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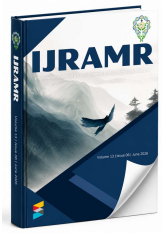

REVIEW ARTICLE

PERCEPTION OF OCCUPATIONAL STRESS AND ITS IMPACTS IN THE OPERATIONAL UNITS OF GLO-DJIGBÉ INDUSTRIAL ZONE (GDIZ)

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ABSTRACT

This study investigates employees' perceptions of occupational stress and its impacts within the operational units of the Glo-Djigbé Industrial Zone (GDIZ). Based on a sample of 427 respondents, distributed across four categories according to the formula proposed by J. P. Beaud and B. Marien (2003), and later adapted by J. E. G. Yetongnon and T. R. G. Kadjegbin (2020, p. 172), the data were processed using Excel 2021 to assess the predominance of opinions. The findings reveal four principal sources of stress, identified by an average of 94.61% of participants: organizational, relational, individual, and environmental factors. These stressors generate major consequences, including decreased productivity and work quality, heightened risks of accidents and errors, deterioration of physical and mental health, weakening of social relationships, and increased turnover, as perceived by 75.98% of male respondents and 73.46% of female respondents. Stress is distinguished into three main forms: acute stress, chronic stress, and burnout/organizational stress. To address these challenges, a majority of 77.36% of employees (330 individuals) recommend strengthening internal communication and social dialogue, improving working conditions, integrating stress as a performance indicator, expanding career development opportunities, and implementing support, recognition, and valorization program.

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INTRODUCTION

Psychosocial risk factors have led to more than 840,000 deaths annually attributable to cardiovascular diseases or mental disorders (ILO, 2026, p. 7). Occupational stress (OS) is a universal variable that is increasingly attracting the interest of researchers (H. Bensassi and A. Saoussany, 2024, p. 1471). Occupational stress encompasses physiological, emotional, cognitive, and behavioral reactions to particularly distressing aspects of job content, work organization, and the work environment (I. Houtman, K. Jettinghoff, and L. Cedillo, 2008, p. 1). It is now recognized as one of the main psychosocial risks affecting the health and performance of workers. The work of S. Battal and S. Toufik (2025, p. 187) and Ouattara (2024, p. 203) shows that occupational stress has been identified as a factor influencing the onset of several diseases, such as cardiovascular disorders, diabetes, hypertension, musculoskeletal disorders, and chronic fatigue. Stress is a major mechanism enabling an individual to adapt to their environment and its changes (F. Canini, 2019, p. 251). It evolves in three phases: the "alarm reaction" phase, the "resistance or adaptation" phase, and finally the "exhaustion" phase (H. Hardin-Pouzet, 2020, p. 73 and F. Bessagueta, V. Suteaub, and A. Desmoulière, 2024, pp. 51 & 60). Depending on its duration, stress can be acute (often intense and short-lived, with an immediate and powerful bodily response known as the survival response) or chronic (intense or moderate stressors, repeated and close together in time), both of which elicit biological and behavioral responses (M-P. MOISAN and M. LE MOAL, 2012, 612). In the workplace, stress can pose a significant risk to physical and mental health, as well as to workplace safety (M. Berraho, C. Nejjari, K. Elrhazi, S. El Fakir, J-F Tessier, N. Ouédraogo, S. Mekouar and N. Raiss, 2006, p. 376). According to the ILO (2016, p. 119), work-related stress is determined by work organization, job design, and labor relations, and occurs when job demands do not match or exceed the worker's capacities, resources, or needs, or when a worker's or group's knowledge or abilities to manage those demands do not align with the expectations of a company's organizational culture. This definition thus highlights the importance of a balance between occupational constraints and available resources. The issue of work-related stress takes on a strategic dimension in a context where operational industrial units bring together thousands of employees subjected to intensive production rates. M. M. Abe Bitha (2021, p. 16) and WHO (2020, p. 5) identify three major stressors: factors related to work activity (operational risks,

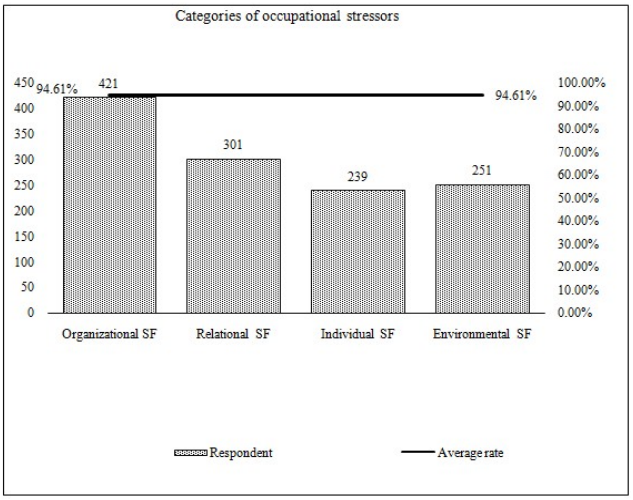
resource availability, and resource quality), factors related to work organization (time and priority management, workload, autonomy at work, and role tensions), and factors related to the work context (physical condition and recognition of work). The sustainability of industrial performance largely depends on the ability to preserve human capital. For the ILO (2013, p. ix), addressing work-related stress is one of the challenges to be met in order to guarantee a productive and healthy life for the working population in industrialized and developing countries. Beyond individual impacts, occupational stress directly affects organizational performance. For companies, occupational stress represents an additional burden and affects productivity (N. Kandi, H. Zidelkhil, and B. Brahamia, 2019, p. 32). In the operational units of the Glo-Djigbé Industrial Zone (GDIZ), productivity, safety, health, and regulatory compliance are of paramount importance, determining the sustainability of performance. This study aims to analyze workers' perceptions of occupational stress and its impacts in the operational units of Glo-Djigbé Industrial Zone (GDIZ).

MATERIALS AND METHODS

In this research, socio-professional data were used. This data primarily concerned the types of occupational stress, their impact, and the measures implemented. Questions were also directed toward the measures proposed by the respondents to ensure the suitability of occupational stress management strategies. Multiple-choice and single-choice questionnaires, an interview guide, and an observation grid were used to identify occupational stressors for four job categories. They also allowed for the identification of the impacts and control measures of occupational stress. The formula of J. P. Beaud and B. Marien (2003), used by J. E. G. Yetongnon and T. R. G. Kadjegbin (2020, p. 172), was adopted to determine the number "n" of employees to be surveyed. The formula is as follows: n = (N x 400) / (N + 400), where: n = the number "n" of employees surveyed for the research, and N = the total number of employees at GDIZ-BENIN, which was 20,000 in February 2026. Applying the formula yielded: n = (20,000 x 400) / (20,000 + 400) = 392.16, meaning n equals 392 employees. However, the number of people interviewed was 427 individuals belonging to different categories of workers. For the gender-based analysis, 50% of the sample was considered for each gender (male and female), representing 213.5 respondents per gender. Excel 2021 was used to perform statistical calculations of the results. The Citation Frequency (CF), previously used by S. A. Vissoh (2017, p. 475), was adopted to assess the dominance of respondents' opinions on a number of topics under investigation. It is expressed as: CF = nr / n * 100, where: CF = number of citations or opinions, nr = number of responses, and n = number of employees surveyed. The data, methods, and materials used allowed us to obtain the results

RESULTS

Main Factors of Occupational Stress: Occupational stress is linked to several factors in industrial settings, as shown in Figure 1.



Data Sources: *Investigation Results*

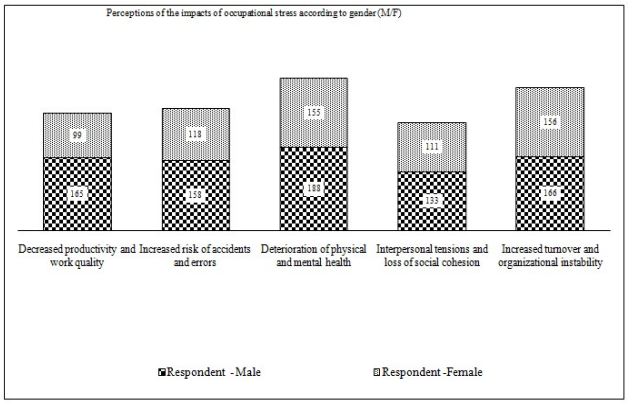
The investigation results (Figure 1) show that there are four categories of occupational stress factor (SF). These are organizational, relational, individual, and environmental stressors, with an average of 94.61% identified in multiple-choice questions, with organizational OS being the most prevalent. Organizational stressors were cited by 421 respondents, or 98.59%. These stressors include workload overload, unclear or contradictory objectives (or a lack of clarity in expectations), resource shortages (human, financial, or material), and frequent changes (manifested by regular restructuring or new procedures without support for those implementing them). The relational stressors cited by 301 respondents (70.49%) primarily concern hierarchical or inter-colleague conflicts (manifested by tension, rivalry, or a lack of communication regarding expectations), lack of support from managers (manifested by the absence of clear instructions, recognition, or feedback), and social isolation (poor integration within the work team and lack of cooperation). The individual stressors cited by 239 respondents (55.97%) relate to a lack of skills or adequate training, job insecurity (manifested as fear of dismissal or precarious employment), and work-life imbalance (long working hours or work encroaching on the employee's private life). Environmental stressors were cited by 251 respondents (58.78%). They concern difficult physical conditions (noise and/or heat from facilities, ergonomic constraints), inadequate workspaces (reflecting a lack of comfort and overcrowding in premises/workshops), and safety risks (reflecting exposure to multiple physical or chemical hazards).

Types	Phases	Features	Symptoms	Possible consequences
Acute stress	Phase d'alarme (ponctuel)	Immediate reaction to a constraint, threat or challenge.	Increased breathing, accelerated heart rate, rapid adrenaline surge, alertness, palpitations, secretions, unusual sweating, etc..	Generally temporary, may improve performance or responsiveness. Risk of temporary fatigue and irritability.
Chronic stress	Resistance phase (prolonged duration)	Stress that lasts over time (work overload, family problems, conflicts, financial difficulties…).	Sleep disturbances, persistent anxiety, irritability, musculoskeletal disorders, difficulty concentrating, forgetfulness, glucocorticoid secretion	Negative impact on mental and physical health: Hypertension, diabetes, cardiovascular diseases
Burnout / Organizational stress stress	Exhaustion (organizationa l stress)	Physical, emotional, and mental exhaustion due to prolonged overload or sustained stress	Depression, isolation, social withdrawal, loss of motivation, muscle tension, glucocorticoid overdose, impaired concentration	Chronic illnesses, work disability, absenteeism, turnover, cardiovascular diseases, low productivity

Perception of Occupational Stress: Stress, being a biological and psychological reaction of the body to constraints, challenges, or threats, is distinguished by three main forms: acute stress, chronic stress, and burnout/organizational stress, as shown in Table I resulting from the investigations.

Data Sources: *Investigation Results and Literature Review:* Table I highlights the fundamental difference between acute and chronic stress. Acute stress corresponds to a rapid reaction, often beneficial in the short term, as it prepares the individual to face a challenge or threat. It is characterized by an accelerated heart rate, rapid breathing, and heightened alertness. However, chronic stress reveals a prolonged activation of defense systems, leading to progressive exhaustion of the individual concerned, which is known as burnout or organizational stress. Here, we observe physical, emotional, and mental exhaustion due to prolonged overload, which can lead to depression, isolation, loss of motivation, cardiovascular and chronic diseases, professional incapacity, absenteeism, turnover, physical pain, and low productivity. This distinction underscores that stress is not only negative. Stress can be a motivating factor when it is occasional, but becomes pathological when it persists. Stress is, therefore, an ambivalent phenomenon, the management of which depends on its duration and, above all, the intensity of exposure.

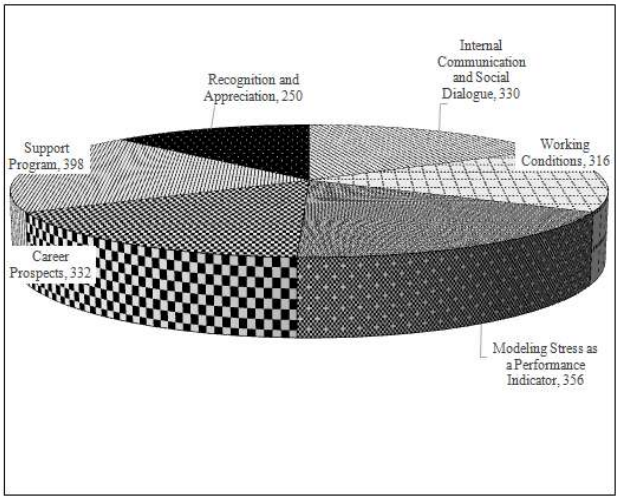
Impacts of Work-Related Stress: The perceived impacts of work-related stress are classified into four categories. These include decreased productivity and work quality, increased risks of accidents and errors, deterioration of physical and mental health, relational tensions and loss of social cohesion, and increased turnover and organizational instability, cited by an average of 162 men (75.70%) and 128 women (59.72%). Figure 2 illustrates this distribution.



Data Sources: *Investigation Results*

Figure 2 highlights a heterogeneous disparity in the perception of the impacts of occupational stressors, both male and female, within the GDIZ operational units. The data show a strong recognition of negative effects, with significant differences reflecting distinct sensitivities based on gender. A decrease in productivity and work quality is perceived by 165 male respondents (77.10%) and 99 female respondents (46.26%). An increased risk of accidents and errors is recognized by 158 male respondents (73.83%) and 118 female respondents (55.14%). The deterioration of physical and mental health appears to be the most strongly recognized impact, acknowledged by 188 male respondents (87.85%) and the least recognized by 155 female respondents (72.43%). Relationship tensions and a loss of social cohesion are acknowledged by 133 men (62.15%) and 111 women (51.87%). Increased turnover and organizational instability are identified by 166 men (77.57%) and 156 women (72.90%). Analysis of perception rates reveals that men express higher levels of perception in all categories, with differences ranging from 5 to 30 points depending on the impact. These high rates (over 65% on average) in both groups confirm that stress is recognized as a cross-cutting problem, affecting productivity, safety, health, relationships, and organizational stability. This situation calls for the implementation of prevention and management measures.

Occupational Stress Management Measures: Occupational stress management (OSM) measures show clear and hierarchical trends. Figure 3 highlights respondents' perceptions of occupational stress management measures in GDIZ operational units.



Data Sources: *Investigation Results*

Examination of figure 3 shows that the support program, including training and psychological support, received the highest response rate with 398 respondents, or 93.21%. This reflects a strong employee expectation for structured support, combining skills development and psychological care. Stress modeling as a performance indicator followed with 356 respondents, or 83.37%, illustrating the importance placed on integrating stress into management tools to link employee well-being and productivity in operational industrial units. Career prospects were also central, with 332 respondents, or 77.75%, indicating that future planning and career recognition are essential drivers of motivation and stress reduction. Internal communication and social dialogue garnered 330 respondents, or 77.28%, confirming that transparency and open communication between employees and managers are essential for trust and social cohesion in the workplace. Working conditions, including flexible hours, equipment, and rest areas, garnered 316 responses (74.00%), reflecting the importance of the physical environment and ergonomics in preventing work-related stress. Recognition and appreciation, through bonuses and positive feedback, appeared less prominent with 250 respondents (58.55%), indicating a mixed perception. The high rates for support programs and stress modeling confirm that prevention relies on measurable measures integrated into operational units. Respondents value sustainable and collective measures more than one-off rewards. Thus, the need to strengthen overall organizational strategies, combining support, adapted conditions, dialogue, and career prospects, in order to transform stress into a lever for organizational performance is clear.

DISCUSSION

The perception of a life event determines the accompanying emotion: threat leads to anxiety, loss to sadness, and injustice to anger (P. Graziani, L. Kempe, J. Del Monte, 2021, p. 33). The results show that there are four categories of occupational stressors (OS): organizational, relational, individual, and environmental, with an average of 94.61%, and a predominance of organizational OSs with 421 respondents (98.59%). The work of H. Bensassi & A. Saoussany (2024, p. 1488) and S. S. Mendke (2026, p. 69945) identified the main occupational stressors as those related to work, interpersonal stressors, work-life balance stressors, role-related stressors, environmental stressors, and finally, individual stressors. Similarly, Legeron's classification identifies five occupational stressors: workload or pressure, frequent changes, frustrations (unrecognized over-investment, etc.), interpersonal relationships, and the environment (noise, heat, etc.) (D. Steiler, 2010, p. 38). Inspired by Danna & Griffin (1999), occupational stressors are categorized as follows: job content, role within the organization, work relationships, career development, organizational structure and climate, work-life balance, and other stressors (N. Delobbe, L. V. Tolhuysen, P. Berck, and F. Wattiaux, 2009, p. 4). Work-related stress is always perceived as a serious problem with significant consequences for both the worker and the company. Decreased productivity and work quality, increased risks of accidents and errors, deterioration of physical and mental health, interpersonal tensions and loss of social cohesion, and increased turnover and organizational instability, cited by an average of 162 men (75.70%) and 128 women (59.72%), are the impacts perceived by respondents of both genders. According to S. Battal and S. Toufik (2025, p. 198), cardiovascular disorders, hypertension, diabetes, fatigue, digestive problems, musculoskeletal disorders (MSDs), and weight gain/loss are the main impacts of work-related stress. The work of L. Leruse, I. Di Martino, N. Malaise, P. Firket, V. Jaminon, and M. Paradowski (2026, p. 19) cites heart disease and stroke, cancer, musculoskeletal disorders, gastrointestinal diseases, acute stress disorder, post-traumatic stress disorder, depression, accidents, and suicides as repercussions of work-related stress on individual health. According to S. Ponthieu (2022, pp. 25–31), the consequences of work-induced stress are threefold: consequences on the employee's health (physical and mental illnesses), on the employee's profession (employee demotivation and disengagement, increased workplace accidents, and the use of psychoactive substances), and on the company (absenteeism, employee turnover, presenteeism, and increased costs for the company). This research examines the impact of occupational stress on individuals, productivity, and the company. To address this, the 1981 Occupational Safety and Health Convention (No. 155) and ILO (International Labour Organization) Recommendation (No. 164) call for the adoption and implementation of an occupational health and safety (OHS) policy to protect the physical and mental health of workers. This involves adapting machinery, equipment, working hours, work organization, and work processes to the physical and mental capacities of workers. To identify dysfunctions that hinder production, reduce workplace accidents, improve working conditions, and demonstrate social responsibility, implementing psychosocial risk prevention, particularly stress prevention, is now essential in companies (B. Chang, 2018, p. 62). These proposals constitute strengthening measures for better management of occupational stress within organizations.

CONCLUSION

This research sheds light on employees' perceptions of work-related stress and its impacts in the operational units of the Glo-Djigbé Industrial Zone (GDIZ). Sixteen work-related stressors, divided into four major categories—organizational, relational, individual, and environmental—were identified. Stress is distinguished by three main forms: acute stress, chronic stress, and burnout/organizational stress, each with various phases, characteristics, symptoms, and consequences for both human health and the organization. The perceived impacts primarily indicate decreased productivity and work quality, increased risks of accidents and errors, deterioration of physical and mental health, relational tensions leading to a loss of social cohesion, as well as increased turnover and organizational instability. These observations are shared by a majority of employees, on average 162 men (75.70%) and 128 women (59.72%). Furthermore, 330 employees, representing 77.36% of those surveyed, suggested strengthening existing initiatives to better prevent and manage work-related stress. This study highlights the importance of a proactive organizational strategy, integrating preventative measures, psychological support, and the promotion of well-being at work, to safeguard employee health and performance within GDIZ's operational units.

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