

Analysis of employee green behavior in industrial organizations from the perspective of personal and professional characteristics.**- An applied study on a sample of industrial organizations in the state of Jijel -**

تحليل السلوك الأخضر للموظف في المنظمات الصناعية من منظور الخصائص الشخصية والوظيفية
- دراسة تطبيقية على عينة من المنظمات الصناعية بولاية جيجل -

Dr. Sihem Alliout¹¹Mohamed Seddik Ben yahia university -JIJEL (Algeria), salliou@univ-jijel.dz**Received:** 28/07/2023**Accepted:** 23/09/2023**Published:** 30/09/2023**Abstract:**

This study aimed to investigate the level of employee perception of green behavior among the sample, and to reveal whether there were differences in the perception level attributed to the personal and professional characteristics (gender, age, educational level, type of job, experience) of the sample members. To achieve this goal, data was collected from a sample of 158 individuals from the employees of four industrial organizations in the state of Jijel, using the questionnaire as a tool of study.

The study concluded that there is a high level of employee perception of (GB) in the organization included in the study, especially in its compulsory aspect. The study also revealed that there are differences in the employee perception level of (GB) due to the educational level and experience. While there are no differences due to gender, age and type of job.

Keywords: employee green behavior, pro-environmental behavior, workplace, environmental sustainability, industrial organizations.

JEL Classification Codes: M120, M140, J240

ملخص:

هدفت هذه الدراسة إلى الكشف عن مستوى إدراك السلوك الأخضر لدى عينة من موظفي المؤسسات الصناعية بولاية جيجل، ومدى وجود فروقات تعزى إلى المتغيرات الشخصية والوظيفية لأفراد العينة (مثلة في: الجنس، السن، المؤهل العلمي، المسمى الوظيفي وسنوات العمل). ولتحقيق هذا الهدف تم جمع البيانات من عينة مكونة من 158 فردا من موظفي أربع مؤسسات صناعية بولاية جيجل، وذلك باستخدام الاستبيان كأداة للدراسة. توصلت الدراسة الحالية إلى أن إدراك السلوك الأخضر بالمؤسسات محل الدراسة مرتفع، خاصة في شقه الإلزامي. كما كشفت الدراسة عن وجود فروقات في مستوى إدراك السلوك الأخضر لدى عينة الدراسة تُعزى إلى متغيري المستوى التعليمي والخبرة. في حين أنه لا توجد فروقات تُعزى للجنس، السن والمسمى الوظيفي.

كلمات مفتاحية: السلوك الأخضر للموظف، السلوك المؤيد للبيئة، مكان العمل، الاستدامة البيئية، المنظمات الصناعية.

تصنيفات JEL : M120, M140, J240

INTRODUCTION:

Recent years have witnessed a great interest in researching ways of sustaining business organizations as a prerequisite for achieving sustainable development, especially in its environmental aspect. It is not hidden from one of the environmental effects resulting from the activities of business organizations in general and industrial ones in particular, as the natural environment is often the first source of its inputs and the last recipient of its outputs and wastes, and therefore its impact on the environment is double through the depletion of resources on the one hand and pollution on the other hand.

Based on the fact that the success of work to establish any direction in the organization requires in the first place the support and endorsement of its human resources for this direction. So, establishing the principles of environmentally sustainable work and green and pro-environmental behaviors in the organization stems from the behavior of its employees towards the environment, which is known as the **employee green behavior** which is currently receiving intense attention, especially with regard to the factors influencing it, i.e. researching the factors that may drive the employee to participate in sustainable work initiatives in his workplace. In this context, many studies revealed conflicting results about the impact of various factors in the organization on the level of employee green behavior, whether organizational factors such as leadership styles, the prevailing organizational climate...etc, or personal and professional factors related to the employee himself.

Accordingly, this study came to investigate whether the personal and professional differences among employees in a sample of industrial organizations in the state of Jijel play a role as a determinant of their level of perception of green behavior. Therefore, the **main question** of this study is: Are there differences in the level of perception of green behavior among employees of the industrial organizations under study due to differences in their personal and professional characteristics?

This question stems from the following **sub-questions**:

- What is the level of perception of green behaviors by the sample of employees of the industrial organizations under study?
- Do the personal and professional variables represented in: "sex, age, educational level, job title and experience play a role in the difference in the level of perception of green behavior in the study sample?

Study hypotheses:

Based on this argument, the current study hypothesizes the following:

- The First Hypothesis :
"There is a high level of perception of green behavior among the employees in the Industrial organizations included in the study".
- The Second Hypothesis :
"There is statistically significant difference in the level of employee perception of the green behavior among the study sample due to their personal and professional characteristics.

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From this hypothesis many sub- hypotheses branch:

- There is statistically significant difference in the level of employee perception of green behavior due to his gender.
- There is statistically significant difference in the level of employee perception of green behavior due to his age.
- There is statistically significant difference in the level of employee perception of green behavior due to his educational level.
- There is statistically significant difference in the level of employee perception of green behavior due to his type of job.
- There is statistically significant difference in the level of employee perception of green behavior due to his experience years.

Objectives of the study:

This study aims to:

- Highlighting the theoretical framework of the employee's green behavior as one of the recent research topics being studied in the Algerian business environment;
- Standing on the level of perception of green behavior in the industrial organizations under study in the state of Jijel;
- Analyzing the extent to which there are differences in the level of perception of green behavior of the surveyed employees due to the differences in their personal and professional data (gender, age, educational level, job title and experience);
- Submitting recommendations to the four organizations under study in the light of the findings.

The Significance of the Study:

The importance of this study stems from the importance of the research topic itself, which is the green behavior of the employee, especially in light of the increasing interest in environmentally friendly practices and the trend towards sustainable development and the green economy. As the greening of employee behavior can be a major axis within the organization's strategy to achieve sustainability, therefore it is very important to research the various factors influencing it and responsible for making the difference in its levels. On the other hand, the importance of the study lies in the fact that it is one of the first studies concerned with studying the green behavior of employees in Algerian business organizations.

1- Literature review:

1-1- The theoretical framework of the employee green behavior:

1-1-1- The concept of employee green behavior:

Before addressing the concept of Employee Green Behavior, which stands for EGB, it is objectively worth pointing out that this term intersects with many other terms in its

meaning. Among the most important terms that are used in parallel with it we find: Environmental initiatives, environmental innovations, pro-environmental behaviors, environmentally oriented behaviors, environmentally friendly behaviors, environmental sustainability in the workplace, environmentally responsible behaviors (Boiral, Pascal, & Nicolas, 2015, p. 18). All these terms, including employee green behavior, share a set of practices and procedures issued by the individual aimed at preserving the environment in the workplace.

Ones & al defines employee green behavior as: "scalable actions and behaviors that employees engage in that are linked with and contribute to or detract from environmental sustainability" (Ones, Wiernik, Dilchert, & Klein, 2017, p. 02).

In another definition of Vlek & Steg, the employee's green behavior refers to: "individual activity that minimizes harms to, or benefits the natural environment" (Weerarathna, Jayarathna, & Pintoe, 2017, p. 1097). According to Norton & al employee green behavior means: "employee's behavior (mandated and volunteered) at work to preserve the natural environment by reducing the negativity and/or adding positivity to the ecosystem" (Malsha, Arulrajah, & Senthilnathan, 2020, p. 95)

Through the previous definitions, the following points can be concluded about the nature of the green behavior of the employee:

- The concept of employee green behavior revolves around environmental performance at the level of individuals, not at the level of the group (work team) or organization. But the employee green behavior can be relied upon as a guide or driver of the environmental behavior of the group or organization to which he belongs.
- The employee green behavior is linked to worker's place of work, and does not include the environmental behaviors practiced by the individual outside the scope of his workplace.
- Individual behaviors affect environmental performance (thus environmental sustainability) through two mechanisms: either by promoting positive behaviors that increase sustainability, or by discouraging negative behaviors that reduce sustainability.
- Individualism in the previous definitions indicates that the employee's behavior is evaluated within the scope of his individual control (that is, behaviors that the employee can change by himself), as it is not permissible to characterize the behavior of the individual as not taking into account environmental sustainability as a result of reasons beyond his control.
- Employee green behavior may be voluntary, i.e. carried out by the individual at his own will, and may be mandatory within the organization's work system.

1-1-2- Employee green behavior forms:

There are two forms of employee green behavior: (Ercantan & Eyupoglu, 2022, p. 3)

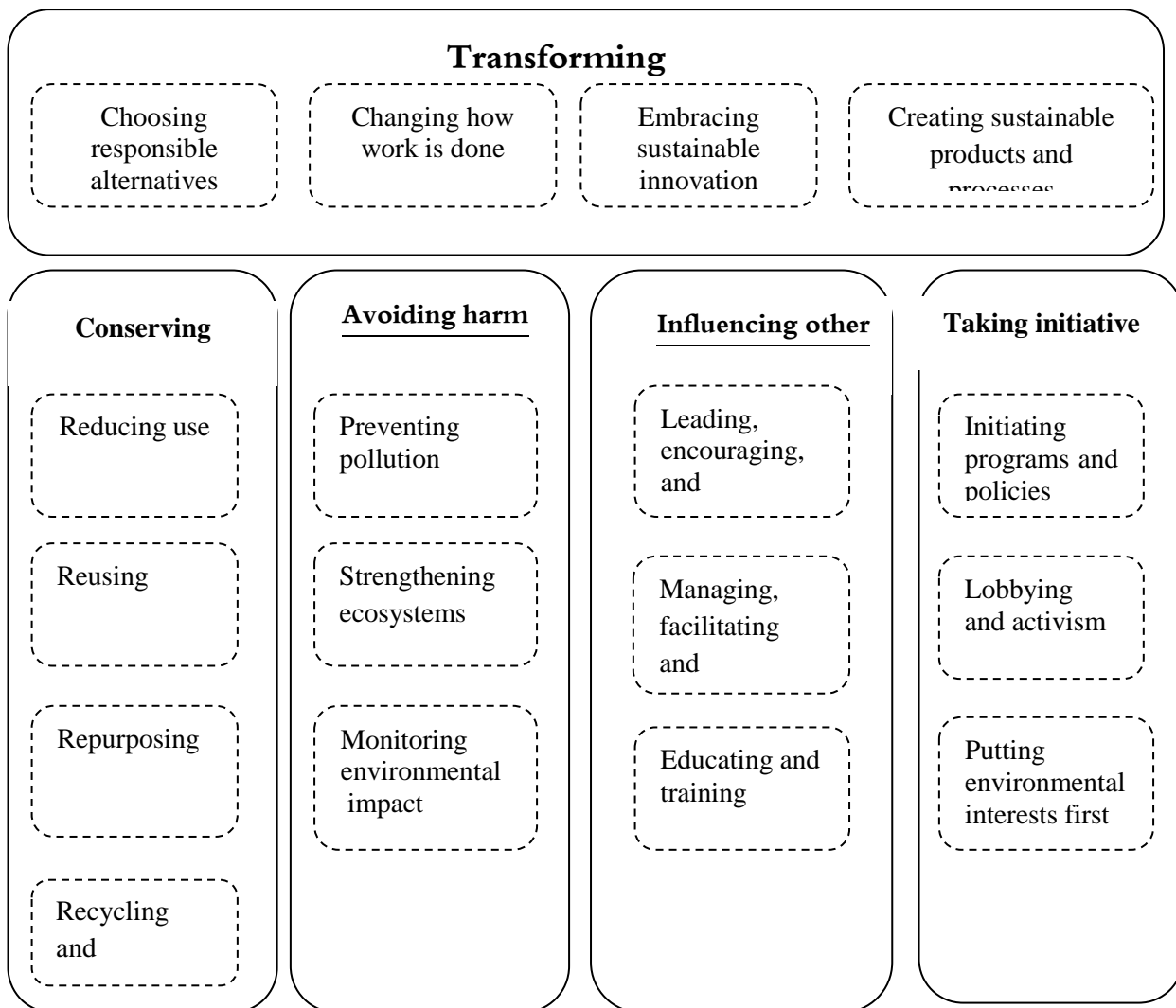
- **Task-related green behavior (task-related EGB):** is defined as the green behavior conducted under organizational limitations and within the scope of required job duties. It is the behavior that is formally outlined and included in the job description.

- **Voluntary employee green behavior (voluntary EGB):** refer to green behavior that involves personal effort and exceeds organizational. Means that the Voluntary behavior is not stated in standard job descriptions, but it contributes to the organization's long-term viability by combining individual employees' efforts.

1-1-3- Employee green behavior dimensions:

Figure (1) is shows the Green Five taxonomy presented by (Ones, Wiernik, Dilchert, & Klein, 2017) Where the employee's green behavior is classified into 17 behavioral categories that have been classified according to their homogeneity into five basic groups, which form the dimensions of green behavior.

Fig (1): Meta-categories and subcategories of employee green behaviors in the Green Five taxonomy



Source: (Ones, Wiernik, Dilchert, & Klein, 2017, p. 19)

An explanation of each of these dimensions will be given below:

- **Transforming (or: working on sustainability):** All behaviors through which employees change and adapt their behavior to promote sustainability fall under this group. That is mean, the goal of this category of behaviors is to change or adapt to make work procedures, products, and processes more sustainable.

It should be noted that this set of behaviors can be considered the basis of green behavior of the employee, as greening the behavior of the employee, the teams or the organization requires changing the behavior of the individual and adapting to the new ways of working.

- **Conserving:** This category includes behaviors that aim to avoid waste and thus conserve resources. That is, this behavioral dimension is related to the economy in the available resources. An example of these behaviors: Turning off lights when not needed, discarding surplus material that could have been used elsewhere, Recycling bottles and paper...
- **Avoiding harm:** This category includes all behaviors that aim to avoid and discourage behaviors that have a negative impact on the environment, in other words, to reduce and mitigate environmental damage. As an example of these behaviors: Treating waste properly;
- **Influencing others:** This category refers to the behaviors that an employee engages in to influence the green behavior of others, i.e. it involves convincing others of the importance of behaving in an environmentally friendly manner and acquiring the knowledge and skills required to adopt green practices. Influencing others can be through: encouraging and supporting others, learning and training for sustainability.
- **Taking initiative:** This category involves initiating new behaviors for environmental sustainability.

1-2- Previous studies:

1-2-1- study of (Weerarathna, Jayarathna, & Pintoe, 2017)

The main objective of this study was to study the impact of demographic factors (age, gender, marital status, level of education, years of work and sector) on the employee's green behavior. To achieve this goal, the researchers relied on the questionnaire as a tool for collecting data from a sample of 170 employees in the industrial and service sectors in Sri Lanka.

The study concluded that the level of green behavior among female employees was higher than that of male employees, and employees with years of work between 16 and 20 years showed the lowest level of green behavior, while those with years of work from 11 to 15 years showed the highest level of green behavior. The study also showed that there are no significant differences in green behavior due to the variable of family status, and that employees of the industrial sector are more interested in green behavior compared to the service sector.

1-2-2- The study of (George & Jayakumar, 2020)

This study aimed to investigate the extent to which employees' green behavior is affected by their demographic variables (gender, educational qualification, sector, and place of work).

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The questionnaire was used as a data collection tool for a sample of 211 employees in the field of information technology.

The study concluded that there were no significant differences in the green behavior of the sample individuals due to the variable of gender, educational qualification and place of work (urban, semi-urban or rural), while there were significant differences due to the sector variable.

1-2-3- The study of (Weerakoon, Sellar, & Arulrajah, 2021)

This study aimed to determine the level of green behavior of the employee in the hotels chosen as a sample for the study, as well as to find out if there is any difference in the level of green behavior among the employees due to gender, age and education levels. The study relied on the questionnaire as a tool for collecting data from a sample of 200 hotel employees in the Polonnaruwa region in Sri Lanka. The T-test for independent samples, analysis of variance, and some descriptive statistical measures were used in analyzing the collected data and testing hypotheses.

The study concluded that there is a high level of green behavior among the study sample, in addition to that there are no statistically significant differences between employees in the level of green behavior due to the variables of gender and age, while there is a difference due to education levels.

The researcher benefited from previous studies in selecting the demographic variables for the study, as the researcher limited the study to the following variables: gender, age, educational level, job title, and years of seniority, and excluded the activity sector on the grounds that the selected companies are all industrial. The researcher also benefited from the previous studies in developing the hypotheses of the study, and in trying to explain the results reached.

2- methodology of the study:

2-1- sample of the study:

The statistical population of the current study is represented by all employees in four industrial organizations in the state of Jijel, namely: the power plant, the African Glass Company, the Katmia Cork Corporation, and the Jijel tannery. The questionnaire was distributed to a sample of 200 employees in the four organizations; the results of retrieving and sorting the questionnaires were as follows:

Table (1): sample of the study

The organization	distributed questionnaires	Retrieved questionnaires	Invalid questionnaires	Valid questionnaires
the power plant	100	80	03	77
the African Glass Company	35	29	08	21
the Katmia Cork Corporation	25	23	03	20
Jijel tannery	40	40	00	40
Total	200	172	13	158

Source: prepared by us.

After excluding the invalid questionnaires for analysis, 158 valid questionnaires were obtained, which represent the sample of this study. This size is acceptable for conducting this type of studies, according to (sekaran & bougie, 2003, p. 295) as they consider that:

- Sample sizes larger than 30 and less than 500 are appropriate most research.
- Where samples are to be broken into subsamples, a minimum sample size of 30 for each category is necessary.
- In multivariate research (including multiple regression analyses), the sample size should be several times (preferably 10 times or more) as large as the number of variables in the study.
- For simple experimental research with tight experimental controls, successful research is possible with samples as small as 10 to 20 in size.

2-2- Measurement and data collection:

To measure the employee green behavior, the green five-point classification will be relied upon, through 16 items distributed over five dimensions: transforming, conserving, avoiding harm, influencing others and taking initiating. As for the personal and professional variables, they were expressed through: age, sex, educational qualification, job title and number of years of work. The following table shows the structure of the study tool:

Table (2): Components of the study tool

	Dimensions	Options/number of items
personal and professional variables	Sex	Male
		Female
	Age	Less than 30years/ [30 ;40[/ [40 ;50 [/ more than 50years
	educational qualification	Primary / Intermediate / Secondary / University
	job title	Administrative / Technical
	Experience	Less than 5years/[5,10 [/[11,15[more than15 15years
Employee green behavior	Transforming	04
	Conserving	03
	Avoiding harm	04
	Influencing others	02
	Taking initiating	03

Source: prepared by us.

The respondent's response to all items of the employee green behavior scale was measured using a five-point Likert scale ranging from 1 = strongly disagree, to 5 = strongly agree.

2-3- Reliability of Variables

The following table shows the results of the reliabilities test of the study instrument using the Cronbach Alpha coefficient test:

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Table (3): Cronbach Alpha coefficient

the variables		Number of items	Cronbach Alpha
Sub-variables	Transforming	04	0.91
	Conserving	03	0.820
	Avoiding harm	04	0.848
	Influencing others	02	0.785
	Taking initiating	03	0.870
Employee green behavior (EGB)		16	0.941

Source: SPSS outputs.

From the table, we notice that the values of the Cronbach alpha coefficient for all variables were greater than 0.7. This means that the questionnaire has a high degree of reliability.

3- Results and hypotheses testing:

3-1- The results of the demographic characteristics of the sample:

The descriptive analysis of the personal and professional data of the study sample showed the following results:

Table (4): demographic characteristics of the sample

Variables	Options	Number	percentage
Sex	Male	133	84.2
	Feminine	25	15.8
	Total	158	100
Age	Less than 30years	8	5.1
	[30 ;40[61	38.6
	[40 ;50 [58	36.7
	more than 50years	31	19.6
	total	158	100
educational level	Primary	33	20.9
	Intermediate	21	13.3
	Secondary	66	41.8
	University	38	24.1
	Total	158	100
job title	Administrative	40	25.3
	Technical	118	74.7
	Total	158	100
Experience	Less than 5years	17	10.8
	[5,10[61	38.6
	[11,15[32	20.3
	More than 15 years	48	30.4
	Total	158	100

Source: SPSS outputs.

From the table (4) it is clear that:

- Most of the study sample are males, of a young age group and have a secondary level of education. This can be explained by the nature of the activity of the four organizations (electricity production, glass, leather and cork), which are more suitable for the male gender and need the strength and energy of youth and do not need higher educational qualifications in doing most job activities.
- Most of the respondents practice technical activities and functions, this also can be explained by the nature of the activity in the organizations under study, in which most of the activities are characterized by being of a technical nature rather than an administrative one.
- The largest percentage of respondents has experience from 5 to 10 years, followed by the category of more than 15 years. This means that there is relative stability in the composition of the workforce in the organizations under study.

3-2- The results of the descriptive analysis of the EGB for the sample:

The following table shows the results of the descriptive analysis (the mean and the standard deviation) of the employee's green behavior in the study sample:

Table (5): descriptive analysis of the EGB

	N	Moyenne	Ecart type
Transforming	158	3,5997	,88329
avoiding_harm	158	3,8291	,79341
Conserving	158	3,5475	,83378
influencing_others	158	3,4430	,91689
taking_intiative	158	3,3819	,87735
GEB	158	3,5692	,73165
N valide (liste)	158		

Source: SPSS outputs.

Through the results of the table above, it is clear that the level of perception of green behaviors among the study sample was high, this is indicated by the value of the arithmetic mean (3.5692), which falls within the field corresponding to a high degree of approval. We also note that there is consistency and homogeneity in the answers of the sample members, and this is reflected in the value of the standard deviation (0.73165).) which came less than one (1).

In more detail, we note that the sub-group of behaviors associated with the dimension of avoiding harm is the most perceived and practiced by the study sample, followed by transforming (work behaviors in a sustainable manner) and thirdly the preservation of resources, while the behaviors associated with taking the initiative came in the last rank.

3-3- Hypotheses testing results:

3-3-1- first mean hypothesis: "There is a high level of perception of green behavior among the employees in the Industrial organizations included in the study".

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$\{H_0$: There is no high level of EGB among the employees in the Industrial organizations included in the study
 $\{H_1$: There is a high level of EGB among the employees in the Industrial organizations included in the study

Before testing the hypothesis, a normal distribution test must first be conducted to choose the appropriate test to test the hypothesis.

Table (6) : Tests of normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistiques	Ddl	Sig.	Statistiques	ddl	Sig.
Transforming	,194	158	,000	,931	158	,000
avoiding_harm	,294	158	,000	,865	158	,000
Conserving	,124	158	,000	,954	158	,000
influencing_others	,216	158	,000	,918	158	,000
taking_intiative	,165	158	,000	,950	158	,000
EGB	,115	158	,000	,939	158	,000

a. Correction de signification de Lilliefors

Source: SPSS outputs.

Since the data do not follow a normal distribution (because sig < 0.05), the appropriate test to test the first hypothesis is the Wilcoxon test. The test showed the following results:

Table (7): Wilcoxon test

Wilcoxon test	Z value	Sig	Decision
	7.461	0.0000	Refuse H_0

Source: prepared by us based on SPSS outputs.

We note that the significance level is (0.000), which is less than the level adopted in the study (0.05). This means that the null hypothesis is rejected and the alternative hypothesis is accepted, meaning that the level of perception of green behavior among the study sample employees differs from the median. As it is higher than the median.

3-3-2- second mean hypothesis: "There is statistically significant difference in the level of employee perception of green behavior among the study sample due to their personal and professional characteristics."

- gender:**

$\{H_0$: There is no statistically significant difference in the level of employee perception of GB due to his gender.
 $\{H_1$: There is statistically significant difference in the level of employee perception of GB due to his gender.

We must first identify the distribution of data related to the gender variable, meaning whether it follows a normal distribution or not. The results were as follows:

Table (8): Tests of normality (gender)

	gender	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistiques	ddl	Sig.	Statistiques	ddl	Sig.
EG B	Male	,134	133	,000	,927	133	,000
	female	,117	25	,200*	,946	25	,206
*. Il s'agit de la borne inférieure de la vraie signification.							
a. Correction de signification de Lilliefors							

Source: SPSS outputs.

We note that the size of the male group is 133, which is greater than 50, so we use the results of the Kolmogorov-Smirnov test, where the significance level for this test was 0.000, which is less than 0.05, and this means that the data of the male group does not follow the normal distribution. On the other hand, we depend on the results of the Shapiro-Wilk test for the female group, because its size is 25, which is less than 50. The significance level for this test was 0.206, which is greater than 0.05. Therefore, the data of the female group follows a normal distribution.

Based on the results of the normal distribution test, which showed that the data of the male group does not follow the normal distribution, the hypothesis will be tested using the Mann-Whitney test. The results are as follows:

Table (9): Mann-Whitney test (gender)

	GEB
U de Mann-Whitney	1577,000
W de Wilcoxon	1902,000
Z	-,408
Sig. asymptotique (bilatérale)	,683

a. Variable de regroupement : sex

Source: SPSS outputs

Through the results of the Mann-Whitney test, we note that the level of significance is 0.683, which is greater than 0.05. This means that the null hypothesis is accepted, meaning that there is statistically significant difference in the level of employee green behavior the attributable to the gender of the respondents.

- **Age:**

H_0 : There is not statistically significant difference in the level of employee perception of GB due to his age.
 H_1 : There is statistically significant difference in the level of employee perception of GB due to his age.

The following table shows the results of the normal distribution test of the data according to the age variable:

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Table (10): Tests of normality (age)

	Age	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistiques	Ddl	Sig.	Statistiques	ddl	Sig.
EGB	lessthan 30 years	,155	8	,200*	,969	8	,889
	from 30 to lessthan 40	,092	61	,200*	,969	61	,129
	from 40 to lessthan 50	,138	58	,008	,929	58	,002
	more than 40	,194	31	,004	,869	31	,001

*. Il s'agit de la borne inférieure de la vraie signification.

a. Correction de signification de Lilliefors

Source: SPSS outputs

It is clear from the table that the data of the age groups (more than 30 years) and (from 30 to less than 40 years) follow a normal distribution, while the age groups (40 to less than 50 years) and (over 50 years) do not follow a normal distribution.

Since the normal distribution test showed that the data of the age variable does not follow the normal distribution for the third and fourth categories, the Kruskal-Wallis test will be relied upon to test the hypothesis. The results were as follows:

Table (11): Kruskal-Wallis test (age)

	EGB
H de Kruskal-Wallis	2,523
Ddl	3
Sig. Asymptotique	,471

a. Test de Kruskal Wallis

b. Variable de regroupement : age

Source: SPSS outputs

From the table, we notice that the value of the significance level is 0.471, which is greater than 0.05. Accordingly, we accept the null hypothesis, that is, there is no statistically significant difference at a significant level of 0.05 in the level of employee perception of green behavior due to his age.

- **Educational level:**

$\{H_0$: There are no statistically significant differences in the level of employee perception of GB due to his educational level.

$\{H_1$: There are statistically significant differences in the level of employee perception of GB due to his educational level.

We first determine the distribution of data according to the job title variable. The results were as follows:

Table (12): Tests of normality (Educational level)

	educational_level	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistiques	Ddl	Sig.	Statistiques	ddl	Sig.
EGB	Primary	,260	33	,000	,856	33	,000
	Intermediate	,121	21	,200*	,949	21	,320
	Secondary	,070	66	,200*	,987	66	,735
	University	,108	38	,200*	,980	38	,713

*. Il s'agit de la borne inférieure de la vraie signification.

a. Correction de signification de Lilliefors

Source: SPSS outputs

According to the above table, the data of the educational categories (intermediate), (secondary), and (university) follow a normal distribution, while the category (primary education) does not follow a normal distribution. So the hypothesis will be tested using the Kruskal-Wallis test. The results are as follows:

Table (13): Kruskal-Wallis test (educational level)

EGB	
H de Kruskal-Wallis	10,889
Ddl	3
Sig. Asymptotique	,012

a. Test de Kruskal Wallis

b. Variable de regroupement : educational_level

Source: SPSS outputs

From the table, the value of the significance level is 0.012, which is greater than 0.05. Accordingly, we refuse the null hypothesis, that is, there is no statistically significant difference at a significant level of 0.05 in the employee perception level of green behavior due to the educational level.

• Type of job:

H_0 : There are no statistically significant differences in the level of employee perception of GB due to his type of job.
 H_1 : There are statistically significant differences in the level of employee perception of GB due to his type of job .

The following table shows the results of the normal distribution test for the data according to the Type of job:

Table (14): Tests of normality (Type of job)

Tests de normalité							
	type_of_job	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistiques	ddl	Sig.	Statistiques	ddl	Sig.
EGB	administrative	,088	40	,200*	,963	40	,215
	Technical	,126	118	,000	,923	118	,000

*. Il s'agit de la borne inférieure de la vraie signification.

a. Correction de signification de Lilliefors

Source: SPSS outputs

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Through the table, it can be said that the data of the administrators follow the normal distribution, while the data of the technicians do not follow the normal distribution, and therefore the hypothesis will be tested using the Mann-Whitney test. The results are as follows:

Table (15): Mann-Whitney test (Type of job)

EGB	
U de Mann-Whitney	2046,000
W de Wilcoxon	9067,000
Z	-1,257
Sig. asymptotique (bilatérale)	,209

a. Variable de regroupement : type_of_job

Source: SPSS outputs

To determine whether the differences in the means are significant, we rely on the significance level of the z value, which is equal to 0.209, which is greater than 0.05. This means accepting the null hypothesis, that is, there is no statistically significant difference in the level of employee perception of green behavior due to the type of job.

- Experience:**

$\{H_0$: There are not statistically significant differences in the level of employee perception of GB due to his experience.
 $\{H_1$: There are statistically significant differences in the level of employee perception of GB due to his experience.

The following table shows the results of the normal distribution test of the data according to the variable of experience:

Table (16): Tests of normality (experince)

	Experience	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistiques	ddl	Sig.	Statistiques	ddl	Sig.
EGB	les than 5 years	0.276	17	0.001	0.820	17	0.004
	from 5 to less than 10 years	0.124	61	0.021	0.964	61	0.067
	from 11 to 15 years	0.142	32	0.098	0.904	32	0.008
	more than 15 years	0.080	48	0.200	0.972	48	0.294

*. Il s'agit de la borne inférieure de la vraie signification.

a. Correction de signification de Lilliefors

Source: SPSS outputs

Through the results of the (Kolmogorov-Smirnov) test, we note that the second group with experience [05-10] follows a normal distribution, and in contrast the results of the (Shapiro-Wilk) test show that the data of the first two groups (less than 05 years) and the third

[11-15] also follow the normal distribution because the significance levels are less than 0.05, while the data of the fourth group (more than 15 years) do not follow the normal distribution.

Accordingly, the hypothesis will be tested using the Kruskal-Wallis test. the results obtained are shown in the following table:

Table (17): Kruskal-Wallis test (experience)

EGB	
H de Kruskal-Wallis	8,267
Ddl	3
Sig. asymptotique	,041

a. Test de Kruskal Wallis

b. Variable de regroupement : experience

Source: SPSS outputs

The test results showed that the significance level is 0.041, which is less than 0.05. This means rejecting the null hypothesis and accepting the alternative hypothesis, that is, there is statistically significant difference in the level of employee green behavior attributed to experience.

Discussion:

- The perception level of green behavior among the employees of the study sample was high. The behaviors associated with avoiding harm topped the order, followed by the behaviors of working sustainably and conserving resources, while the behaviors associated with influencing others and taking the initiative were the least practiced. This is a clear indication that the respondents practice green behavior in the compulsory part more than the voluntary.
- There is statistically significant difference in the perception level of green behavior among the respondents, due to their educational level. This result is supported by the study of (Weerakoon, Sellar, & Arulrajah, 2021) and (George & Jayakumar, 2020), But it contradicts the findings of the study of (Weerarathna, Jayarathna, & Pinto, 2017).

The analysis showed that the source of the difference is the primary education category. This result can be explained by the fact that if the educational level increases, the chances of receiving information that support environmental knowledge increase with it, whether through academic curricula, environmental awareness campaigns organized by the university or educational institutions at various levels within the framework of what is known as environmental education.

- There is statistically significant difference in the employee perception level of green behavior in the study sample due to the experience. This result is consistent with the findings of the study (Weerarathna, Jayarathna, & Pinto, 2017). The source of these differences is the category of less than five years of work, which has the lowest level of green behavior.

This can be explained by the fact that this category is relatively new to working in the companies under study and therefore does not attach importance to environmental

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considerations as much as it focuses on proving its worth before officials. On the other hand, this category is in a state of anticipation to know the merits of work and its procedures, and therefore it rarely tries to influence others or initiate a certain behavior.

- There is no difference in the perception level of green behavior among the study sample due to the type of job, meaning that each of the category of administrators and technicians do not show significant difference in the level of green behavior, this can be explained by the result previously reached in that the strongest side of the employee green behavior in the sample studied is the obligatory (compulsory) aspect, whereby everyone adheres to certain behaviors in the context of performing their jobs, regardless of their job titles.
- There are no statistically significant differences in the perception level of green behavior among the study sample due to their gender or age. This result is consistent with the findings of the study (George & Jayakumar, 2020) and the study of (Weerakoon, Sellar, & Arulrajah, 2021).

Conclusion:

Through this study, in which we tried to stand on the perception level of green behavior among a sample of employees of industrial organizations in the state of Jijel, and to discover the extent to which there are differences in it due to the personal and professional Characteristics of the study sample represented by gender, age, educational level, type of job and experience. The study concluded that there is a high perception level of green behaviors among the study sample, noting that the practices that fall within the compulsory side were the most available compared to the behaviors of a voluntary nature. The study also concluded that there are significant differences in the perception level of green behavior of employees due to their educational levels and experience years, while no statistically significant differences were recorded due to the gender, age and job title of the respondents.

In light of these results of the current study, the following **recommendations** can be made to the organizations under study to support green behaviors among their employees:

- Encouraging senior management to initiate and provide suggestions by employees regarding practices that improve behavior towards the environment, and to encourage the exchange of environmental knowledge and opinions among employees in order to strengthen the voluntary aspect of employees' green behavior;
- Paying attention to the development of environmental awareness for employees, especially those with a low level of education;
- Ensure that environmental aspects are included in the training courses for new employees;
- Most importantly, the senior management's realization of the importance of greening the behavior of its employees as a fundamental axis within its general strategy to achieve environmental sustainability.

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