/10.1037/0021-843X.106.1.37 doi.org/10.1108/MD-05-2019-0581
- Dolezsar, C. M., McGrath, J. J., Herzig, A. J. M., & Miller, S. B. (2014). Perceived racial discrimination and hypertension: A comprehensive systematic review.

- Health Psychology: Official Journal of the Division of Health Psychology, *American Psychological Association*, 33(1), 20–34. doi.org/10.1037/a0033718
- Dollard, J., Doob, L. W., Miller, N. E., Mowrer, O. H., & Sears, R. R. (1939). *Frustration and Aggression*. Yale University Press.
- Douglas, S. C., & Martinko, M. J. (2001). Exploring the role of individual differences in the prediction of workplace aggression. *Journal of Applied Psychology*, 86(4), 547.
- Drummond, S., O'Driscoll, M. P., Brough, P., Kalliath, T., Siu, O. L., Timms, C., ... & Lo, D. (2017). The relationship of social support with well-being outcomes via work–family conflict: Moderating effects of gender, dependants and nationality. *Human Relations*, 70(5), 544-565.
doi.org/10.1177/0018726716662696
- Duchaine, C., Aubé, K., Gilbert-Ouimet, M., & Vézina, M. (2020). Psychosocial stressors at work and the risk of sickness absence due to a diagnosed mental disorder: A systematic review and meta-analysis. *JAMA Psychiatry*, 77(8).
doi.org/10.1001/jamapsychiatry.2020.0322
- Duffy, M. K., Ganster, D. C., & Pagon, M. (2002). Social Undermining in the Workplace. *Academy of Management Journal*, 45(2), 331–351.
doi.org/10.5465/3069350
- Dursun, S., & Aytaç, S. (2014). The Effect of Customer Aggression on Burnout. *Academic Journal of Interdisciplinary Studies MCSER Publishing*, 3.
doi.org/10.5901/ajis. 2014.v3n4p369
- Eagly, A. H., Nater, C., Miller, D. I., Kaufmann, M., & Sczesny, S. (2020). Gender stereotypes have changed: A cross-temporal meta-analysis of US public

opinion polls from 1946 to 2018. *American Psychologist*, 75(3), 301.

doi.org/10.1037/amp0000494

Earnshaw, V. A., Rosenthal, L., Carroll-Scott, A., Santilli, A., Gilstad-Hayden, K., & Ickovics, J. R. (2016). Everyday discrimination and physical health: Exploring mental health processes. *Journal of Health Psychology*, 21(10), 2218-2228.

doi.org/10.1177/1359105315572456

Eddy, P., Wertheim, E. H., Kingsley, M., & Wright, B. J. (2017). Associations between the effort-reward imbalance model of workplace stress and indices of cardiovascular health: A systematic review and meta-analysis. *Neuroscience & Bio-behavioral Reviews*, 83, 252–266. 10.1016/j.neubiorev.2017.10.025

Elfering, A., Grebner, S., & de Tribolet-Hardy, F. (2013). The long arm of time pressure at work: Cognitive failure and commuting near-accidents. *European Journal of Work and Organizational Psychology*, 22(6), 737-749.

doi.org/10.1080/1359432X.2012.704155

Elfferich, M. D., Nelemans, P. J., Ponds, R. W., De Vries, J., Wijnen, P. A., & Drent, M. (2010). Everyday cognitive failure in sarcoidosis: the prevalence and the effect of anti-TNF- α Treatment. *Respiration*, 80(3), 212-219.

doi.org/10.1159/000314225

Elser, H., Rehkopf, D. H., Meausoone, V., Jewell, N. P., Eisen, E. A., & Cullen, M. R. (2019). Gender, depression, and blue-collar work: A retrospective cohort study of US aluminum manufacturers. *Epidemiology*, 30(3), 435-444. DOI:

10.1097/EDE.0000000000000993

Engel, G. L. (1977). The need for a new medical model: *A challenge for biomedicine*.

Science, 196(4286), 129–136. doi.org/10.1126/science.847460

Engel, G. L. (1980). The clinical application of the biopsychosocial model. *The American Journal of Psychiatry*, 137(5), 535–544.

doi.org/10.1176/ajp.137.5.535

Erwandi, D., Lestari, F., & Djunaidi, Z. (2021). Review of Psychosocial Risk Approach, Model and Theory. *Clinical Medicine*, 08(03).

Eskildsen, A., Fentz, H. N., Andersen, L. P., Pedersen, A. D., Kristensen, S. B., & Andersen, J. H. (2017). Perceived stress, disturbed sleep, and cognitive impairments in patients with work-related stress complaints: a longitudinal study. *Stress*, 20(4), 371-378. doi.org/10.1080/10253890.2017.1341484

EU-OSHA, ESENER 2019, Third European survey of enterprises on new and emerging risks.

<https://visualisation.osha.europa.eu/esener#!/en/survey/overview/2019>

EU-OSHA. (2018). *Management of Psychosocial Risks in European Workplaces: evidence from the Second European Survey of Enterprises on New and Emerging Risks (ESENER-2)*.

<https://osha.europa.eu/en/publications/management-psychosocial-risks-european-workplaces-evidence-second-european-survey/view>

European Agency for Safety and Health at Work (EU-OSHA) (2007). Expert forecast on emerging psychosocial risks related to occupational safety and health.

Luxemburg: office for official publications of the European Communities.

European Agency for Safety and Health at Work (EU-OSHA) (2010). European survey of enterprises on new and emerging risks - managing safety and health at work (ESENER). Luxemburg: office for official publications of the European Communities.

European Agency for Safety and Health at Work. (2014). Calculating the cost of work-related stress and psychosocial risks.

https://osha.europa.eu/en/publications/literature_reviews/calculating-the-cost-of-work-related-stress-and-psychosocial-risks/view

European agency for safety and health at work. (2017). Annual report 2016.

Publications office. <https://data.europa.eu/doi/10.2802/11720>

European agency for safety and health at work. (2020). ESENER 2019: What does it tell us about safety and health in Europe's workplaces? Publications office.

<https://data.europa.eu/doi/10.2802/489857>

European Agency for Safety, & Health at Work. (2007). *Expert forecast on emerging psychosocial risks related to occupational safety and health (Vol. 5)*. Office for Official Publications of the European Communities.

European Commission. (2013), report on European schedule of occupational diseases and gathering of data on relevant related aspects in EU member states and EFTA/EEA countries, in particular relative to commission recommendation 2003/670/EC.

Eurostat. (2020). Self-reported work-related health problems and risk factors - key statistics. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Self-reported_work-related_health_problems_and_risk_factors_-_key_statistics

Evans, P. (2018). Mental injury and reasonable administrative action 'green and comcare'[2018] AATA 1266-case note. *University of Notre Dame Australia Law Review*, 20, 1-20.

- Fabbre, V. D., Gaveras, E., Shabsin, A. G., Gibson, J., & Rank, M. R. (2019). Confronting stigma, discrimination, and social exclusion. *Toward a Livable Life: A 21st Century Agenda for Social Work*, 70.
- Fagerlind Ståhl, A. C., Ståhl, C., & Smith, P. (2018). Longitudinal association between psychological demands and burnout for employees experiencing a high versus a low degree of job resources. *BMC Public Health*, 18, 1-8.
- Fang, Y., Liu, Y., & Chen, N. (2023). How does abusive supervision affect employee innovation performance: Based on the perspective of cognitive-affective integration? doi.org/10.21203/rs.3.rs-2981306/v1
- Fatmi, S. I. A., Mansoori, N., & Mubeen, S. M. (2022). Health related quality of life amongst sewerage and sanitary workers of Karachi, Pakistan. *Pakistan Journal of Medical Sciences*, 38(7), 1986. doi: 10.12669/pjms.38.7.5697
- Federal Justice Statistics. (2019). Bureau of Justice Statistics US. In, Kim, K., Santos, R., Adams, B., Gurvis, A., Becker-Cohen, M., & Rao, S. (2019). This report was prepared by the Urban Institute Washington, DC using federal funding provided by the Bureau of Justice Statistics. Awards no: 2012-R2-CX-K002.
- Feldman, L., Goncalves, L., Chacón-Puignau, G., Zaragoza, J., Bagés, N., & De Pablo, J. (2008). Relaciones entre estrés académico, apoyo social, salud mental y rendimiento académico en estudiantes universitarios venezolanos. [Relationships between academic stress, social support, mental health and academic performance in Venezuelan university students]. *Universitas psychologica*, 7(3), 739-752.
- Ferguson, S. A., Paech, G. M., Sargent, C., Darwent, D., Kennaway, D. J., & Roach, G. D. (2012). The influence of circadian time and sleep dose on subjective fatigue ratings. *Accident Analysis & Prevention*, 45, 50-54.

- Ferketich, S. (1991). Focus on psychometrics: Aspects of item analysis. *Research in Nursing & Health*, 14(2), 165–168. doi.org/10.1002/nur.4770140211
- Festinger, L. (1957). Social comparison theory. *Selective Exposure Theory*, 16, 401. Brief biographical page. <http://www.dushkin.com/connectext/psy/ch15/bio15.mhtml>
- Field, A. (2013). Chapter 17: Exploratory Factor Analysis. In, *Discovering Statistics Using IBM SPSS: and Sex and Drugs and Rock “n” Roll* (pp. 665–719).
- Fischer, T., Tian, A. W., Lee, A., & Hughes, D. J. (2021a). Abusive supervision: A systematic review and fundamental rethink. *The Leadership Quarterly*, 32(6), 101540. doi.org/10.1016/j.leaqua.2021.101540
- Fischer, T., Tian, A. W., Lee, A., & Hughes, D. J. (2021b). Abusive supervision: A systematic review and fundamental rethink. *The Leadership Quarterly*, 32(6), 101540. doi.org/10.1016/j.leaqua.2021.101540
- Flores, E., Tschann, J. M., Dimas, J. M., Pasch, L. A., & de Groat, C. L. (2010). Perceived racial/ethnic discrimination, posttraumatic stress symptoms, and health risk behaviors among Mexican American adolescents. *Journal of Counseling Psychology*, 57(3), 264. doi.org/10.1037/a0020026
- Flores, M. J., Watson, L. B., Allen, L. R., Ford, M., Serpe, C. R., Choo, P. Y., & Farrell, M. (2018). Transgender people of color’s experiences of sexual objectification: Locating sexual objectification within a matrix of domination. *Journal of Counseling Psychology*, 65(3), 308. doi.org/10.1037/cou0000279
- Florez, E., Cohen, K., Ferenczi, N., Linnell, K., Lloyd, J., Goddard, L., Kumashiro, M., & Freeman, J. (2020). Linking recent discrimination-related experiences and wellbeing via social cohesion and resilience. *Journal of Positive*

Psychology and Wellbeing, 4(1S), 92-104. ISSN: 2587-0130

<https://journalppw.com/index.php/jppw/article/view/70>

- Forastieri, V. (2016). Prevention of psychosocial risks and work-related stress. *International Journal of Labour Research*, 8(1/2), 11.
- Forde, A. T., Sims, M., Muntner, P., Lewis, T., Onwuka, A., Moore, K., & Diez Roux, A. V. (2020). Discrimination and hypertension risk among African Americans in the Jackson Heart Study. *Hypertension*, 76(3), 715-723. doi.org/10.1161/HYPERTENSIONAHA.119.14492
- Forrest, L., Elman, N. S., Bodner, K. E., & Kaslow, N. J. (2022). Trainee confidentiality: Confusions, complexities, consequences, and possibilities. *Training and Education in Professional Psychology*, 16(3), 306. doi.org/10.1037/tep0000364
- Framke, E., Sørensen, J. K., Alexanderson, K., Farrants, K., Kivimäki, M., Nyberg, S. T., Pedersen, J., Madsen, I. E. H., & Rugulies, R. (2021). Emotional demands at work and risk of long-term sickness absence in 1·5 million employees in Denmark: A prospective cohort study on effect modifiers. *The Lancet. Public Health*, 6(10), e752–e759. doi.org/10.1016/S2468-2667(21)00185-7
- Francis, A. C. (2014, April). Workplace bullying and job satisfaction: the moderating effect of perceived organizational support. In *National Conference on Undergraduate Research, University of Kentucky, Lexington, USA*.
- French, J. R. P., Jr., Caplan, R. D., & Harrison, R. V. (1982). *The Mechanisms of Job Stress and Strain*. New York: Wiley. doi.org/10.2307/2136616, <https://www.jstor.org/stable/2136616>
- Friborg, O., Hjemdal, O., Rosenvinge, J. H., & Martinussen, M. (2006). A new rating scale for adult resilience: what are the central protective resources behind

- healthy adjustment? *International Journal of Methods in Psychiatric Research*, 12(2), 65-76. doi.org/10.1002/mpr.143
- Flick, U. (2014). *An introduction to qualitative research* (5th ed.). SAGE Publication
- Fung, S. F. (2020). Validity of the brief resilience scale and brief resilient coping scale in a Chinese sample. *International Journal of Environmental Research and Public Health*, 17(4), 1265. doi.org/10.3390/ijerph17041265
- Gafarova, A. V. (2021). Workplace stress and cognitive functions (a population-based study of adults aged 25-44 years). *Neurology, Neuropsychiatry, Psychosomatics*, 13(4), 30-36. doi.org/10.14412/2074-2711-2021-4-30-36
- García-Izquierdo, M., Meseguer de Pedro, M., Ríos-Risquez, M. I., & Sánchez, M. I. S. (2018). Resilience as a moderator of psychological health in situations of chronic stress (burnout) in a sample of hospital nurses. *Journal of Nursing Scholarship*, 50(2), 228-236. doi.org/10.1111/jnu.12367
- Gatti, P., Caputo, A., & Cortese, C. G. (2019). An initial validation of Tepper's Abusive Supervision Scale. *BPA-Applied Psychology Bulletin (Bollettino di Psicologia Applicata)*, 67(284). doi.org/10.26387/bpa.284.5 0006-6761
- Gebel, M., & Voßemer, J. (2014). The impact of employment transitions on health in Germany. A difference-in-differences propensity score matching approach. *Social Science & Medicine*, 108, 128-136. doi.org/10.1016/j.socscimed.2014.02.039
- Geldart, S., Langlois, L., Shannon, H. S., Cortina, L. M., Griffith, L., & Haines, T. (2018). Workplace incivility, psychological distress, and the protective effect of co-worker support. *International Journal of Workplace Health Management*, 11(2), 96-110. ISSN: 1753-8351. doi.org/10.1108/IJWHM-07-2017-0051

- George, D., & Mallery, M. (2010). SPSS for windows step by step: A simple guide and reference. *Boston: Allyn & Bacon.*
- Ghiselli, A. (2012). *Research Methods in Indigenous Contexts*. Springer Link
- Giebels, E., & Janssen, O. (2005). Conflict stress and reduced well-being at work: The buffering effect of third-party help. *European Journal of Work and Organizational Psychology*, 14(2), 137–155.
doi.org/10.1080/13594320444000236
- Gierk, B., Kohlmann, S., Kroenke, K., Spangenberg, L., Zenger, M., Brähler, E., & Löwe, B. (2014). The Somatic Symptom Scale–8 (SSS-8): A brief measure of somatic symptom burden. *JAMA Internal Medicine*, 174(3), 399–407. doi.org/10.1001/jamainternmed.2013.12179
- Gilbert, P. A., & Zemore, S. E. (2016). Discrimination and drinking: A systematic review of the evidence. *Social Science & Medicine* (1982), 161, 178–194.
doi.org/10.1016/j.socscimed.2016.06.009
- Gill, M. J. (2020, August 28). Pakistan: Sanitation workers’ protection in the wake of Covid-19. *Centre for Law and Justice*.
<https://www.ids.ac.uk/opinions/pakistan-sanitation-workers-protection-in-the-wake-of-covid-19/> (Personal Protective Equipment)
- Glomb, T.M. (2010), "Predicting workplace aggression: reciprocal aggression, organizational, and individual antecedents", *International Journal of Organization Theory & Behavior*, Vol. 13 No. 2, pp. 249-291. doi.org/10.1108/IJOTB-13-02-2010-B005, ISSN: 1093-4537
- Goetzel, R. Z., Long, S. R., Ozminkowski, R. J., Hawkins, K., Wang, S., & Lynch, W. (2004). Health, absence, disability, and presenteeism cost estimates of certain physical and mental health conditions affecting US employers. *Journal*

of Occupational and Environmental Medicine, 398-412.

<https://www.jstor.org/stable/44996588>

Gomathi, P., & Kamala, K. (2020). Threatening Health Impacts and Challenging Life of Sanitary Workers. *Journal of Evolution of Medical and Dental Sciences*, 9(41), 3055-3062. doi.org/10.14260/jemds/2020/669

Gonçalves, L., Sala, R., & Navarro, J. B. (2022). Resilience and occupational health of health care workers: a moderator analysis of organizational resilience and sociodemographic attributes. *International Archives of Occupational and Environmental Health*, 95(1), 223-232. doi.org/10.1007/s00420-021-01725-8

Gonzalez-Mulé, E., & Yuan, Z. (2022). Social support at work carries weight: Relations between social support, employees' diurnal cortisol patterns, and body mass index. *Journal of Applied Psychology*, 107(11), 2101. doi.org/10.1037/apl0000990

Good, V., Fehl, A. G., LaBrecque, A. C., & Voorhees, C. (2023). Cultivating resilience in organizational frontline employees. *Journal of Service Research*, 26(3), 405-421. doi.org/10.1177/10946705231161778

Goodwill, J. R., Taylor, R. J., & Watkins, D. C. (2019). Everyday discrimination, depressive symptoms, and suicide ideation among African American men. *Journal of Black Psychology*, 45(1), 74-93. doi.org/10.1080/13811118.2019.1660287

Goodwill, J. R., Taylor, R. J., & Watkins, D. C. (2019). Everyday discrimination, depressive symptoms, and suicide ideation among African American men. *Archives of Suicide Research*, 25(1), 74-93. doi.org/10.1080/13811118.2019.1660287.

- Goodwill, J. R., Taylor, R. J., & Watkins, D. C. (2021). Everyday discrimination, depressive symptoms, and suicide ideation among African American men. *Archives of Suicide Research*, 25(1), 74-93.
doi.org/10.1080/13811118.2019.1660287
- Goorts, K., Boets, I., Decuman, S., Du Bois, M., Rusu, D., & Godderis, L. (2020). Psychosocial determinants predicting long-term sickness absence: a register-based cohort study. *J Epidemiol Community Health*, 74(11), 913-918.
doi.org/10.1136/jech-2020-214181
- Goosby, B. J., Cheadle, J. E., & Mitchell, C. (2018). Stress-related biosocial mechanisms of discrimination and African American health inequities. *Annual review of sociology*, 44(1), 319–340. doi.org/10.1146/annurev-soc-060116-053403
- Gouin, J. P., & Kiecolt-Glaser, J. K. (2011). The impact of psychological stress on wound healing: methods and mechanisms. *Immunology and Allergy Clinics*, 31(1), 81-93. doi.org/10.1016/j.ccell.2012.03.006
- Graham, K. A., Yoo, G., & Kristal, E. K. (2022). The Psychology of abusive Supervision. In *Oxford Research Encyclopedia of Psychology*,
doi.org/10.1093/acrefore/9780190236557.013.816
- Gray, C. E., Spector, P. E., Lacey, K. N., Young, B. G., Jacobsen, S. T., & Taylor, M. R. (2020). Helping may be harming: Unintended negative consequences of providing social support. *Work & Stress*, 34(4), 359-385.
doi.org/10.1080/02678373.2019.1695294
- Greenhaus, J.H. and N.J. Beutell. 1985. "Sources of Conflict between Work and Family Roles," *Academy of Management Review*10: 76–88

- Griffiths, P., Dall'Ora, C., Simon, M., Ball, J., Lindqvist, R., Rafferty, A. M., ... & RN4Cast Consortium. (2014). Nurses' shift length and overtime working in 12 European countries: the association with perceived quality of care and patient safety. *Medical Care*, 52(11), 975-981. DOI: 10.1097/MLR.0000000000000233
- Groh, A. (2018). Field Research in Indigenous Contexts. In: *Research Methods in Indigenous Contexts*. Springer, Cham. doi.org/10.1007/978-3-319-72776-9_4
- Groh, A. (2018). *Research methods in indigenous contexts*. Switzerland: Springer International Publishing. <https://link.springer.com/book/10.1007/978-3-319-72776-9>
- Gu, B. M., Tan, Q. B. A., & Zhao, S. M. (2019). The association between occupational stress and psychosomatic wellbeing among Chinese nurses: A Cross-Sectional Survey. *Medicine*, 98(22), e15836. doi.org/10.1097/MD.00000000000015836
- Guadagnoli, E., & Velicer, W. F. (1988). Relation of sample size to the stability of component patterns. *Psychological Bulletin*, 103(2), 265. doi.org/10.1037/0033-2909.103.2.265
- Guan, S., Xiaerfuding, X., Ning, L., Lian, Y., Jiang, Y., Liu, J., & Ng, T. B. (2017). Effect of job strain on job burnout, mental fatigue and chronic diseases among civil servants in the Xinjiang Uygur Autonomous Region of China. *International Journal of Environmental Research and Public Health*, 14(8), 872. doi.org/10.3390/ijerph14080872
- Guidelines on sanitation and health. Geneva: World Health Organization; 2018. Licence: CC BY-NC-SA 3.0 IGO. ISBN 978-92-4-151470-5 © World Health Organization 2018. <https://creativecommons.org/licenses/by-nc-sa/3.0/igo>.

- Guille, C., Frank, E., Zhao, Z., Kalmbach, D. A., Nietert, P. J., Mata, D. A., & Sen, S. (2017). Work-family conflict and the sex difference in depression among training physicians. *JAMA Internal Medicine*, 177(12), 1766-1772. doi:10.1001/jamainternmed.2017.5138
- Gunkel, M., Lusk, E.J., Wolff, B., & Li, F. (2007). Gender-specific effects at work: An empirical study of four countries. *Gender, work and organization*, 14:56-79. *Gender, Work and Organization*, 14, 56-79. doi.org/10.1111/j.1468-0432.2007. 00332.x
- Guttman, L., (1954). "Some Necessary Conditions for Common-Factor Analysis," *Psychometrika*, 19, 149-161.
- Gyllensten, K., & Palmer, S. (2005). The role of gender in workplace stress: A critical literature review. *Health Education Journal*, 64(3), 271-288. doi:10.1177/001789690506400307
- Haar, J. M., de Fluiter, A., & Brougham, D. (2016). Abusive supervision and turnover intentions: The mediating role of perceived organisational support. *Journal of Management & Organization*, 22(2), 139-153. doi.org/10.1017/jmo.2015.34
- Hacker, W. (1986). Arbeitspsychologie (Vol. 41). *Stuttgart: Verlag Hans Huber*.
- Hacker, W. (2003). Action Regulation Theory: A practical tool for the design of modern work processes? *European Journal of Work and Organizational Psychology*, 12(2), 105–130. doi.org/10.1080/13594320344000075
- Hackman JR, Oldham GR. (1980). Work redesign. Reading, MA: Addison-Wesley.
- Hackman JR, Oldham GR. (1976). Motivation through the design of work: Test of a theory. *Organizational Behavior and Human Performance*, 16, 250–279. doi.org/10.1016/0030-5073 (76)90016-7

- Haleema, M. (2019). An occupational health survey of sewage treatment plant workers of Dakshina Kannada, Karnataka. *International Journal of Community Medicine and Public Health*, 6(4), 1467.
dx.doi.org/10.18203/2394-6040.ijcmph20190961
- Hämmig, O. (2017). Health and well-being at work: The key role of supervisor support. *SSM-Population Health*, 3, 393-402.
doi.org/10.1016/j.ssmph.2017.04.002
- Han, G. H., Harms, P. D., & Bai, Y. (2017). *Nightmare Bosses: The Impact of Abusive Supervision on Employees' Sleep, Emotions, and Creativity*. *Journal of Business Ethics*, 145(1), 21-31 <https://www.jstor.org/stable/45022199>,
DOI:10.1007/s10551-015-2859-y
- Harandi, T. F., Taghinasab, M. M., & Nayeri, T. D. (2017). The correlation of social support with mental health: A meta-analysis. *Electronic Physician*, 9(9), 5212.
Doi: 10.19082/5212 PMCID: PMC5633215 PMID: 29038699
- Harker, R., Pidgeon, A. M., Klaassen, F., & King, S. (2016). Exploring resilience and mindfulness as preventative factors for psychological distress burnout and secondary traumatic stress among human service professionals. *Work*, 54(3), 631-637. DOI: 10.3233/WOR-162311
- Harms, P. D., Credé, M., Tynan, M., Leon, M., & Jeung, W. (2017). Leadership and stress: A meta-analytic review. *The Leadership Quarterly*, 28(1), 178–194.
doi.org/10.1016/j.leaqua. 2016.10.006
- Harrell E, Langton L, Petosa J, et al. Indicators of workplace violence, 2019. *US Dept of Justice, US Dept of Labor, US Dept of Health and Human Services*. NCJ 250748; NIOSH 2022-14.

- Harris, K. J., Harvey, P., Harris, R. B., & Cast, M. (2013). An investigation of abusive supervision, vicarious abusive supervision, and their joint impacts. *The Journal of Social Psychology, 153*(1), 38–50.
doi.org/10.1080/00224545.2012.703709
- Harris, K. J., Harvey, P., Harris, R. B., & Cast, M. (2013). An investigation of abusive supervision, vicarious abusive supervision, and their joint impacts. *The Journal of Social Psychology, 153*(1), 38-50.
doi.org/10.1080/00224545.2012.703709
- Hart, P. M., & Cooper, C. L. (2001). Occupational stress: Toward a more integrated framework. *Handbook of Industrial, Work and Organizational Psychology, 2*, 93-114. doi.org/10.4135/9781848608368.n6
- Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the workplace: A multilevel review and synthesis. *Applied Psychology, 69*(3), 913-959. doi.org/10.1111/apps.12191
- Harvey, P., Harris, K. J., Gillis, W. E., & Martinko, M. J. (2014). Abusive supervision and the entitled employee. *The Leadership Quarterly, 25*(2), 204-217.
doi.org/10.1016/j.leaqua.2013.08.001
- Harvey, P., Stoner, J., Hochwarter, W., & Kacmar, C. (2007). Coping with abusive supervision: The neutralizing effects of ingratiation and positive affect on negative employee outcomes. *The Leadership Quarterly, 18*(3), 264–280.
doi.org/10.1016/j.leaqua.2007.03.008
- Harvey, P., Stoner, J., Hochwarter, W., & Kacmar, C. (2007). Coping with abusive supervision: The neutralizing effects of ingratiation and positive affect on negative employee outcomes. *The Leadership Quarterly, 18*(3), 264-280.
doi.org/10.1016/j.leaqua.2007.03.008

- Harvey, P., Stoner, J., Hochwarter, W., & Kacmar, C. (2007). Coping with abusive supervision: The neutralizing effects of ingratiation and positive affect on negative employee outcomes. *The Leadership Quarterly*, 18(3), 264–280. doi.org/10.1016/j.leaqua.2007.03.008
- Harvey, S. B., Modini, M., Joyce, S., Milligan-Saville, J. S., Tan, L., Mykletun, A., ... & Mitchell, P. B. (2017). Can work make you mentally ill? A systematic meta-review of work-related risk factors for common mental health problems. *Occupational and Environmental Medicine*, 74(4), 301-310. doi.org/10.1136/oemed-2016-104015
- Hasanzadeh, S., Dao, B., Esmaeili, B., & Dodd, M. D. (2019). Role of personality in construction safety: Investigating the relationships between personality, attentional failure, and hazard identification under fall-hazard conditions. *Journal of Construction Engineering and Management*, 145(9), 04019052. doi.org/10.1061/ (ASCE)CO.1943-7862.0001673
- Haslam, D., Filus, A., Morawska, A., Sanders, M. R., & Fletcher, R. (2015). The Work–Family Conflict Scale (WAFCS): Development and initial validation of a self-report measure of work–family conflict for use with parents. *Child Psychiatry & Human Development*, 46, 346-357. DOI:10.1007/s10578-014-0476-0
- Hassanie, S., Olugbade, O. A., Karadas, G., & Altun, Ö. (2022). The impact of workload on workers' traumatic stress and mental health mediated by career adaptability during COVID-19. *Sustainability*, 14(19), 12010. https://doi.org/10.3390/su141912010
- Heppner, P. P., Heppner, M. J., Wang, Y.-W., & Lee, D.-G. (2019). Creating a positive life: The role of problem-solving appraisal. In M. W. Gallagher & S.

- J. Lopez (Eds.), *Positive psychological assessment: A handbook of models and measures* (2nd ed., pp. 111–124). American Psychological Association. <https://doi.org/10.1037/0000138-008>
- Herr, R. M., Almer, C., Bosle, C., & Fischer, J. E. (2020). Associations of changes in organizational justice with job attitudes and health-findings from a prospective study using a matching-based difference-in-difference approach. *International Journal of Behavioral Medicine*, 27(1), 119–135. doi.org/10.1007/s12529-019-09841-z
- Herrero, S. G., Saldaña, M. Á. M., Rodriguez, J. G., & Ritzel, D. O. (2012). Influence of task demands on occupational stress: Gender differences. *Journal of Safety Research*, 43(5-6), 365-374. doi.org/10.1016/j.jsr.2012.10.005
- Hershcovis, M. S., Cortina, L. M., & Robinson, S. L. (2020). Social and situational dynamics surrounding workplace mistreatment: Context matters. *Journal of Organizational Behavior*, 41(8), 699-705. doi.org/10.1002/job.2479
- Hill, P. L., Sin, N. L., Edmonds, G. W., & Burrow, A. L. (2021). Associations between everyday discrimination and sleep: Tests of moderation by ethnicity and sense of purpose. *Annals of Behavioral Medicine*, 55(12), 1246-1252. doi.org/10.1093/abm/kaab012.
- Hobart J, Cano S. (2009). Improving the evaluation of therapeutic interventions in multiple sclerosis: The role of new psychometric methods. *Health Technol. Assess.* 13(12):1–177. doi: 10.3310/hta13120
- Hobfoll, S. E. (1989). Conservation of resources: a new attempt at conceptualizing stress. *American psychologist*, 44(3), 513. doi.org/10.1037/0003-066X.44.3.513

- Hoel, H., & Einarsen, S. V. (2020). Investigating complaints of bullying and harassment. In *Bullying and Harassment in the Workplace* (pp. 541-561). CRC Press. eBook ISBN: 9780429462528
- Hofstede, G. (1980). Culture and organizations. *International Studies of Management & Organization*, 10(4), 15–41. doi.org/10.1080/00208825.1980.11656300
- Hofstede, G. (1984). *Culture's consequences: International differences in work-related values* (Vol. 5). Beverly Hills, CA: SAGE.
- Hofstede, Geert (2001), *Culture's Consequences: Comparing, Values, Behaviors, Institutions, and Organizations across Nations*. 2nd ed. Thousand Oaks, CA: Sage Publications.
- Hofstee, G., Jansen, P. G., De Lange, A. H., Spisak, B. R., & Swinkels, M. (2021). The cognitive costs of managing emotions: A systematic review of the impact of emotional requirements on cognitive performance. *Work & Stress*, 35(3), 301-326. doi.org/10.1080/02678373.2020.1832608
- Holmgren, K., Dahlin-Ivanoff, S., Björkelund, C., & Hensing, G. (2009). The prevalence of work-related stress, and its association with self-perceived health and sick-leave, in a population of employed Swedish women. *BMC Public Health*, 9, 1-10. doi.org/10.1186/1471-2458-9-73
- Holmgren, K., Fjällström-Lundgren, M., & Hensing, G. (2013). Early identification of work-related stress predicted sickness absence in employed women with musculoskeletal or mental disorders: A prospective, longitudinal study in a primary health care setting. *Disability and Rehabilitation*, 35(5), 418–426. doi.org/10.3109/09638288.2012.695854
- Holmgren, K., Löve, J., Mårdby, A. C., & Hensing, G. (2014). Remain in work—What work-related factors are associated with sustainable work attendance: A

general population-based study of women and men. *Journal of occupational and environmental medicine*, 56(3), 235-242. DOI:

10.1097/JOM.0000000000000096

Hoobler, J. M., & Brass, D. J. (2006). Abusive supervision and family undermining as displaced aggression. *Journal of Applied Psychology*, 91(5), 1125–1133.

doi.org/10.1037/0021-9010.91.5.1125

Horan, K. A., Nakahara, W. H., DiStaso, M. J., & Jex, S. M. (2020). A review of the challenge-hindrance stress model: Recent advances, expanded paradigms, and recommendations for future research. *Frontiers in Psychology*, 11, 560346.

doi:10.3389/fpsyg.2020.560346

Hoyle, R. H., & Isherwood, J. C. (2013). Reporting results from structural equation modeling analyses in Archives of Scientific Psychology. *Archives of Scientific Psychology*, 1(1), 14. doi.org/10.1037/arc0000004

Huang, C., Xie, X., Cheung, S. P., & Zhou, Y. (2022). Job demands and resources, positive and negative affect, and psychological distress of social workers in China. *Frontiers in Psychiatry*, 12, 752382.

doi.org/10.3389/fpsyg.2021.752382

Huang, X., Lam, L. W., & Snell, R. S. (2020). Depleting emotional resources: The impact of abusive supervision on emotional exhaustion and the mediating roles of self-control and self-regulation. *Journal of Business Ethics*, 165(3), 493-507.

Hünefeld, L., Gerstenberg, S., & Hüffmeier, J. (2020). Job satisfaction and mental health of temporary agency workers in Europe: a systematic review and research agenda. *Work & stress*, 34(1), 82-110.

doi.org/10.1080/02678373.2019.1567619

- Hünefeld, L., Gerstenberg, S., & Hüffmeier, J. (2020). Job satisfaction and mental health of temporary agency workers in Europe: a systematic review and research agenda. *Work & Stress*, 34(1), 82-110.
doi.org/10.1080/02678373.2019.1567619
- Hussain, K., Abbas, Z., Gulzar, S., Jibril, A. B., & Hussain, A. (2020). Examining the impact of abusive supervision on employees' psychological wellbeing and turnover intention: The mediating role of intrinsic motivation. *Cogent Business & Management*, 7(1), 1818998.
doi.org/10.1080/23311975.2020.1818998
- Hussain, K., Abbas, Z., Gulzar, S., Jibril, A. B., & Hussain, A. (2020). Examining the impact of abusive supervision on employees' psychological wellbeing and turnover intention: The mediating role of intrinsic motivation. *Cogent Business & Management*, 7(1), 1818998. doi.org/10.1080/23311975.2020
- Hussain, S., Batool, I., Bano, S., & Ali, H. (2018). Emotional climate, work stress and occupational cognitive failure in doctors. *Peshawar Journal of Psychology and Behavioral Sciences (PJPBS)*, 4(2), 221-235.
doi.org/10.32879/picp.2018.4.2.221
- Hyde, J. S. (2014). Gender similarities and differences. *Annual Review of Psychology*, 65, 373-398. doi.org/10.1146/annurev-psych-010213-115057
- Hyman, L. (2018). *Temp: How American work, American Business, and the American Dream became Temporary*. Penguin.
- Ibrahim, H., Shatri, N. A. M. N., & Zin, M. L. M. (2020). Workplace spirituality, work-family conflict, perceived organizational support and employee well-being among hotel employees. *Annals of Contemporary Developments in*

Management & HR (ACDMHR), 2(2), 1-9.

doi.org/10.33166/ACDMHR.2020.02.001

Ibrahim, R. Z. A. R., Zalam, W. Z. M., Foster, B., Afrizal, T., Johansyah, M. D.,

Saputra, J., ... & Ali, S. N. M. (2021). Psychosocial work environment and

teachers' psychological well-being: The moderating role of job control and

social support. *International Journal of Environmental Research and Public*

Health, 18(14), 7308. doi.org/10.3390/ijerph18147308

Idris, M. A., Dollard, M. F., Coward, J., & Dormann, C. (2012). Psychosocial safety

climate: conceptual distinctiveness and effect on job demands and worker

psychological health. *Safety Science*, 50(1), 19–28.

doi.org/10.1016/j.ssci.2011.06.005

ILO. (2022). Social Dialogue in the Public Services in South Asia, ILO Publication,

Sri Lanka, p. 10

Imhof, S., & Andresen, M. (2018). Unhappy with well-being research in the

temporary work context: Mapping review and research agenda. *The*

International Journal of Human Resource Management, 29(1), 127-164.

doi.org/10.1080/09585192.2017.1384395

Inness, M., Barling, J., & Turner, N. (2005). Understanding supervisor-targeted

aggression: A within-person, between-jobs design. *Journal of Applied*

Psychology, 90(4), 731–739. doi.org/10.1037/0021-9010.90.4.731

International Labor Office (2020). Shift Work. Conditions of Work and Employment

Program. Information Sheet No. WT-8 2004. Available online:

[https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---](https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_170713.pdf)

[travail/documents/publication/wcms_170713.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_170713.pdf) (accessed on 8 January

2020).

- International Labor Office. (2016). World employment and social outlook: Trends 2016. *International Labor Organization*.
<https://www.ilo.org/global/research/global-reports/weso/2016/lang--en/index.htm>
- International Labor Office. (2019). In Chirico, F., Heponiemi, T., Pavlova, M., Zaffina, S., & Magnavita, N. (2019). Psychosocial risk prevention in a global occupational health perspective. A descriptive analysis. *International journal of environmental research and public health*, 16(14), 2470.
<https://www.mdpi.com/1660-4601/16/14/2470>
- International Labor Office. (2021). *World employment and social outlook: trends 2021*. International Labor Office.
- International Labor Office. (2022). Psychosocial risks and stress at work. Advancing social justice, promoting decent work.
<https://www.ilo.org/resource/psychosocial-risks-and-stress-work>
- Ittefaq, M., Ejaz, W., Jamil, S., Iqbal, A., & Arif, R. (2023). Discriminated in society and marginalized in media: Social representation of Christian sanitary workers in Pakistan. *Journalism Practice*, 17(1), 66-84.
doi.org/10.1080/17512786.2021.1939103
- Jackson, S. E., & Schuler, R. S. (1985). A meta-analysis and conceptual critique of research on role ambiguity and role conflict in work settings. *Organizational Behavior and Human Decision Processes*, 36(1), 16–78.
[doi.org/10.1016/0749-5978\(85\)90020-2](https://doi.org/10.1016/0749-5978(85)90020-2)
- Jahanzeb, S., De Clercq, D., & Fatima, T. (2021). Organizational injustice and knowledge hiding: the roles of organizational dis-identification and benevolence. *Management Decision*, 59(2), 446-462. ISSN: 0025-1747

- Jahanzeb, S., Fatima, T., Bouckennooghe, D., & Bashir, F. (2019). The knowledge hiding link: a moderated mediation model of how abusive supervision affects employee creativity. *European Journal of Work and Organizational Psychology*, 28(6), 810-819. doi.org/10.1080/1359432X.2019.1659245
- Jakovljevic, M. (2018). Empathy, sense of coherence and resilience: Bridging personal, public and global mental health and conceptual synthesis. *Psychiatria Danubina*, 30(4), 380-384. doi.org/10.24869/psyd.2018.380
- Janssen, M. A., Meulenbroek, O., Steens, S. C., Góraj, B., Bosch, M., Koopmans, P. P., & Kessels, R. P. (2015). Cognitive functioning, wellbeing and brain correlates in HIV-1 infected patients on long-term combination antiretroviral therapy. *Aids*, 29(16), 2139-2148. doi.org/10.1097/QAD.0000000000000824
- Jerg-Bretzke, L., Limbrecht-Ecklundt, K., Walter, S., Spohrs, J., & Beschoner, P. (2020). Correlations of the “Work–Family Conflict” with occupational stress—a cross-sectional study among university employees. *Frontiers in Psychiatry*, 11, 134. doi.org/10.3389/fpsyt.2020.00134
- Jiang, Z., & Hu, X. (2015). Knowledge sharing and life satisfaction: The roles of colleague relationships and gender. *Social Indicators Research*, 126(1), 379–394. doi.org/10.1007/s11205-015-0886-9
- Johnson, J. V., & Hall, E. M. (1996). Dialectic between conceptual and causal inquiry in psychosocial work-environment research. *Journal of Occupational Health Psychology*, 1(4), 362. doi.org/10.1037/1076-8998.1.4.362
- Johnson, S. M. (2019). *Impact of Social Emotional Early Learning Curriculum on Preschoolers' Empathy Skills* (Doctoral dissertation, The University of North Carolina at Charlotte).

- Johnson, V. L., Kiser, A., Washington, R., & Torres, R. (2018). Limitations to the rapid adoption of M-payment services: Understanding the impact of privacy risk on M-Payment services. *Computers in Human Behavior*, 79, 111-122. doi.org/10.1016/j.chb.2017.10.035.
- Johnstone, R., Quinlan, M., & McNamara, M. (2011). OHS inspectors and psychosocial risk factors: Evidence from Australia. *Safety Science*, 49(4), 547-557. doi.org/10.1016/j.ssci.2010.09.016
- Jolly, P. M., Kong, D. T., & Kim, K. Y. (2021). Social support at work: An integrative review. *Journal of Organizational Behavior*, 42(2), 229-251. doi.org/10.1002/job.2485
- Joy, P. P., Chitra, A., & Kalpana, J. (2018). A cross-sectional study to assess the health profile of street sweepers and sanitary workers in a zone of Greater Chennai Corporation, Tamil Nadu, India. *Indian Journal of Community Medicine and Public Health*, 5(10), 4357-4362. doi.org/10.18203/2394-6040.ijcmph20183974
- Judge, T. A., & Bono, J. E. (2001). Relationship of core self-evaluations traits—self-esteem, generalized self-efficacy, locus of control, and emotional stability—with job satisfaction and job performance: A meta-analysis. *Journal of applied Psychology*, 86(1), 80. doi.org/10.1037/0021-9010.86.1.80
- Judge, T. A., Klinger, R., Simon, L. S., & Yang, I. W. F. (2008). The contributions of personality to organizational behavior and psychology: Findings, criticisms, and future research directions. *Social and Personality Psychology Compass*, 2(5), 1982-2000. doi.org/10.1111/j.1751-9004.2008.00136.x

- Kacmar, K. M., Whitman, M. V., & Harris, K. J. (2013). The lingering impact of abusive supervision. *Journal of Applied Management and Entrepreneurship*, 18(3), 51. doi.org/10.9774/GLEAF.3709.2013.ju.00005
- Kaiser, H. F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement*, 20, 141–151.
http://dx.doi.org/10.1177/001316446002000116
- Kaiser, H. F. (1970). A second generation little jiffy. *Psychometrika*, 35(4), 401–415. https://doi.org/10.1007/BF02291817
- Kakemam, E., Kalhor, R., Khakdel, Z., Khezri, A., West, S., Visentin, D., & Cleary, M. (2019). Occupational stress and cognitive failure of nurses and associations with self-reported adverse events: A national cross-sectional survey. *Journal of Advanced Nursing*, 75(12), 3609-3618. doi.org/10.1111/jan.14201
- Kalakoski, V., Ratilainen, H., Lukander, J., & Salminen, S. (2012, August). Cognitive failure at work: factorial structure of a new questionnaire. In *Proceedings of the 30th European Conference on Cognitive Ergonomics* (pp. 177-180). doi.org/10.1145/2448136.2448175
- Kalakoski, V., Selinheimo, S., Valtonen, T., Turunen, J., Käpykangas, S., Ylisassi, H., ... & Paajanen, T. (2020). Effects of a cognitive ergonomics workplace intervention (CogErg) on cognitive strain and well-being: a cluster-randomized controlled trial. A study protocol. *BMC psychology*, 8, 1-16. doi.org/10.1186/s40359-019-0349-1
- Kalleberg, A. L. (2018). Job insecurity and well-being in rich democracies. *The Economic and Social Review*, 49(3, Autumn), 241-258.

- Kallio, H., Pietilä, A. M., Johnson, M., & Kangasniemi, M. (2016). Systematic methodological review: developing a framework for a qualitative semi-structured interview guide. *Journal of advanced nursing*, 72(12), 2954-2965.
- Kalmbach, D. A., Pillai, V., Cheng, P., Arnedt, J. T., & Drake, C. L. (2015). Shift work disorder, depression, and anxiety in the transition to rotating shifts: the role of sleep reactivity. *Sleep Medicine*, 16(12), 1532-1538.
doi.org/10.1016/j.sleep.2015.09.007
- Kannolath, R. B. (2019). A Lens to Understand Sanitation Workers and their Health Status in India. *Journal of Pharmacy Practice and Community Medicine*, 5(2).
dx.doi.org/10.5530/jppcm.2019.2.9
- Kao, K. Y., Chi, N. W., Thomas, C. L., Lee, H. T., & Wang, Y. F. (2020). Linking ICT availability demands to burnout and work-family conflict: The roles of workplace tele pressure and dispositional self-regulation. *The Journal of Psychology*, 154(5), 325-345. doi.org/10.1080/00223980.2020.1745137
- Karabiber, H., Kurt, S., & Gürol, Y. D. (2023). The role of gender in assessments of employees' psychosocial risks to work. In *Management and Organizational Studies on Blue-and Gray-collar Workers: Diversity of Collars* (pp. 31-44). Emerald Publishing Limited. doi.org/10.1108/S2051-233320230000008008
- Karasek, R. A. 1979. Job demands, job decision latitude and mental strain: Implications for job redesign. *Administrative Science Quarterly*, 24: 285 – 308
doi.org/10.2307/2392498
- Karasek, R. A. 1989. “Control in the workplace and its health-related aspects”. In *Job control and worker health*, Edited by: Sauter, S. L., Hurrell, J. J. and Cooper, C. L. 129 – 159. New York: Wiley.

- Karasek, R. A. and Theorell, T. 1990. *Healthy work: Stress, Productivity and the Reconstruction of Working Life*, New York: Basic Books.
- Karkkola, P., Kuittinen, M., & Hintsala, T. (2019). Role clarity, role conflict, and vitality at work: The role of the basic needs. *Scandinavian Journal of Psychology*, 60(5), 456-463. doi.org/10.1111/sjop.12550
- Kearney, M. D., Barg, F. K., Alexis, D., Higginbotham, E., & Aysola, J. (2022). Employee health and wellness outcomes associated with perceived discrimination in academic medicine: A qualitative analysis. *JAMA Network Open*, 5(1), e2145243. doi.org/10.1001/jamanetworkopen.2021.45243
- Kernis, M. H. (2003). Toward a Conceptualization of Optimal Self-Esteem. *Psychological Inquiry*, 14(1), 1–26. doi.org/10.1207/S15327965PLI1401_01
- Khahan, N. N., Vrabcová, P., Prompong, T., & Nattapong, T. (2024). Moderating effects of resilience on the relationship between self-leadership and innovative work behavior. *Sustainable Futures*, 7, 100148. doi.org/10.1016/j.sftr.2023.100148
- Khan, A. N., Moin, M. F., Zhu, Q., & Lahlouh, K. (2023). Abusive supervision and service employee's wellbeing. *Current Psychology*, 43(13), 11507-11513. https://doi.org/10.1007/s12144-023-05265-x
- Khan, S., & Sultan, A. (2022). Impact of Rotating Shifts on Nurse's Health Working in Public and Private Sector Hospitals of Peshawar. *Pakistan Journal of public health*, 12 (2), 83-87. ISSN (Print): 2225-0891. ISSN (Electronic): 2226-7018, doi: 10.32413/pjph. v12i2.926
- Kiewitz, C., Restubog, S. L. D., Shoss, M. K., Garcia, P. R. J. M., & Tang, R. L. (2016). Suffering in silence: Investigating the role of fear in the relationship

- between abusive supervision and defensive silence. *Journal of Applied Psychology*, 101(5), 731. doi.org/10.1037/apl0000074
- Kim, H., Chen, Y., & Kong, H. (2019). Abusive supervision and organizational citizenship behavior: The mediating role of networking behavior. *Sustainability*, 12(1), 288. doi.org/10.3390/su12010288
- Kim, S. R., Kim, H. Y., Nho, J. H., Ko, E., Moon, K. S., & Jung, T. Y. (2020). Relationship among symptoms, resilience, post-traumatic growth, and quality of life in patients with glioma. *European Journal of Oncology Nursing*, 48, 101830. doi.org/10.1016/j.ejon.2020.101830
- Kivimäki, M., Nyberg, S. T., Batty, G. D., Fransson, E. I., Heikkilä, K., Alfredsson, L., Bjorner, J. B., Borritz, M., Burr, H., Casini, A., Clays, E., De Bacquer, D., Dragano, N., Ferrie, J. E., Geuskens, G. A., Goldberg, M., Hamer, M., Hooftman, W. E., Houtman, I. L., ... Theorell, T. (2012). Job strain as a risk factor for coronary heart disease: A collaborative meta-analysis of individual participant data. *The Lancet*, 380(9852), 1491–1497. [https://doi.org/10.1016/S0140-6736\(12\)60994-5](https://doi.org/10.1016/S0140-6736(12)60994-5)
- Klein, K., & Boals, A. (2001). The relationship of life event stress and working memory capacity. *Applied Cognitive Psychology: The Official Journal of the Society for Applied Research in Memory and Cognition*, 15(5), 565-579. doi.org/10.1002/acp.727
- Klockner, K., & Hicks, R. E. (2015). Cognitive failures at work, mindfulness, and the Big Five. *GSTF Journal of Psychology (JPsych)*, 2(1), 1-7. doi.org/10.7603/s40790-015-0001-3
- Kocalevent, R., Pinnschmidt, H., Selch, S., Nehls, S., Meyer, J., Boczor, S., ... & van den Bussche, H. (2020). Burnout is associated with work-family conflict and

- gratification crisis among German resident physicians. *BMC Medical Education*, 20, 1-8. doi.org/10.1186/s12909-020-02061-0. PMid:32384889
PMCID: PMC7206716
- Kokoroko, E., & Sanda, M. A. (2019). Effect of workload on job stress of Ghanaian OPD nurses: The role of coworker support. *Safety and Health at Work*, 10(3), 341-346. doi.org/10.1016/j.shaw.2019.04.002
- Kołodziej-Zaleska, A., Iłska, M., Brandt-Salmeri, A., Jazłowska, A., & Przybyła-Basista, H. (2023). How to measure ego-resiliency in the face of various life-changing crises: Measurement invariance, convergent and discriminant validity and reliability of the Polish version of the Revised Ego-Resiliency Scale (ER89-R12). *PeerJ*, 11, e14499. doi.org/10.7717/peerj.14499
- Kompier, M. A. J. (2003). Job design and well-being. In M. Schabracq, J. Winnubst, & C. Cooper (Eds). *The Handbook of Work and Health Psychology*, 2, (PP. 429-454). Chichester, England: Wiley. doi.org/10.1002/0470013400.ch20
- Koopman, C., Pelletier, K. R., Murray, J. F., Sharda, C. E., Berger, M. L., Turpin, R. S., ... & Bendel, T. (2002). Stanford presentism scale: health status and employee productivity. *Journal of Occupational and Environmental Medicine*, 14-20. https://www.jstor.org/stable/44995848
- Koranyi, I., Jonsson, J., Rönnblad, T., Stockfelt, L., & Bodin, T. (2018). Precarious employment and occupational accidents and injuries—a systematic review. *Scandinavian Journal of Work, Environment H health*, 44(4), 341-350. doi.org/10.5271/sjweh.3720
- Kortum, E., & Leka, S. (2014). Tackling psychosocial risks and work-related stress in developing countries: The need for a multilevel intervention

framework. *International Journal of Stress Management*, 21(1), 7–

26. doi.org/10.1037/a0035033

Köse, S., Baykal, B., & Bayat, İ. K. (2021). Mediator role of resilience in the relationship between social support and work life balance. *Australian Journal of Psychology*, 73(3), 316-325. doi.org/10.1080/00049530.2021.1895678

Kossek, E. E., & Lee, K. H. (2017). Work-family conflict and work-life conflict. In *Oxford Research Encyclopedia of Business and Management*. doi.org/10.1093/acrefore/9780190224851.013.52

Kossek, E. E., Pichler, S., Bodner, T., & Hammer, L. B. (2011). Workplace social support and work–family conflict: A meta-analysis clarifying the influence of general and work–family-specific supervisor and organizational support. *Personnel Psychology*, 64(2), 289-313. doi.org/10.1111/j.1744-6570.2011.01211.x

Kroenke, K., Spitzer, R. L., deGruy, F. V., & Swindle, R. (1998). *15-item Patient Health Questionnaire (PHQ-15)* [Database record]. PsycTESTS. doi.org/10.1037/t19590-000

Lacourt, T. E., Houtveen, J. H., Van Zanten, J. V., Bosch, J. A., Drayson, M. T., & Van Doornen, L. J. P. (2015). Negative affectivity predicts decreased pain tolerance during low-grade inflammation in healthy women. *Brain, Behavior, and Immunity*, 44, 32-36. doi.org/10.1016/j.bbi.2014.10.003

Lakens, D. (2022). Sample size justification. *Collabra: Psychology*, 8(1), 33267. doi.org/10.1525/collabra.33267

Lam, L. W., & Xu, A. J. (2019). Power imbalance and employee silence: The role of abusive leadership, power distance orientation, and perceived organizational politics. *Applied Psychology*, 68(3), 513-546. doi.org/10.1111/apps.12170

- Lam, L. W., & Xu, A. J. (2019). Power Imbalance and Employee Silence: The role of abusive leadership, power distance orientation, and Perceived Organizational Politics. *Applied Psychology*, 68(3), 513–546. doi.org/10.1111/apps.12170
- Lam, L. W., Huang, X., & Janssen, O. (2019). The role of abusive supervision in the relationships between subordinates' emotional intelligence and well-being. *Journal of Occupational Health Psychology*, 24(1), 65-76.
- Lanz, J. J., & Bruk-Lee, V. (2017). Resilience as a moderator of the indirect effects of conflict and workload on job outcomes among nurses. *Journal of Advanced Nursing*, 73(12), 2973-2986. doi.org/10.1111/jan.13383
- Lapierre, L. M., Hammer, L. B., Truxillo, D. M., & Murphy, L. A. (2012). Family interference with work and workplace cognitive failure: The mitigating role of recovery experiences. *Journal of Vocational Behavior*, 81(2), 227-235. doi.org/10.1016/j.jvb.2012.07.007
- Larivière, M.A.S., Kerekes, Z., Valcheff, D. (2016). Psychosocial Hazards and Risks. In Guidotti, T. (eds) Health Risks and Fair Compensation in the Fire Service. Risk, Systems and Decisions. Springer, Cham. https://doi.org/10.1007/978-3-319-23069-6_11
- László, K. D., Ahnve, S., Hallqvist, J., Ahlbom, A., & Janszky, I. (2010). Job strain predicts recurrent events after a first acute myocardial infarction: The Stockholm Heart Epidemiology Program. *Journal of Internal Medicine*, 267(6), 599–611. doi.org/10.1111/j.1365-2796.2009.02196.x
- László, K. D., Engström, K., Hallqvist, J., Ahlbom, A., & Janszky, I. (2013). Job insecurity and prognosis after myocardial infarction: *The SHEEP Study*. *International Journal of Cardiology*, 167(6), 2824–2830. doi.org/10.1016/j.ijcard.2012.07.005

- Lavassani, K. M., & Movahedi, B. (2014). Developments in theories and measures of work-family relationships: from conflict to balance. *Contemporary Research on Organization Management and Administration*, 2(1), 6-19. ISSN (online) 2335-7959.
- Lawrence, J. A., Kawachi, I., White, K., Bassett, M. T., Priest, N., Masunga, J. G., ... & Williams, D. R. (2022). A systematic review and meta-analysis of the everyday discrimination scale and biomarker outcomes. *Psychoneuroendocrinology*, 142, 105772. doi.org/10.1016/j.psyneuen.2022.105772
- Lazarus, R. S. (1990). Theory-based stress measurement. *Psychological Inquiry*, 1(1), 3–13. doi.org/10.1207/s15327965pli0101_1
- Lazarus, R., & Folkman, S. (1984). *Stress, Appraisal and Coping* (pp. 1–460).
- Lee, S. (Ally), & Ravichandran, S. (2019). Impact of employees' job control perceptions on their work-related responses in the hospitality industry. *International Journal of Contemporary Hospitality Management*, 31(7), 2720–2738. doi.org/10.1108/IJCHM-09-2018-0784
- Lee, S., Colditz, G. A., Berkman, L. F., & Kawachi, I. (2003). Caregiving and risk of coronary heart disease in U.S. women: A prospective study. *American Journal of Preventive Medicine*, 24(2), 113–119. doi.org/10.1016/s0749-3797(02)00582-2
- Lee, S., Colditz, G. A., Berkman, L. F., & Kawachi, I. (2004). Prospective study of job insecurity and coronary heart disease in US women. *Annals of Epidemiology*, 14(1), 24-30. doi.org/10.1016/S1047-2797(03)00074-7
- Leka, S., & Cox, T. (2008). *Guidance on the European framework for psychosocial risk management* (Project report). World Health Organization. http://www.who.int/occupational_health/publication...

- Leka, S., & Jain, A. (2010). *Health Impact of Psychosocial Hazards at Work: An overview*. Geneva: World Health Organization. Retrieved from https://www.who.int/occupational_health/publications/hazardpsychosocial/en/
- Leka, S., Jain, A., & World Health Organization. (2010). Health impact of psychosocial hazards at work: an overview. Institute of Work, Health & Organizations, University of Nottingham. ISBN 978 92 4 150027 2.
- Leso, V., Fontana, L., Caturano, A., Vetrani, I., Fedele, M., & Iavicoli, I. (2021). Impact of shift work and long working hours on worker cognitive functions: current evidence and future research needs. *International Journal of Environmental Research and Public Health*, 18(12), 6540. doi.org/10.3390/ijerph18126540
- Lewis, J. (2021). Autonomy and the limits of cognitive enhancement. *Bioethics*, 35(1), 15-22. doi.org/10.1111/bioe.12791
- Lewis, T. T., Cogburn, C. D., & Williams, D. R. (2015). Self-reported experiences of discrimination and health: scientific advances, ongoing controversies, and emerging issues. *Annual Review of Clinical Psychology*, 11, 407-440. doi.org/10.1146/annurev-clinpsy-032814-112728
- Lewis, T. T., Williams, D. R., Tamene, M., & Clark, C. R. (2014). Self-reported experiences of discrimination and cardiovascular disease. *Current Cardiovascular Risk Reports*, 8, 1-15.
- Li, R., Chen, Z., Zhang, H., & Luo, J. (2021). How do authoritarian leadership and abusive supervision jointly thwart follower proactivity? A social control perspective. *Journal of Management*, 47(4), 930-956. doi.org/10.1177/0149206319878261
- Li, S., Yin, Y., Cui, G., Zhang, C., Zhu, H., & Yao, Y. (2023). The mediating and moderating effects of resilience between childhood trauma and geriatric

depressive symptoms among Chinese community-dwelling older adults. *Frontiers in Public Health*, 11, 1137600.

doi.org/10.3389/fpubh.2023.1137600

Li, T., Wei, J., Fritzsche, K., Toussaint, A. C., Zhang, L., Chen, H., ... & Leonhart, R. (2022). Validation of the Chinese version of the Somatic Symptom Scale-8 in patients from tertiary hospitals in China. *Frontiers in Psychiatry*, 13, 940206. doi.org/10.3389/fpsy.2022.940206

Li, X., Qian, J., Han, Z. R., & Jin, Z. (2016). Coping with abusive supervision: the neutralizing effects of perceived organizational support and political skill on employees' burnout. *Current Psychology*, 35, 77-82. doi.org/10.1007/s12144-015-9363-5

Lian, H., Brown, D. J., Ferris, D. L., Liang, L. H., Keeping, L. M., & Morrison, R. (2014). Abusive supervision and retaliation: A self-control framework. *Academy of Management Journal*, 57(1), 116–139. doi.org/10.5465/amj.2011.0977

Liang, J., Krause, N. M., & Bennett, J. M. (2001). Social exchange and well-being: Is giving better than receiving? *Psychology and Aging*, 16(3), 511-523. doi.org/10.1037/0882-7974.16.3.511

Liang, L. H., Hanig, S., Evans, R., Brown, D. J., & Lian, H. (2018). Why is your boss making you sick? A longitudinal investigation modeling time-lagged relation between abusive supervision and employee physical health. *Journal of Organizational Behavior*, 39(9), 1050-1065. doi.org/10.1002/job.2248

Link, B.G. and Phelan, J.C. (2001). Conceptualizing stigma, *Annual Review of Sociology*, 27, 363–85. doi.org/10.1146/annurev.soc.27.1.363

- Liu, H. C., Cheng, Y., & Ho, J. J. (2020). Associations of ergonomic and psychosocial work hazards with musculoskeletal disorders of specific body parts: A study of general employees in Taiwan. *International Journal of Industrial Ergonomics*, 76, 102935. doi.org/10.1016/j.ergon.2020.102935
- Liu, J. D., You, R. H., Liu, H., & Chung, P. K. (2020). Chinese version of the international positive and negative affect schedule short form: Factor structure and measurement invariance. *Health and Quality of Life Outcomes*, 18, 1-8. doi.org/10.1186/s12955-020-01526-6
- Liu, M. Y., Li, N., Li, W. A., & Khan, H. (2017). Association between psychosocial stress and hypertension: a systematic review and meta-analysis. *Neurological Research*, 39(6), 573-580. doi.org/10.1080/01616412.2017.1317904
- Liu, Y., An, J., Sun, Y., & Liu, C. (2022). Work-family conflict and job stress among seafarers: the moderating role of job satisfaction. *Psychology, Health & Medicine*, 27(9), 1989-1995. doi.org/10.1080/13548506.2021.1996617
- Liu, Y., Wang, M., Chang, C.-H., Shi, J., Zhou, L., & Shao, R. (2015). Work-family conflict, emotional exhaustion, and displaced aggression toward others: The moderating roles of workplace interpersonal conflict and perceived managerial family support. *Journal of Applied Psychology*, 100(3), 793–808. doi.org/10.1037/a0038387
- Loi Grah, J. (2020). *Work-related stress and psychosomatic complaints: a quantitative study done among working adults in Sweden* (Master's thesis). Mälardalen University, School of Health, Care and Social Welfare.id:1452693
- Loiacono, E. T., Watson, R. T., & Goodhue, D. L. (2002). *Developing e-service quality scales: A literature review. Proceedings of the 33rd Hawaii International Conference on System Sciences*, 1-10

- Lomas, T., Medina, J. C., Ivztan, I., Rupprecht, S., & Eiroa-Orosa, F. J. (2020). A systematic review of the impact of mindfulness on the well-being of healthcare professionals. *Journal of Clinical Psychology in Medical Settings*, 27(2), 209-223
- Lopes, B. C., Kamau, C., & Jaspal, R. (2019). Coping with perceived abusive supervision: the role of paranoia. *Journal of Leadership & Organizational Studies*, 26(2), 237-255. doi.org/10.1177/1548051818795821
- Low, Y. M., Sambasivan, M., & Ho, J. A. (2021). Impact of abusive supervision on counterproductive work behaviors of nurses. *Asia Pacific Journal of Human Resources*, 59(2), 250-278. doi.org/10.1111/1744-7941.12234
- Lowrance, S. A., Ionadi, A., McKay, E., Douglas, X., & Johnson, J. D. (2016). Sympathetic nervous system contributes to enhanced corticosterone levels following chronic stress. *Psycho-neuroendocrinology*, 68, 163–170. doi.org/10.1016/j.psyneuen.2016.02.027
- Lübke, C. (2021). How self-perceived job insecurity affects health: Evidence from an age-differentiated mediation analysis. *Economic and Industrial Democracy*, 42(4), 1105-1122. doi.org/10.1177/0143831X19846333
- Luers, P., Schloeffel, M., & Prüssner, J. C. (2020). Working memory performance under stress. *Experimental psychology*, 67(2). ISSN: 1618-3169eISSN: 2190-5142. doi.org/10.1027/1618-3169/a000484
- Luo, S., Zhang, Y., Wang, P., Yang, Z., Zheng, J., Wang, Z., ... & Zhu, J. (2024). The moderating role of resilience in the association between workload and depressive symptoms among radiology residents in China: results from a nationwide cross-sectional study. *European Radiology*, 34(1), 695-704. doi.org/10.1007/s00330-023-10021-7.

- Lupien, S. J., McEwen, B. S., Gunnar, M. R., & Heim, C. (2009). Effects of stress throughout the lifespan on the brain, behavior and cognition. *Nature Reviews Neuroscience*, 10(6), 434-445.
- Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development*, 71(3), 543-562. doi.org/10.1111/1467-8624.00164
- Maidaniuc-Chirilă, T. (2015). The mediation role of resilience on the relationship between workplace bullying and Romanian employees' strain. *Revista de Cercetare și Intervenție Socială*, (48), 120-133. doi.org/10.9790/0837-2107064853
- Majeed, N. M., Kasturiratna, K. S., Lua, V. Y., Li, M. Y., & Hartanto, A. (2023). Discrimination and cognitive failures in Singapore and the US: An investigation of between-and within-person associations through multilevel modelling. *International Journal of Intercultural Relations*, 94, 101805. doi.org/10.1016/j.ijintrel.2023.101805
- Mäkikangas, A., Schaufeli, W., Tolvanen, A., & Feldt, T. (2013). Engaged managers are not workaholics: Evidence from a longitudinal person- centered analysis. *Journal of Work and Organizational Psychology*, 29, 135–143. doi.org/10.5093/tr2013a19
- Mäkikangas, A., Feldt, T., Kinnunen, U. and Mauno, S. (2013), "Does Personality Matter? A Review of Individual Differences in Occupational Well-Being", Bakker, A.B. (Ed.) *Advances in Positive Organizational Psychology (Advances in Positive Organizational Psychology, Vol. 1)*, Emerald Group Publishing Limited, Leeds, pp. 107-143. doi.org/10.1108/S2046-410X(2013)00000001008

- Malakoutikhah, M., Sepidarkish, M., Sarsangi, V., & Zakerian, S. A. (2018). Work-family conflict and musculoskeletal disorders among wait staff—results from touristic city Isfahan, Iran. *Annals of Musculoskeletal Medicine*, 2(1), 17-22.
- Marchiondo, L., Gonzales, E., & Williams, L. (2017). Trajectories of perceived workplace age discrimination and long-term associations with mental, self-rated, and occupational health. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, 74.
doi.org/10.1093/geronb/gbx095
- Marinaccio, A., Ferrante, P., Corfiati, M., Di Tecco, C., Rondinone, B. M., Bonafede, M., ... & Iavicoli, S. (2013). The relevance of socio-demographic and occupational variables for the assessment of work-related stress risk. *BMC Public Health*, 13, 1-9. doi.org/10.1186/1471-2458-13-1157
- Martinko, M. J., Harvey, P., Brees, J. R., & Mackey, J. (2013). A review of abusive supervision research. *Journal of organizational behavior*, 34(S1), S120-S137.
doi.org/10.1002/job.1888
- Mastroianni, K., & Storberg-Walker, J. (2014). Do work relationships matter? Characteristics of workplace interactions that enhance or detract from employee perceptions of well-being and health behaviors. *Health Psychology and Behavioral Medicine: an Open Access Journal*, 2(1), 798-819.
doi.org/10.1080/21642850.2014.933343
- Mathieu, M., Eschleman, K. J., & Cheng, D. (2019). Meta-analytic and multi-wave comparison of emotional support and instrumental support in the workplace. *Journal of Occupational Health Psychology*, 24(3), 387.

- Mawritz, M. B., Mayer, D. M., Hoobler, J. M., Wayne, S. J., & Marinova, S. V. (2012). A trickle-down model of abusive supervision. *Personnel Psychology*, 65(2), 325–357. doi.org/10.1111/j.1744-6570.2012.01246.x
- Mayou, R., & Farmer, A. (2002). Functional somatic symptoms and syndromes. *Bmj*, 325(7358), 265-268. doi.org/10.1136/bmj.325.7358.265 (Published 03 August 2002).
- Mayou, R., Kirmayer, L. J., Simon, G., Kroenke, K., & Sharpe, M. (2005). Somatoform disorders: time for a new approach in DSM-V. *American Journal of Psychiatry*, 162(5), 847-855.
- McClendon, M. J. (1991). Acquiescence and recency response-order effects in interview surveys. *Sociological Methods & Research*, 20(1), 60-103. doi.org/10.1177/0049124191020001003
- McCullough, A. M., Ritchey, M., Ranganath, C., & Yonelinas, A. (2015). Differential effects of stress-induced cortisol responses on recollection and familiarity-based recognition memory. *Neurobiology of Learning and Memory*, 123, 1-10. doi.org/10.1016/j.nlm.2015.04.007
- McDonald, T. P., Poertner, J., & Pierpont, J. (1999). Predicting caregiver stress: An ecological perspective. *American Journal of Orthopsychiatry*, 69(1), 100-109. doi.org/10.1037/h0080385
- McElwain, A. K., Korabik, K., & Rosin, H. M. (2005). An examination of gender differences in work-family conflict. *Canadian Journal of Behavioural Science/Revue, Canadienne des Sciences du Comportement*, 37(4), 283. doi.org/10.1037/h0087263

- McEwen, B. S., & Sapolsky, R. M. (1995). Stress and cognitive function. *Current Opinion in Neurobiology*, 5(2), 205-216. doi.org/10.1016/0959-4388(95)80028
- McEwen, B. S., & Stellar, E. (1993). Stress and the individual: Mechanisms leading to disease. *Archives of Internal Medicine*, 153, 2093-2101.
- McEwen, B. S., & Stellar, E. (1993). Allostatic load: The price the body pays when confronted with Major Stressors and sustained stress responses that must be maintained over extended periods of time. *Development and Psychopathology*, 23, 723–724
- McEwen, B. S., & Stellar, E. (1993). Stress and the individual: Mechanisms leading to disease. *Archives of Internal Medicine*, 153(18), 2093–2101.
doi:10.1001/archinte.1993.00410180039004
- McGRADY, A. (2007). *Psychophysiological Mechanisms of Stress*. In Lehrer, P.M., Woolfolk, R, L., Sime, W, E. (3rd edition) *Principles and Practice of Stress Management*, 16-37. The Guildford Press.
- McLinton, S. S., & Dollard, M. F. (2010). Work stress and driving anger in Japan. *Accident Analysis & Prevention*, 42(1), 174-181.
doi.org/10.1016/j.aap.2009.07.016
- McLinton, S. S., & Dollard, M. F. (2010). Work stress and driving anger in Japan. *Accident Analysis & Prevention*, 42(1), 174–181.
doi.org/10.1016/j.aap.2009.07.016
- McManus, E., Talmi, D., Haroon, H., & Muhlert, N. (2020). The effects of psychosocial stress on memory and cognitive ability: A meta-analysis. *MedRxiv*, 2020-11.30.20240705.
doi.org/10.1101/2020.11.30.20240705

- Meimann, A. M. (2016). *Positive emotions in daily life, measured by means of an experience sampling application: assessing the validity of the I-PANAS-SF* (Bachelor's thesis, University of Twente).
<https://purl.utwente.nl/essays/69960>
- Meischke, H., Beaton, R., Lilly, M., Tu, A., & Revere, D. (2020). A revised ecological model of occupational stress: applications to 9-1-1 Telecommunicators. *Workplace Health & Safety*, 68(10), 460-467.
doi.org/10.1177/2165079920934316
- Merino, M. D., & Privado, J. (2015). Does employee recognition affect positive psychological functioning and well-being? *The Spanish Journal of Psychology*, 18, E64. doi.org/10.1017/sjp.2015.67
- Mezeh, A. (2021). Job Enrichment and Employee commitment of Indigenous Oil Servicing Companies in Rivers State. *American Journal of Humanities and Social Sciences Research (AJHSSR)*, 5(9), 9-18.
- Milczarek, M., Brun, E., Houtman, I., Goudswaard, A., Evers, M., Bovenkamp, M., ... & Oncins de Frutos, M. (2007). *Expert forecast on emerging psychosocial risks related to occupational safety and health*. Luxembourg: European Agency for Safety and Health at Work.
- Minnotte, K. L., & Yucel, D. (2018). Work–family conflict, job insecurity, and health outcomes among US workers. *Social Indicators Research*, 139, 517-540.
doi.org/10.1007/s11205-017-1716-z
- Misiak, B., Sierżantowicz, R., Krajewska-Kułak, E., Lewko, K., Chilińska, J., & Lewko, J. (2020). Psychosocial work-related hazards and their relationship to the quality of life of nurses—A cross-sectional study. *International Journal of*

Environmental Research and Public Health, 17(3), 755.

doi.org/10.3390/ijerph17030755

Mitchell, M., & Ambrose, M. (2007). Abusive Supervision and Workplace Deviance and the Moderating Effects of Negative Reciprocity Beliefs. *The Journal of Applied Psychology*, 92(4), 1159–1168. doi.org/10.1037/0021-9010.92.4.1159

Mohammed Sayed Mostafa, A. (2020). Work–family conflict, negative affect and psychosomatic health complaints among female physicians in Egypt. *International Journal of Organizational Analysis*, 28(4), 831-842. doi.org/10.1108/IJOA-03-2019-1689.

Moin, M. F., Wei, F., & Weng, Q. (2020). Abusive supervision, emotion regulation, and performance. *International Journal of Selection and Assessment*, 28(4), 498-509. doi.org/10.1111/ijsa.12301

Molina, K. M., Jackson, B., & Rivera-Olmedo, N. (2016). Discrimination, racial/ethnic identity, and substance use among Latina/os: Are they gendered? *Annals of Behavioral Medicine*, 50(1), 119-129. doi.org/10.1007/s12160-015-9738-8

Montano, D., Reeske, A., Franke, F., & Hüffmeier, J. (2017). Leadership, followers' mental health and job performance in organizations: A comprehensive meta-analysis from an occupational health perspective. *Journal of Organizational Behavior*, 38(3), 327–350. doi.org/10.1002/job.2124

Moorthy, P., Manimekalai, N., & Mohan, S. (2023). Investigating phenomenal keys of health, safety and dignity: a case study. *International Journal of Teaching and Case Studies*, 14(1), 51-63. doi.org/10.1504/IJTCS.2023.131667

Mossakowski, K. N., & Zhang, W. (2014). Does social support buffer the stress of discrimination and reduce psychological distress among Asian Americans?

Social Psychology Quarterly, 77(3), 273-295.

doi.org/10.1177/019027251453427

Mostafa, A. M. S. (2020). Work–family conflict, negative affect and psychosomatic health complaints among female physicians in Egypt. *International Journal of Organizational Analysis*, 28(4), 831-842. ISSN: 1934-8835.

doi.org/10.1108/IJOA-03-2019-1689

Moyle, P. (1995). The role of negative affectivity in the stress process: Tests of alternative models. *Journal of Organizational Behavior*, 16(S1), 647-668.

doi.org/10.1002/job.4030160705

Mullen, J., & Kelloway, E. K. (2011). Occupational health and safety leadership. In *Handbook of occupational health psychology*, 2nd ed (pp. 357–372).

American Psychological Association. <https://doi.org/10.1037/10474-000>

Mullen, J., Fiset, J., & Rhéaume, A. (2018). Destructive forms of leadership: The effects of abusive supervision and incivility on employee health and safety. *Leadership & Organization Development Journal*, 39(8), 946-961.

doi.org/10.1108/LODJ-06-2018-0203

Mulvey, K. L., Gönültaş, S., Hope, E. C., Hoffman, A. J., DiStefano, C., Irvin, M. J.,

& Carlson, R. (2021). The complex nature of youth aggression: Relations

between cognition, discrimination, and peer perceptions of bullying

involvement. *Youth & Society*, 53(6), 979-1000.

doi.org/10.1177/0044118X20920085

Murzyn, T. (2020). *Ego Control/Ego Resiliency Theory (ARCH)*. In *The Wiley*

Encyclopedia of Personality and Individual Differences (pp. 1–6). John Wiley

& Sons Ltd, doi.org/10.1002/9781119547143.ch29

- Mutambudzi, M., & Henkens, K. (2020). Chronic health conditions and work-related stress in older adults participating in the Dutch workforce. *European Journal of Ageing*, 17(4), 499-508. <https://doi.org/10.1007/s10433-020-00554-x>
- Mutambudzi, M., & Van Solinge, H. (2021). Impact of retirement on sleep problems among older workers and their partners. *The Gerontologist*, 61(8), 1287-1295. <https://doi.org/10.1093/geront/gnab042>
- Myers, S. P., Reitz, K. M., Wessel, C. B., Neal, M. D., Corbelli, J. A., Hausmann, L. R., & Rosengart, M. R. (2019). A systematic review of gender-based differences in Hirsch index among academic surgeons. *Journal of Surgical Research*, 236, 22-29. doi.org/10.1016/j.jss.2018.10.015
- Nappo, N. (2022). Self-perceived job insecurity and self-reported health: Differences between native-born and migrant workers based on evidence from the Sixth European Working Conditions Survey. *Plos One*, 17(4), e0267252. doi.org/10.1371/journal.pone.0267252
- Naseem, A., & Ahmed, M. (2014). Relationship between work stress and aggression among employees of the resource group (TRG). In *1st International Conference on Social Sciences and Humanities, ICSH 2014* (p. 411).
- Naseem, K., & Ahmed, A. (2020). Presenteeism as a consequence of workplace bullying: Mediating role of emotional exhaustion and moderation of climate for conflict management. *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, 14(1), 143-166. <http://hdl.handle.net/10419/216868>
- Naseem, K., & Ali, M. (2023). Impact of work demand constraints on psychological distress through workplace bullying and personality traits: A moderated-mediation model. *Frontiers in Psychology*, 13, 965835. doi.org/10.3389/fpsyg.2022.965835

- Naseem, S., & Munaf, S. (2019). Understanding resilience and aggression in middle adulthood. *Journal of Social Sciences and Humanities*, 58(2), 1-15.
doi.org/10.46568/jssh.v58i2.1
- Nasir, I. (2024). The crucial role emotions play in productivity. Time.
<https://time.com/7201189/productivity-managing-emotions-essay/>
- Neblett, E. W., Roberts, S. O., & Roberts, M. S. (2004). Patterns of racial discrimination: A mental health and mental illness perspective. In J. M. Contrada & R. D. Ashmore (Eds.), *Self, social identity, and physical health: Interdisciplinary Explorations* (pp. 139-163). Oxford University Press.
- Nella, D., Panagopoulou, E., Galanis, N., Montgomery, A., & Benos, A. (2015). Consequences of job insecurity on the psychological and physical health of Greek civil servants. *BioMed research international*, 2015(1), 673623.
<https://doi.org/10.1155/2015/673623>
- Nelson, D. L., & Burke, R. J. (2000). Women executives: Health, stress, and success. *Academy of Management Perspectives*, 14(2), 107-121.
doi:10.5465/ame.2000.4468069
- Ng, T. W., & Sorensen, K. L. (2008). Toward a further understanding of the relationships between perceptions of support and work attitudes: A meta-analysis. *Group & Organization Management*, 33(3), 243-268.
doi.org/10.1177/1059601107313307
- Niedhammer, I., Bertrais, S., & Witt, K. (2021). Psychosocial work exposures and health outcomes: a meta-review of 72 literature reviews with meta-analysis. *Scandinavian Journal of Work, Environment & Health*, 47(7), 489.
doi: 10.5271/sjweh.3968

- Nielsen, M. B., Einarsen, S. V., Parveen, S., & Rosander, M. (2023). Witnessing workplace bullying—A systematic review and meta-analysis of individual health and well-being outcomes. *Aggression and Violent Behavior*, 101908. doi.org/10.1016/j.avb.2023.101908
- Nielsen, M. B., Glasø, L., & Einarsen, S. (2017). Exposure to workplace harassment and the Five Factor Model of personality: A meta-analysis. *Personality and Individual Differences*, 104, 195–206. doi.org/10.1016/j.paid.2016.08.015
- Nigatu, Y. T., & Wang, J. (2018). The combined effects of job demand and control, effort-reward imbalance and work-family conflicts on the risk of major depressive episode: a 4-year longitudinal study. *Occupational and Environmental Medicine*, 75(1), 6-11. doi.org/10.1136/oemed-2016-104114
- Nixon, A. E., Mazzola, J. J., Bauer, J., Krueger, J. R., & Spector, P. E. (2011). Can work make you sick? A meta-analysis of the relationships between job stressors and physical symptoms. *Work & Stress*, 25(1), 1-22. doi.org/10.1080/02678373.2011.569175
- Nogueira-Neves, A., Barbosa, F. P., da Silva, M. P. S., Brandão, M. R. F., & Zanetti, M. C. (2018). Confirmatory factor analysis of the Brief Resilience Scale for Brazilian athletes. *Cuadernos de Psicología del Deporte*, 18(1), 103-110. doi.org/10.1037/t69093-000
- Nohe, C., & Sonntag, K. (2014). Work–family conflict, social support, and turnover intentions: A longitudinal study. *Journal of Vocational Behavior*, 85(1), 1-12. doi.org/10.1016/j.jvb.2014.03.007
- Nyberg, A., Bernin, P., & Theorell, T. (2005). *The impact of leadership on the health of subordinates. Report No 1*. Salta – Joint program for working life research in Europe. Elanders Gotab ISSN: 1404-790X

- Oei, N. Y., Everaerd, W. T., Elzinga, B. M., van Well, S., & Bermond, B. (2006). Psychosocial stress impairs working memory at high loads: an association with cortisol levels and memory retrieval. *Stress*, 9(3), 133-141. doi.org/10.1080/10253890600965773
- Oh, J. K., & Farh, C. I. C. (2015). An emotional process theory of how subordinates appraise, experience, and respond to abusive supervision over time. *Academy of Management Review*, 42 (2), 207–232. doi.org/10.5465/amr.2014.0347.
- Okeafor, C. U., & Alamina, F. E. (2018). A qualitative study on psychosocial hazards among health care workers in a tertiary health facility in South-South Nigeria. *Annals of Ib Postgrad Med*, 16(1), 23–29 PMC6143885 and PMID (PubMed ID) 30254555.
- Oliver, C., Mansell, W., & Jose, P. E. (2010). The impact of personality and culture on the job demands-control model of job stress. *Swiss Journal of Psychology*, 69(4), 227–236
- Olver, J. S., Pinney, M., Maruff, P., & Norman, T. R. (2015). Impairments of spatial working memory and attention following acute psychosocial stress. *Stress and Health*, 31(2), 115-123. doi.org/10.1002/smi.2533
- O'Neill, A. S. (2022). *The Benefits of Social Support on Health and Well-Being in Military Populations: Examining Mechanisms, Source of Support, and the Reach of a Workplace Well-Being Intervention* (Doctoral dissertation, Portland State University).
- Ong, A. D. (2021). Racial incivility in everyday life: A conceptual framework for linking process, person, and context. *Perspectives on Psychological Science*, 16(5), 1060-1074. doi.org/10.1037/hea0001242

- Ong, A. D., & Weiss, D. J. (2000). The impact of anonymity on responses to sensitive questions 1. *Journal of Applied Social Psychology*, 30(8), 1691-1708.
doi.org/10.1111/j.1559-1816.2000.tb02462.x
- Ong, A. D., Williams, D. R., Nwizu, U., & Gruenewald, T. L. (2017). Everyday unfair treatment and multisystem biological dysregulation in African American adults. *Cultural Diversity and Ethnic Minority Psychology*, 23(1), 27. doi.org/10.1037/cdp0000087
- Ong, L. Q., Klaiber, P., DeLongis, A., & Sin, N. L. (2022). Everyday discrimination, daily affect, and physical symptoms during the COVID-19 pandemic. *Health Psychology*, 41(11), 843. doi.org/10.1037/hea0001242
- O'Reilly, S. (2020). *Who is More Stressed? An Investigation into the Effect that Stress has on Blue-collar Workers Versus White-collar Workers* (Doctoral dissertation, Dublin, National College of Ireland).
norma.ncirl.ie/id/eprint/4620
- Orgambídez, A., & Almeida, H. (2020). Social support, role clarity and job satisfaction: a successful combination for nurses. *International Nursing Review*, 67(3), 380-386. doi.org/10.1111/inr.12591
- Orisa-ubi, c. o. p., & Asagba, f. o. (2023). *Physical and Mental Health Problems with Road Sweeping in Delta State, Nigeria*. ISSN: 2467-8538.
- Oshio, T., Inoue, A., & Tsutsumi, A. (2021). Role ambiguity as an amplifier of the association between job stressors and workers' psychological ill-being: Evidence from an occupational survey in Japan. *Journal of Occupational Health*, 63(1), e12310. doi.org/10.1002/1348-9585.12310
- Oza, H. H., Lee, M. G., Boisson, S., Pega, F., Medlicott, K., & Clasen, T. (2022). Occupational health outcomes among sanitation workers: A systematic review

- and meta-analysis. *International Journal of Hygiene and Environmental Health*, 240, 113907. doi.org/10.1016/j.ijheh.2021.113907
- Paans, N. P., Dols, A., Comijs, H. C., Stek, M. L., & Schouws, S. N. (2018). Associations between cognitive functioning, mood symptoms and coping styles in older age bipolar disorder. *Journal of affective disorders*, 235, 357-361. doi.org/10.1016/j.jad.2018.04.052
- Padkapayeva, K., Gilbert-Ouimet, M., Bielecky, A., Ibrahim, S., Mustard, C., Brisson, C., & Smith, P. (2018). Gender/sex differences in the relationship between psychosocial work exposures and work and life stress. *Annals of Work Exposures and Health*, 62(4), 416-425. doi.org/10.1093/annweh/wxy014
- Padmanabhanunni, A., Campbell, J., & Pretorius, T. B. (2017). Gendered role of appraisals of safety in psychological outcome in relation to trauma. *Psychological Trauma: Theory, Research, Practice, and Policy*, 9(5), 518. doi.org/10.1037/tra0000167
- Padmanabhanunni, A., Pretorius, T. B., & Khamisa, N. (2023). The role of resilience in the relationship between role stress and psychological well-being during the COVID-19 pandemic: A cross-sectional study. *BMC Psychology*, 11(1), 45. doi.org/10.1186/s40359-023-01082-w
- Pallant, J. (2020). *SPSS survival manual: A Step by Step guide to Data Analysis using IBM SPSS*. Routledge. doi.org/10.4324/9781003117452
- Pallant, J., *SPSS survival manual: a Step by Step guide to Data Analysis using SPSS*, Open University Press/ Mc Graw-Hill, Maidenhead, 2010.
- Park, H., Hoobler, J. M., Wu, J., Liden, R. C., Hu, J., & Wilson, M. S. (2019). Abusive supervision and employee deviance: A multifoci justice

perspective. *Journal of Business Ethics*, 158, 1113-1131.

doi.org/10.1007/s10551-017-3749-2

Parker, S. K., Morgeson, F. P., & Johns, G. (2017). One hundred years of work design research: Looking back and looking forward. *The Journal of Applied Psychology*, 102(3), 403–420. doi.org/10.1037/apl0000106

Parker, S. K., Ward, M. K., & Fisher, G. G. (2021). Can high-quality jobs help workers learn new tricks? A multidisciplinary review of work design for cognition. *Academy of Management Annals*, 15(2), 406-454.
doi.org/10.5465/annals.2019.0057

Parkinson, B., & Totterdell, P. (1999). Classifying affect-regulation strategies. *Cognition & Emotion*, 13(3), 277-303.
https://doi.org/10.1080/026999399379285

Parkinson, B., Totterdell, P., Briner, R. B., & Reynolds, S. (1996). *Changing moods: The psychology of mood and mood regulation* (p. 254). London: Longman.

Paškvan, M., Kubicek, B., Prem, R., & Korunka, C. (2016). Cognitive appraisal of work intensification. *International Journal of Stress Management*, 23(2), 124.
doi.org/10.1037/a0039689

Pasmore, W. A. (1981). Work Redesign. [Review of Work Redesign, by J. R. Hackman & G. R. Oldham]. *The Academy of Management Review*, 6(4), 687–689. https://doi.org/10.5465/amr.1981.4285748

Patel, J., & Patel, P. (2019). Consequences of Repression of Emotion: Physical Health, Mental Health and General Well Being. *International Journal of Psychotherapy Practice and Research*, 1(3), 16–21, doi: 10.14302/issn.2574-612x.ijpr-18-2564.

- Patterer, A. S., Yanagida, T., Kühnel, J., & Korunka, C. (2023). Daily receiving and providing of social support at work: identifying support exchange patterns in hierarchical data. *European Journal of Work and Organizational Psychology*, 32(4), 489–505. doi.org/10.1080/1359432X.2023.2177537
- Patton, M. Q. (2002). *Qualitative research and evaluation methods* (Vol. 3). Sage.
- Rubin, H. J., & Rubin, I. S. (2011). *Qualitative interviewing: The art of hearing data*. sage.
- Paul, H., Bamel, U., Ashta, A., & Stokes, P. (2019). Examining an integrative model of resilience, subjective well-being and commitment as predictors of organizational citizenship behaviours. *International Journal of Organizational Analysis*, 27(5), 1274-1297. ISSN: 1934-8835. doi.org/10.1108/IJOA-08-2018-1514
- Paulus, D. J., & Zvolensky, M. J. (2020). Negative affectivity. *Encyclopedia of Personality and Individual Differences*, 3146-3152. doi.org/10.1007/978-3-319-24612-3_1255
- Pearl, J. (2012). The causal foundations of structural equation modeling. In R. H. Hoyle (Ed.), *Handbook of structural equation modeling* (2nd ed., pp. 68–91). The Guilford Press.
- Pearlin, L. I., Menaghan, E. G., Lieberman, M. A., & Mullan, J. T. (1981). The stress process, *Journal of Health and Social Behavior*, 337-356. doi.org/10.2307/2136676
- Pechorro, P., Barroso, R., Poiares, C., Oliveira, J. P., & Torrealday, O. (2016). Validation of the Buss–Perry aggression questionnaire-short form among Portuguese juvenile delinquents. *International Journal of Law and Psychiatry*, 44, 75-80. doi.org/10.1016/j.ijlp.2015.08.033

- Pedron, S., Schmaderer, K., Murawski, M., & Schwettmann, L. (2021). The association between childhood socioeconomic status and adult health behavior: The role of locus of control. *Social Science Research*, 95, 102521. doi.org/10.1016/j.ssresearch.2020.102521
- Peltokorpi, V. (2019). Abusive supervision and emotional exhaustion: the moderating role of power distance orientation and the mediating role of interaction avoidance. *Asia Pacific Journal of Human Resources*, 57(3), 251-275. https://doi.org/10.1111/1744-7941.12188
- Peltokorpi, V., & Ramaswami, A. (2021). Abusive supervision and subordinates' physical and mental health: The effects of job satisfaction and power distance orientation. *The International Journal of Human Resource Management*, 32(4), 893-919. doi.org/10.1080/09585192.2018.1511617
- Peng, A. C., M. Schaubroeck, J., Chong, S., & Li, Y. (2019). Discrete emotions linking abusive supervision to employee intention and behavior. *Personnel Psychology*, 72(3), 393-419. doi.org/10.1111/peps.12310
- Peng, A. C., Schaubroeck, J. M., & Li, Y. (2014). Social exchange implications of own and coworkers' experiences of supervisory abuse. *Academy of Management Journal*, 57(5), 1385-1405. doi.org/10.5465/amj.2012.0080
- Peng, A. C., Schaubroeck, J. M., & Li, Y. (2014a). Social Exchange Implications of Own and Co-Workers' Experiences of Supervisory Abuse. *Academy of Management Journal*, 57(5), 1385–1405. doi.org/10.5465/amj.2012.0080
- Peng, A. C., Schaubroeck, J. M., & Li, Y. (2014b). Social exchange implications of own and coworkers' experiences of supervisory abuse. *Academy of Management Journal*, 57(5), 1385–1405. doi.org/10.5465/amj.2012.0080

- Perry, B. L., Aronson, B., & Pescosolido, B. A. (2021). Pandemic precarity: COVID-19 is exposing and exacerbating inequalities in the American heartland. *Proceedings of the National Academy of Sciences*, 118(8), e2020685118. doi.org/10.1073/pnas.2020685118
- Peters, E., Spanier, K., Mohnberg, I., Radoschewski, F. M., & Bethge, M. (2016). Social support as a resource for work ability. *Die Rehabilitation*, 55(2), 102-107. doi.org/10.1055/s-0042-101337
- Petrelis, M., & Domeyer, P. R. (2022). Translation and validation of the Greek version of the Somatic Symptom Scale-8 (SSS-8) in patients with chronic low back pain. *Disability and Rehabilitation*, 44(16), 4467-4473. doi.org/10.1080/09638288.2021.1900415
- Polit, D. F., & Beck, C. T. (2006). The content validity index: are you sure you know what's being reported? Critique and recommendations. *Research in nursing & health*, 29(5), 489-497. https://doi.org/10.1002/nur.20147
- Pluut, H., Ilies, R., Curşeu, P. L., & Liu, Y. (2018). Social support at work and at home: Dual-buffering effects in the work-family conflict process. *Organizational Behavior and Human Decision Processes*, 146, 1-13. doi.org/10.1016/j.obhdp.2018.02.001
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879. doi.org/10.1037/0021-9010.88.5.879
- Portela, D. M. P. (2012). *Contribution of Factor Analysis Techniques to the Study of the "Scientific Occupation of Young People on Vacation" Program*. (Master Dissertation). Universidade Aberta.

- Portoghese, I., Galletta, M., Coppola, R. C., Finco, G., & Campagna, M. (2014). Burnout and Workload Among Health Care Workers: The Moderating Role of Job Control. *Safety and Health at Work*, 5(3), 152–157. DOI: 10.1016/j.shaw.2014.05.004.
- Potter, L. N., Brondolo, E., & Smyth, J. M. (2019). Biopsychosocial correlates of discrimination in daily life: A review. *Stigma and Health*, 4(1), 38. doi.org/10.1037/sah0000120
- Potter, R., O’Keeffe, V., Leka, S., Webber, M., & Dollard, M. (2019). Analytical review of the Australian policy context for work-related psychological health and psychosocial risks. *Safety Science*, 111, 37–48. doi.org/10.1016/j.ssci.2018.09.012
- Pradhan, S., & Gupta, P. (2021). Abusive supervision and work-family conflict: An empirical investigation of Indian professionals. *International Journal of Conflict Management*, 32(3), 493–513. doi.org/10.1108/IJCMA-07-2020-0130
- Pradhan, S., & Jena, L. K. (2018, August). Abusive supervision and job outcomes: a moderated mediation study. In *Evidence-based HRM: A Global Forum for Empirical Scholarship* (Vol. 6, No. 2, pp. 137-152). Emerald Publishing Limited. https://doi.org/10.1108/EBHRM-06-2017-0030
- Prayag, G., Spector, S., Orchiston, C., & Chowdhury, M. (2020). Psychological resilience, organizational resilience and life satisfaction in tourism firms: Insights from the Canterbury earthquakes. *Current Issues in Tourism*, 23(10), 1216-1233. doi.org/10.1080/13683500.2019.1607832
- Pretorius, T. B. (1993). Willingness to use social support: use of the network orientation scale with black South African students. *Psychological Reports*, 73(3_part_1), 1011-1017. doi.org/10.1177/00332941930733pt144

- Priest, N., Doery, K., Truong, M., Guo, S., Perry, R., Trenerry, B., ... & Paradies, Y. (2021). Updated systematic review and meta-analysis of studies examining the relationship between reported racism and health and well-being for children and youth: a protocol. *BMJ Open*, 11(6), e043722. doi.org/10.1136/bmjopen-2020-043722
- Rafferty, A. E., & Restubog, S. L. D. (2011). The influence of abusive supervisors on followers' organizational citizenship behaviours: The hidden costs of abusive supervision. *British Journal of Management*, 22(2), 270-285. doi.org/10.1111/j.1467-8551.2010.00732.x
- Räikkönen, K., Kajantie, E., Rautanen, A., & Eriksson, J. G. (2007). Metabolic syndrome. In L. J. Luecken & L. C. Gallo (Eds.), *Handbook of physiological research methods in health psychology* (pp. 299–322). Sage Publications. https://doi.org/10.4135/9781412976244.n14
- Rajan, D. (2012). Occupational stress among sanitary workers. *International Journal of Business and Management Tomorrow*, 2(9), 1-14. ISSN: 2249-9962
- Rajan, D. (2012). Occupational stress among sanitary workers. *International Journal of Business and Management Tomorrow*, 2(9), 1-14. ISSN: 2249-9962 September|2012 www.ijbmt.com
- Rajan, D. (2016). Health problems among sanitary workers a comparative study. *JIMS8M: The Journal of Indian Management & Strategy*, 21(4), 38-43. ISSN: 0973-9335. ISSN: 0973-9343. DOI: 10.5958/0973-9343.2016.00032.6.
- Rajan, D. (2019). Awareness about causes of occupational hazards: an empirical study of sanitary workers. *Sociol Int J*, 3(2), 186-195.
- Rajan, D. (2019). *Leadership-Related Factors Causing Heavy Workload: An Empirical Study among Sanitary Workers*. DOI:10.5958/2231-

069X.2019.00002.7 Print ISSN: 2231-0681. Online ISSN: 2231-069X.

Published online 2019.

Rajavel. N (2015), “. Health problems faced by women sanitary workers in Thanjavur town - A STUDY”, *Indian Journal of Applied Research*, Volume: 5 | Issue: 12 | Special Issue Dec 2015

Ram, P., & Prabhakar, G. V. (2010). Leadership styles and perceived organizational politics as predictors of work related outcomes. *European Journal of Social Sciences*, 15(1), 40-55.

Rau, P. L. P., Liao, P. C., Guo, Z., Zheng, J., & Jing, B. (2018). Personality factors and safety attitudes predict safety behaviour and accidents in elevator workers. *International Journal of Occupational Safety and Ergonomics*, 26(4), 719–727. <https://doi.org/10.1080/10803548.2018.1493259>

Ravalier, J. M., McVicar, A., & Boichat, C. (2020). Work stress in NHS employees: A mixed-methods study. *International Journal of Environmental Research and Public Health*, 17(18), 6464. doi.org/10.3390/ijerph17186464

Recuero, L. H., & Segovia, A. O. (2021). Journal of Work and Organizational Psychology. *Journal of Work and Organizational Psychology*, 37(1), 21-28. <https://journals.copmadrid.org/jwop>

Redondo-Flórez, L., Tornero-Aguilera, J. F., Ramos-Campo, D. J., & Clemente-Suárez, V. J. (2020). Gender Differences in Stress-and Burnout-Related Factors of University Professors. *BioMed Research International*, 2020(1), 6687358. doi.org/10.1155/2020/6687358

Reknes, I., Einarsen, S., Pallesen, S., Bjorvatn, B., Moen, B. E., & Magerøy, N. (2016). Exposure to bullying behaviors at work and subsequent symptoms of

- anxiety: the moderating role of individual coping style. *Industrial Health*, 54(5), 421–432. doi.org/10.2486/indhealth.2015-0196.
- Ricci, J. A., Chee, E., Lorandean, A. L., & Berger, J. (2007). Fatigue in the US workforce: prevalence and implications for lost productive work time. *Journal of occupational and environmental medicine*, 49(1), 1-10.
https://www.jstor.org/stable/44997095
- Richard, O. C., Boncoeur, O. D., Chen, H., & Ford, D. L. (2020). Supervisor abuse effects on subordinate turnover intentions and subsequent interpersonal aggression: The role of power-distance orientation and perceived human resource support climate. *Journal of Business Ethics*, 164, 549-563.
doi.org/10.1007/s10551-018-4019-7
- Richman, J. A., Rospenda, K. M., Nawyn, S. J., Flaherty, J. A., Fendrich, M., Drum, M. L., & Johnson, T. P. (1999). Sexual harassment and generalized workplace abuse among university employees: prevalence and mental health correlates. *American Journal of Public Health*, 89(3), 358-363.
- Rijsdijk, M., van Wijck, A. J. M., Kalkman, C. J., & Yaksh, T. L. (2014). The effects of glucocorticoids on neuropathic pain: A review with emphasis on intrathecal methylprednisolone acetate delivery. *Anesthesia and Analgesia*, 118(5), 1097–1112. doi.org/10.1213/ANE.0000000000000161
- Rivera-Torres, P., Araque-Padilla, R. A., & Montero-Simó, M. J. (2013). Job stress across gender: the importance of emotional and intellectual demands and social support in women. *International Journal of Environmental Research and Public Health*, 10(1), 375-389. doi.org/10.3390/ijerph10010375
- Rodrigues, S., Paiva, J. S., Dias, D., Aleixo, M., Filipe, R. M., & Cunha, J. P. S. (2018). Cognitive impact and psychophysiological effects of stress using a

- biomonitoring platform. *International Journal of Environmental Research and Public Health*, 15(6), 1080. doi.org/10.3390/ijerph15061080
- Rodwell, J., Demir, D., & Gulyas, A. (2015). Individual and contextual antecedents of workplace aggression in aged care nurses and certified nursing assistants. *International Journal of Nursing Practice*, 21(4), 367-375. doi.org/10.1111/ijn.12262
- Roenneberg, C., Sattel, H., Schaefer, R., Henningsen, P., & Hausteiner-Wiehle, C. (2019). Clinical practice guideline: Functional Somatic Symptoms. *Deutsches Ärzteblatt International*, 116, 553–560. DOI: 10.3238/arztebl.2019.0553
- Roenneberg, C., Sattel, H., Schaefer, R., Henningsen, P., & Hausteiner-Wiehle, C. (2019). Functional Somatic Symptoms. *Deutsches Ärzteblatt International*, 116(33-34), 553-560. doi: 10.3238/arztebl.2019.0553
- Roosendaal, B., McEwen, B. S., & Chattarji, S. (2009). Stress, memory and the amygdala. *Nature Reviews Neuroscience*, 10(6), 423-433.
- Rostamabadi, A., Shouroki, F. K., Jalilian, H., Choobineh, A., Azmoon, H., & Shakerian, M. (2019). The relationship between work-related psychosocial factors and burnout among Iranian nurses: Job Demand-Control-Support model. *La Medicina del Lavoro*, 110(4), 312. doi: 10.23749/mdl. v110i4.8025
- Ruffing-Rahal, M. A., & PhD, R. N. C. (1998). Well-being and its shadow: Health promotion implications for older women. *Health Care for Women International*, 19(5), 457-465. doi.org/10.1080/073993398246214
- Rufus, S. (2023, October 30). Unheard and unseen: The unspoken plight of sanitation workers. *The Friday Times*. <https://thefridaytimes.com/30-Oct-2023/unheard-and-unseen-the-unspoken-plight-of-sanitation-workers>

- Rugulies, R., Aust, B., & Madsen, I. E. (2017). Effort–reward imbalance at work and risk of depressive disorders. A systematic review and meta-analysis of prospective cohort studies. *Scandinavian journal of work, environment & health*, 43, 294-306. doi.org/10.5271/sjweh.3632
- Ryan, R. M., & Deci, E. L. (2017). Self-determination theory: Basic psychological needs in motivation, development, and wellness (pp. xii, 756). *The Guilford Press*. doi.org/10.1521/978.14625/28806
- Sadeghi, S. J., Taheri, A., Kashani, F. L., & Sharifi, N. (2020). Predicting the safety behavior of health care staff based on work-family conflict and emotional intelligence with the mediating role of burnout. *Iranian Journal of Psychiatric Nursing (IJPN)*, 8(4).
- Safe Work Australia (2022), “*Model code of Practice: Managing Psychosocial Hazards at Work*”. <https://www.safeworkaustralia.gov.au/doc/model-code-practice-managingpsychosocial-hazards-work>
- Safety and Health at Work in Pakistan (ILO in Pakistan). Retrieved August 6, 2023, from <https://www.ilo.org/islamabad/areasofwork/safety-and-health-at-work/lang--en/index.htm>
- Salazar, M. K., & Beaton, R. (2000). Ecological Model of Occupational Stress: Application to Urban Firefighters. *AAOHN Journal*, 48(10), 470–479. doi.org/10.1177/216507990004801005
- Saleh, L. A., Niroumand, S., Dehghani, Z., Saleh, T. A., Mousavi, S. M., & Zakeri, H. (2020). Relationship between workplace violence and work stress in the emergency department. *Journal of Injury and Violence Research*, 12(2), 183. doi: 10.5249/jivr. vo112i2.1526

- Salvatore, J., & Shelton, J. N. (2007). Cognitive costs of exposure to racial prejudice. *Psychological Science*, 18(9), 810-815. doi.org/10.1111/j.1467-9280.2007.01984.x
- Sandi, C. (2013). Stress and cognition. Wiley Interdisciplinary Reviews: *Cognitive Science*, 4(3), 245-261. doi.org/10.1002/wcs.1222
- Sänger, J., Bechtold, L., Schoofs, D., Blaszkewicz, M., & Wascher, E. (2014). The influence of acute stress on attention mechanisms and its electrophysiological correlates. *Frontiers in Behavioral Neuroscience*, 8, 353. doi.org/10.3389/fnbeh.2014.00353
- Sannes, A. C. (2022). *The influence of psychosocial stressors, genetic variability, and gender on subjective health complaints: Abusive Supervision, Genetics, and Health Complaints* (Doctoral thesis). University of Oslo. ISSN 1501-7710
- Sannes, A. C., Christensen, J. O., Matre, D., Nielsen, M. B., & Gjerstad, J. (2022a). Patterns of pain complaints and insomnia symptoms are associated with abusive supervision in the Norwegian working population: a latent class analysis. *Scandinavian journal of pain*, 22(1), 118-124. doi: 10.1515/sjpain-2021-0124.
- Sannes, A. C., Christensen, J. O., Nielsen, M. B., & Gjerstad, J. (2020). The influence of age, gender and the FKBP5 genotype on subjective health complaints in the Norwegian working population. *Journal of Psychosomatic Research*, 139, 110264. doi: 10.1016/j.jpsychores.2020.110264
- Sannes, A. C., Christensen, J. O., Nielsen, M. B., & Gjerstad, J. (2023a). Stress-induced headache in the general working population is moderated by the NRCAM rs2300043 genotype. *Scandinavian Journal of Pain*, 23(2), 326-332. doi: 10.1515/sjpain-2022-0094

- Sannes, A.-C., Risøy, A., Christensen, J. O., Nielsen, M. B., & Gjerstad, J. (2021). Spinal pain in employees exposed to abusive supervision: Evidence of a sex and CRHR1 CTC haplotype interaction. *Molecular Pain*, 17, 1-7. doi: 10.1177/17448069211042123.
- Sathyaseelan, S. (2010). A Study on the Working and Living Conditions of Sanitary Workers of BWSSB in Bangalore City. *St Joseph's College (Autonomous) (Unpublished Dissertations)*.
- Schat, A. C. H., Frone, M. R., & Kelloway, E. K. (2006). Prevalence of Workplace Aggression in the U.S. Workforce: Findings from a National Study. In *Handbook of Workplace Violence* (pp. 47–89). Sage Publications, Inc. doi.org/10.4135/9781412976947.n4
- Schaubhut, N., Adams, G. A., & Jex, S. M. (2004). Self-esteem as a moderator of the relationships between abusive supervision and two forms of workplace deviance. In *annual meeting of the Society for Industrial Organizational Psychology, Chicago, IL*.
- Schaubroeck, J. M., Peng, A. C., & Hannah, S. T. (2016). The role of peer respect in linking abusive supervision to follower outcomes: Dual moderation of group potency. *Journal of Applied Psychology*, 101(2), 267. doi.org/10.1037/apl0000050
- Scheck, C. L., Kinicki, A. J., & Davy, J. A. (1995). Testing the mediating processes between work stressors and subjective well-being. *Journal of Vocational Behavior*, 50, 96–123. DOI: 10.26387/bpa.284.5.
- Scheuring, S. (2020). The effect of fixed-term employment on well-being: Disentangling the micro-mechanisms and the moderating role of social

cohesion. *Social Indicators Research*, 152(1), 91-115.

doi.org/10.1007/s11205-020-02421-9

- Schmidt, S., Roesler, U., Kusserow, T., & Rau, R. (2014). Uncertainty in the workplace: Examining role ambiguity and role conflict, and their link to depression—A meta-analysis. *European Journal of Work and Organizational Psychology*, 23(1), 91–106. <https://doi.org/10.1080/1359432X.2012.711523>
- Schneider, K. T., Swan, S., & Fitzgerald, L. F. (1997). Job-related and psychological effects of sexual harassment in the workplace: empirical evidence from two organizations. *Journal of Applied Psychology*, 82(3), 401-415.
- Schreurs, B. H., Hetty van Emmerik, I. J., Günter, H., & Germeys, F. (2012). A weekly diary study on the buffering role of social support in the relationship between job insecurity and employee performance. *Human Resource Management*, 51(2), 259-279. doi.org/10.1002/hrm.21465
- Schulte, P. A., Sauter, S. L., Pandalai, S. P., Tiesman, H. M., Chosewood, L. C., Cunningham, T. R., ... & Howard, J. (2024). An urgent call to address work-related psychosocial hazards and improve worker well-being. *American journal of industrial medicine*, 67(6), 499-514. <https://doi.org/10.1002/ajim.23583>
- Schumann, P., & Kuchinke, L. (2020). Do (n't) worry, it's temporary: The effects of fixed-term employment on affective well-being. *Journal of Happiness Studies*, 21(7), 2557-2582. doi.org/10.1007/s10902-019-00194-8
- Schwabe, L., Joëls, M., Roozendaal, B., Wolf, O. T., & Oitzl, M. S. (2012). Stress effects on memory: an update and integration. *Neuroscience & Biobehavioral Reviews*, 36(7), 1740-1749. doi.org/10.1016/j.neubiorev.2011.07.002

- Schyns, B., & Schilling, J. (2013). How bad are the effects of bad leaders? A meta-analysis of destructive leadership and its outcomes. *The Leadership Quarterly*, 24(1), 138–158. doi.org/10.1016/j.leaqua.2012.09.001
- Seabra, D., Gato, J., Petrocchi, N., Carreiras, D., Azevedo, J., Martins, L., & Salvador, M. D. C. (2023). Everyday Discrimination Scale: Dimensionality in a Portuguese community sample and specific versions for sexual and gender minority. *Current Psychology*, 43, (12). 10850-10861. doi.org/10.1007/s12144-023-05195-8
- Sekine, M., Chandola, T., Martikainen, P., Marmot, M., & Kagamimori, S. (2010). Sex differences in physical and mental functioning of Japanese civil servants: explanations from work and family characteristics. *Social Science & Medicine*, 71(12), 2091-2099. doi.org/10.1016/j.socscimed.2010.09.031
- Sen, H. T., & Yildirim, A. (2023). The relationship between nurses' perceived organizational, supervisor and coworker support, psychological well-being and job performance. *JPMA. The Journal of the Pakistan Medical Association*, 73(3), 552–557. https://doi.org/10.47391/JPMA.6594
- Shamali, M. (2018). Translation and cross-cultural adaptation of an instrument. *Journal of Clinical Research*, 15(9), 1-15 DOI:10.13140/RG.2.2.17921.40804
- Shan, A., & Ahmad Adeel, Hussain (2021). Abusive supervision” and “creative performance”: Moderating role of employee’s identification with organization and leader. *Competitive Social Science Research Journal*, 2(4), 40-72. https://cssrjournal.com/index.php/cssrjournal/article/view/85

- Shankar, A., & Hinds, P. (2017). Perceived discrimination: Associations with physical and cognitive function in older adults. *Health Psychology, 36*(12), 1126.
doi.org/10.1037/hea0000522
- Sharif, M. Z., Truong, M., Alam, O., Dunn, K., Nelson, J., Kavanagh, A., ... & Priest, N. (2021). The association between experiences of religious discrimination, social-emotional and sleep outcomes among youth in Australia. *SSM-Population Health, 15*, 100883. doi.org/10.1016/j.ssmph.2021.100883
PMid:34401461 PMCID: PMC8350065
- Shen, C., Zhang, Y., Yang, J., & Liu, S. (2020). Abusive supervision and employee creativity: a moderated mediation model. *Leadership & Organization Development Journal, 41*(2), 193-207. doi.org/10.1108/LODJ-03-2019-0146
- Shields, G. S., Sazma, M. A., & Yonelinas, A. P. (2016). The effects of acute stress on core executive functions: A meta-analysis and comparison with cortisol. *Neuroscience & Bio Behavioral Reviews, 68*, 651-668.
doi.org/10.1016/j.neubiorev.2016.06.038
- Shields, M. (1999). Long working hours and health. *Health Rep, 11*(2), 33-48.
- Shockey, T. M., Zack, M., & Sussell, A. (2017). Health-Related Quality of Life Among US Workers: Variability Across Occupation Groups. *American Journal of Public Health, 107*(8), 1316–1323.
doi.org/10.2105/AJPH.2017.303840
- Shockley, K. M., & Allen, T. D. (2013). Episodic work–family conflict, cardiovascular indicators, and social support: An experience sampling approach. *Journal of Occupational Health Psychology, 18*(3), 262–275. doi.org/10.1037/a0033137

- Siddiqi, Z. A. (2020, November 22). Safety of sanitation workers. *The News International*. <https://www.thenews.com.pk/tns/detail/747031-safety-of-sanitation-workers>
- Siegrist, J. (2017). The Effort–Reward Imbalance Model. In C. L. Cooper & J. C. Quick (Eds.), *The Handbook of Stress and Health* (1st ed., pp. 24–35). Wiley. doi.org/10.1002/9781118993811.ch2
- Siegrist, J., Matschinger, H., Cremer, P., & Seidel, D. (1988). Atherogenic risk in men suffering from occupational stress. *Atherosclerosis*, 69(2-3), 211-218. doi.org/10.1016/0021-9150(88)90016-0
- Siegrist, J., Starke, D., Chandola, T., Godin, I., Marmot, M., Niedhammer, I., & Peter, R. (2004). The measurement of effort–reward imbalance at work: European comparisons. *Social science & medicine*, 58(8), 1483-1499. doi.org/10.1016/S0277-9536(03)00351-4
- Slopen, N., Lewis, T. T., & Williams, D. R. (2016). Discrimination and sleep: a systematic review. *Sleep Medicine*, 18, 88-95. doi.org/10.1016/j.sleep.2015.01.012
- Smallfield, J., & Kluemper, D. H. (2022). An explanation of personality changes in organizational science: Personality as an outcome of workplace stress. *Journal of Management*, 48(4), 851-877. doi.org/10.1177/0149206321998429
- Smeekens, B. A., & Kane, M. J. (2016). Working memory capacity, mind wandering, and creative cognition: An individual-differences investigation into the benefits of controlled versus spontaneous thought. *Psychology of Aesthetics, Creativity, and the Arts*, 10(4), 389–415. doi.org/10.1037/aca0000046
- Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The Brief Resilience Scale: Assessing the ability to bounce

- back. *International Journal of Behavioral Medicine*, 15(3), 194-200 PMID: 18696313. DOI: 10.1080/10705500802222972
- Smith, B.W., deCruz-Dixon, N., Schodt, K., Torres, F. (2023). Brief Resilience Scale (BRS). In Medvedev, O.N., Krägeloh, C.U., Siegert, R.J., Singh, N.N. (eds) *Handbook of Assessment in Mindfulness Research*, (pp. 411). Springer, Cham. doi.org/10.1007/978-3-030-77644-2_92-1
- Smith, P. M., & Koehoorn, M. (2016). Measuring gender when you don't have a gender measure: constructing a gender index using survey data. *International journal for Equity in Health*, 15, 1-9. doi.org/10.1186/s12939-016-0370-4
- Smith, S. M., & Vale, W. W. (2006). The role of the hypothalamic-pituitary-adrenal axis in neuroendocrine responses to stress. *Dialogues in Clinical Neuroscience*, 8(4), 383-395. doi.org/10.31887/DCNS.2006.8.4/ssmith
- SNV (2016). SNV Netherlands Development Organization. Retrieved from www.snv.org/. <https://www.snv.org/update/2016-corporate-annual-report-now-available>
- Song, H., Zhang, M., Wang, Y., Yang, L., Wang, Y., & Li, Y. (2021). The impact of resilience on anxiety and depression among grass-roots civil servants in China. *BMC Public Health*, 21, 1–10. <https://doi.org/10.1186/s12889-021-10710-2>
- SPSS, I. (2013). IBM SPSS statistics for windows. Armonk, New York, USA: IBM SPSS, 2, 119.
- Spss, I. B. M. (2012). Statistics for windows. Armonk, Ny: IBM Corp.
- Srivastava, S., Singh, L. B., & Dhar, D. (2022). Coworker's Envy and Social Undermining: The Mediating Role of Workplace Incivility. *IUP Journal of Organizational Behavior*, 21(2), 7. ISSN: 0972-687X

- Stan, R., & Ciobanu, C. (2022). The Mediation Chain Effect of Cognitive Crafting and Personal Resources on the Relationship between Role Ambiguity and Dentists' Emotional Exhaustion. *International Journal of Environmental Research and Public Health*, 19(24), 16617.
doi.org/10.3390/ijerph192416617
- Stansfeld, S., & Candy, B. (2006). Psychosocial work environment and mental health—a meta-analytic review. *Scandinavian Journal of Work, Environment & Health*, 32 (6), 443-462. www.jstor.org/stable/40967597
- Statistics on safety and health at work – ILOSTAT. Retrieved August 6, 2023, from <https://ilostat.ilo.org/topics/safety-and-health-at-work/>
- Stebbins, R. A. (2001). *Exploratory Research in the Social Sciences*. SAGE Publications.
- Stefanile, C., Matera, C., Nerini, A., Puddu, L., & Raffagnino, R. (2021). Psychological predictors of aggressive behavior among men and women. *Journal of Interpersonal Violence*, 36(1-2), NP920-NP941.
doi.org/10.1177/0886260517737553
- Stephens, C., & Christine, S. (2014). Validity of the Brief Resilience Scale and Brief Resilient Coping Scale. *Psychological Assessment*, 26(2), 575-585.
- Stokols, D. (2000). The social ecological paradigm of wellness promotion. In M. S. Jammer & D. Stokols (Eds.), *Promoting human wellness: New frontiers for research, practice, and policy* (pp. 21-37). University of California Press.
- Strack, F. (1992). “Order effects” in survey research: Activation and information functions of preceding questions. In *Context Effects in Social and Psychological Research* (pp. 23-34). New York, NY: Springer New York.

- Stucky, B. D., Gottfredson, N. C., Panter, A. T., Daye, C. E., Allen, W. R., & Wightman, L. F. (2011). An item factor analysis and item response theory-based revision of the Everyday Discrimination Scale. *Cultural Diversity and Ethnic Minority Psychology, 17*(2), 175–185. doi.org/10.1037/a0023356
- Sultan, A. (2022). The Impact of Rotating Shifts on Nurse's Health Working in Public and Private Sector Hospitals of Peshawar. *Pakistan Journal of Public Health, 12*(2), 83-87. doi.org/10.32413/pjph.v12i2.926
- Sun, C., Hon, C. K. H., Way, K. A., Jimmieson, N. L., & Xia, B. (2021). The relationship between psychosocial hazards and mental health in the construction industry: A meta-analysis. *Safety Science, 141*, 105485. doi.org/10.1016/j.ssci.2021.105485
- Sun, C., Hon, C. K., Way, K. A., Jimmieson, N. L., & Xia, B. (2022). The relationship between psychosocial hazards and mental health in the construction industry: A meta-analysis. *Safety Science, 145*, 105485. doi.org/10.1016/j.ssci.2021.105485
- Sun, U. Y., Xu, H., Kluemper, D. H., Lu, X., & Yun, S. (2023). What Does Leaders' abuse mean to me? Psychological empowerment as the key mechanism explaining the relationship between abusive supervision and taking charge. *Group & Organization Management, 10596011231204387*.
- Sutin, A. R., Aschwanden, D., Stephan, Y., & Terracciano, A. (2020). Five factor model personality traits and subjective cognitive failures. *Personality and Individual Differences, 155*, 109741. doi.org/10.1016/j.paid.2019.109741
- Sutin, A. R., Stephan, Y., Carretta, H., & Terracciano, A. (2015). Perceived discrimination and physical, cognitive, and emotional health in older

- adulthood. *The American Journal of Geriatric Psychiatry*, 23(2), 171-179.
doi.org/10.1016/j.jagp.2014.03.007
- Swanson, V., & Power, K. (2001). Employees' perceptions of organizational restructuring: The role of social support. *Work & Stress*, 15(2), 161-178.
doi.org/10.1080/02678370110066995
- Szkody, E., Stearns, M., Stanhope, L., & McKinney, C. (2021). Stress-buffering role of social support during COVID-19. *Family Process*, 60(3), 1002-1015.
doi.org/10.1111/famp.12618
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics*, 6th edn
Boston. Ma: Pearson.
- Tabanelli, M. C., Depolo, M., Cooke, R. M., Sarchielli, G., Bonfiglioli, R., Mattioli, S., & Violante, F. S. (2008). Available instruments for measurement of psychosocial factors in the work environment. *International Archives of Occupational and Environmental Health*, 82, 1-12. doi.org/10.1007/s00420-008-0312-6
- Tahir, Z., Arshad, F., Sabeen, Z., & Bashir, F. (2022). Impact of Supervisor's Identity Threat on Employees' Prohibitive Voice Behavior Through Abusive Supervision and Fear: A Case of Pakistani Service Sector. *RADS Journal of Business Management*, 4(1), 1-12. ISSN (P): 2708-4051. ISSN (E): 2708-406X
- Tamers, S. L., Beresford, S. A., Thompson, B., Zheng, Y., & Cheadle, A. D. (2011). Exploring the role of co-worker social support on health care utilization and sickness absence. *Journal of Occupational and Environmental Medicine*, 53(7), 751-757. doi.org/ 10.1097/JOM.0b013e318223d42f

- Tamunomiebi, M. D., & Mezeh, A. A. (2021). Workplace stressors and employee performance: A conceptual review. *Asian Journal of Economics, Business and Accounting*, 21(4), 58-67. doi.org/10.9734/ajeba/2021/v21i430371
- Taouk, Y., Spittal, M. J., Disney, G., & LaMontagne, A. D. (2021). Changes in Job Control and Perceptions of General Health: A Longitudinal Analysis of Australian Workers, 2005 to 2017. *Journal of Occupational and Environmental Medicine*, 63(10), 813-820. doi.org/10.1097/JOM.0000000000002259
- Temple, B., & Young, A. (2004). Qualitative research and translation dilemmas. *Qualitative Research*, 4(2), 161–178. https://doi.org/10.1177/1468794104044430
- Teodoro, T., & Oliveira, R. (2023). The conceptual field of medically unexplained symptoms and persistent somatic symptoms. *CNS spectrums*, 28(5), 526-527. doi.org/10.1017/S1092852922001031
- Tepper, B. J. (2000). Consequences of abusive supervision. *Academy of Management Journal*, 43(2), 178–190. doi.org/10.2307/1556375
- Tepper, B. J. (2000). Abusive Supervision Scale, *Journal of Applied Psychology*, [Database record]. APA Psyc Tests. doi.org/10.1037/t11760-000
- Tepper, B. J. (2001). Health consequences of organizational injustice: Tests of main and interactive effects. *Organizational Behavior and Human Decision Processes*, 86(2), 197–215. doi.org/10.1006/obhd.2001.2951
- Tepper, B. J., Moss, S. E., Lockhart, D. E., & Carr, J. C. (2007). Abusive supervision, upward maintenance communication, and subordinates' psychological distress. *Academy of Management Journal*, 50(5), 1169-1180. doi.org/10.5465/amj.2007.20159918

- Tepper, B. J., Simon, L., & Park, H. M. (2017). Abusive supervision. *Annual Review of Organizational Psychology and Organizational Behavior*, 4, 123-152.
doi.org/10.1146/annurev-orgpsych-041015-062539
- Terry, D. L., & Woo, M. J. (2021). Burnout, job satisfaction, and work-family conflict among rural medical providers. *Psychology, Health & Medicine*, 26(2), 196-203. doi.org/10.1080/13548506.2020.1750663
- Tesser, A. (1988). Toward a self-evaluation maintenance model of social behavior (Vol. 21, pp. 181-227). In L. Berkowitz, (Ed.), *Advances in experimental social psychology*. New York, NY: Academic Press, 10, S0065-2601.APA
- Thau, S., & Mitchell, M. S. (2010). Self-gain or self-regulation impairment? Tests of competing explanations of the supervisor abuse and employee deviance relationship through perceptions of distributive justice. *Journal of Applied Psychology*, 95(6), 1009–1031. doi.org/10.1037/a0020540
- The Australian Bureau of Statistics (ABS), 2007. *National Mental Health and Well-Being Survey. Statistics on key mental health issues including the prevalence of mental disorders, the associated disability, and the use of services*.
<https://www.abs.gov.au/statistics/health/mental-health/national-study-mental-health-and-wellbeing/2007>
- Theorell, T. (2020). The Demand Control Support Work Stress Model. In T. Theorell (Ed.), *Handbook of Socioeconomic Determinants of Occupational Health: From Macro-level to Micro-Level Evidence* (pp. 339–353). Springer International Publishing. doi.org/10.1007/978-3-030-31438-5_13
- Thompson, E. R. (2007). Development and Validation of an Internationally Reliable Short-Form of the Positive and Negative Affect Schedule (PANAS). *Journal*

of Cross-Cultural Psychology, 38(2), 227–

242. doi.org/10.1177/0022022106297301

Thompson, R., Smith, R. B., Bou Karim, Y., Shen, C., Drummond, K., Teng, C., &

Toledano, M. B. (2021). Noise pollution and human cognition: An updated systematic review and meta-analysis of recent evidence. *Environment*

International, 158, 106905. <https://doi.org/10.1016/j.envint.2021.106905>

Tolera, S. T., Assefa, N., & Gobena, T. (2024). Global prevalence of musculoskeletal disorders among sanitary workers: a systematic review and meta-

analysis. *International Journal of Occupational Safety and Ergonomics*, 30(1), 238-251. doi.org/10.1080/10803548.2023.2293390.

Tolera, S. T., Diriba, W., Gutema, G. D., & Kaweti, G. (2023). Determinants of

Occupational Health and Safety Outcomes Among Sanitation Workers Across Worldwide: A Systematic Review on Cross-Sectional Studies. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*, 60,

00469580231210525. doi.org/10.1177/00469580231210525

Trollor, J. N., Anderson, T. M., Sachdev, P. S., Brodaty, H., & Andrews, G. (2007).

Prevalence of mental disorders in the elderly: The Australian National Mental Health and Well-Being Survey. *The American Journal of Geriatric Psychiatry*, 15(6), 455-466.

Trottier, M., & Bentein, K. (2019). Coworker support as a moderator in the

relationship between daily experience of workload and an individual's experience of same-day WFC: a buffer or an intensifier? *Community, Work & Family*, 22(5), 569-588. doi.org/10.1080/13668803.2018.1434484

Trougakos, J. P., Beal, D. J., Cheng, B. H., Hideg, I., & Zweig, D. (2015). Too

drained to help: a resource depletion perspective on daily interpersonal

citizenship behaviors. *Journal of Applied Psychology*, 100(1), 227.

<https://doi.org/10.1037/a0038082>

Tucker, L. R., & MacCallum, R. C. (1997). Exploratory factor analysis. *Unpublished Manuscript, Ohio State University, Columbus*, 1-459.

Tusaie, K., & Dyer, J. (2004). Resilience: A historical review of the construct. *Holistic nursing practice*, 18(1), 3-10. doi.org/10.1097/00004650-200401000-00002

Tziner, A., & Sharoni, G. (2014). Organizational citizenship behavior, organizational justice, job stress, and workfamily conflict: Examination of their interrelationships with respondents from a non-Western culture. *Revista de Psicología del Trabajo y de las Organizaciones*, 30(1), 35-42. doi.org/10.5093/tr2014a5

Ünlü, G. (2020). *Abusive supervision and mental health of employees* (Master's thesis). Middle East Technical University, Northern Cyprus Campus. <https://doi.org/10.13140/RG.2.2.25375.59046>

Utzet, M., Valero, E., Mosquera, I., & Martin, U. (2020). Employment precariousness and mental health, understanding a complex reality: A systematic review. *International Journal of Occupational Medicine and Environmental Health*, 33(5), 569–598. doi.org/10.13075/ijomeh.1896.01553

Vammen, M. A., Mikkelsen, S., Forman, J. L., Hansen, Å. M., Bonde, J. P., Grynderup, M. B., Kolstad, H., Kaerlev, L., Rugulies, R., & Thomsen, J. F. (2019). Emotional demands and exhaustion: Cross-sectional and longitudinal associations in a cohort of Danish public sector employees. *International Archives of Occupational and Environmental Health*, 92(5), 639–650. doi.org/10.1007/s00420-018-01398-w

- Van der Doef, M., & Maes, S. (1998). The job demand-control(-support) model and physical health outcomes: A review of the strain and buffer hypotheses. *Psychology & Health, 13*(5), 909–936. doi.org/10.1080/08870449808407440
- Van der Hulst, M. (2003). Long workhours and health. *Scandinavian Journal of Work, Environment & Health, 29* (3), 171-188.
https://www.jstor.org/stable/40967287
- Van der Molen, H. F., Nieuwenhuijsen, K., Frings-Dresen, M. H. W., & de Groene, G. (2020). Work-related psychosocial risk factors for stress-related mental disorders: An updated systematic review and meta-analysis. *BMJ Open, 10*(7), e034849. doi.org/10.1136/bmjopen-2019-034849
- Van Doorn, R. R., & Hülshager, U. R. (2015). What makes employees resilient to job demands? The role of core self-evaluations in the relationship between job demands and strain reactions. *European Journal of Work and Organizational Psychology, 24*(1), 76-87. doi.org/10.1080/1359432X.2013.858700
- Van Hamburg, S. G., Romme, A. S., Alblas, A. A., & Le Blanc, P. P. *Circular Organizing and Organizational Resilience in the Home Care Sector.*
- Van Nes, F., Abma, T., Jonsson, H., & Deeg, D. (2010). Language differences in qualitative research: Is meaning lost in translation? *European Journal of Ageing, 7*, 313–316. https://doi.org/10.1007/s10433-010-0168-y
- Van Vegchel, N., de Jonge, J., Bosma, H., & Schaufeli, W. (2005). Reviewing the effort-reward imbalance model: Drawing up the balance of 45 empirical studies. *Social Science & Medicine (1982), 60*(5), 1117–1131.
doi.org/10.1016/j.socscimed.2004.06.043
- Van Veldhoven, M., Taris, T. W., de Jonge, J., & Broersen, S. (2005). The relationship between work characteristics and employee health and well-being:

- how much complexity do we really need? *International Journal of Stress Management*, 12(1), 3. doi.org/10.1037/1072-5245.12.1.3
- Van Veldhoven, M., Taris, T. W., De Jonge, J., & Broersen, S. (2005). The Relationship Between Work Characteristics and Employee Health and Well-Being: How Much Complexity Do We Really Need? *International Journal of Stress Management*, 12(1), 3–28. doi.org/10.1037/1072-5245.12.1.3
- Van Vianen, A. E. (2018). Person–environment fit: A review of its basic tenets. *Annual Review of Organizational Psychology and Organizational Behavior*, 5, 75-101. doi.org/10.1146/annurev-orgpsych-032117-104702
- Vander Elst, T., Van den Broeck, A., De Cuyper, N., & De Witte, H. (2014). On the reciprocal relationship between job insecurity and employee well-being: Mediation by perceived control? *Journal of Occupational and Organizational Psychology*, 87(4), 671-693. doi.org/10.1111/joop.12068
- Velez, M. J., & Neves, P. (2016). Abusive supervision, psychosomatic symptoms, and deviance: Can job autonomy make a difference? *Journal of Occupational Health Psychology*, 21(3), 322–333. doi.org/10.1037/a0039959
- Venz, L., Casper, A., & Sonnentag, S. (2020). Affect, stress, and health: The role of work characteristics and work events. In *the Cambridge Handbook of Workplace Affect* (pp. 105–119). Cambridge University Press. doi.org/10.1017/9781108573887.009
- Verkuil, B., Atasayi, S., & Molendijk, M. L. (2015). Workplace Bullying and Mental Health: A Meta-Analysis on Cross-Sectional and Longitudinal Data. *PLOS ONE*, 10(8), e0135225. doi.org/10.1371/journal.pone.0135225
- Verma, J. P. (2012). *Data analysis in management with SPSS software*. Springer Science & Business Media. doi.org/10.1007/978-81-322-0786-3

- Virtanen, M., Singh-Manoux, A., Ferrie, J. E., Gimeno, D., Marmot, M., G., Elovainio, M., Jokela, M., Vahtera, J., & Kivimäki, M. (2009). Long working hours and cognitive function: The Whitehall II Study. *American Journal of Epidemiology*, 169(5), 596–605.
- Vogel, R. M., & Mitchell, M. S. (2017). The motivational effects of diminished self-esteem for employees who experience abusive supervision. *Journal of Management*, 43(7), 2218-2251. doi.org/10.1177/0149206314566462
- Vogel, R. M., & Mitchell, M. S. (2017). The motivational effects of diminished self-esteem for employees who experience abusive supervision. *Journal of Management*, 43(7), 2218-2251. doi.org/10.1177/0149206314566462
- Vuori, M., Akila, R., Kalakoski, V., Pentti, J., Kivimäki, M., Vahtera, J., ... & Puttonen, S. (2014). Association between exposure to work stressors and cognitive performance. *Journal of Occupational and Environmental Medicine*, 56(4), 354-360. doi.org/10.1097/JOM.0000000000000129
- Wallace, J. C., & Chen, G. (2005). Development and validation of a work-specific measure of cognitive failure: Implications for occupational safety. *Journal of Occupational and Organizational Psychology*, 78(4), 615-632. doi.org/10.1348/096317905X37442
- Wallace, J. C., & Chen, G. (2005). Development and validation of a work-specific measure of cognitive failure: Implications for occupational safety. *Journal of Occupational and Organizational Psychology*, 78(4), 615-632. doi.org/10.1348/096317905X37442
- Wallace, J. C., & Chen, G. (2005). Development and validation of a work-specific measure of cognitive failure: Implications for occupational safety. *Journal of*

Occupational and Organizational Psychology, 78(4), 615–632.

doi.org/10.1348/096317905X37442

- Wallace, J. C., & Vodanovich, S. J. (2003). Workplace safety performance: Conscientiousness, cognitive failure, and their interaction. *Journal of Occupational Health Psychology*, 8(4), 316–327. doi.org/10.1037/1076-8998.8.4.316
- Wang, C. C., Hsieh, H. H., & Wang, Y. D. (2020). Abusive supervision and employee engagement and satisfaction: the mediating role of employee silence. *Personnel Review*, 49(9), 1845–1858. doi.org/10.1108/PR-04-2019-0147
- Wang, I.-A., Lin, S.-Y., Chen, Y.-S., & Wu, S.-T. (2022). The influences of abusive supervision on job satisfaction and mental health: The path through emotional labor. *Personnel Review*, 51(2), 823–838. doi.org/10.1108/PR-11-2018-0465
- Wang, K., Vélez Ortiz, D., Colón, L., Sun, F., & Falcón, L. (2023). The moderating role of everyday discrimination on the association between post-traumatic stress and loneliness among older Puerto Ricans. *Aging & Mental Health*, 27(7), 1388–1395. doi.org/10.1080/13607863.2022.2149695
- Wang, M., Liu, S., Zhan, Y., & Shi, J. (2010). Daily work–family conflict and alcohol use: Testing the cross-level moderation effects of peer drinking norms and social support. *Journal of Applied Psychology*, 95(2), 377. doi.org/10.1037/a0018138
- Wang, W., Yuan, Y., Zhang, X., & Song, C. (2022). Mindfulness Moderates the Association Between Perceived Discrimination and Cyber Aggression Among Emerging Adults with Early Left-Behind Experience: A Longitudinal

- Study. *Psychology Research and Behavior Management*, 15, 801–809.
<https://doi.org/10.2147/PRBM.S361501>
- Wang, Y., Zhou, M., Zhu, H., & Wu, X. (2023). The impact of abusive supervision differentiation on team performance in team competitive climates. *Personnel Review*, 52(4), 901–915. doi.org/10.1108/PR-04-2021-0281
- Warburton, W. A., & Anderson, C. A. (2015). Aggression, social psychology of. *International Encyclopedia of the Social & Behavioral sciences*, 1, 373–380. doi.org/10.1016/B978-0-08-097086-8.24002-6
- Warr, P. (1994). A conceptual framework for the study of work and mental health. *Work & Stress*, 8(2), 84–97. doi.org/10.1080/02678379408259982
- Watson, D., & Clark, L. A. (1984). Negative affectivity: The disposition to experience aversive emotional states. *Psychological Bulletin*, 96(3), 465–490.
doi.org/10.1037/0033-2909.96.3.465
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54(6), 1063–1070. doi.org/10.1037/0022-3514.54.6.1063
- Way, K. (2020). Psychosocial hazards. In *The Core Body of Knowledge for Generalist OHS Professionals*. 2nd Ed. Tullamarine, VIC: Australian Institute of Health and Safety, ISBN 978-0-9808743-2-7, (www.aihs.org.au).
- Way, K. A., Jimmieson, N. J., & Bordia, P. (2020). Supervisor conflict management climate and emotion recognition skills: Implications for collective employee burnout. *International Journal of Conflict Management*, 31(4), 559–580.
doi.org/10.1108/IJCMA-03-2019-0054

- Way, K. A., Jimmieson, N. L., & Bordia, P. (2014). Supervisor conflict management, justice, and strain: Multilevel relationships. *Journal of Managerial Psychology*, 29(8), 1044–1063. doi.org/10.1108/JMP-04-2012-0120
- Webster, G. D., DeWall, C. N., Pond Jr, R. S., Deckman, T., Jonason, P. K., Le, B. M., ... & Bator, R. J. (2014). The brief aggression questionnaire: Psychometric and behavioral evidence for an efficient measure of trait aggression. *Aggressive Behavior*, 40(2), 120-139. 2013. doi.org/10.1002/ab.21507
- WHO Commission on Social Determinants of Health, & World Health Organization. (2008). *Closing the gap in a generation: health equity through action on the social determinants of health: Commission on Social Determinants of Health final report*. World Health Organization.
- WHO Commission on Social Determinants of Health, & World Health Organization. (2008). *Closing the gap in a Generation: Health equity through Action on the Social Determinants of Health: Commission on Social Determinants of Health final report*. World Health Organization.
- WHO. (2008). *PRIMA-EF: Guidance on the European Framework for Psychosocial Risk Management: a Resource for Employer and Worker Representatives*. World Health Organization.
- Williams, D. R., Gonzalez, H. M., Williams, S., Mohammed, S. A., Moomal, H., & Stein, D. J. (2008). Perceived discrimination, race and health in South Africa. *Social Science & Medicine*, 67(3), 441-452. doi.org/10.1016/j.socscimed.2008.03.021

- Williams, D. R., Lawrence, J. A., & Davis, B. A. (2019). Racism and Health: Evidence and Needed Research. *Annual Review of Public Health*, 40, 105–125. <https://doi.org/10.1146/annurev-publhealth-040218-043750>
- Williams, D. R., Lawrence, J. A., Davis, B. A., & Vu, C. (2019). Understanding how discrimination can affect health. *Health services research*, 54, (S2) 1374-1388. doi.org/10.1111/1475-6773.13222
- Williams, D. R., Yu, Y., Jackson, J. S., & Anderson, N. B. (1997). Racial Differences in Physical and Mental Health: Socioeconomic Status, Stress, and Discrimination. *Journal of Health Psychology*, 2(3), 335-351 <https://scholar.harvard.edu/davidrwilliams/node/32397>
- Windle, G., Bennett, K., & Noyes, J. (2011). A methodological review of resilience measurement scales. *Health and Quality of Life Outcomes*, 9, 1-18. doi.org/10.1186/1477-7525-9-8
- Winning, A. M., Merandi, J. M., Lewe, D., Stepney, L. M. C., Liao, N. N., Fortney, C. A., & Gerhardt, C. A. (2017). The emotional impact of errors or adverse events on healthcare providers in the NICU: The protective role of coworker support. *Journal of Advanced Nursing*, 73(12), 3080-3091. doi.org/10.1111/jan.13403
- Wippert, P. M., Puerto Valencia, L., & Drießlein, D. (2022). Stress and pain. predictive (neuro) pattern identification for chronic back pain: A longitudinal observational study. *Frontiers in Medicine*, 9, 828954. doi.org/10.3389/fmed.2022.828954
- Wong, K., Chan, A. H., & Ngan, S. C. (2019). The effect of long working hours and overtime on occupational health: a meta-analysis of evidence from 1998 to

2018. *International Journal of Environmental Research and Public Health*, 16(12), 2102. doi.org/10.3390/ijerph16122102
- Wong, S. S., DeSanctis, G., & Staudenmayer, N. (2007). The relationship between task interdependency and role stress: a revisit of the job demands–control model. *Journal of Management Studies*, 44(2), 284-303. doi.org/10.1111/j.1467-6486.2007.00689x
- Wood, W., & Eagly, A. H. (2013). Biology or culture alone cannot account for human sex differences and similarities. *Psychological Inquiry*, 24(3), 241-247. doi.org/10.1080/1047840X.2013.815034
- World Bank, ILO, WaterAid, & WHO. (2019). *Health, Safety and Dignity of Sanitation Workers: An Initial Assessment*. World Bank. doi.org/10.1596/32640
- World Health Organization. (2018). *WHO Water, Sanitation and Hygiene Strategy 2018-2025* (No. WHO/CED/PHE/WSH/18.03). World Health Organization.
- World Health Organization. (2020). *WHO Global Water, Sanitation and Hygiene: Annual Report 2019* ISBN 978-92-4-001339-1 (electronic version) ISBN 978-92-4-001340-7 (print version). <https://creativecommons.org/licenses/by-ncsa/3.0/igo>).
- World Health Organization. (2008). *PRIMA-EF: Guidance on the European Framework for Psychosocial Risk Management: a resource for employer and worker representatives*. World Health Organization. <https://iris.who.int/handle/10665/43966>
- World health statistics (2020): *Monitoring Health for the SDGs, Sustainable Development Goals*. Geneva: World Health Organization; 2020. Licence: CC

BY-NC-SA 3.0 IGO. ISBN 978-92-4-000510-5 (electronic version)

<https://digitalcommons.fiu.edu/srhreports/health/health/28/>

Wressell, J. A., Rasmussen, B., & Driscoll, A. (2018). Exploring the workplace violence risk profile for remote area nurses and the impact of organizational culture and risk management strategy. *Collegian*, 25(6), 601-606.
doi.org/10.1016/j.colegn.2018.10.005

Wright, M. F., & Wachs, S. (2019). Does Social Support Moderate the Relationship between Racial Discrimination and aggression among Latinx adolescents? A longitudinal study. *Journal of Adolescence*, 73, 85-94.
doi.org/10.1016/j.adolescence.2019.04.001

Wu, C. H., Wang, Y., Parker, S. K., & Griffin, M. A. (2020). Effects of chronic job insecurity on Big Five personality change. *Journal of Applied Psychology*, 105(11), 1308. doi.org/10.1037/apl0000488

Wu, G., Hu, Z., & Zheng, J. (2019). Role stress, job burnout, and job performance in construction project managers: the moderating role of career calling. *International Journal of Environmental Research and Public Health*, 16(13), 2394. doi.org/10.3390/ijerph16132394

Wu, T.-Y., & Hu, C. (2009). Abusive Supervision and Employee Emotional Exhaustion: Dispositional Antecedents and Boundaries. *Group & Organization Management*, 34(2), 143–169.
doi.org/10.1177/1059601108331217

Wulani, F., Purwanto, B. M., & Hani, H. (2014). Abusive supervision scale development in Indonesia. *Gadjah Mada International Journal of Business*, 16(1), 55-68. doi.org/10.22146/gamaijb.5467

- Xia, Y., Zhang, L. and Li, M. (2019). Abusive leadership and helping behavior: Capability or mood, which matters? *Current Psychology*, 38(1), 50-58.
doi.org/10.1007/s12144-017-9583-y
- Xie, T. H., Ahuja, M., McCutcheon, V. V., & Bucholz, K. K. (2020). Associations between racial and socioeconomic discrimination and risk behaviors among African-American adolescents and young adults: a latent class analysis. *Social Psychiatry and Psychiatric Epidemiology*, 55, 1479-1489.
doi.org/10.1007/s00127-020-01884-y
- Xiong, R., Xia, Y., & Li, S. D. (2021). Perceived discrimination and aggression among Chinese migrant adolescents: a moderated mediation model. *Frontiers in Psychology*, 12, 651270. doi.org/10.3389/fpsyg.2021.651270
- Yagil, D. (2008). When the customer is wrong: A review of research on aggression and sexual harassment in service encounters. *Aggression and Violent Behavior*, 13(2), 141–152. doi.org/10.1016/j.avb.2008.03.002
- Yamauchi, T., Yoshikawa, T., Takamoto, M., Sasaki, T., Matsumoto, S., Kayashima, K., Takeshima, T., & Takahashi, M. (2017). Overwork-related disorders in Japan: Recent trends and development of a national policy to promote preventive measures. *Industrial Health*, 55(3), 293-302.
doi.org/10.2486/indhealth.2016-0198
- Yang, S., Fu, Y., Dong, S., Yang, B., Li, Z., Feng, C., Reinhardt, J. D., Shi, W., Jia, P., Zeng, H., & Yu, B. (2023). Association between perceived noise at work and mental health among employed adults in Southwest China. *Journal of Affective Disorders*, 343, 22-30. https://doi.org/10.1016/j.jad.2023.09.029

- Yan, Y., Wang, X., Wu, J., & Xu, L. (2015). Occupational skin diseases and prevention among sanitation workers in China. *African Health Sciences*, 15(3), 768-775. doi.org/10.4314/ahs. v15i3.10
- Yang, J., Wang, X. H., Treadway, D. C., & Liu, Y. (2024). How and when does abusive supervision influence employees' promotive and prohibitive voice? *Current Psychology*, 43(2), 1457-1472. https://doi.org/10.1007/s12144-023-04304-x
- Yang, L. Q., Cropanzano, R., Daus, C. S., & Martínez-Tur, V. (2020). *The Cambridge Handbook of Workplace Affect*. Cambridge University Press.
https://books.google.com.pk/books?id=EbLvDwAAQBAJ
- Yaribeygi, H., Panahi, Y., Sahraei, H., Johnston, T. P., & Sahebkar, A. (2017). The impact of stress on body function: A review. *EXCLI Journal*, 16, 1057. doi: 10.17179/excli2017-480
- Yeh, T. F., Chang, Y. C., Hsu, Y. H., Huang, L. L., & Yang, C. C. (2021). Causes of nursing staff burnout: Exploring the effects of emotional exhaustion, work-family conflict, and supervisor support. *Japan Journal of Nursing Science*, 18(2), e12392. doi.org/10.1111/jjns.12392
- Yildirim, M. (2019). Mediating role of resilience in the relationships between fear of happiness and affect balance, satisfaction with life, and flourishing. *Europe's Journal of Psychology*, 15(2), 183. doi: 10.5964/ejop. v15i2.1640
- Yonelinas, A. P., & Ritchey, M. (2015). The slow forgetting of emotional episodic memories: An emotional binding account. *Trends in Cognitive Sciences*, 19(5), 259-267. doi.org/10.1016/j.tics.2015.02.009
- Yousaf, S., Rasheed, M. I., Hameed, Z., & Luqman, A. (2020). Occupational stress and its outcomes: the role of work-social support in the hospitality

- industry. *Personnel Review*, 49(3), 755-773. doi.org/10.1108/PR-11-2018-0478
- Yu, K., Wang, Z., & Huang, Y. (2018). Work-family conflict and organizational citizenship behavior: the role of job satisfaction and decision authority. *Frontiers of Business Research in China*, 12(1), 17. doi.org/10.1186/s11782-018-0039-5
- Yu, X., Langa, K. M., Cho, T. C., & Kobayashi, L. C. (2022). Association of perceived job insecurity with subsequent memory function and decline among adults 55 years or older in England and the US, 2006 to 2016. *JAMA Network Open*, 5(4), e227060-e227060. doi:10.1001/jamanetworkopen.2022.7060
- Yucel, D. (2019). Job autonomy and schedule flexibility as moderators of the relationship between work-family conflict and work-related outcomes. *Applied Research in Quality of Life*, 14(5), 1393-1410. doi.org/10.1007/s11482-018-9659-3
- Zaheed, A. B., Sharifian, N., Kraal, A. Z., Sol, K., Manly, J. J., Schupf, N., ... & Zahodne, L. B. (2021). Mediators and moderators of the association between perceived stress and episodic memory in diverse older adults. *Journal of the International Neuropsychological Society*, 27(9), 883-895. doi.org/10.1017/S1355617720001253
- Zahodne, L. B., Morris, E. P., Sharifian, N., Zaheed, A. B., Kraal, A. Z., & Sol, K. (2020). Everyday discrimination and subsequent cognitive abilities across five domains. *Neuropsychology*, 34(7), 783. doi.org/10.1037/neu0000693
- Zellars, K. L., Tepper, B. J., & Duffy, M. K. (2002). Abusive supervision and subordinates' organizational citizenship behavior. *Journal of Applied Psychology*, 87(6), 1068–1076. doi.org/10.1037/0021-9010.87.6.1068

- Zhang, H., Tang, L., Ye, Z., Zou, P., Shao, J., Wu, M., ... & Mu, S. (2020). The role of social support and emotional exhaustion in the association between work-family conflict and anxiety symptoms among female medical staff: a moderated mediation model. *BMC Psychiatry*, 20(1), 1-9. doi.org/10.1186/s12888-020-02673-2
- Zhang, J., Yang, Z., Wang, X., Li, J., Dong, L., Wang, F., ... & Zhang, J. (2020). The relationship between resilience, anxiety and depression among patients with mild symptoms of COVID-19 in China: A cross-sectional study. *Journal of Clinical Nursing*, 29(21-22), 4020-4029. doi.org/10.1111/jocn.15425
- Zhang, M., Griffeth, R. W., & Fried, D. D. (2012). Work-family conflict and individual consequences. *Journal of Managerial Psychology*, 27(7), 696-713. doi.org/10.1108/02683941211259520
- Zhang, Y., Liu, X., Xu, S., Yang, L.-Q., & Bednall, T. C. (2019). Why Abusive Supervision Impacts Employee OCB and CWB: A Meta-Analytic Review of Competing Mediating Mechanisms. *Journal of Management*, 45(6), 2474–2497. doi.org/10.1177/0149206318823935
- Zhang, Y., Xu, S., Jin, J., & Ford, M. T. (2018). The within and cross domain effects of work-family enrichment: A meta-analysis. *Journal of Vocational Behavior*, 104, 210-227. doi.org/10.1016/j.jvb.2017.11.003
- Zhou, M., Wang, D., Zhou, L., Liu, Y., & Hu, Y. (2021). The effect of work-family conflict on occupational well-being among primary and secondary school teachers: the mediating role of psychological capital. *Frontiers in Public Health*, 9, 745118. doi.org/10.3389/fpubh.2021.745118

- Zhou, Y. (2020). *Abused but not Bruised: Newcomer Reactions to Abusive Supervision*, (Doctoral Dissertation). The Hong Kong Polytechnic University, Department of Management and Marketing. 991022378657803411.pdf
- Zhu, Y., Zhao, C., & Zhuang, J. Y. (2023). Examination of daily abusive supervision effects on next-day employee wellbeing: a spillover perspective. *Australian Journal of Psychology*, 75(1), 2264938.
doi.org/10.1080/00049530.2023.2264938
- Zimonyi, S., Kasos, K., Halmai, Z., Csirmaz, L., Stadler, H., Rózsa, S., ... & Kotyuk, E. (2021). Hungarian validation of the Buss–Perry Aggression Questionnaire—Is the short form more adequate? *Brain and Behavior*, 11(5), e02043. doi.org/10.1002/brb3.2043

APPENDICES

Brief Resilience Scale

Ser	Respond to each statement below by circling one answer per row	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
1.	I tend to bounce back quickly after hard times.					
2.	I have a hard time making it through stressful events.					
3.	It does not take me long to recover from a stressful event.					
4.	It is hard for me to snap back, when something bad happens					
5.	I usually come through difficult times with little trouble.					
6.	I tend to take a long time to get over setbacks in my life.					

Abusive Supervision Scale

Ser	Items	1 Never	2 Seldom	3 Occasionally	4 Often	5 Very Often
1.	Ridicules me					
2.	Tells me my thoughts or feelings are stupid					
3.	Gives me the silent treatment					
4.	Puts me down in front of others					
5.	Invades my privacy					
6.	Reminds me of my past mistakes and failures					
7.	Doesn't give me credit for jobs requiring a lot of effort					
8.	Blames me to save himself/herself embarrassment					
9.	Breaks promises he / she makes					
10.	Expresses anger at me when he/she is mad for another Reason					
11.	Makes negative comments about me to others					
12.	Is rude to me					
13.	Does not allow me to interact with my coworkers					
14.	Tells me I'm incompetent					
15.	Lies to me					

Note: The items were prefaced with the statement, "My boss"

Everyday Discrimination Scale

Ser	Items	1 Almost Everyday	2 At least Once a week	3 A few times a month	4 A few times a year	5 Less than once a year	6 Never
1.	You are treated with less courtesy than other people are						
2.	You are treated with less respect than other people are						
3.	You receive poorer service than other people at restaurants or stores						
4.	People act as if they think you are not smart						
5.	People act as if they are afraid of you						
6.	People act as if they think you are dishonest						
7.	People act as if they're better than you are						
8.	You are called names or insulted						
9.	You are threatened or harassed						

Positive and Negative Affect Schedule Short Form (PANAS-SF)

Ser	Items	1 Very Slightly or not at all	2 A little	3 Moderately	4 Quite a bit	5 Extremely
1.	Distressed					
2.	Hostile					
3.	Alert					
4.	Ashamed					
5.	Inspired					
6.	Nervous					
7.	Enthusiastic					
8.	Attentive					
9.	Scared					
10.	Active					

Buss and Perry Aggression Questionnaire Short-Form

Ser	Items	1 Very Unlike me	2	3	4	5 Very Like me
1.	Given enough provocation. I may hit another person					
2.	I often find myself disagreeing with people					
3.	At times I feel I have gotten a raw deal out of life					
4.	There are people who have pushed me so far that we have come to blows					
5.	I can't help getting into arguments when people disagree with me					
6.	Sometimes I fly off the handle for no good reason					
7.	Other people always seem to get the breaks					
8.	I have threatened people I know					
9.	My friends say that I'm somewhat argumentative					
10.	I have trouble controlling my temper					
11.	I wonder why sometimes I feel so bitter about thing					
12.	I sometimes feel like a powder keg ready to explode					

Work Family-Conflict Scale

Ser	Items	1 Very strongly disagree	2	3	4	5	6	7 Very strongly agree
1.	My work prevents me spending sufficient quality time with my family							
2.	There is no time left at the end of the day to do the things I'd like at home (e.g., chores and leisure activities)							
3.	My family misses out because of my work commitments							
4.	My work has a negative impact on my family life							
5.	Working often makes me irritable or short tempered at home							
6.	My work performance suffers because of my personal and family commitments							
7.	Family related concerns or responsibilities often distract me at work							
8.	If I did not have a family I'd be a better employee							
9.	My family has a negative impact on my day to day work duties							
10.	It is difficult to concentrate at work because I am so exhausted by family responsibilities							

The Somatic Symptom Scale -8

Ser	Items	1 Not at all	2 A little bit	3 Somewhat	4 Quite a bit	5 Very much
1.	Stomach or bowel problems					
2.	Back pain					
3.	Pain in your arms, legs or joints					
4.	Headaches					
5.	Chest pain or shortness of breath					
6.	Dizziness					
7.	Feeling tired or having low energy					
8.	Trouble sleeping					

Workplace Cognitive Failures Scale

Ser	Items	1 Strongly disagree	2 Disagree	3 Neither agree nor disagree	4 Agree	5 Strongly agree
1.	Cannot remember whether you have or have not turned off work equipment					
2.	Fail to recall work procedures					
3.	Cannot remember work-related phone numbers					
4.	Cannot remember what materials are required to complete a particular task					
5.	Forget where you have put something you use in your job (e.g., training booklet, notes, FAQs etc.)					
6.	Fail to notice postings or notices on the facilities bulletin board (s) or e-mail system					
7.	Do not fully listen to instruction					
8.	Day-dream when you ought to be listening to somebody					
9.	Do not focus your full attention on work activities					
10.	Are easily distracted by coworkers					
11.	Accidentally drop objects or things					
12.	Throw away something you mean to keep e.g., scripts, rates, FAQs, etc.)					
13.	Say things to others that you did not mean to say					
14.	Unintentionally press control switches on machines					

15.	Accidentally started or stopped the wrong buttons on software or desptop					
-----	--	--	--	--	--	--

Consent Form

میرا تعلق نیشنل انسٹیٹیوٹ آف ماڈرن لینگویجز اسلام آباد سے ہے۔ یہ ادارہ تعلیم و تدریس کے علاوہ سماجی اور نفسیاتی موضوعات پر تحقیق کرتا ہے۔ موجودہ تحقیق بھی اسی سلسلے کی ایک کڑی ہے۔ اور مجھے اس تحقیق کے سلسلے میں آپ کا تعاون درکار ہے۔ تحقیق کا مقصد سینٹری ورکرز کی زندگی کے حالات و واقعات اور ان سے پیدا ہونے والے اثرات کے بارے میں جاننا ہے۔ آپ کو یقین دلایا جاتا ہے کہ آپ سے حاصل کردہ معلومات کو صیغہ راز میں رکھا جائے گا اور صرف تحقیقی مقاصد کے لئے ہی استعمال کیا جائے گا۔ آپ کو یہ اختیار حاصل ہے کہ جب چاہیں اس عمل سے دست بردار ہو سکتے ہیں۔

آپ کے تعاون کا شکریہ

جواب دہندگان کے بارے میں بنیادی معلومات

نام-----

جنس-----عمر-----

مذہب-----تعلیم-----

ازدواجی حیثیت-----

خاندانی نظام (مشترکہ/انفرادی)-----

آپ پر انحصار کرنے والے افراد کی تعداد-----

ملازمت کی نوعیت (مستقل / کنٹریکٹ/ روزمرہ کی بنیاد

پر)-----

ملازمت کی شفٹ (صبح / شام / رات)-----

کام سے متعلق چھوٹے بڑے پیش آنے والے حادثات کی

تعداد-----

Interview Guide

- * کیا کام کے دوران آپکو کسی قسم کی جسمانی مشکلات کا سامنا کرنا پڑتا ہے۔
- * کیا کام کے دوران آپکو کسی قسم کی نفسیاتی یا جذباتی مشکلات کا سامنا کرنا پڑتا ہے۔
- * اپنی جسمانی صحت کے بارے میں آپکا کیا خیال ہے۔
- * اپنی ذہنی صحت کے بارے میں آپکا کیا خیال ہے۔
- * کام پر رہتے سُر وائر کے ساتھ تعلقات کی کیا نوعیت رہتی ہے۔
- * اس پیشے میں رہتے ہوئے تمام لوگوں کا رویہ آپکے ساتھ کیسا ہے۔
- * آپکے خیال میں اس کام یا پیشے کا معاشرے میں کیا مقام ہے۔
- * ساتھی ورکرز کے ساتھ آپکے تعلقات کی کیا نوعیت ہے۔
- * آپ اپنی زندگی کے مسائل کو کیسے دیکھتے ہیں اور ان سے کیسے نمٹتے ہیں۔
- * گھریلو زندگی اور پیشہ ورانہ زندگی کو کیسے سنبھالتے ہیں۔

Adapted Urdu Version of Brief Resilience Scale

ہدایات:- ذیل میں کچھ بیانات دیئے گئے ہیں۔ آپ سے گزارش ہے کہ ہر بیان کو غور سے پڑھ کر یہ بتائیں کہ یہ بیان آپ کے بارے میں کس حد تک صحیح ہے یا غلط ہے۔ مہربانی فرما کر ہر بیان کے سامنے دیئے گئے پیمانے کی مدد سے درست جواب پر () کا نشان لگائیں۔

نمبر شمار	بیانات	بلکل نہیں	نہیں	معلوم نہیں	کسی حد تک صحیح	بلکل صحیح
1	میں جلد ہی مشکلات سے باہر نکل آتا / آتی ہوں۔					
2	زندگی کے تکلیف دہ حالات سے نمٹنے میں مجھے مشکل وقت کا سامنا رہا۔					
3	مشکل حالات سے نکلنے میں مجھے زیادہ وقت نہیں لگتا۔					
4	اگر کچھ بُرا ہو جائے تو اس سے نمٹنے میں مجھے بہت مشکل پیش آتی ہے۔					

					5 میں مشکل وقت آنے پر زیادہ پریشانی نہیں لیتا/لیتی۔
					6 مجھے اپنی زندگی کی نا کامیوں پر قابو پانے میں بہت زیادہ وقت لگتا ہے۔

Adapted Urdu Version of Somatic Symptoms

گزشتہ سات دنوں میں مندرجہ ذیل کونسی کیفیات نے آپکو پریشان کیئے رکھا۔

نمبر شمار	کیفیت / حالت	نہیں	تھوڑا	کبھی	کافی	بہت
			بہت	کبھار	دفعہ	زیادہ
1	معدے اور آنتوں کے مسائل (ہاضمے کا مسئلہ)					
2	پیٹھ کا درد					
3	بازوؤں کا درد					
4	ٹانگوں کا درد					
5	جوڑوں کا درد					
6	سر کا درد					
7	سینے کا درد اور سانس کی تنگی					
8	چکر آنا					
9	تھکاوٹ اور کمزوری					
10	نیند میں دُشواری (اچھی نیند نہ آنا، نیند میں پریشانی وغیرہ)					

Urdu Version of Colleagues' Support Scale

اپنے ساتھی ورکرز کی رائے اور رویوں کو سامنے رکھتے ہوئے درجہ ذیل سوالات کے جواب دیں۔

نمبر شمار	بیانات	کبھی نہیں	کبھی کبھی	اکثر	تقریباً ہمیشہ
1	میرے ساتھی ورکرز میری زندگی کو آسان بنانے میں ہر ممکن تعاون کرتے ہیں۔				
2	میں اپنے ساتھی ورکرز سے آسانی سے بات کر سکتا / سکتی ہوں۔				
3	کام پُر دشواری کی صورت میں میں اپنے ساتھی ورکرز پر انحصار کر سکتا / سکتی ہوں۔				
4	میرے ساتھی ورکرز میرے ذاتی مسائل پر کان دھرتے ہیں (میرے ذاتی مسائل کے بارے میں بھی میری بات سنتے ہیں)۔				

				میرے ساتھی ورکرز میری عزت کرتے ہیں / اور مجھے قابل احترام سمجھتے ہیں۔	5
				میرے ساتھی ورکرز میرے کام کو سراہتے ہیں (میرے کام کی تعریف کرتے ہیں)۔	6

Adapted Urdu Version of International Positive and Negative Affect Schedule Short-Form

درجہ ذیل الفاظ مختلف قسم کے احساسات اور جذبات بیان کرتے ہیں ہر لفظ کو غور سے پڑھیں اور اپنی صورت حال کے مطابق متعلقہ خانے میں نشان لگائیں کہ آپ عام طور پر اس کیفیت کو کس حد تک محسوس کرتے ہیں۔

نمبر شمار	احساسات	کبھی نہیں	بہت کم	کبھی	اکثر اوقات	بہت زیادہ
1	پریشان					
2	غصیلا					
3	چوکس					
4	شرمندہ					
5	متاثر					
6	بے چین					
7	پُر عزم					
8	متوجہ					
9	خوف زدہ					
10	چُست					

Adapted Urdu Version of Work-Place Cognitive Failure Scale

مندرجہ ذیل عبارات کا تعلق کام کے دوران ہونے والے تجربات سے ہے ہر عبارت کو غور سے پڑھتے ہوئے آگے دیئے گئے جوابات میں سے کسی ایک پر نشان لگائیں۔

نمبر شمار	بیانات	مکمل طور پر غیر متفق	غیر متفق	غیر جانبدار / معلوم نہیں	متفق	مکمل طور پر متفق
1	آپ کو یاد نہیں رہتا کہ آپ نے کام سے متعلق سامان یا آلات بند کر دیئے ہیں یا نہیں (سنبھال دیئے ہیں یا نہیں)۔					
2	بعض اوقات کام کرنے کا طریقہ کار یاد نہیں رکھ پاتے۔					
3	کام سے متعلق فون نمبرز یاد نہیں رکھ پاتے۔					
4	بھول جاتا / جاتی ہیں کہ کسی مخصوص کام کو کرنے کے لئے کن چیزوں / مواد کی ضرورت پڑتی ہے۔					
5	بھول جاتا / جاتی ہیں کہ آپ کے کام میں استعمال ہونے والی کوئی چیز آپ نے کہاں رکھی تھی (مثلاً صفائی سے متعلق سامان وغیرہ)۔					
6	آپ محکمے کی طرف سے آئے نوٹس اور ہدایات یاد نہیں رکھ پاتے / پاتیں۔					
7	کام پر جو ہدایات آپ کو دی جاتی ہیں انہیں مکمل طور پر سمجھ نہیں پاتے / پاتیں۔					
8	جب کسی کی بات سننا ضروری ہو تو آپ اکثر خیالی					

					دنیا میں کھو جاتے / جاتی ہیں۔	
					ڈیوٹی سے متعلق سرگرمیوں (کاموں) پر مکمل توجہ نہیں دے پاتے / پاتیں۔	9
					ساتھی ورکرز کی موجودگی کی وجہ سے آپ کا م پر مکمل توجہ نہیں دے پاتے / پاتیں۔	10
					اچانک آپ سے چیزیں گر جاتی ہیں۔	11
					وہ چیزیں پھینک دیتے / دیتی ہیں جو سنبھال کر رکھنے والی ہوتی ہیں (مثلاً کام سے متعلق آلات ، دستانے وغیرہ)۔	12
					دوسروں سے وہ باتیں کہہ دیتے / دیتی ہیں جن کا اصل مقصد وہ نہیں ہوتا جو آپ کہنا چاہتے ہیں۔	13
					غیر ارادی طور پر آلات جیسے مشینیں وغیرہ کو کنٹرول کرنے والے بجلی کے سوئچ دبا دیتے / دیتی ہیں۔	14
					بغیر سوچے سمجھے غلط ہٹن آن یا آف کر دیتے / دیتی ہیں۔	15

Adapted Urdu Version of Abusive Supervision Scale

کام پر پیش آنے والی صورت حال کو مد نظر رکھتے ہوئے جواب دیں کہ آپ کا سوپروائزر / باس آپ کے ساتھ کیسا سلوک کرتا ہے۔

نمبر شمار	بیانات	کبھی نہیں	بہت کم	کبھی کبھار	کئی دفعہ	بہت زیادہ دفعہ
1	میرا باس / سوپروائزر میرا مذاق					
2	مجھے کہتا ہے کہ میرے خیالات اور احساسات احمقانہ (بے وقوفانہ) ہیں۔					
3	ناراضگی ظاہر کرنے کے لئے اکثر مجھ سے بات چیت کرنا چھوڑ دیتا ہے۔					
4	مجھے دوسروں کے سامنے نیچا دکھاتا ہے۔					
5	میرے ذاتی معاملات میں دخل اندازی کرتا ہے۔					
6	مجھے میرے ماضی کی غلطیاں اور ناکامیاں یاد دلاتا ہے۔					
7	میرا باس میرے ان کاموں کی تعریف بھی نہیں کرتا جن میں مجھے بہت محنت کرنا پڑتی ہے۔					
8	اپنے آپ کو شرمندگی سے بچانے کے لئے الزام مجھ پر لگا دیتا ہے۔					
9	وعدہ خلافی کرتا ہے۔					
10	جب اسے کسی اور وجہ سے غصہ آئے تو وہ بھی مجھ پر نکال دیتا ہے۔					
11	دوسروں سے میرے خلاف باتیں کرتا ہے۔					
12	میرے ساتھ بدتمیزی کرتا ہے۔					

					مجھے اپنے ساتھیوں کے ساتھ بات چیت نہیں کرنے دیتا۔	13
					مجھے بتاتا ہے کہ میں نااہل ہوں۔	14
					مجھ سے جھوٹ بولتا ہے۔	15

Adapted Urdu Version of Buss and Perry Aggression –
Short Form questionnaire

درجہ ذیل بیانات کو پڑھ کر یہ بتائیے کہ یہ بیان آپ کے مزاج اور رویے کے بارے میں کس حد تک صحیح یا غلط ہیں وہ جواب دیں جو آپ کے قریب ترین ہو۔

نمبر شمار	بیانات	بلکل غلط	کسی حد تک غلط	معلوم نہیں	کسی حد تک صحیح	بلکل صحیح
1	بہت تنگ کرنے پر میں کسی شخص کو (تھپڑ) بھی مار سکتا / سکتی ہوں۔					
2	میں اکثر لوگوں کی باتوں سے اتفاق نہیں کرتا / کرتی ہوں۔					
3	بعض اوقات میں محسوس کرتا / کرتی ہوں کہ زندگی نے مجھ سے زیادتی کی ہے (زندگی میں میرے ساتھ زیادہ تر اچھا نہیں ہوا)۔					
4	کبھی ایسا بھی ہوا کہ کچھ لوگوں نے مجھے اتنا غصہ دلایا کہ میں ان کے ساتھ مارکٹائی پر اتر آیا / آئی۔					
5	جب لوگ مجھ سے اختلاف کرتے ہیں تو میں بحث کرنے سے باز نہیں رہ سکتا / سکتی (میں ان سے بحث کرتا / کرتی ہوں)۔					
6	کبھی کبھار میں بغیر کسی وجہ کے آپے سے باہر ہو جاتا / جاتی ہوں۔					
7	میری نسبت دوسرے لوگ زیادہ خوش قسمت ہیں۔					
8	بعض اوقات میں نے اپنے جاننے والوں کو دھمکایا (دھمکی دی)۔					

					9	میرے دوست کہتے ہیں کہ میں بحث کرنے کا / کی عادی ہوں۔
					10	مجھے اپنے غصے کو قابو کرنے میں مشکل پیش آتی ہے۔
					11	بعض اوقات میں سوچتا / سوچتی ہوں کہ میں زندگی کے بارے میں، اتنا بُرا (تلخ) کیوں محسوس کرتا / کرتی ہوں۔
					12	مجھے کبھی کبھار محسوس ہوتا ہے کہ میں بارود ہوں (بم ہوں) جو کسی بھی وقت پھٹ سکتا ہے۔

Added items in Urdu Version of Work-Family Conflict Scale

مہربانی فرما کر نشاندہی کریں کہ آپ کس حد تک درجہ ذیل بیانات سے اتفاق کرتے ہیں۔

نمبر شمار	بیانات	بلکل نہیں	نہیں	تھوڑا بہت	کبھی کبھار	کافی دفعہ	زیادہ تر	ہمیشہ
1	معاشرے میں میرا پیشہ / کام میرے گھر والوں کے لیے پریشانی کا باعث ہے۔							
2	معاشرے میں میرا پیشہ / کام میرے بچوں کے مستقبل پر منفی اثر ڈالے گا۔							
3	میں سمجھتا / سمجھتی ہوں کہ یہ پیشہ / کام جاری رکھتے ہوئے میں اپنے بچوں کو بہتر مستقبل نہیں دے سکتا / سکتی۔							
4	میرے کام کی وجہ سے میرے بچوں کو سکول میں تفریق کا سامنا کرنا پڑتا ہے۔							
5	میرے کام کی وجہ سے عام زندگی میں میرے گھر والوں کے ساتھ لوگوں کا رویہ اچھا نہیں ہوتا۔							
6	میرے گھر والے مجھے یہ پیشہ / کام چھوڑنے کے لیے کہتے ہیں۔							

Adapted Urdu Version of Work-Family Conflict Scale

مہربانی فرما کر نشاندہی کریں کہ آپ کس حد تک درجہ ذیل بیانات سے اتفاق کرتے ہیں۔

نمبر شمار	بیانات	بلکل نہیں	نہیں	تھوڑا بہت	کبھی کبھار	کافی دفعہ	زیادہ تر	ہمیشہ
1	کام کی مصروفیت کی وجہ سے میں گھر والوں کے ساتھ مناسب اور اچھا وقت نہیں گزار سکتا/سکتی۔							
2	ڈیوٹی کے بعد میرے پاس اتنا وقت نہیں بچتا کہ میں گھر پر اپنی پسند کے کام کر سکوں۔							
3	میرے کام کی وجہ سے میرے گھر والے نظر انداز ہو جاتے ہیں۔							
4	میرے کام کا میری گھریلو زندگی پر بُرا اثر پڑتا ہے۔							
5	کام کے دباؤ کی وجہ سے میں اکثر گھر پر چڑچڑا اور غصیلا رہتا /رہتی ہوں۔							



Naureen Azad <naureenazad@numl.edu.pk>

Thu, Feb 15,
10:37 AM

to fbryant

Hello Sir, this is Naureen Munir from National University of Modern Languages, Islamabad, Pakistan. I am a PhD scholar and doing my research work on aggression. You are requested to allow me to use your (12 items) Short form of aggression questionnaire (2001) to collect data. Your consideration will be highly appreciated, regards.



Naureen Azad <naureenazad@numl.edu.pk>

Wed, Feb 28,
10:32 AM

to fbryant



Bryant, Fred

Thu, Feb 29
9:55 PM

to me

Dear Naureen:

Thank you for your interest in the short form of the Buss-Perry Aggression Questionnaire (AQ), which Bruce Smith and I developed and published in 2001 (Bryant & Smith, 2001).

I am pleased to give you permission to use the short form of the AQ in your research.

In response to your request, I have attached two Word documents -- one containing an electronic version of the 12-item short form of the AQ; the other, detailed instructions for scoring the short form of the AQ.

Note that the version of the short form of the AQ that I have attached here (and the instructions for scoring the short form of the AQ) uses the original 5-point response scale that Buss and Perry used, rather than the 6-point response scale that Bruce Smith and I used. Feel free to modify the response scale to a 6-point format, if you wish to use this alternative response scale.

I have also attached an electronic reprint of my original 2001 article with co-author Bruce Smith (Bryant & Smith, 2001) reporting the development and validation of the short form of the Buss-Perry AQ.

Keep in mind that my permission for you to use the short form of the AQ extends only to your current administration of the instrument in the course of this particular research project. Please do not distribute the AQ form or scoring instructions to others.

If you wish to print the verbatim wording of the 12 items of the short form of the AQ in research reports or presentations, then you will need to obtain written permission to do so

from the American Psychological Association, which officially holds the copyright for the short form items (which originally appeared in "The Aggression Questionnaire," by A. H. Buss and M. Perry, 1992, *Journal of Personality and Social Psychology*, 63, Table 1, p. 454).

In addition, if you intend to translate the original English version of the short form of the AQ for your research project, then I ask that you give your translated measurement instrument a unique title that will clearly distinguish it from the original short form of the AQ—for example, the Urdu version of the short form of the AQ.

Thanks again for your interest in my work on the AQ.

I wish you all the best with your interesting research. Please let me know what you find.
Sincerely,

Fred

Fred B. Bryant, Ph.D.
Emeritus Professor of Psychology
Loyola University Chicago
2005 Faculty Member of the Year

Permission to use Work- Family Conflict Scale

External

Inbox



Naureen Azad <naureenazad@numl.edu.pk>

Nov 26, 2022,
12:15 PM

to divna.haslam

Respected Madam I am Naureen Munir, student of PhD Psychology (NUML, Islamabad, Pakistan), writing you to get your permission to use Work- Family Conflict Scale to fulfil the requirement of my research as one of the data collection tools. I will be grateful for your consideration, regards.



Divna Haslam <divna.haslam@qut.edu.au>

Nov 27, 2022,
5:27 PM

to me

Dear Naureen,

You are welcome to use the WAFCS under the conditions listed on this page.

<https://pfsc.psychology.uq.edu.au/research/measure-library>

Kind Regards

Divna

Naureen Azad <naureenazad@numl.edu.pk>

Feb 15
9:48 AM

to E.R. Thompson

Hello Sir, this is Naureen Munir from National University of Modern Languages, Islamabad, Pakistan. I am a PhD scholar and doing my research work on positive and negative affectivity. You are requested to allow me to use your (10 items) short form of IPANAS as an instrument to collect data. Your consideration will be highly appreciated, regards.



**Naur
een
Azad**

Feb 28, 10:34 AM

----- Forwarded message ----- From: Naureen Azad <naureenazad@numl.edu.pk> Da
AM Subject: Permission to use IPANAS To: <E.



Edmund Thompson <ert20@bath.ac.uk>

Feb 28,
12:54 PM

to me

Please feel free to use the I-PANAS-SF for your academic research.

From: Naureen Azad <naureenazad@numl.edu.pk>

Sent: Wednesday, February 28, 2024 5:34 AM

To: Edmund Thompson <ert20@bath.ac.uk>

Subject: Fwd: Permission to use IPANAS

(no subject)

External

Inbox



Naureen Azad <naureenazad@numl.edu.pk>

to tepper.15

Hello Sir , This is Naureen Munir from National University of Modern Languages, Islamabad, Pakistan. I am doing a study on the role of women in the supervision among sanitary workers (with some other variables as well). You are requested to allow me to use you as an instrument to collect information. Your consideration will be highly appreciated, regards.



Tepper, Bennett J. <tepper.15@osu.edu>

to me

The scale is free to use for research purposes. Good luck with your study. Ben T

Get [Outlook for iOS](#)

From: Naureen Azad <naureenazad@numl.edu.pk>

Sent: Monday, October 17, 2022 1:25:08 AM

To: Teppera Bennett J. <tepper.15@osu.edu>

Subject:



ReplyForward