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Study of occupational stress in the industrial sector in the wilaya of Bejaia

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Abstract

Occupational stress is a widespread phenomenon in industry, with repercussions on workers' health, well-being and productivity. The main causes of stress in this sector include workload, strained professional relationships, difficult working conditions and concerns about career advancement. The study examined sources of stress based on a survey of 782 workers in companies in the wilaya of Bejaia. The results revealed high levels of occupational stress and unsatisfactory working conditions. The influence of stressors associated with work exhibited notable implications, especially concerning the strain experienced in the workplace.

✓ **Keywords**: Occupational stress, stress sources, industrial sector, Multinomial Logit Model, Bejaia.

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1. INTRODUCTION

The industrial sector grapples with a significant challenge: stress. This is particularly pertinent in professions characterized by repetitive tasks, stringent deadlines, high production demands, and physically demanding work environments. This sector encompasses diverse industries such as manufacturing, chemistry, pharmaceuticals, materials, furniture, as well as the production of mechanical, electrical, and electronic equipment (ASBL, 2013). Evidence indicates a direct correlation between work-related stress and specific stressful conditions, potentially leading to burnout, which poses risks to workers' health (BIT, 1984). A study in Finland involving metallurgy employees revealed that the most concerning stress sources include high psychological pressure at work, low control, inadequate salary, insufficient social approval, and limited career advancement opportunities relative to the efforts required at work (KIVIMÄKI, et al., 2002).

In the 1980s, the United States' industry experienced an annual loss of approximately 550 million working days due to absenteeism, with 54 percent of these attributed to stress-related factors (MILLER, 2005). Within the Algerian context, few studies have explored stress sources, particularly in the industrial sector, seeking to comprehend the risks and consequences of this phenomenon on both workers and companies. This paper aims to identify and scrutinize stress sources among a sample of workers in industrial enterprises in the Wilaya of Bejaia. Data were collected from an active population in the public and private sectors, responding to open-ended questions. The five identified stress factors for the industrial sector are work strain, conflicts with colleagues, weekly working hours, and salary issues.

The survey utilized a questionnaire directed at workers in the industrial sector of the Wilaya of Bejaia. Analyses employed the Multinomial Logit Analysis Model through SPSS software. Econometric modeling revealed numerous factors influencing working conditions and individuals' perceptions of stressful situations, impeding work efficiency, and consequently affecting company performance. This study aims to empower decision-makers to implement suitable measures for reducing the risk of stress exposure, preventing illnesses, and promoting workers' health, all while enhancing working conditions.

2. Stress in the professional environment

2.1- Occupational stress: What Is It?

Stress is not merely a health concern but rather the initial indication of a detrimental physical and emotional reaction, representing an inherent imbalance. The landscape of the professional realm has witnessed significant transformations, transitioning from a social-oriented paradigm to a financial framework focused on maximizing short-term profitability and perpetually reducing costs. Work has become a persistent constraint, and its multifaceted demands contribute to its inherently stressful nature (BIT, 1984). Establishing a unanimous definition of occupational stress remains elusive, considering its multidimensional character and recognition as a perilous risk within the professional domain. While interpretations of the concept may vary, the one proposed by the European Agency for Safety and Health at Work holds sway: stress emerges when there is an imbalance between the perceived constraints imposed by one's environment and the perception that the individual can draw upon their internal resources to cope with these constraints. Despite the psychological nature of the process of assessing constraints and resources, the repercussions of stress extend beyond the psychological realm to impact physical health, well-being, and productivity (INRS, 2010).

In line with a 2004 WHO report on work organization and stress, stress remains intrinsically linked to work, encapsulating all reactions that employees may exhibit when confronted with professional demands and pressures that surpass their knowledge and adaptability capabilities, challenging their capacity to effectively cope (WHO, 2004). According to the ILO (2016), stress manifests as a detrimental physical and emotional response resulting from an imbalance between perceived demands and the capabilities and resources acquired by individuals to manage them.

2.2- Occupational Stress and Its Specifics in the Industrial Sector

From an ergonomic standpoint, stress originates from diverse factors, and various models exist to evaluate and identify its determinants (EBENGUELA-EBATETOU, MARLITI-NGAMBOU, 2022). Within the industrial landscape, stress emanates from numerous origins. Workers in the industrial sector often grapple with elevated production demands and stringent deadlines, imposing constraints on their ability to meet production targets. Physically demanding environments, such as noisy and polluted factories, construction sites, or intricate facilities, contribute to the

exhaustion and stress experienced by industrial workers. The rapid adaptation to frequent technological changes introduces uncertainty and apprehension about the preservation of skills and job security, serving as another source of stress. On the socio-organizational front, challenging relationships with colleagues and higher-ranking managers can also instigate workplace stress.

Despite the prevalence of more traditional organizational structures, particularly in industrial activities employing manufacturing chains, numerous workers in the European Union (EDWARD, VALEYRE, 2005) still operate within Taylorian organizations, as described by Scientific Management principles introduced by Taylor. This organizational approach, emphasizing meticulous work preparation, was implemented to maximize company productivity. However, this method has not escaped criticism, and traditional industrial-bureaucratic organizations, characterized by repetitive work and potential cognitive limitations, are associated with both boredom and the risk of pathologies. According to (GOLLAC, VOLKOFF, 2000), descriptions of the harms of these organizational forms persist, highlighting the importance of workers' ability to modify their work pace, take breaks when needed, and have a say in job design to mitigate risks, even in physically demanding tasks (GUIOL, MUÑOZ, 2006).

Despite the essential nature of the industrial sector, literature addressing stress within this domain remains limited (ADJOBIMEY, & al. 2022). The prevalence of occupational stress among industrial workers is not well-defined, lagging behind other sectors, such as services, in terms of research, despite the evident presence of risk factors. Nevertheless, industrial workers face considerable risks, as most studies on stress have predominantly centered on professions like doctors, nurses, and teachers (YAN, & al. 2022). Globally, elevated levels of occupational stress have been observed, influencing career choices across all sectors, resulting in significant shifts in the labor market and industry structure (PIAO, XIE, & MANAGI, 2022). The International Labour Organization (ILO) notes that while the frequency rates of occupational accidents have remained stable in industrialized countries, they have markedly increased in developing nations (ILO, 1984).

In the industrial sector, workers often experience a decline in control, given that the organization, content, and pace of work are dictated by the production system (LOUFRANI-FEDIDA, 2006). These conditions foster monotony, social isolation,

restricted freedom, and time loss, potentially culminating in long-term effects on health and well-being. Additional stressors arise from automation and assembly line work, characterized by the dominance of machine production systems over worker control, alongside elements of overload and hazardous working conditions (KIVIMÄKI, & al. 2002).

3. Material and approach used

3.1- Method and Characteristics of the Questionnaire Survey

This research was conducted within the industrial sector of the Wilaya of Bejaia, taking place in the year 2017. Employing a questionnaire, a total of 782 workers from the industrial sector in the Wilaya of Bejaia provided responses. The selection of this sample aimed to pinpoint the working conditions where stress tends to intensify. The questionnaire segment devoted to scrutinizing stress sources encompassed aspects such as work strain, the professional environment (including interpersonal conflicts), hierarchical power, social support, and the financial circumstances of the employees. During the compilation, any respondent indicating "Yes" to any of these factors was categorized as experiencing stress.

Table 1: Distribution of the Sample by Gender and Age

		Gender					
		Male		Female		Total	
		Number	%	Number	%	Number	%
Age	**- 20 years**	2	0,3	4	2,0	**6**	**0,8**
	[20-30[	103	17,7	76	38,2	**179**	**22,9**
	[30-40[	292	50,1	79	39,7	**371**	**47,4**
	[40-50[	146	25,	29	14,6	**175**	**22,4**
	[50-60[	34	5,8	10	5,0	**44**	**5,6**
	Over 60 years	6	1	1	0,5	**7**	**0,9**
	Total	**583**	**100,0**	**199**	**100,**	**782**	**100,0**

Source: Created by us based on personal survey data (from February 2017 to June 2017).

The coding, processing, and subsequent statistical analysis of the gathered data were executed using the "SPSS version 20" software. Table 1 illustrates the sample distribution based on gender and age.

The individuals surveyed are employed in diverse industrial establishments located in the Wilaya of Bejaia. The sample comprises 73.9% from the private sector and 26.1% from the public sector, based on information obtained from CNAS of Bejaia. The

sample encompasses various professional categories, and the average age of this population exceeds 36 years, with approximately one-fourth being women.

The Wilaya of Bejaia is renowned for its vibrant industrial activity, spanning three industrial zones (Bejaia, El Kseur, and Akbou), along with 20 business parks situated across 20 municipalities. The agri-food sector holds a prominent position in the industrial landscape. The Wilaya boasts essential infrastructure and facilities for intersectoral and coordinated development, featuring a substantial industrial framework that encompasses nearly all sectors, with a prevalence of manufacturing and processing activities. In 2016, the Wilaya of Bejaia secured the third position in terms of business density per 1000 inhabitants. The private sector dominates, mainly comprising small enterprises.

3.2- Choice of Variables and Use of the Multinomial Logit Model

Logit models effectively elucidate the connection between one or more dependent nominal variables and a set of nominal variables, providing a means to scrutinize their interactions. These probabilistic models find application in handling qualitative data across diverse domains such as transportation, development, governance, among others (AFSA-ESSAFI C, 2012). This research specifically concentrates on discerning individual and organizational origins of occupational stress. The stress levels experienced by the participants were evaluated using a scale that gauges stress at different levels over a specified period (in our study, the previous year), subsequently assigning codes: 1 (Not stressed), 2 (Sometimes stressed), 3 (Often stressed), and 4 (Very often stressed).

Our aim is to ascertain whether specific origins of occupational stress hold more significance than others in shaping the perception of stress among industrial sector workers in the wilaya of Bejaia. We have categorized stress into four levels, each designated with an indicative number: 1, 2, 3, and 4. These levels correspond, respectively, to the four degrees of stress: positive level, negative level, acute level, and chronic level. The dependent variable (perceived stress) is qualitative, while the explanatory variables include both qualitative aspects (physical hardship at work, interpersonal conflicts) and quantitative aspects (weekly working hours and economic constraint). The aforementioned explanatory variables are as follows:

I- Weekly working hours: The Labor Code generally determines the number of working hours based on the workload, task, and intellectual effort. Exceeding the hourly volume

can cause stress for workers. The variable "working hours" is coded as follows: 1 (Less than 40h/week), 2 (40h/week), and 3 (More than 40h/week).

II- Physical hardship at work: This concept can be interpreted as physical and mental suffering. Hardship can deplete an employee's professional resources and put them in a tense work situation. The variable "physical hardship at work" is coded as follows: 1 (Fairly strenuous), 2 (Strenuous), and 3 (Very strenuous).

III- Interpersonal conflicts: Relationships between leaders and subordinates are often characterized by conflicts of interest, a source of tension and antagonistic situations. When these power dynamics are tense, social organization often leads to a deterioration of professional relationships among workers. This variable is coded as follows: 0 (None) and 1 (Yes).

IV- Economic constraint (salary): Salary can compensate for the inconveniences caused by the job, but a low salary does not always cover the physical and/or mental effort, becoming a stress factor. The variable "monthly salary" is coded as follows: 1 (Totally sufficient), 2 (Sufficient), and 3 (Not at all sufficient).

3.3-Presentation of the Multinomial Logit Model

The multinomial logit model proves highly beneficial in gauging the likelihood of a particular source of occupational stress exerting more influence than others on workers' stress perception.

Table 2: Modalities and Components of the Multinomial Logit Model

Factors of Occupational Stress (*Explanatory Variables***)**	**Response Modalities**	**Perceived Stress (***Dependent Variable***)**			
		No**	Sometimes	Often	Very often
Weekly Working Hours	Less than 40 hours	X	X	X	X
	40 hours	X	X	X	X
	More than 40 hours*	X	X	X	X
Job Hardship	Moderate hardship	X	X	X	X
	Hardship	X	X	X	X
	Severe hardship*	X	X	X	X
Conflicts with Colleagues	None	X	X	X	X
	Yes*	X	X	X	X
Economic Constraint (Monthly Salary)	Totally sufficient	X	X	X	X
	Sufficient	X	X	X	X
	Not at all sufficient*	X	X	X	X

***: Reference modalities for explanatory variables.**

****: Modality (Not stressed):** Reference modality for the dependent variable (perception of stress).

Source: Table created by us using the software (SPSS v20).

The empirical investigation seeks to elucidate the connection between the dependent variable (perceived stress among workers) and the explanatory variables: weekly working hours, physical hardship at work, conflicts with superiors, conflicts with colleagues, and economic constraint (monthly salary).

Regarding the significance of explanatory variables, those with probabilities approaching zero are considered the most influential and significant in the model. Each explanatory variable can take one of the four stress levels (1, 2, 3, or 4), with each stress level being explained by specific influences corresponding to the response modalities of the four explanatory variables. It is important to note that some of these variables are polytomous, assuming different values corresponding to specific responses from the questionnaire.

To illustrate, consider the influence of job hardship on the perception of work-related stress. The value of the corresponding explanatory variable is 1 if the response is "Fairly hard," 2 if the response is "Hard," and 3 if the response is "Very hard." The hypothesis formulated in this model involves distinguishing between the probabilities associated with two different levels of work-related stress. Each stress level has a unique and independent probability. Consequently, this multinomial model study takes into account probabilistic values that describe different choices in the presence of stochastic responses.

When dealing with variables, the analysis of binary variables is relatively straightforward. However, qualitative variables with more than two response modalities require a specific approach. Additionally, a variable with modalities from 1, 2, ..., M will be replaced by M distinct binary variables, each having a value of 1 if the individual has modality m and 0 otherwise. Although these M binary variables are collinear because their sum is always equal to 1, it is necessary to exclude one of them from the model, designating it as the "reference modality" of the explanatory variable. It's important to note that, depending on whether variables are polytomous or not, the model parameters have different interpretations, and the effects of variables on the probabilities of belonging to different categories are calculated differently. The table below presents the reference modalities for the explanatory variable and the explanatory variables.

Table 3: Fit Quality of the Multinomial Logit Model

Information about Model Fit				
Model	**Model Fit Criteria**	**Likelihood Ratio Tests**		
	-2 Log Likelihood	**Chi-square**	**Degrees of Freedom**	**Signi**
Constant Only	520,146			
Final Model	342,766	177,380	21	**,000**

Source: Table created by us based on the results of the Multinomial Logit model (SPSS v20).

To evaluate the statistical validity of the observed distinctions in our sample, we conducted likelihood ratio tests. The goodness of fit of the Multinomial Logit model verifies the overall validity of the model by rejecting the null hypothesis H0, which posits that the introduced variables in the equation have no explanatory power. The assessment of null (H0: $\beta(i)=0$) and alternative hypotheses (H1: $\exists\ \beta(i)\neq 0$) revealed, according to the results in Table 3, a null probability less than 0.01 (1%) (Pr (chi-square)=0.000) and Pr (chi-square)<0.01 (1%). Consequently, we reject the null hypothesis H0 and accept H1 with a significance level of 1%, confirming the overall validity of the model. With an error risk less than 1%, we conclude that there is a difference between the compared groups of the population regarding the variable of perceived professional stress, validating the alternative hypothesis.

For a more detailed analysis, it is crucial to interpret the values of the model coefficients (b1, b2, b3… bn) and identify which ones are statistically significant. The study has revealed a statistically significant link between stress factors and their perception. The data in the table below provide insights into the validity tests of the explanatory variables.

Table 4: Likelihood Ratio Tests

Likelihood ratio tests				
Effect	**Model adjustment criteria**	**Likelihood ratio tests**		
	-2 log-likelihood of the reduced model	**Chi-square**	**Degrees of Freedom**	**Signi**
Constant	342,766[a]	,000	0	.
Weekly Working Hours	368,070	25,303	6	**,000*** **
Job Hardship	407,729	64,963	6	**,000*** **
Conflicts with Colleagues	359,252	16,486	3	**,001*** **
Economic Constraint (Monthly Salary)	368,639	25,873	6	**,000*** **

*** : Pr < (1%), Very significant.**

Source: Table created by us based on the results of the Multinomial Logit model (SPSS v20).

All explanatory variables exhibited error probabilities less than 1%, signifying that variables like weekly working hours, job strain, interpersonal conflicts, and economic constraint (monthly salary) are highly significant and play a substantial role in elucidating the perception of professional stress in the model. The scrutiny of parameters for each category of explanatory variables, as depicted in the subsequent table, seeks to elucidate their level of significance.

4. RESULTS AND DISCUSSION

The coefficients β associated with the explanatory variables, as outlined in Table 5, enable us to evaluate the contribution of each independent variable and elucidate the variations in the probability of the dependent variable. These coefficients β offer insights into the significance of factors influencing the perception of stress among workers. The direction of the coefficients β is pivotal for comprehending the impact of variables representing stress sources on the dependent variable, and they quantify the relative impact of each variable compared to others. In the utilized model, the reference category for the explained variable (perceived stress) is the "Not stressed" category, which is consistently referenced in our analysis. Consequently, we compare the estimates of the β coefficients of each explanatory variable to a situation of "not stressed." The sign of the coefficient indicates the nature of the relationship between the influence of stress factors and the probability of stress perception (positive or negative relationship). Additionally, the higher the value of the β coefficient and the closer the error probability (P) is to zero, the more significant the predictor is in the model.

Table 5: Estimates of the parameters of the explanatory variables in the model

Perception of occupational stress [a]		B	Stan Error	Signif.	Exp(B)	Confidence Interval 95% for Exp(B)	
						Bound <	Bound >
Sometimes stressed	Constant	**1,839**	,416	**,000**			
	[Weekly Working Hours=1]	**-,586**	,347	**,091**	,557	,282	1,099
	[Weekly Working Hours=2]	**-,616*** **	,224	**,006**	,540	,348	,838
	[Weekly Working Hours=3]	**0[b]**	.	**.**	.	.	.
	[Job Hardship =1]	**-,344**	,363	**,344**	,709	,348	1,445
	[Job Hardship=2]	**,200**	,356	**,575**	1,221	,607	2,455
	[Job Hardship=3]	**0[b]**	.	**.**	.	.	.
	[Conflicts with Colleagues=0]	**-,444**	,264	**,092**	,642	,383	1,076
	[Conflicts with Colleagues=1]	**0[b]**	.	**.**	.	.	.
	[Economic Constraint (Salary)=1]	**,515**	,455	**,258**	1,673	,686	4,078
	[Economic Constraint (Salary)=2]	**-,344**	,213	**,107**	,709	,467	1,077
	[Economic Constraint (Salary)=3]	**0[b]**	.	**.**	.	.	.
	Constant	**2,743**	,432	**,000**			

Often stressed	[Weekly Working Hours=1]	**-1,072****	,467	**,022**	,342	,137	,855
	[Weekly Working Hours=2]	**-1,057*****	,272	**,000**	,347	,204	,592
	[Weekly Working Hours=3]	**0**[b]	.	**.**	.	.	.
	[Job Hardship =1]	**-1,342*****	,400	**,001**	,261	,119	,573
	[Job Hardship=2]	**-,747****	,375	**,046**	,474	,227	,987
	[Job Hardship=3]	**0**[b]	.	**.**	.	.	.
	[Conflicts with Colleagues=0]	**-1,065*****	,299	**,000**	,345	,192	,619
	[Conflicts with Colleagues=1]	**0**[b]	.	**.**	.	.	.
	[Economic Constraint (Salary)=1]	**-,284**	,575	**,622**	,753	,244	2,324
	[Economic Constraint (Salary)=2]	**-1,212*****	,274	**,000**	,298	,174	,509
	[Economic Constraint (Salary)=3]	**0**[b]	.	**.**	.	.	.
Very often stressed	Constant	**2,735**	,444	**,000**			
	[Weekly Working Hours=1]	**-1,786*****	,677	**,008**	,168	,045	,632
	[Weekly Working Hours=2]	**-1,194*****	,310	**,000**	,303	,165	,556
	[Weekly Working Hours=3]	**0**[b]	.	**.**	.	.	.
	[Job Hardship =1]	**-2,216*****	,428	**,000**	,109	,047	,252
	[Job Hardship=2]	**-1,766*****	,391	**,000**	,171	,079	,368
	[Job Hardship=3]	**0**[b]	.	**.**	.	.	.
	[Conflicts with Colleagues=0]	**-,980*****	,332	**,003**	,375	,196	,720
	[Conflicts with Colleagues=1]	**0**[b]	.	**.**	.	.	.
	[Economic Constraint (Salary)=1]	**-,101**	,684	**,882**	,904	,237	3,454
	[Economic Constraint (Salary)=2]	**-,536***	,306	**,080**	,585	,321	1,067
	[Economic Constraint (Salary)=3]	**0**[b]	.	**.**	.	.	.

Not stressed : Reference category for the dependent variable, 0b : Reference category for the independent variables.

: Pr < (1%),** Highly significant, *: Pr < (5%),** Significant, *****: Pr < (10%),** Less significant.

B : Estimated parameter, with the sign indicating the direction of the probability change.

Std Error : Standard error of the estimated parameter B.

Signif : Significance of parameter B (if less than or equal to 1%, 5% or 10%).

Exp (B) : The Odds Ratio indicates how many times ("odds") we have of knowing the event when we have a certain characteristic of the independent variable rather than the reference category.

CI for Exp (B) 95%: Confidence Interval for Exp (B) at a confidence level of 95%.

Source: Table created by us using the results of the Multinomial Logit model

The negative coefficient (β1 = -1.194) signifies that an increase in working hours is associated with a higher perceived stress level. This suggests an inverse relationship between working more than 40 hours per week and stress levels compared to the "Non-stressed" category, and a similar trend is observed for the "40 hours of work/week" category. The model results indicate that weekly working hours are linked to an elevated risk of stress, demonstrating notable distinctions in stress levels between those working fewer than 40 hours per week and those working more. Various factors contribute to stress among industrial workers, including limited free time and reduced time for family, potentially leading to heightened pressure and stress. Moreover,

workers with extended working hours may fear job loss if they fail to maintain high productivity, further exacerbating stress levels.

4.1- Impact of Weekly Working Hours on Perceived Stress

The model highlights a significant negative correlation between weekly working hours in the industry and the perceived stress level. Generally, longer working hours correspond to higher stress levels. This relationship is statistically significant with a probability below 1% (Pr=0.000).

4.2. Impact of Job Hardship on Perceived Stress

The model data underscores the substantial impact of job hardship on the perceived stress level among industrial workers. Job hardship, encompassing challenging working conditions like prolonged standing, heavy lifting, or exposure to hazardous substances or loud noises, exhibits a highly significant negative correlation with perceived stress. The likelihood of inducing stress in workers exposed to hardship factors is substantial, with an error probability below 1% (Pr=0.000).

4.3. Impact of Interpersonal Conflicts on Stress Perception

Interpersonal conflicts can significantly influence the perceived stress level of industrial workers, involving disagreements, frictions, or tensions among colleagues and/or superiors. The model results confirm an inverse correlation between the absence of perceived stress and conflicts between colleagues and/or superiors, with these conflicts increasing the probability of high stress levels in workers. This variable is significant with a probability below 1% (Pr=0.003).

4.4. Influence of Economic Constraint (Monthly Salary) on Perceived Stress

Economic constraints, such as salary, can impact the perceived stress level among industry employees. A less motivating salary, indicated by the parameter ($\beta 5 = -0.536$), is significant with a probability below 10% (Pr=0.080), associating it with a higher stress level. However, for employees perceiving a completely sufficient salary, there is no significant correlation with perceived stress.

4.5. Predominance of Job Hardship as a Source of Perceived Stress

The various factors studied influence the level of perceived stress, but to varying degrees. The β parameter indicates the level of significance of each explanatory variable.

Table 6: Ranking of Stress Factors by Order of Impact

Stress Level	Professional Stress Factors	B	Signif.
Very often stressed	[Job Hardship =1]	-2,216***	,000
	[Job Hardship=2]	-1,766***	,000
	[Job Hardship=3]	0[b]	.
	[Weekly Working Hours=1]	-1,786***	,008
	[Weekly Working Hours=2]	-1,194***	,000
	[Weekly Working Hours=3]	0[b]	.
	[Economic Constraint (Salary)=1]	-,101	,882
	[Economic Constraint (Salary)=2]	-,536*	,080
	[Economic Constraint (Salary)=3]	0[b]	.
	[Conflicts with Colleagues=0]	-,980***	,003
	[Conflicts with Colleagues=1]	0[b]	.

Source: Based on the results of the Multinomial Logit model (SPSS v20).

The model results (Table 6) underscore that work hardship stands out as the most influential factor affecting perceived stress, evident from its notably high β value (e.g., -β=-2.216). This predominance can be attributed to several factors, including the inherent complexity of work hardship, which encompasses manual handling, strenuous postures, mechanical vibrations, exposure to hazardous chemicals, extreme temperature variations, noise, night work, successive shift rotations, and the repetitive nature of tasks. The intrinsic nature of this hardship involves both physical and mental components, leading to fatigue attributed to factors such as insufficient weekly rest and intense pressure to meet superiors' demands. Notably, workers engaged in overtime are more prone to stress compared to their counterparts following a regular schedule

4. CONCLUSION

Occupational stress poses a significant risk in the industrial sector, necessitating a thorough understanding of workplace stress sources. Utilizing a Multinomial Logit model to assess stress perception, our study identified influential factors on stress levels among workers. The findings underscore the persistent risk of stress in the industry, advocating for a comprehensive prevention approach. Our methodology involved gathering opinions from individuals directly experiencing daily stress, aiming to elucidate the causes of stress among industrial sector employees. The study identified work hardship as the primary stress source among workers in industrial enterprises in the wilaya of Bejaia. However, it's noteworthy that many companies inadequately consider the well-being and stress of their employees, attributed to a lack of awareness regarding stress consequences on health and productivity within industrial enterprises

in the wilaya of Bejaia.

It is imperative for companies to prioritize stress prevention at work, recognizing that addressing employee needs is crucial to combat stress. Reduction of stress at work is possible through a careful understanding of its causes. Profitability should not compromise individual well-being, necessitating collective awareness that a united team is more effective than isolated individuals in competition. Individually, stress should not be trivialized but recognized as a significant source of workplace suffering. Business leaders have the opportunity to mitigate stress among industrial workers by improving internal communication, implementing stress management policies, providing training on stress management techniques, enhancing working conditions and interpersonal relationships, and offering moral support to employees. Simultaneously, workers can adopt personal measures for stress management, including regular relaxation exercises, deep breathing techniques, and a healthy lifestyle with balanced diet, adequate sleep, and regular exercise. Employers play a crucial role in improving working conditions by establishing a healthy and safe environment, implementing mental health support programs, and training supervisors to effectively detect signs of stress in workers.

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