

## **The Night Work And Its Consequences On Employees' Lives: A Case Study Of The IFRI Company In Béjaia (Algeria).**

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### **Abstract**

Night work is, in our opinion, the most critical work period among all atypical work schedules, given the harmful circumstances and difficulties of balancing and instability it causes in the lives of workers in general. This is true despite the motivations and resources provided by employers, such as remuneration bonuses and workplace arrangements. The objective of this article is to propose an empirical study based on a quantitative methodological approach to better understand the issue of night work and its impact on the overall life of employees. The illustration here is based on the company IFRI in Béjaia (Algeria).

**Keywords:** Night work, atypical work schedules, imbalance, private, social, and professional life of employees at the S.A.R.L IFRI Company.

### **Introduction:**

With today's modern societies, the world is moving at a great speed. On one hand, the unprecedented acceleration of life rhythms, coupled with population growth, forces the industrial world to adopt new forms of work organization. Thus, to keep pace with this rapid evolution of our current societies, many companies, particularly in the industrial sector, have opted to reorganize their employees' working hours. The desynchronization of biological, family, social, and professional rhythms among employees leads to harmful effects on their health. Night work is more critical compared to work during standard hours.

### **I. Theoretical Framework**

Our theoretical framework revolves around two main points. In the first point, we aim to present night work as a type of atypical work schedule. In the second point, we will review the repercussions of this work mode on the private, social, and professional spheres of employees. More explicitly, we will examine direct consequences such as physiological effects (cardiovascular diseases), psychological effects (depressions like suicide), various addictions, sleep disorders, and stress; the effects of night work on work itself (work

accidents, absenteeism); and indirect consequences such as burnout and chronic fatigue. Finally, we conclude this point by discussing its impact on family and social life.

## **1. Night Work**

In defining night work, the International Labour Office (ILO) characterizes it as particularly arduous depending on the nature of the job and task (Knauth, 2000, p. 43). In our country, Algerian legislation defines night work as any work performed by male workers over 19 years of age between 9 PM and 5 AM. While night work is prohibited for children, employing women is permitted if there is a special exemption granted by the labor inspector (<https://www.mtess.gov.dz/fr/legislation-du-travail-2/> (consulted on March 22, 2022, at 9:40 AM)). In Algeria, night work is considered any work executed between 9 PM and 5 AM. Workers of either gender under the age of 19 cannot work at night. Employers are prohibited from employing female personnel for night work unless special exemptions are granted by the competent labor inspector. (Ibid) In France, for example, night work is most common in services (tertiary sector): it concerns 1/3 of employees in the public sector and 42% in private service companies. It involves jobs such as vehicle drivers, police and military personnel, nurses, nursing assistants, and skilled workers in processing industries. Temporary workers, men in their thirties, and women under 30 work more frequently at night. (Dares.travail-emploi.gov.fr)

## **2. The Repercussions of Night Work on Employees' Private, Social, and Professional Spheres**

The repercussions of night work on employees' private, social, and professional lives can be categorized into three types. First, there are physiological impacts, such as cardiovascular diseases (ischemic heart disease, cerebrovascular diseases, and hypertension) and certain musculoskeletal disorders. Next, the psychological impacts, such as depression, which can lead to suicidal behaviors, or the development of addictions like smoking, alcoholism, and drug use that may cause cancer (A. GINTRAC, 2011). We can also note direct effects such as sleep disorders, characterized by complaints of insomnia, excessive drowsiness, and decreased performance, which generally occur when work is conducted during regular sleep hours. In this regard, RUTENFRANZ and colleagues (1987) show that the duration of sleep is shortened by an average of 1 to 4 hours for night workers. Additionally, we can observe stress, which is primarily a human reaction to stimulating factors, including monotony and night work. Thus, the stress situation inflicts psychosocial disorders and tensions on workers, especially when job demands are very high.

Beyond the direct effects mentioned earlier, we can also discuss indirect effects such as burnout, which can be defined as professional exhaustion characterized by a loss of enthusiasm accompanied by various symptoms such as fatigue, headaches, and

gastrointestinal issues. Burnout is a state of chronic fatigue, depression, and frustration arising from devotion to a cause, lifestyle, or relationship that fails to provide expected rewards, ultimately leading to decreased engagement and support at work (FREUDENBERGER et al., 1980). Chronic fatigue—decreased psychological performance—is also noted as an indirect effect of night work.

In addition to physiological, psychological, and other addiction-related developments, it is important to mention effects on the work itself, such as work accidents and absenteeism. Finally, effects on family and social life aspects should also be observed (marital life, child education, leisure and other entertainment, and social isolation). According to FERGE, while days off primarily serve a physiological function, they are also associated with what the modern world qualifies as leisure; the millennia-old human experience assigns them essential social functions as well (FERGE, 1970, p. 387).

## II. Methodology

**Problem Statement:** How does night work influence the private and professional lives of employees at SARL IFRI?

To address our problem statement, we formulated two research hypotheses:

**Hypothesis 1:** Night work creates destabilization and imbalance in the private, social, and professional lives of employees at SARL IFRI.

**Hypothesis 2:** The main effect of night work on employees at SARL IFRI lies in burnout (professional exhaustion), which can lead to forms of absenteeism at work.

Our methodological approach is based on a quantitative method using a questionnaire as an investigative technique. This questionnaire is divided into five (05) research axes: the socio-professional data of respondents, ergonomic repercussions, the work itself, the private and social life of employees, and employees' attitudes. Given that the population of the company working at night consisted of 75 employees, we targeted 43 employees for study, distributed across two departments (Quality Control & Maintenance), in consultation with the company management. The survey was conducted in April 2022.

## III. Results

### 1. Presentation of Results Collected from the Questionnaire

#### 1.1 Presentation of Personal Data of Respondents

Table 1: Distribution of respondents by age.

Age	Frequency	Proportion
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[20-30[	14	32,56%
[30-40[	23	53,49%
[40-50[	04	9,30%
50 ans et +	02	4,65%
Total	43	100%

Source: Author, survey data April 2022

More than half of our respondents belong to the age group [30-40 [ years, with 23 cases out of 43 possible.

Table 2: Distribution of respondents by socio-professional category.

<b>Socio-Professional Category (C.S.P)</b>	Frequency	Proportion
Supervisory Staff	26	60,46%
Operational Staff	17	39,54%
Total	43	100%

Source: Author, survey data April 2022.

With over 60% of the studied worker population, supervisory staff represent the majority category in our sample.

Table 3: Distribution of respondents by education level.

Education Level	Frequency	Proportion
Primary	03	6,98%
Intermediate	09	20,93%
Secondary	08	18,60%
University	23	53,49%
Total	43	100%

Source: Author, survey data April 2022.

With more than the average (53.49%), our respondents are predominantly at the university education level.

Table 4: Distribution of respondents by marital status.

Marital Status	Frequency	Proportion
Single	13	30,23%
Married	24	55,80%
Divorced	05	11,63%
Widowed	01	2,32%
Total	43	100%

Source: Author, survey data April 2022.

The family situation of "married" individuals is the most represented in our sample, with a proportion of 55.80%.

Table 5: Distribution of respondents by professional seniority.

Professional Seniority	Frequency	Proportion
Less than one year	05	11,62%
[1 year - 5 years [	08	18,60%
[5 years - 10 years [	13	30,23%
[10 years and more [	17	39,53%
Total	43	100%

Source: Author, survey data April 2022.

Our respondents are unevenly distributed in terms of professional seniority. The professional category with the highest proportion is that of [10 years and more [ with a rate of nearly 40%.

Table 6: Distribution of respondents by whether they have children or not.

Children Status	Frequency	Proportion
With children	25	83,33%
Without children	05	16,66%
Total	30	100%

Source: Author, survey data April 2022.

The data from the table above indicates that more than 83% of our respondents have children.

Table 7: Distribution of respondents by motivations for working at night.

Motivations	Frequency	Proportion
Nature of the job	27	62,79%
Remuneration	13	30%
Working hours	03	7,14%
Total	43	100%

Source: Author, survey data April 2022.

According to the data from the table above, the main reason cited by our respondents for choosing night work is the nature of the job, with 27 responses out of 43 possible. This is followed by remuneration and working hours, with 13 and 3 responses, respectively.

Table 8: Distribution of respondents by whether they confront stress or not.

Stress	Frequency	Proportion
yes	33	76,74%
no	10	23,25%
Total	43	100%

Source: Author, survey data April 2022.

In a very significant manner, the majority of our respondents (76.74%) reported experiencing stress due to their night work.

### 1.2 Cross-tabulation of Independent Variables with Dependent Variables

Table 9: Relationship between employees' family situation and sleep disturbances.

Sleep Disturbances \ Family Situation	Yes		No		Total	
	F	P	F	P	F	P
Single	10	23,25%	03	6,97%	13	30,23%
Married	20	46,51%	04	9,30%	24	55,81%
Divorced	04	9,30%	-	-	05	11,62%
Widowed	-	-	01	2,32	01	2,32%
Total	34	79,06%	08	18,60%	43	100%

Source: Author, survey data April 2022.

Overall, our respondents—regardless of their marital status—confirmed experiencing sleep disturbances, with a proportion of nearly 80%, or 34 cases out of 43 possible. Married respondents are more exposed to this issue, with 20 cases out of 24 possible, representing 46.51%.

Table 10: Relationship between professional seniority and sleep disturbances.

Sleep Disturbances \ Professional Seniority	Yes		No		Total	
	F	P	F	P	F	P
Less than one year	3	6,97%	2	4,65%	5	11,63%
[1 year - 5 years [	6	13,95%	2	4,65%	8	18,60%
[5 years - 10 years [	10	23,25%	3	6,97%	13	30,23%

[10 years and more [	15	34,88%	2	4,65%	17	39,53%
Total	34	79,06%	8	18,60%	43	100%

Source: Author, survey data April 2022.

Clearly, regardless of the professional seniority of our respondents, sleep disturbances are reported at a high rate of nearly 80%. The second notable finding from the reading of the table above is that sleep disturbances increasingly persist as professional seniority increases (e.g., the experience category [10 years and more [ confirmed a significant prevalence of sleep disturbances, with 15 responses out of 17 possible).

Table 11: Relationship between employees' age and workplace accidents.

Workplace Accident Age	Yes		No		Total	
	F	P	F	P		P
[20 years - 30 years [	6	13,95%	02	4,65%	14	32,55%
[30 years - 40 years [	8	18,60%	-	-	6	13,95%
[40 years - 50 years [	12	27,90%	-	-	08	18,60%
[50 years and older [	14	32,55%	01	2,32%	15	34,88%
Total	40	93,02%	03	6,97%	43	100%

Source: Author, survey data April 2022.

The data in the table above clearly indicate that the majority of our respondents (93.02%)—across all age groups—have experienced workplace accidents while working night shifts, with a large proportion in both the major (14 cases) and minor (12 cases) categories. Conversely, only 6.97% of respondents reported not experiencing any accidents.

Table 12: Relationship between employees' seniority in their position and family disruptions.

Family Disruption Professional Seniority	Yes		No		Total	
	F	P	F	P	F	P

Less than one year	3	6,97%	1	2,32%	5	11,62%
[1 year - 5 years]	5	11,62%	3	06,97%	8	18,60%
[5 years - 10 years [	9	20,93%	4	09,30%	13	30,23%
[10 years and more [	12	27,90%	6	13,95%	17	39,53%
Total	29	67,42%	14	32,54%	43	100%

Source: Author, survey data April 2022.

The relationship between employee seniority and family disruptions is also highlighted. Data from the table above show a positive trend of 67.42%, or 29 out of 43 possible cases, with the experience category of 10 years and more standing out with the highest proportion: 12 cases, representing 27.90%.

Table 13: Relationship between having children and family disruptions.

Family Disruption \ Children	Yes		No		Total	
	F	P	F	P	F	P
With children	21	70%	4	30%	25	50%
Without children	1	3,33%	4	13,33%	05	50%
Total	22	73,33%	8	26,66%	30	100%

Source: Author, survey data April 2022.

The table above highlights the correlation between having children and family disruptions. Of a total of 25 respondents with children, 21—representing 70%—confirmed experiencing family disruptions due to night work. In contrast, night-shift workers without children seem less affected by this family issue, with only one case reported.

Table 14: Relationship between employees' marital status and the balance between private and professional life.

Conciliation \ Family Situation	Yes		No		Total	
	F	P	F	P	F	P

Single	9	20,93%	4	9,30%	13	30,23%
Married	4	9,30%	20	46,51%	24	55,81%
Divorced	1	2,32%	4	9,30%	5	11,62%
Widowed	1	2,32%	-	-	1	2,32%
Total	19	44,17%	28	65,11%	43	100%

Source: Author, survey data April 2022.

Observation of the data in the table above reveals a general trend of 65.11% of respondents—regardless of their marital status—reporting difficulties in reconciling different aspects of their lives. The marital status that stands out the most is that of the "married" individuals, with a proportion of 46.51%, or 20 out of 24 possible cases. In contrast, the category of single individuals is the least exposed to this difficulty, with 9 cases out of 13 possible.

Table 15: Relationship between socio-professional category and workers' reactions to chronic fatigue.

C.S.P		Supervisory Staff	Operational Staff	Total
The Reaction				
Absence	F	8	1	10
	P	18,60%	2,32%	23,25%
Sick Leave	F	6	5	10
	P	13,95%	11,62%	23,25%
Annual Leave	F	6	7	13
	P	13,95%	16,27%	30,23%
others	F	6	4	10
	P	13,95%	9,30%	23,25%
Total	F	26	17	43
	P	60,46%	39,53%	100%

Source: Author, survey data April 2022.

The majority of our sample consists of supervisory staff, and their immediate reaction to chronic fatigue is predominantly to resort to repeated absences. In contrast, the operational staff, who are in the minority in our sample, mostly respond by taking annual leave.

Table 16: Relationship between marital status and workers' reactions to chronic fatigue.

Marital Status						Total
		Single	Married	Divorced	Widowed	
The reaction						
My wife takes care of it	F	-	3	-	-	3
	P	-	10%		-	10%
A family member takes care of it	F	-	4	-	-	4
	P	-	13,33%	-	-	13,33%
I take care of it myself	F	-	4	1	-	5
	P	-	13,33%	3,33%	-	16,66%
Neglect	F	-	11	3	1	15
	P		36,66%	10	3,33%	50%
Total	F	-	24	5	1	30
	P	-	80%	16,66%	3,33%	100%

Source: Author, survey data April 2022.

A significant finding from the table above is that the married category is the most exposed to the phenomenon of chronic fatigue, with a high proportion of 80% exhibiting immediate reactions such as neglect, with 11 cases out of 24 possible.

#### IV. Analysis of Results

##### 1. Analysis of the results of the first hypothesis: "Night work destabilizes and disrupts the family, social, and professional life of employees."

The reconciliation between the three spheres of life (family, social, and professional) is problematic, as the majority of the surveyed employees (52.78%) confirmed this trend (see

the results in Table 14). Night work affects regular childcare at home, as more than 84% of surveyed employees stated that they cannot take on this responsibility themselves (refer to the data in Table 16). The data collected in Table 12 suggests that family disruptions tend to decrease as employees gain professional experience. The vast majority of surveyed employees (79.06%) suffer from sleep disturbances (see Table 10), leading us to propose that night work plays a crucial role in the onset of sleep disorders, which can negatively affect employees' lives. The presence of children causes disruptions for night workers, as noted by 60% of our sample of married employees with children (refer to the results in Table 13).

In summary, the data collected in Tables 10, 12, 14, and 16 tend to confirm our first hypothesis.

**2. Analysis of the results of the second hypothesis: "Night work can lead to burnout (professional exhaustion), which can subsequently result in forms of absenteeism at work."**

Tables 8, 10, 11, 15, and 16

Regarding the distribution of respondents by exposure to stress: 33 employees confirmed being confronted with stress, which represents 76.74% of the surveyed population.

Concerning the relationship between professional seniority and sleep disturbances, we found that 34 employees out of a total of 43, or 79.06%, acknowledged suffering from sleep disturbances, with an overwhelming majority in the categories of [5 years - 10 years] and [10 years and more] with 10 and 15 responses, respectively.

On the question regarding the relationship between employees' ages and workplace accidents, we observed a strong correlation between the age of the surveyed workers and workplace accidents, with over 93% confirmed, or 40 cases out of 43 possible, and this trend increases with age (see data from Table 11).

Regarding the relationship between socio-professional category (CSP) and workers' reactions to intense fatigue, we found that the reactions of our two categories vary. Supervisors most often resort to repeated absences, while execution agents prefer annual leave (see data from Table 15).

Finally, concerning the relationship between marital status and workers' reactions to chronic fatigue, the issue proved to be very concerning, especially for the "married" category, with a noted rate of 80% (see data from Table 16).

By extension, based on the data from Tables 8, 10, 11, 15, and 16, our second hypothesis is also confirmed by observable facts in the field.

## **V. Conclusion**

The importance of the issue of night work and its repercussions on the employee's private, social, and professional life is significant. It impacts not only the competitiveness of the company and employee productivity but also their physical and mental health. The main conclusion of this work is that working during the night exposes employees to imbalances between the three spheres of life (private, social, and professional), and that lack of sleep can lead to a deterioration in the health of night workers and forms of absenteeism. Night work imposes several health challenges on workers, which can manifest as intense fatigue, lack of sleep, stress, and absenteeism. These consequences can also exacerbate and effectively cause imbalances and difficulties in reconciling the familial, social, and professional aspects of an employee's life.

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