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### **Dedication**

It is our pleasure and great privilege to present the sixtieth issue of the Academic Journal of Research and Scientific Publishing to all researchers and doctors who published their research in the issue, and we thank and appreciate to all contributors and supporters of the academic journal and those involved in the production of this scientific knowledge edifice.

Academic Journal of Research and Scientific Publishing

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## **The Powerful Influence of Appreciation and Work Environment on Retention in Saudi Arabia's Manufacturing Sector**

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### **Abstract**

This study aimed to analyze the impact of appreciation and work environment on the employees' turnover in the Saudi Manufacturing Sector. The combination of unfavorable work environments and restrictive leadership styles creates significant challenge to talent retention in this sector. Addressing these challenges is crucial to attract and retain skilled individuals. In particular, the researcher observed the impact of manager appreciation and work environment on employees' performance and how it relates to the employee's retention. In this context, quantitative and qualitative analysis approaches were used to address the research objectives. Accordingly, 578 employees from this sector had participated in the survey questionnaires. Moreover, 30 employees working in panel boards manufacturing factory were purposely selected to participate in face-to-face interviews for the qualitative part. Findings from the quantitative analysis were verified using qualitative analysis. Results showed that the majority of the participants believed that appreciation and quality of the work environment are significantly impacted their decision to stay or leave the company. The research recommends providing competitive compensation packages, and the organization should invest in employees development, especially in leadership development programs and training which can improve managers and supervisors' emotional skills, and Encouraging the creation of a healthy and productive work environment.

**Keywords:** Leadership styles, Appreciation, Talent's Retention, Turnover, Work Environment

## 1. Introduction

Modern organizations face challenges associated with talent retention. Various factors are influencing talent retention, like compensation, work-life balance, career development opportunities, organizational culture, leadership styles, employee engagement, and employer branding. By understanding and addressing these factors, organizations can develop effective retention strategies to attract, motivate, and retain skilled professionals. Hence, modern organizations require competitive infrastructure that support employee's diversity, strategies, and objectives. Therefore, firm's management in Saudi manufacturing sectors need to evaluate employees' satisfaction factors that reduce their turnover and explore additional dimensions for talent retention.

### 1.1. Problem Statement

The manufacturing sector in Saudi Arabia is facing significant challenges in talent retention, principally due to issues related to organizational efficiency. These challenges impede the sector's ability to attract and retain skilled individuals and impacting companies' growth and competitiveness. Challenges like the quality of work environment and the management appreciation impacts on talent retention are evaluated in this study.

### 1.2. Research Objectives

The main objective of this study is to analyze the effect of management appreciation and work environment on the talented staff retention in Saudi manufacturing sector.

### 1.3. Research Questions

Based on the above problem statement, the following questions were raised:

- 1) How is management appreciation related to the employees' retention in Saudi manufacturing sector?
- 2) Dose the quality of work environment significantly impacts the employees' retention in Saudi manufacturing sector?

## 2. Literature Review

Interestingly, previous studies had illustrated critical factors that impact employees' retention. Organizations' human resources management developed programs that retain the talented employees and reduce the impact of staff turnover on operations. For instance, individuals focus on joining different associations that are high in reputation with more job securities.

Working in such firms increase the employees' satisfaction (Miron-Spektor and Beenen 2015). Correspondingly, talent retention has become a critical concern for organizations worldwide.

Saudi Arabia 2030 vision demands a rapid development to attain the stated ambitious economic goals. That made attracting and retaining skilled professionals vital for sustained growth and competitiveness. Accordingly, the impact of leadership styles on talent retention in Saudi Arabia was investigated by Arabia Al-Sabbagh and Al-Kandari (2018). Their study highlights the significance of transformational leadership, supportive leadership, and empowering leadership in fostering employee commitment and reducing turnover intentions (Al-Sabbagh and Al-Kandari 2018). Moreover, the influence of organizational culture on talent retention in Saudi Arabian organizations found significantly related to employee's retention. Adopting a positive and inclusive culture that aligns with employees' values, beliefs, and aspirations is important factor that reduce employees turnover (Al-Zu'bi and Al-Badi 2019). Furthermore, comparative study by Al-Khatib and Al-Mudimigh (2019) investigates talent retention strategies in Saudi Arabian organizations. They found that training and development programs, rewards, flexible work arrangements, and mentorship programs are effective approaches to retain staff (Al-Khatib and Al-Mudimigh 2019).

Additionally, the factors affecting talent retention in Saudi organizations were evaluated by Al-Dulaimi and Al-Badi (2020) who identified key elements in their study such as compensation, work-life balance, career development opportunities, and organizational culture as crucial in fostering employee loyalty and reducing turnover (Al-Dulaimi and Al-Badi 2020). Moreover, Alshammari and Alrogi (2020) study explored the role of employer branding in talent retention in Saudi Arabia. Their research highlights the importance of developing a strong employer brand that reflects the organization's values, reputation, and opportunities to attract and retain talented professionals (Alshammari and Alrogi 2020). While employee's engagement impact on talent retention in the Saudi Banking Setor was explored by Almadiy and Al Harbi (2021). They pointed out that encouraging engaged employees through effective communication, recognition programs, and career development opportunities is significantly related to retain top talent (Almadiy and Al Harbi 2021).

## **2.1. Studies Done in the Area of Research Topic**

### **2.1.1. Leadership Style**

Leadership style was explained by previous researchers as the approach of providing direction, implementing plans, and motivating people. This approach can be categorized as Transformational, Transactional and Passive avoidance leadership styles (Alkassabi et al. 2018).

However, the problem in the development of leadership models occurs with the adoption of effective techniques. There are several strategic models appreciated by the leaders in the last three decades related to organizations that were facing difficulties in developing proper leadership models. Such strategies mainly highlight some of the factors that encourage employees' performance significantly (Al Doghan and Albar 2015). Other effect can be explained by the leader-member exchange theory. The particular theory is about effective leadership that influences employees, managers, their objectives, aims and goals. These factors are directly encouraging the employees to work more progressively for their designed objectives as well as organizational objectives (Miron-Spektor and Beenen 2015).

In addition, the leadership plays a decisive role in determining the challenging goals and supports the individuals to resolve emerging challenges in the most remarkable manner (Landers, Bauer, and Callan 2015). Similarly, the factors like technical leadership and adjusted leadership drive strategic implementation and job objectives execution. Moreover, leadership helps the organization in the development of employees objectives and in tracking their implementation stages (Lam, O'Donnell, and Robertson 2015).

### **2.1.2. Satisfactions**

There are researchers who defined the job's or employees' satisfaction during last century. One of the old definitions was in 1938 by Hoppok & Spielgler. They defined employees' satisfaction as the integrated set of psychological, physiological, and environmental conditions that encourage employees to admit their gratifications and acceptance. That can be explained by employees' happiness about their jobs (Raziq and Maulabakhsh 2015). Hence, the happy staff can deliver the best values among customers (Fulmer and Ployhart 2014).

On the other hand, from management point of view, the job satisfaction is the acceptable quality and quantity of the completed jobs done by the employees. For instance, in Bucharest, employees' dissatisfactions caused by monotonous jobs and pressure from clients caused weakness in the organizational performance. Moreover, dissatisfied employees search for competitors that offer better work conditions and higher incentives (Dobre 2013). However, the negative impact of employees' dissatisfactions should not be generalized on all employees since naturally they have different behavior and attitudes. For example, some employees can be satisfied with monetary rewards, while others might be motivated with better work environment.

Simultaneously, as indicated by Alshahrani Ahmed, Alqahtani Abdulaziz, and Alshahrani Bander (2015), good supervisor and employee partnership can positively influence the satisfaction level



among the employees working in Saudi Electricity Company. However, if managers over used their power to punish low performance employees, that might lead to dissatisfaction sensation (Alshahrani, Alqahtani, and Al-shahrani 2015). Thus, both personal satisfaction and employees' job satisfaction are considered as significant factors that noticeably impact their decision to continue in the company.

### 2.1.3. Work Environment

Work environment was defined by previous researchers as the surrounding conditions in which an employee operates. The work environment can be office physical conditions, equipment, work processes or procedures (Awan and Tahir 2015). In addition, the complex businesses in a dynamic environment require essential strategies to accomplish the identified goals that enhance the growth of the firm. The work environmental change implication is occurred through the variation in legal policies, technology and performance of people. Moreover, customers and companies see themselves in a distinct setting which require satisfactory action accordingly. Change is constant factor to create strategic and significant difference as it assists to keep the competitive advantage in the modified business environment (Islam and Ali, 2017).

Subsequently, Job stress and workplace violence were found higher in Saudi private sector than public sector. While, as stated by Alzalabiani who did his study in Yanbu Industrial City, job satisfaction, job stress and leadership practices can be used as indicators to evaluate work environment in the organization (Alzalabani 2017). Particularly, the effect of leadership style had noticed on the job satisfaction among physiotherapists working in both private and government hospitals in Saudi Arabia (Alkassabi et al. 2018).

## 2.2. Conceptual Model

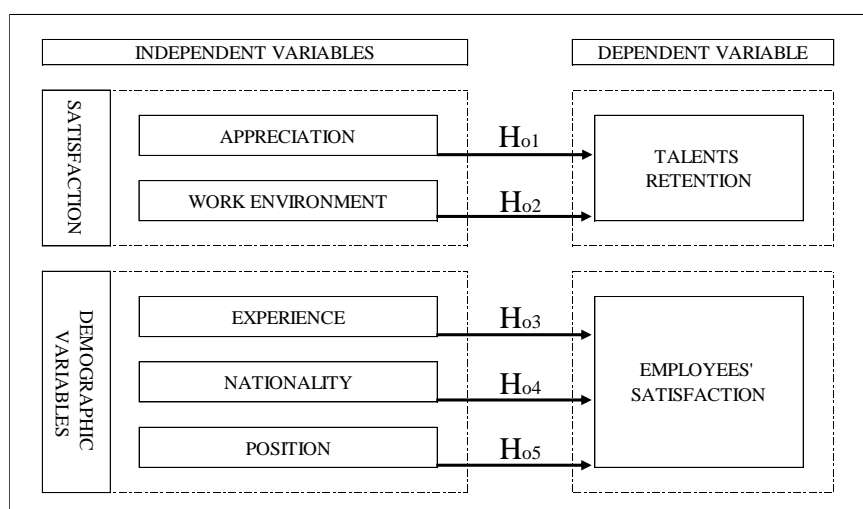


Figure 1: Conceptual diagram

### 2.2.1. Hypothesis Statement

- Hypothesis 1

Null Hypothesis ( $H_{01}$ ): Appreciation is not significantly related to the employees' retention in Saudi Arabian manufacturing sector.

Alternative Hypothesis ( $H_{a1}$ ): Appreciation is significantly related to the employees' retention in Saudi Arabian manufacturing sector.

- Hypothesis 2

Null Hypothesis ( $H_{02}$ ): There is no significant impact of work environment quality on the talents turnover in Saudi Arabian manufacturing sector.

Alternative Hypothesis ( $H_{a2}$ ): There is significant impact of work environment quality on the talents turnover in Saudi Arabian manufacturing sector.

- Hypothesis 3

Null Hypothesis ( $H_{03}$ ): Employees' experience is not significantly moderating the employees' satisfaction in Saudi Arabian manufacturing sector.

Alternative Hypothesis ( $H_{a3}$ ): Employees' experience is significantly moderating the employees' satisfaction in Saudi Arabian manufacturing sector.

- Hypothesis 4

Null Hypothesis ( $H_{04}$ ): There is no significant relationship between employees' nationality and satisfaction in Saudi Arabian manufacturing sector.

Alternative Hypothesis ( $H_{a4}$ ): There is significant relationship between employees' nationality and satisfaction in Saudi Arabian manufacturing sector.

- Hypothesis 5

Null Hypothesis ( $H_{05}$ ): The association between employee's position and satisfaction is not significant in Saudi Arabian manufacturing sector.

Alternative Hypothesis ( $H_{a5}$ ): The association between employee's position and satisfaction is significant in Saudi Arabian manufacturing sector.

### 3. Methodology

In this study, quantitative and qualitative research approaches were used. The researcher independently observed and randomly collected primary data to test the hypotheses statistically using deductive research approach. Accordingly, the quantitative primary data collected using survey questionnaire while the qualitative primary data collected through face-to-face interviews.

Furthermore, quantifiable observations were obtained from the collected data using quantitative Five (5)-point Likert scale questionnaire survey which was statistically analyzed. Precisely, the survey design was cross-sectional. The quantitative survey responses report was extracted from Surveymonky.com at the end of April 2019. While the face-to-face interviews were conducted at the end of May 2019.

### 3.1. Population and sample

**Table 1: Saudi Arabian Manufacturing Sector Labour Force Summary**

GOSI-Table (3-8)	Nationality		
	Saudi	Non-Saudi	Total
Manufacturing			
Male	210,562	851,315	1,061,877
Female	113,778	8,896	122,674
Total	324,340	860,211	1,184,551

*Source: (GOSI 2023)*

According to Saudi General Authority of Statistics (2023), there are 1,184,551 employees working in the manufacturing sector in Saudi Arabia as shown in Table (1). Moreover, this sector consists of diverse types of industries and multinational employees. The industrial establishments in this sector covered different economic activities like manufacturing of food products, manufacturing of clothes, manufacturing of fabricated metal products, transformative industries, etc. (GOSI 2023).

**Table 2: Collected Primary Data Summary**

Total number of responders	Category		Frequency	Percentage
566	Experience	5 years or less	95	16.78%
		6 to 12 years	148	26.15%
		13 to 19 years	156	27.56%
		20 years or more	167	29.51%
574	Nationality	Saudi	476	82.93%
		Non-Saudi	98	17.07%

<b>564</b>	<b>Position</b>	Production and Site Technicians	179	31.74%
		Administrations and Engineering	235	41.67%
		Middle Management	114	20.21%
		Top Management	36	6.38%
<b>Total number of participants</b>			<b>578</b>	<b>100%</b>

*Source: Primary Data*

The population for the quantitative phase is all employees who are working in Saudi Arabian Manufacturing Sector. Since population size is known, by using simple random sampling method, the sample size required for this study was estimated under confidence level of 95% and 5% margin of error as 384 participants as indicated in the sample size table issued by (The Research Advisors Web 2006). As shown in table (2), the total participants in the shared questionnaire were 578 employees.

Additionally, for the qualitative phase, the selected Factory population is 200 employees. Specifically, purposive sampling technique was used to select the required employees for the face-to-face interviews. The researcher selected this sampling method due to the respondents knowledgeable and experience in make to order manufacturing industry. This sampling technique was followed to ensure that all population categories had equal chance to provide their feedback. Moreover, as indicated by Fridlund and Hildingh (2000), one to thirty interviewees were common sample size in qualitative studies (Bengtsson 2016). Thus, 30 employees were selected to participate in this research face-to-face interviews.

The researcher used simple and clear English to design the interview questions. This made it possible for the respondents to provide their feedback comfortably. Furthermore, the researcher clarified the questions to the respondents for easy comprehension. The researcher also controlled the data collection through flexible dialogue and discussion sessions. Specifically, structured interview guide was provided by the researcher to enhance the discussion about the employee's retention.

The following questions were used to evaluate the impact of appreciation and work environment on employee's retention in that factory.

- a) How is your manager appreciation impact your decision to stay or leave the company?

- b) What is the relationship between the quality of work environment and employees' turnover?

### 3.2. Analysis Techniques

For the quantitative part, Data was analyzed statistically using the Microsoft Excel 2016. Precisely, the collected primary data was analyzed using descriptive analysis for demographic variables. Moreover, research questions and findings were assessed statistically through Regression test, Chi-Square Test, Spearman's r, Independent Sample t-test and Tukey-Kramer Multiple Comparisons. While for the qualitative part, content analysis approach was used by the researcher to analyze the gathered data.

## 4. Analysis and Discussion

### 4.1. Hypothesis 1: Appreciation effect

The first objective of this study was to identify the impact of management behavior on employees' turnover in Saudi Arabian manufacturing sector. That was tested in the first null hypothesis which is (H<sub>01</sub>) "Appreciation is not significantly related to the employees' retention in Saudi Arabian manufacturing sector". In this section, researcher analyzed the employees' opinions for the five statements regarding the impact of appreciation on their satisfaction.

*Table 3: Showing the questionnaire results about appreciation items*

Items (12 to 16)			TR	SD	D	N	A
12- My manager recognizes the exceptional job accomplished by subordinates equally.	F	531	41	140	135	175	40
	P	91.87	7.72	26.37	25.42	32.96	7.53
		M= 3.06	Mo= 4	Md= 3			
13- Consistency and punctuality are appreciated by my manager.	F	533	16	57	97	271	92
	P	92.21	3.00	10.69	18.20	50.84	17.26
		M= 3.69	Mo= 4	Md= 4			
	F	533	15	22	46	223	227

14- An applaud from my manager in front of co-workers motivates me to do better job.	P	92.21	2.81	4.13	8.63	41.84	42.59
		M= 4.17	Mo= 5	Md= 4			

15- Appreciating the employee efforts fairly helps in retaining them.	F	534	4	7	10	201	312
	P	92.39	0.75	1.31	1.87	37.64	58.43
		M= 4.52	Mo= 5	Md= 5			

16- My manager inspires the teamwork and build co-operation between team members.	F	534	18	43	93	213	167
	P	92.39	3.37	8.05	17.42	39.89	31.27
		M= 3.88	Mo= 4	Md= 4			

NOTE: M=Mean, Mo=Mode, Md=Median, TR=Total number of responders per item, SD=Strongly Disagreed, D=Disagreed, N=Neutral, A=Agreed, SA=Strongly Agreed, F=Frequency and P=Percentage)

Source: Primary Data

The study findings in table (3) show that the management appreciation is linked with the employees’ satisfaction (cumulative mean = 3.86). A comparison on these items showed that the percentage of employees who opposed ranged from 2.06 percent to 34.09 percent. While the percentage of those who were neutral ranged from 1.87 percent to 25.42 percent. Moreover, the percentage of those who concurred ranged from 40.49 percent to 96.07 percent. Hence, the range of percentages of the opposed employees’ group and the undecided employees’ group were lower compared to the concurred employees’ group.

Consequently, the respondents noted that they are not sure if their managers are recognizing their completed work equally (mean = 3.06). They also partially agreed that management are appreciating punctuality (mean = 3.69).

Moreover, they were barely expected that managers are inspiring the teamwork (mean = 3.88). However, they showed positive intention to perform better if they were appreciated in front of their colleagues (mean = 4.17). In addition, they believed that thankfulness influences their satisfaction (mean = 4.52). Thus, management appreciation had clear impact on the employees’ satisfaction and retention.

**Table 4:** Showing the results of leadership style t-test

	Item 14	Item 15
Mean	4.1711	4.5207
Standard deviation	0.95	0.6734
Variance	0.903	0.4534
Sample	532	532
Probability P-Value	7.6E-12	
t Stat	-6.924	
t Critical two-tail	1.9622	
(t [1062] =-6.924, p<0.05)		

	Item 12	Item 16
Mean	3.0623	3.8811
Standard deviation	1.0973	1.0449
Variance	1.204	1.0917
Sample	530	530
Probability P-Value	2.9E-33	
t Stat	-12.442	
t Critical two-tail	1.9622	
(t [1058] =-12.442, p<0.05)		

Moreover, to test if there is significant difference between the means of the responses about the influence of management appreciation on the employees’ satisfaction and retention, several t-test were conducted as shown in table (4). After comparing the responses between Item 14 and Item 15 about appreciating the employees, the P-Value from t-test was (7.6E-12) less than 0.05 and the absolute value of t-stat was (6.924) was greater than t-Critical (1.9622); (t[1062]= - 6.924,p<0.05). Hence, there was significant difference between the means of the collected data in Item 14 and Item 15 which was most likely reflecting the real intrinsic differences in the population, and they were not by chance. Similarly, after comparing the responses between Item 12 and Item 16 about teamwork and recognition, the P-Value from t-test was (2.9E-33) less than 0.05 and the absolute value of t-stat was (12.442) greater than t-Critical (1.9622); (t[1058]=-12.442,p<0.05). Hence, there was significant difference between the means of the collected data in Item 12 and Item 16 which was most likely reflecting the real intrinsic differences in the population, and they were not by chance as well.

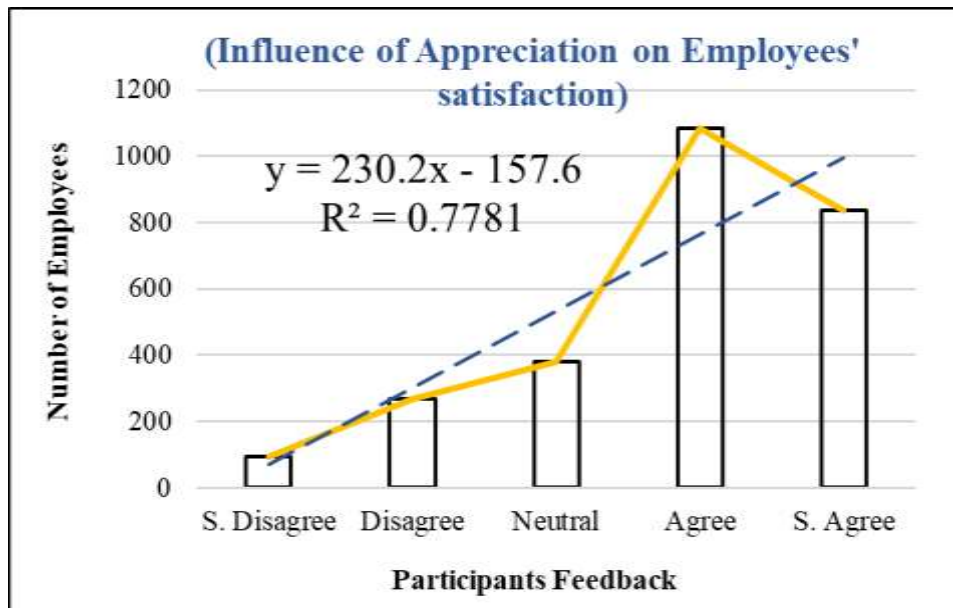


Figure 2: Responses analysis about appreciation and employee's satisfaction

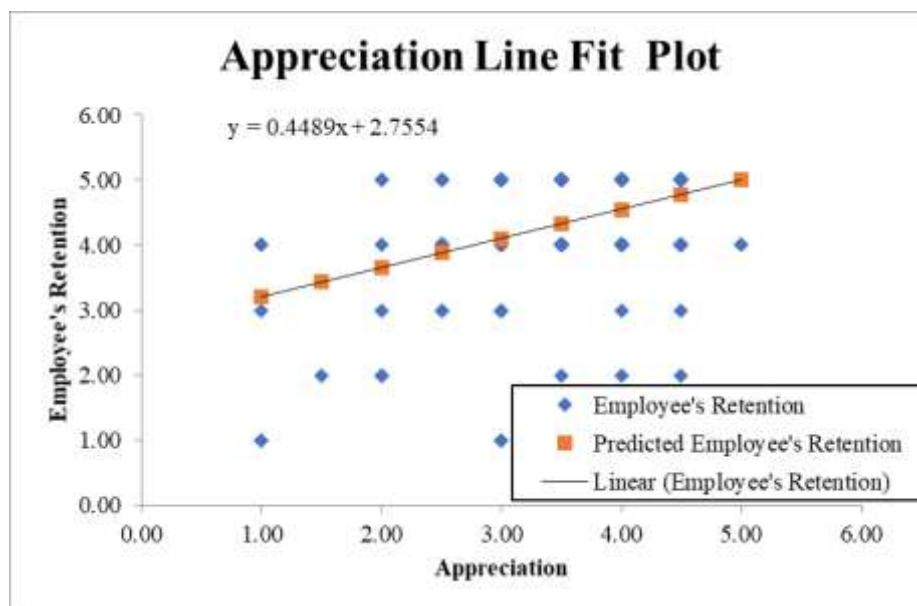
Additionally, in order to determine the influence of appreciation on employee's satisfaction, the regression analysis was conducted. The first test was comparing the relationship between the respondents' feedback and number of respondents. Clear trend was observed as shown in Figure (2). Specifically, when respondents' feedback changed from strongly disagree toward strongly agreed, number of employees who are considering the appreciation as important factor that impact employees' satisfaction were increased. Secondly, the relationship between respondents' feedback about appreciations (items 13, 14) and their feedback about retention (items 15) were verified using regression test. The results are summarized in Table 5.

Table 5: Showing the results of regression test between Appreciation and Retention

Appreciation and Employee's Retention Regression Statistics			
(Means)			
Multiple R	0.5129	t-Stat	13.7685
R Square	0.2631	F-Value	189.5727
P-value	4.22699E-37	Lower 95%	0.3849
Observations	533	Upper 95%	0.513
Linear Equation		Y = 0.4489 X + 2.7554	
(r=0.5129, F[1, 531]=189.5727,p<0.05)			



According to the results extracted from table (5), researcher found that appreciation had significant effects on employees' retention. Regression test was conducted to verify the correlation between management appreciation and employee's retention. The P-value was (4.23E-37) less than 0.05 which indicates significant association between management appreciation and employees' retention. Namely, when the more management appreciate the employees, the greater number of employees who improve their performance. Moreover, the correlation coefficient R was (0.5129) slightly greater than 0.5 which indicates a moderate positive correlation. Therefore, management appreciation was good predictor of employees' retention. Hence, the model was significant ( $r=0.5129$ ,  $F[1, 531]=189.5727, p<0.05$ ). The coefficient of determination ( $R^2 = 0.2631$ ) explains that management appreciation held to be 26.31 percent variance in employees' retention in Saudi Arabia's manufacturing sector.



**Figure 3:** Regression analysis – Appreciation Line Fit Plot

Accordingly, the relationship plot is shown in Figure (3) which indicates linear relationship between the mean of the respondents' feedback about the appreciation and the mean of their feedback about employee's retention. Moreover, percentage of improvement in employees' retention due to management appreciation can be predicted using the linear formula ( $y=0.4489x + 2.7554$ ). Therefore, the null hypothesis ( $H_{01}$ ) "Appreciation is not significantly related to the employees' retention in Saudi Arabian manufacturing sector" was rejected.

### 4.2. Hypothesis 2: Work environment effect

Continuing the objective of this study to analyze the work environment impact on employees' retention, researcher analyzed the employees' opinions using five statements related to the work environment (Table 6). The null Hypothesis (H<sub>02</sub>) was "There is no significant impact of work environment quality on the talents turnover in Saudi Arabian manufacturing sector".

*Table 6: Showing the questionnaire results about work environment items*

Items (42 to 46)			TR	SD	D	N	A
42- Friendly environment leads to better company performance and growth.	F	466	5	8	29	191	40
	P	80.62	1.07	1.72	6.22	40.99	7.53
		M= 4.37	Mo= 5	Md= 3			
43- Healthy work environment drives the company to retain potential employees.	F	467	2	5	17	177	92
	P	80.80	0.43	1.07	3.64	37.90	17.26
		M= 4.5	Mo= 5	Md= 4			
44- Positive management interactions promote employee's retention.	F	467	2	9	27	228	227
	P	80.80	0.43	1.93	5.78	48.82	42.59
		M= 4.32	Mo= 4	Md= 4			
45- I perform better in stressful environment.	F	467	107	146	103	82	312
	P	80.80	22.91	31.26	22.06	17.56	58.43
		M= 2.53	Mo= 2	Md= 5			
46- Working in conflict environment increase turnover.	F	466	14	24	41	158	167
	P	80.62	3.00	5.15	8.80	33.91	31.27
		M= 4.21	Mo= 5	Md= 4			

NOTE: M=Mean, Mo=Mode, Md=Median, TR=Total number of responders per item, SD=Strongly Disagreed, D=Disagreed, N=Neutral, A=Agreed, SA=Strongly Agreed, F=Frequency and P=Percentage)

Source: Primary Data

The study findings in table (6) show that the work environment was positively linked with the employees’ retention (cumulative mean = 3.99). A comparison on these items showed that the percentage of employees who opposed ranged from 1.50 percent to 54.17 percent. While the percentage of those who were neutral ranged from 3.64 percent to 22.06 percent. Moreover, the percentage of those who concurred ranged from 23.77 percent to 94.86 percent. Hence, the range of percentages of the opposed employees’ group and the undecided employees’ group were lower compared to the concurred employees’ group.

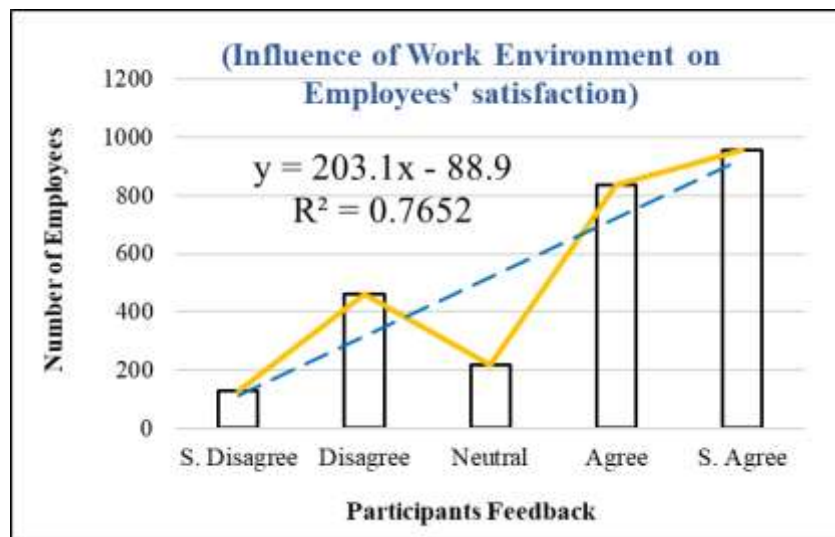
Consequently, the respondents noted that friendly work environment led to better company performance and growth (mean = 4.37). Moreover, they also strongly agreed that healthy work environment support the company to retain the potential employees (mean = 4.5). In addition, they alleged that positive management interaction harvests employees’ retention (mean = 4.32). However, they accepted that working in conflict environment increase turnover (mean = 4.21). On the other hand, they refused to perform in stressful environment (mean = 2.53). Thus, work environment had positive impact on the employees’ retention.

**Table 7: Showing the results of work environment t-test**

	<b>Item 42</b>	<b>Item 45</b>		<b>Item 43</b>	<b>Item 46</b>
Mean	4.371	2.53	Mean	4.502	4.210
Standard deviation	0.769	1.199	Standard deviation	0.660	1.007
Variance	0.590	1.437	Variance	0.435	1.014
Sample	466	466	Sample	466	466
Probability P-Value	5E-125		Probability P-Value	2.1E-07	
t Stat	27.913		t Stat	5.233	
t Critical two-tail	1.9625		t Critical two-tail	1.9625	
(t [930] =27.913, p<0.05)			(t [930] =5.233, p<0.05)		

Moreover, to test if there is significant difference between the means of the responses about the work environment and the employees’ retention, several t-test were conducted as shown table (7). After comparing the responses between Item 42 and Item 45 about the quality of work environment, the P-Value from t-test was (5E-125) less than 0.05 and t-stat value was (27.913) greater than t-Critical (1.9625); (t[930]=27.913,p<0.05). Hence, there was significant difference

between the data collected in Item 42 and Item 45 which was most likely reflecting the real intrinsic differences in the population, and they were not by chance. Moreover, after comparing the responses between Item 43 and Item 46 about the employees’ retention and turnover, the P-Value from t-test was (2.1E-07) less than 0.05 and t-stat value was (5.233) greater than t-Critical (1.9625); (t[932]=5.233,p<0.05). Hence, there was significant difference between the data collected in Item 43 and Item 46 which was most likely reflecting the real intrinsic differences in the population, and they were not by chance.



**Figure 2:** Responses analysis between work environment and employees’ satisfaction

Additionally, to determine the influence of work environment on employee's satisfaction and retention, the regression analysis was conducted. The first test was comparing the relationship between the respondents’ feedback and number of respondents. Clear trend was observed as shown in Figure (4). Specifically, when respondents’ feedback changed from strongly disagree toward strongly agreed, number of employees who are considering the work environment as important factor that impact employees’ satisfaction and retention were increased. Secondly, the relationship between respondents’ feedback about work environment (items 42, 45) and their feedback about retention (items 43, 44, 46) were tested using regression test. The summarized results in Table 8.

**Table 8:** Showing the results of work environment regression test

Work Environment and Employee's Retention			
Regression Statistics (Means)			
Multiple R	0.6614	t-Stat	21.1666
R Square	0.4375	F-Value	448.0243

P-value	5.40005E-74	Lower 95%	0.5417
Observations	578	Upper 95%	0.6525
Linear Equation		Y = 0.5971 X + 1.3277	
(r=0.6614, F[1, 576]=448.0243,p<0.05)			

According to the regression test results summarized in Table (8), researcher noticed that work environment had significant effect on employees’ retention. The P-value was (5.4E-74) less than 0.05 and the correlation coefficient R was (0.6614) closed to one which indicates strong linear relationship. Therefore, the healthy work environment was moderating positively the employees’ retention. Hence, the model was significant (r=0.6614, F[1, 576] = 448.0243, p<0.05). The coefficient of determination (R<sup>2</sup> = 0.4375) explains that 43.75 percent variance in employees’ retention was accounted by healthy work environment at Saudi Arabia’s manufacturing sector.

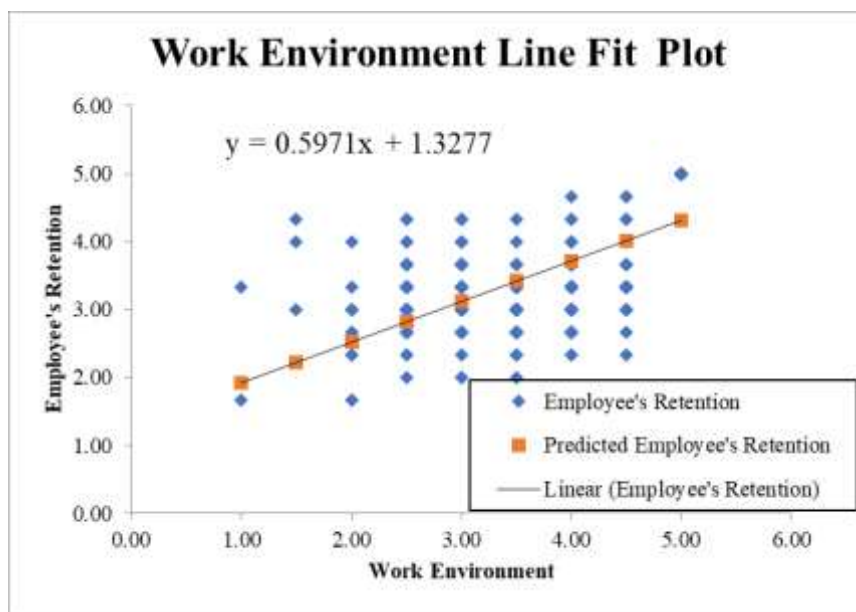


Figure 5: Regression analysis – Work Environment Line Fit Plot

Accordingly, the relationship plot is shown in Figure (5) which indicates linear relationship between the mean of the respondents’ feedback about the work environment and the mean of their feedback about employee’s retention. Moreover, percentage of improvement in employees’ retention due to healthy work environment can be predicted using the linear formula ( $y=0.5971 x + 1.3277$ ). Therefore, the null hypothesis (H<sub>02</sub>) “There is no significant impact of work environment quality on the talents turnover in Saudi Arabian manufacturing sector” was rejected.

### 4.3. The employees’ demography impact

In order to determine if employees’ demography is moderating the employees’ satisfaction, regression analysis was conducted. Moreover, the comparisons between the mean of the respondents’ feedback about the related Appreciation, Work Environment items and specific respondent’s demography were studied for Experience, Nationality and Position.

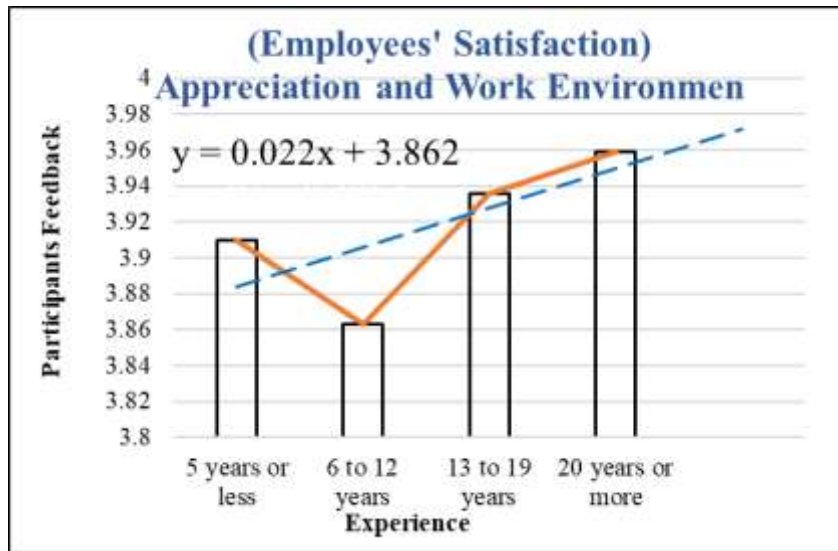


Figure 6: Responses analysis of Experience and employees’ Satisfaction

Starting with analyzing the employee’s experience, increasing trend was observed from Figure 6. Specifically, when respondents’ experience changed from less than five years toward more than 20 years, the mean of respondents’ feedback about satisfaction were increased.

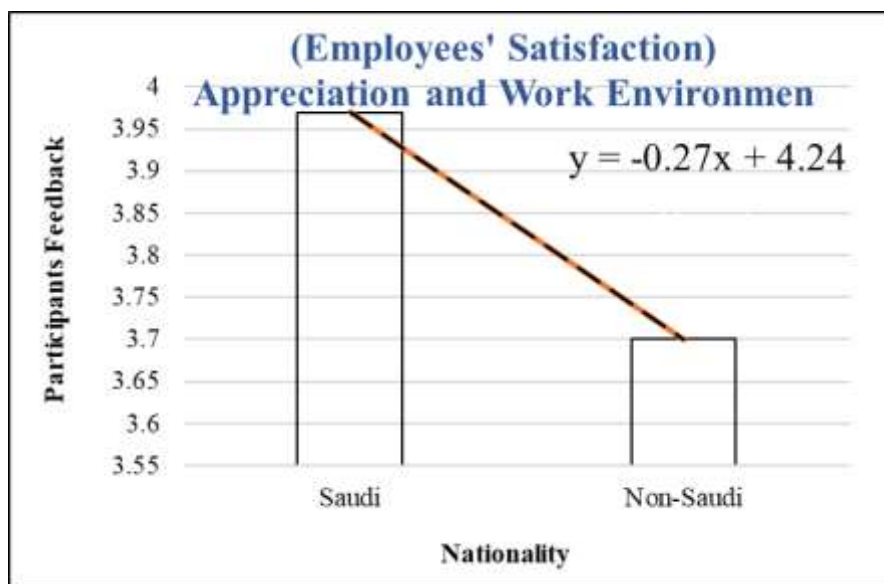
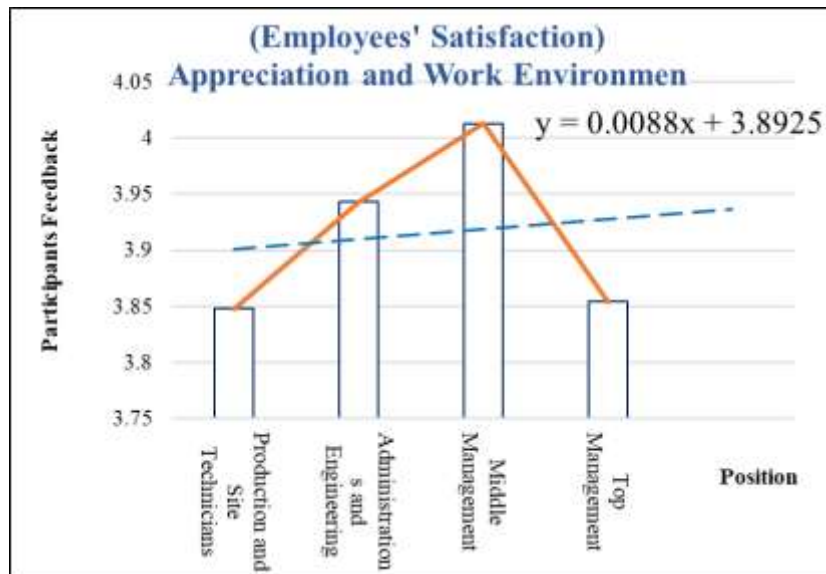


Figure 7: Responses analysis of Nationality and employees’ satisfaction



**Figure 8:** Responses analysis of position and employees' satisfaction

Correspondingly, the analyses of the association of employees' satisfaction with both the employee's nationality and the employees' position showed in Figure (7) and Figure (8). As observed, the Saudis were affected more than others with appreciation and work environment. While middle management were affected more than low and top positions.

**4.3.1. Hypothesis 3: Employees' experience effect**

First, Chi Square test was conducted to test if Employee's Experience is significantly moderate the relationship between Appreciation and Employees' Retention. Using the observed data in Table (9), the calculated X<sup>2</sup> value was 15.7064 which is greater than the critical value which is 12.592 (X<sup>2</sup>=[6,N=1992]=15.7064,p<0.05). Hence, Employee's Experience is significantly moderate the relationship between Appreciation and Employees' Retention.

**Table 9:** Observation data to test Employee's Experience if moderates the relationship between Appreciation and Employees' Retention

Experience	Opposed Employees	Undecided Employees	Concurred Employees	SUM
5 years or less	42	66	235	343
6 to 12 years	116	106	312	534
13 to 19 years	99	106	343	548
20 years or more	102	96	369	567
SUM	359	374	1259	1992

Furthermore, Chi Square test was conducted to test if Employee's Experience is significantly moderate the relationship between Work environment and Employees' Retention. Using the observed data in Table (10), the calculated  $X^2$  value was 23.882 which is greater than the critical value which is 12.592 ( $X^2=[6,N=1832]=23.882,p<0.05$ ). Hence, Employee's Experience is significantly moderate the relationship between Work environment and Employees' Retention.

**Table 10:** Observation data to test Employee's Experience if moderates the relationship between Work Environment and Employees' Retention

Experience	Opposed Employees	Undecided Employees	Concurred Employees	SUM
5 years or less	42	66	235	343
6 to 12 years	116	106	312	534
13 to 19 years	99	106	343	548
20 years or more	102	96	369	567
SUM	359	374	1259	1992

Hence, the data suggests that the employee's satisfaction by both appreciation and healthy work environment is significantly moderated by employee experience.

**4.3.2. Hypothesis 4: Nationality effect**

Additionally, Chi Square test was conducted to test if Employee's Nationality is significantly moderate the relationship between Appreciation and Employees' Retention. Using the observed data in Table (11), the calculated  $X^2$  value was 5.0774 which is less than the critical value which is 5.991 ( $X^2=[2,N=2001]=5.0774,p<0.05$ ). Hence, Employee's Nationality is not significantly moderate the relationship between Appreciation and Employees' Retention.

**Table 11:** Observation data to test Employee's Nationality if moderates the relationship between Appreciation and Employees' Retention

Nationality	Opposed Employees	Undecided Employees	Concurred Employees	SUM
Saudi	303	304	1080	1687
Non-Saudi	57	73	184	314
SUM	360	377	1264	2001



Furthermore, Chi Square test was conducted to test if Employee's Nationality is significantly moderate the relationship between Work environment and Employees' Retention. Using the observed data in Table (12), the calculated  $X^2$  value was 37.022 which is greater than the critical value which is 5.991 ( $X^2=[2,N=1844]=37.022,p<0.05$ ). Hence, Employee's Nationality is significantly moderate the relationship between Work environment and Employees' Retention.

**Table 12:** Observation data to test Employee's Nationality if moderates the relationship between Work Environment and Employees' Retention

Nationality	Opposed Employees	Undecided Employees	Concurred Employees	SUM
Saudi	222	167	1110	1499
Non-Saudi	95	47	203	345
SUM	317	214	1313	1844

Hence, the data suggests that the employee's satisfaction by appreciation is not moderated by nationality. While the employee's satisfaction by healthy work environment is significantly moderated by nationality.

#### 4.3.3. Hypothesis 5: Employees' position effect

Besides, Chi Square test was conducted to test if Employee's Position is significantly moderate the relationship between Appreciation and Employees' Retention. Using the observed data in Table (13), the calculated  $X^2$  value was 13.2129 which is greater than the critical value which is 12.592 ( $X^2=[6,N=1987]=13.2129,p<0.05$ ). Hence, Employee's Position is significantly moderate the relationship between Appreciation and Employees' Retention.

**Table 13:** Observation data to test Employee's Position if moderates the relationship between Appreciation and Employees' Retention

Position	Opposed Employees	Undecided Employees	Concurred Employees	SUM
Production and Site Technicians	99	106	403	608
Administrations and Engineering	163	180	517	860
Middle Management	69	57	267	393
Top Management	27	26	73	126
SUM	358	369	1260	1987

Likewise, Chi Square test was conducted to test if Employee's Position is significantly moderate the relationship between Work environment and Employees' Retention.

Using the observed data in Table (14), the calculated  $X^2$  value was 19.8888 which is greater than the critical value which is 12.592 ( $X^2=[6,N=1836]=19.8888,p<0.05$ ). Hence, Employee's Position is significantly moderate the relationship between Work environment and Employees' Retention.

**Table 14:** Observation data to test Employee's Position if moderates the relationship between Work Environment and Employees' Retention

Position	Opposed Employees	Undecided Employees	Concurred Employees	SUM
Production and Site Technicians	114	76	341	531
Administrations and Engineering	119	87	585	791
Middle Management	61	34	291	386
Top Management	23	15	90	128
SUM	317	212	1307	1836

Hence, the data suggests that the employee's satisfaction by both appreciation and healthy work environment is significantly moderated by employee position.

#### 4.4. Findings

Researcher tested the null hypotheses to analyze the association between appreciation, work environment and employee's retention in the Saudi Arabia's manufacturing sector. The study found that when respondents' feedback changed from strongly disagree toward strongly agreed, number of employees who are considering the appreciation and work environment as important factors that impact employees' retention were increased. Moreover, the conducted regression test result showed significant relationship between appreciation and employee's retention (P-value =  $4.23E-37$ ). Management appreciation held to be 26.31 percent variance in employees' retention. Similarly, regression test result showed significant relationship between work environment and employee's retention (P-value =  $5.4E-74$ ). Explicitly, 43.75 percent variance in employees' retention was accounted by healthy work environment at Saudi Arabia's manufacturing sector. Hence, both  $H_{01}$  and  $H_{02}$  are rejected.

Additionally, findings show that the relationship between appreciation and retention is moderated by experience and position but no by nationality. On the other hand, the association between work environment and retention is moderated by experience, nationality, and position. Hence, both  $H_{03}$  and  $H_{05}$  are rejected while  $H_{04}$  is NOT rejected.

## 5. Case Study and Implications

The case study was conducted in one of the panel board manufacturing factories in Dammam second industrial city. The factory population was 200 multinational employees, and the selected sample was 30 employees from deferent career level. The researcher analyzed the face-to-face interviews data using content analysis and regression test. The following questions were used to evaluate the impact of appreciation and work environment on employee's retention in that factory.

### 5.1. How is your manager appreciation impact your decision to stay or leave the company?

To evaluate the association between appreciation and employees' retention, the interviewee's feedback was analyzed using content analysis. After analyzing the participants' feedback, codes and categories were grouped as shown in Table (15). Particularly, 59 percent of respondents believed that manager's appreciation had significant effect on employee retention. It considered as motivation factor and stress relief that increased employee trust. Moreover, it had positive impact on employees' performance and overall factory productivity. However, 34 percent of them expected that, managers should clarify the task to be completed in stipulated time. Also, they anticipated managers help in solving problems on time and simplifying the processes through effective communication by matching task to skill. Specifically, managers' support shall be job oriented, avoid distraction, clarifying goals, cut out the excess workload and manage interruption. On the other hand, 7 percent of the interviewees believe in mental and technical management supports are more important than appreciation.

**Table 15:** Categories and themes from interviewees' feedback about manager appreciation

Category	Frequency	Percentage	Themes
Effect on employee	26	59%	Manager appreciation is significant factor that Impact employees' retention.
Effect on job	15	34%	Manager support enhance the employees' performance by simplifying the work processes and reduce the unnecessary tasks.
No effect	3	7%	Mental and technical support are required Not Appreciation.

## 5.2. What is the relationship between the quality of work environment and employees' turnover?

Respectively, to evaluate the relationship between the quality of work environment and employees' retention, the interviewee's feedback was analyzed using content analysis as well. Codes and categories were grouped as shown Table (16). Data showed 83 percent of respondents feedback were concurring that friendly environment is the foundation for teamwork and lead to better performance and ultimately reduce the turnover. Moreover, 14 percent of the interviewees believed that good environment is positively affecting their output and makes them focus to execute their job effectively. However, 3 percent of the participants did not see significant association between work environment and employees' retention.

**Table 161:** Categories and themes from interviewees' feedback about work environment

Category	Frequency	Percentage	Themes
Effect on employee	29	83%	Work environment has significant impact on employees' retention.
Effect on job	5	14%	Healthy work environment is necessary for the development of practical work.
No effect	1	3%	Work environment is not related to employees' retention.

## 5.3. Case study findings:

The researcher used content analysis to analyze the open-ended interview questions about appreciation and work environment impact on the employee's retention. Data showed that both appreciation and work environment are significantly impacting the employees' retention. Hence, case study findings were matching the descriptive and inferential analysis in section 4.

## 6. Conclusion

From the organizational behavior side, researcher analyzed the relationship of appreciation, work environment and employees' retention. Hence, to answer the research questions " 1) How is management appreciation related to the employees' retention in Saudi manufacturing sector? And 2) Dose the quality of work environment significantly impacts the employees' retention in Saudi manufacturing sector?", the researcher analyzed the null hypotheses which stated no significant relationships.

However, the study found significant association between employees' retention and both management appreciation and work environment. This infers that in companies' sustainability can be affected with talents turnover. The findings of this study could be attributed to the fact that the skillful manager serves positively company interest to attain better outcomes from the employees (Lam et al. 2015). Moreover, managers responsible to guide the employees to attain their objectives effectively (Osabiya 2015). Even though, previous study found that leadership style had lower impact on the employees' performance (Al Doghan and Albar 2015), others found that transformational leadership style specifically enhances the employees' performance (Kovjanic, Schuh, and Jonas 2013). Otherwise, the study findings are in line with earlier scholars who found significant impact of leadership style on the employees' satisfaction in Saudi hospitals (Alkassabi et al. 2018).

Accordingly, researcher found that the appreciation was moderating 26.31 percent of the employees' retention. However, 43.75 percent variance in employees' retention was accounted by healthy work environment at Saudi Arabia's manufacturing sector. Absent of management appreciation that should be given to the talented individuals often causes a constant turnover of skilled personnel. Another critical challenge is the absence of a conducive work environment which negatively impacts employee morale, engagement, and commitment, leading to higher turnover rates. Factors such as outdated facilities, poor infrastructure, and inadequate safety measures contribute to an unsatisfactory workplace experience for employees. The leadership styles adopted within the manufacturing sector in Saudi Arabia also present a challenge to talent retention. In some cases, autocratic and hierarchical leadership approaches prevail, stifling employee empowerment, innovation, and creativity. The lack of participatory decision-making and limited opportunities for professional growth and development discourage talented individuals from staying with organizations for the long term.

## **7. Recommendations**

Staff turnover must be reduced by continuously improving the association between employee's satisfaction factors and organizational objectives. This study analyzed the impact of appreciation and workplace conditions that found significantly related to employees' retention in the Saudi Arabia's manufacturing sector. Below some advises obtained from the study analysis and face to face interviews.

Beside to competitive compensation packages, the organization should invest in employees develop, especially in leadership development programs and training which can improve managers

and supervisors' emotional skills. That can improve management capability to understand the employee's temperament. Moreover, employees' fears, and ideas need to be communicated clearly and safely. Anonymous communication and Whistleblowing procedure could encourage the staff to share their experience in this regard. Such communication develops trust, helps resolve conflicts, and ensures that employee aspirations are aligned with organizational objectives. Below some ways to appreciate the talented employees:

1. Recognition of exceptional performance.
2. Appreciation for going above and beyond.
3. Acknowledgment of teamwork and collaboration.
4. Gratitude for creativity and innovation.
5. Recognition of personal and professional growth.
6. Appreciation for problem-solving skills.
7. Acknowledgment of dedication and commitment.
8. Recognition of excellent customer service.
9. Appreciation for meeting or exceeding targets.
10. Acknowledgment of contributions to the company's success.

In addition, embolden a healthy and productive work environment that is characterized by harmony and collaboration found significantly improving the employees' retention. Such healthy work environment promotes teamwork, establish healthy relationships among employees, and avoid any practices of bullying or discrimination. That makes employees highly committed, satisfied, and loyal. Below some examples of work environment that attract talented employees:

1. Work Environment Flexibility
2. Work-Life Balance and Flexible Work Arrangements
3. Positive and Inclusive Culture
4. Collaborative and Supportive Team Environment
5. Strong Leadership and Mentorship
6. Collaborative Decision-Making
7. Employee Engagement Initiatives
8. Meaningful and Challenging Work
9. Cutting-Edge Technology and Tools
10. Strong Company Values and Ethics

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## **Discussing the Relationship Between Slavery and Racism; How Slavery Causes Racism?**

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### **Abstract:**

This study aims to demonstrate the Relationship Between Slavery and Racism in terms of how slavery causes racism in four areas; first, the Greek civilisation; second, the son of Noah “Ham” and slavery; third, the scientific movement and racism; and fourth, the slave trade. This study uses inductive, historical, and critical methods to discuss the four headings stated above.

The most important conclusion is that the division into those who were Greeks and those who were non-Greeks (barbarians) had led into a belief in Greek superiority emphasised that, and being a member of a superior group gives a right of doing violence towards barbarians. Second, the story of Ham was an excuse for enslaving black Africans and linking blackness with slavery, while this relationship was not known until the seventeenth century. The story supports the idea of discriminating against black slaves and linking colour with social class and prepares Europeans to accept the modern practice of slavery in the Atlantic slave trade. Third, scientists participated in provoking racism to value the European race over other races, considering it as a central race. Forth, The trade slave was the only alternative to a search for cheap labour in order to cover the gap in supply and stem this increase.

**Keywords:** Slavery, Racism, Greek civilisation, Son of Noah Ham, Slave trade

## 1. Introduction

Throughout human history people have experienced the enslaving and segregation of others. In other words, it is not a modern phenomenon. However, slavery may become more or less visible, or have different forms, according to the circumstances. While Jews struggled in Germany because of their different ethnic-religion, the Irish suffered in Britain due to their adherence to the Catholic Church, despite the fact that they were Christian. Religion in America on the other hand, did not have the same role, in that people were distinguished and discriminated against according to their colour (white and black), which might be considered as a consequence of the slave trade that brought millions of black people to the American continent. The issue of slavery and racism has become a controversial topic among researchers, not only sociologists interested in this area, but others such as psychologists and economists. The central debate is about whether slavery resulted in racism or racism resulted in slavery. This essay discusses the relationship between slavery and racism in terms of how slavery causes racism, which is part of this debate. In order to reach a conclusion, this relationship will be discussed under four headings: first, the Greek civilisation; second, the son of Noah “Ham” and slavery; third, the scientific movement and racism; and fourth, the slave trade.

### 1.1. The Study Objective:

This study aimed to explore how slavery causes racism in the Greek civilisation, the son of Noah “Ham,” the scientific movement and racism; and the slave trade.

## 2. Greek civilisation

It is argued that slavery is a phenomenon that goes side by side with the development of the economy in civilisations, and it may be true that the Greek civilisation was not different from others in this respect. In other words, human resources are the most important factors for economic growth. The number of slaves reported in the eighth century BC within the Greek civilisation differed from that in the fourth and fifth centuries BC. Westerman (1955) stated that, contrary to expectations, those Greeks who owned slaves were very limited in terms of their number, even among the richest chieftains in the Homeric period. Working as freemen in Greek society, slaves had opportunities to improve their working status as the Greek economy and industrialization developed, from working in fields and households to managing banks and carrying out skilled work; they were treated as freemen in terms of both wages and the kind of work they did (Westerman, 1955).

It could be suggested that the word *barbarian* was coined as a consequence of a massive influx of slaves into Greek society. The number was gradually increased, which influenced social life beyond the economic and political spheres, in order to maintain the early Greek colonies and industry. This resulted in the Greek slave trade becoming one of the primary businesses, and some (barbarian) countries showed their willingness to feed this new industry (Westerman, 1955). This division into those who were Greeks and those who were non-Greeks (barbarians) had developed into a belief in Greek superiority in the fourth and fifth centuries BC (Schlaifer, 1936) as a consequence of the mixture within society.

It was in the fifth century BC when the word barbarian was first used in Greek literature, which emerged as a result of the “Heightening in Hellenic self-consciousness caused by the rise of Persia” (Hall, 1989: 9). Euripides, in the fifth century BC, elevated the class of Greeks in relation to barbarians, and emphasised that ‘Greeks should rule barbarians’ because the latter are the same as slaves in nature (Isaac, 2006). Aristotle accepted this idea and developed it. Believing in grouping mankind into those who have a natural right to empire, and the rest of the people who are stupid and naturally created to be slaves, Aristotle considered the natives of Greece to be among the former group of mankind:

“Men of little genius, and great bodily strength, are by nature destined to serve, and those of better capacity, to command; that the native of Greece, and some of other countries, being naturally superior in genius, have a natural right to empire; and that the rest of mankind, being naturally stupid, are designed to labour and slavery” (Beatte, 1997: 34)

The physical factor in Aristotle’s view is seen in the phrase ‘great bodily strength’, which suggests that physical difference is not absent in this division of humankind, but it is still too general as a reference to link it with race. In *On the Generation of Animals*, he argues that the physical differences among humankind are caused by climate, where he mentioned that people having curly hair and a dry brain are affected by both hot and dry air (Aristotle, 2004). Even intelligence, from Aristotle’s perspective is the result of climate (Schlaifer, 1936).

As nature was regarded the principle factor in dividing people into slaves and masters, Aristotle’s political writing added another element that could bring about slavery, beside nature, slavery by law: “There is a slave or slavery by law as well as by nature... because one man has the power of doing violence and is superior in brute strength, another shall be his slave and subject” (Aristotle,

2005: last para). He also explained in his writing that the male differs from the female as slaves differ from free people, except among the barbarians' society: "But among barbarians no distinction is made between women and slaves, because there is no natural ruler among them: they are a community of slaves, male and female" (Aristotle, 2005: first para.). From his point of view every society has those who deserve to rule and those who are ruled; in a small community, such a household, the male is in the superior position and the female is inferior. However, this cannot be applied within a slave society because they are slaves and cannot rule.

To summarise, slaves from Aristotle's point of view had three main characteristics: they were stupid, powerless, and incapable of being rulers. There were three main causes, too, for being in this class: the environment, which includes both climate and geography; being barbarians as a collective ethnic group; and the position of power (law). It could be argued that slavery was the key to Aristotle's understanding of his own ethnicity through its contrast with barbarians. Greeks were in a powerful position during that period. Additionally, Greeks had a democratic government, which reflects their effective ability in terms of being the kind of people who were prepared to be appropriate rulers in comparison with the Barbarians who were ruled. Moreover, the matter of intelligence emerged as a distinctive feature of Greeks' attitudes towards barbarians. Aristotle used the term *stupid* above, whereas Heraclitus described the eyes and ears of men 'with barbarian souls' as bad witness, which means they do not understand (Hall, 1989). Similarly, Herodotus stated that non-Greeks "produced men who did not and could not understand or appreciate freedom" (Westerman, 1955:27).

Having discussed the emergence of the barbarians and the link with the development of slavery, it is time to examine the extent of racism in Greek society. The definition of racism chosen for this essay is Isaac's definition:

"An attitude towards individuals and groups of peoples which posits a direct and linear connection between physical and mental qualities. It therefore attributes to those individuals and groups of people collective traits, physical, mental and moral, which are constant and unalterable by human will, because they are caused by hereditary factors or external influence such as climate or geography" (Isaac, 2006: 23)

It might be clear, to some extent, that the case of the Greek civilisation may share some of the elements of this definition, with the exception of slavery by law.

However, the physical aspect seems to be less clear, which drives some writers such as Baum (2006) to claim that the Greeks did not have a negative attitude towards blacks; in particular, they cite Diodorus' attitude when he described African people as "the first of all men and as the originators of divine rituals most pleasing of the gods" (Baum, 2006:36). Byrd and Clay (2000) went further in claiming that there were neither biological nor intellectual differences between slaves and Greeks. That might be true to some extent; however, Testskhladze's writing regarding the Aristotlean Physiognomica contradicts the claim regarding physical differences when he says that "those with thick nostril ends are lazy...those who are too black or have wooly hair or black eyes are cowardly" (Tsetskhladze, 1999: 52). As seen above, claims made by Herodotus, Heraclitus, and Aristotle regarding intelligence as a main factor in which Greeks differed from barbarians contrasts with the claim made by Byrd and Clay. Some writers, like Tsetskhladze (1999), argued the matter of racism in terms of likening barbarians to animals such as pigs and frogs, which suggested that barbarians were alien; however, as he mentioned, it was a cultural rather than a racial difference because the term *barbarian* was used in that context to describe the barbarian language.

In short, building on what has been argued above, the overall picture seems to be that the development of the Greek civilisation led to a demand for human sources, which was filled by slaves. As a result of the influx of slaves into Greek society, the matter of distinguishing Greekness from others became important. Consequently, the fifth century was the time when the word *barbarian* (collective ethnic group) appeared to define a slave class in relation to Greeks. Racism resulted from slavery in Greek civilization, because slavery itself became a belief during the fifth and fourth century BC, which contrasted with the rise of Greekness. The matter of being intelligent and having the ability to rule were the two most important elements in the Greek understanding of their own ethnicity, while they believed that the barbarian ethnic group could not have them due to their nature as slaves. Additionally, being a member of a superior group gives a right of doing violence towards non-Greeks (barbarians) according to Aristotle.

### **3. The son of Ham; slavery and racism**

According to Baum (2006), by the middle-ages the story of Ham had influenced Europeans' views of Africans; it encouraged them to regard Africans as slaves from a punished nation, who deserved to be so due to their father's sin. Therefore, this story was an excuse for enslaving black Africans. Indeed, the idea of being slaves, according to this story, reached Arabic sources too; it drove Ibn-

Khaldun (2004) to describe it as a myth, especially according to his view that skin colour is a result of climate and the sun. At-Turki (1997) the editor of *Albidaiah Wal-Nihaiah* (historical book) criticized this story, too (Ibn-Khatheer, 1997). Ibn-Khatheer (1997), a 14<sup>th</sup> AD Arabic historian, accepted the general meaning of this story on which he depended to cover the historical events of the Noachic era. One of the good points that Ibn-Khaldun (2004) made in this respect is that the story in Arabic books linking blackness with slavery is not in the Bible. Ibn-Khaldun's suggestion might be fair, since in the King James Version, Noah said "...Cursed be Canaan; a servant of servants shall he be unto his brethren" (Carroll and Prickett, 1998: 24). This suggests that there was a translation mistake from the word *servants* to *slaves*. This may mean also that the role of the Arabic slave trade had an effect on scholars, causing them to link slavery and blackness due to the great number of African slaves that came to the Arabic world as a result of Islam, which reached Africa around the 9<sup>th</sup> century (Hunwick, 2005).

The story of Ham was questioned not only by Arabs (Muslim), but also by European writers. The division of the world into three nations within this story and considering Africans as belonging to Ham was one of the questions raised by Braude (1997), who argued that this division of the world was not known until the seventeenth century according to the Oxford English Dictionary. He also claimed that the Sons of Noah in the Jewish Bible were not linked with this division (Asia, Europe and Africa).

Rather than arguing about the existence of this story among nations, it is worth considering its effect on the core issues around slavery and racism. It is notable that this story created a connection between being a slave and being black; the sin of Ham caused his sons to be slaves. In addition, it supports the idea of discriminating against black slaves and linking colour with social class and prepares Europeans to accept the modern practice of slavery in the Atlantic slave trade. That may account for Europeans being aware of a connection between Africans and slavery before reaching Africa, as suggested by Walvin (1992).

#### **4. Scientific movement and racism**

It might be argued that scientists have played a significant role regarding racism. The scientific theories of nature, the creation of humans, and evolution have received much attention from researchers. The prominence of these theories grew gradually in Europe and America while the slave trade itself expanded, resulting in a massive number of black slaves (negroes) being brought to live among white societies.

The seventeenth century witnessed studies of physical differences within the human species; one of the first books published on the topic was *The New Division of the Earth* (1684) by Francois Bernier, who was a French traveller and philosopher (Jackson and Weidman, 2004). In the eighteenth century that idea became more specific, in that it developed to value the European race over other races, considering it as a central race, while others could be seen as ‘degenerate’ (Jackson and Weidman, 2004). It was also in the eighteenth century when scientists linked humankind and apes (Samson, 2005); however, some scholars, such as George Cuvier and Blumenbach, rejected that theory. Despite his rejection of the theory, the former still regarded the Africans to be a kind of people who have always stayed in a position of barbarians (Samson, 2005), which may perhaps be explained by the influence of the slave trade on scientists.

In the nineteenth century, Darwin (2007) made a connection between civilisation and this hierarchy of humankind, and attributed that to nature. The example of Negroes as the lowest order was visible in his idea:

“The civilized races of man will almost certainly exterminate, and replace, the savage races throughout the world. At the same time the anthropomorphous apes...will no doubt be exterminated... The break between man and his nearest allies will then be wider ... it will intervene between man and in a more civilized state as we may hope ... even than the Caucasian, and some ape as low as a baboon, instead of as now between the Negroe or Australian and the gorilla”  
(Darwin, 2007: 136)

Before Darwin, Hume (1754) stated that not only Negroes but all species of human will be ‘inferior to the whites’; the explanation he gave was that there was no civilized nation, arts, or sciences among any non-white peoples. Klein (1999) argued that African civilisation and industry, such as exporting gold, is as old as the classic civilisations of Egypt, Greece, and Rome, which means there was an African civilization. It might be said also that Hume’s view ignored the role of the Arabic civilisation (9<sup>th</sup> and 10<sup>th</sup> centuries) and its influence on Europe in the arts and sciences, as Dawson (2002) mentioned in *The making of Europe: an introduction to the history of European unity*.

To summarise, it might be suggested that around the period of the Atlantic slave trade, the matter of racism grew steadily by linking humans with their physical appearances and their level of civilization.



One consequence that might be expected of such theories among traders, was that the idea of enslaving Negroes could be seen as a natural mechanism of life, and racist treatment of them increased. In this regard, the question that arises is, to what extent slavery confirmed the theory of nature, or to what extent this theory contributed to the practice of racism in the area of the slave trade. According to Drescher (1990), race played an important part in explaining ‘human variation’ because of the slave market; the impact of which leads scientists to look at the slave trade as proof of the lower order of negroes when European civilisation witnessed more development and colonial expansion as compared to Africa.

In short, scientists participated in provoking racism by linking the theory of evolution with the classification of humans. The role of slavery was the basis on which scientists proved Negroes to be a lower class than whites.

## 5. The slave trade

It could be argued that the slave trade was a link in the chain of European development and its commercial growth. It might be fair to describe that era as a revolution, not only in terms of economy, but also knowledge and discovery. Before 1400 AD, Europeans did not know about African slaves, as Rawley and Behrendt (2005) claimed. This claim contrasts with Walvin’s (1992) assertion that Muslim blacks were generally known in Spain in the 11<sup>th</sup> and 12<sup>th</sup> century.

As the Industrial revolution grew the demand for labour also increased, and, therefore, it was likely that domestic wages would rise. This led to a search for cheap labour in order to cover the gap in supply and stem this increase. At that point, the trade slave was the only alternative (Eltis, 1999). Furthermore, the slave trade may be regarded as the basis of modern trade according to some writers, such as Marx (2005).

Marx’s view (2005) was clear when he highlighted the benefits of slavery and its importance in modern international trade. Slavery was a marginal part of the modern capitalist system, through which the rapid increase in world trade and the industrial sector developed:

“Slavery is an economic category ... Direct slavery is the pivot of bourgeois industry as well as machinery, credits, &c. Without slavery you have no cotton; without cotton you have no modern industry. It is slavery that has given the colonies their value; it is the colonies that have created world trade, and it is world trade that is the pre-condition of large-scale industry. Thus slavery is an economic category of the greatest importance” (Marx, 2005: 121)

As can be seen, he attributed global gains to slavery, regardless of other elements, and considered slavery as the first stage in this chain. One of the limitations of this explanation is that Marx's interpretation relies too heavily on slavery, but despite that it was one of the earliest theories connecting slavery centrally with economic development.

America had become an attractive and appropriate environment for immigrants, receiving a number of white immigrants from various European countries such as Britain, Germany, Italy, and Poland in the nineteenth century (Lincoln and Mamiya, 2003). Therefore, the economic sector witnessed, between 1840 and the early twentieth century, a racial competition that resulted in almost pushing blacks to disadvantage (Lincoln and Mamiya, 2003). For example, between 1947 and 1987 unemployment among blacks was double that of whites, and black businesses represented only 2.7% of all businesses in 1972. The situation continued to get worse for the next 14 years (Lincoln and Mamiya, 2003).

The theory of economic competition might be proved by comparing America's slavery with the case in Europe; the latter had a much smaller proportion of blacks. In the last quarter of the seventeenth century 0.2% of the population were black in Britain, and only 0.02% in France, while the proportion in America ranged between 2% and 60% (Drescher, 1990). Walvin described toleration within British society among white and black labour to the extent that they worked together in "Cutting back the bush, building homes and clearing fields and roads" (1992: 53). Also, Jordan (1962) mentioned that whites and blacks were not concerned about their colour in the seventeenth century, which may support the idea of competition, in that slaves became competitors only after they were freed.

One of the racial consequences of slavery is that it contributed to a division of work between races, in that some jobs were considered for blacks. For example, field work was considered for blacks even if there were poor whites; on the other hand 'skilled tasks' were kept for whites (Jordan, 1962).

Secondly, when slavery had become a visible phenomenon that required the government to react, legislation was used to expand the gap between Negroes and whites. As Vaughan explains, "When the Africans' place became fixed by law at the basest level, they became objects of extreme degradation: 'the trace of colour became the trace of slavery'" (1989: 318). In 1636, the government in Barbados announced that "Negroes and Indians that come here to be sold, should serve for life" (Vaughan, 1989:341). Laws regarding slaves and slavery extended to deal with

many aspects, such as not allowing marriage among slaves, slaves' children did not have known fathers, and forbidding teaching slaves writing and reading (Lincoln and Mamiya, 2003). It was not only slaves who struggled because of their colour, but also free blacks, who had to prove their freedom; this was especially problematic for those who did not have papers. In 1806 there were 600 persons kidnapped (Wilson, 1994); some free blacks moved from place to place in order to escape from discrimination and the connection of their blackness with slavery, as some Virginians did when they moved to Maryland (Vaughan, 1989). The distinction between Negroes as black, irrespective of whether they were slaves or free, and the whites, started in Chesapeake, and became 'the norm' in America, as Davis (2006) noted.

Regarding the argument above, whether or not there is a relationship between slavery and racism, it might be suggested that the case of the United States does not differ from others, in that slavery was the foundation on which racism stood. The slave trade started as an economic factor on which the New World depended to develop; later, after a massive number of black slaves were freed and came alongside white immigrants, whites (the stronger) competed with blacks (freed slaves / the weaker). In other words, "The most severe forms of racial discrimination against black people have been economic in character" (Lincoln and Mamiya, 2003: 283). For example, one of the obvious ways that blacks suffered neglect was from the growth in the power of labour unions, which excluded blacks and sought jobs for whites (Klarman, 2004). Vaughan (1989) argued that Negroes, free or slaves, had never been treated as equal to whites either prior to or after the 1660s, which means racism was practiced before slavery and the economic sector did not play a role. That leads to another discussion as to whether Negroes were slaves before 1660s, or servants for life. Jordan (1962) contended, with some evidence, that some Negroes were free, such as those who owned other Negroes; the price paid for Negroes was much higher than that for whites. To combine these two views it could be suggested that racism was practiced at an individual level; however, racism did not reach the level that can be considered a phenomenon that drew institutions' attention until the competition of economic development, or as Castles and Miller (2003) describe the two level of racism as informal, and institutional or structural.

## 6. Conclusion

Having discussed the relationship between slavery and racism in terms of how slavery causes racism, to answer the main question of 'the relationship between slavery and racism', it might be suggested that there is one basic fact that has been shared through history, that slavery itself is a

result of the development of economies. The main factor on which the economy depends is human resources, which were provided by the slave trade. The massive influx of slaves into society influences both social demography and the economic sector, which drives governments to make efforts to legitimate slavery and produce policies to organise slaves in relation to society in general. The government, as they are in the position of power, tend to benefit from slavery no matter to what extent slaves will be disadvantaged. At that point racism is born from slavery by the combination of the feeling of superiority and the translation of this belief into actions.

One result that has appeared regarding privilege and racism is that the shape of privilege differs from civilisation to civilisation depending on what each civilization values. The case of the Greeks showed that the matter of intelligence and having a democratic political system were the most important elements, and, therefore, they used these to distinguish themselves from barbarians; it was a mental rather than a physical distinction that linked made the barbarians a collective ethnic group. On the other hand, in America the economic aspect was the most important and there was no easy way to distinguish between Americans and their revivals, freed slaves (blacks), so they utilized colour as the distinction between them (whites) and others (blacks). At that point the role of religion, the story of Ham, and the sciences, the theory of evolution, became justifications because both dealt with Negroes in a discriminatory way.

Despite the fact that many books and articles have been published regarding slavery and racism, this field still requires more research; in particular as it relates to our modern world. Slavery has gone, but what about racism? Is modern immigration expected to have the same role as the slave trade, or not? Especially when it comes to Muslim immigrants.

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## Comparison between Waterproofing Sheets Membrane and Polyurea Waterproofing Coating Methods

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### Abstract:

This research aims to compare between Waterproofing Sheets Membrane and Polyurea Waterproofing Coating Methods, and know the waterproofing methods applying time, cost, weight, materials durability, and the waterproofing methods materials fire resistance properties. The research used qualitative analysis techniques to compare the two waterproofing methods objectively, Through lab testing, researchers found that: the polyurea waterproofing coating method usually takes between 1 to 2 working days to apply while the traditional sheet membrane waterproofing method takes between 5 to 7 working days applying time, and the polyurea waterproofing coating method can be more expensive than the traditional waterproofing sheet membranes method. Applying polyurea requires specialized equipment and trained personnel for proper handling and application, Both methods' materials weight are considered relatively light but the polyurea coating method materials are lighter, the polyurea waterproofing coating system lasts up to 30 years. Rather than the traditional system which durability is up to 20 years, the polyurea waterproofing coating system is considered a good fire resistance system rather than traditional sheet membrane system. It is recommended to clean and clear the surface before the commence of the waterproofing process. and the surface needs to be tested for at least 3 full days to confirm that the waterproofing system was applied successfully and without missing any openings.

**Keywords:** Waterproofing, Sheets, Membrane, Polyurea Waterproofing, Coating Methods

## 1. Introduction

The main waterproofing methods used in the construction field in the Arabic gulf area are the sheet membrane waterproofing method and the polyurea waterproofing coating method. sheet membrane waterproofing method is the oldest and most classic waterproofing type, in which is a pre-fabricated, continuous sheet material specifically designed to form a barrier against water intrusion. It's essentially a large, flat sheet that acts like a water-proof blanket for the building element. They come in large rolls and are unfurled and laid flat on the surface that needs protection. Made from various waterproof materials like PVC, EPDM, or TPO, that are Installed directly on the substrate (the underlying surface) using adhesives, torches (for some types), or mechanical fasteners. For the purpose of creating a watertight seal to prevent water leakage and damage to the underlying structure. Waterproofing sheet membranes are widely used in construction projects for various applications like protecting foundations, basements, and underground structures, shielding roofs from leaks and water infiltration, waterproofing bathrooms, plazas, balconies, and other areas exposed to moisture, preventing water migration through walls and potential structural issues and creating a watertight container and stopping leaks (company, 20221).

The other method is the and polyurea waterproofing coating methods. Polyurea offers a robust waterproofing solution applied through a specialized spray method. The polyurea coating method considered as a modern method and the materials used are two-component polyurea system: This usually consists of an isocyanate component and an amine-resin blend component. In addition to plural-component spray equipment that includes heated tanks, hoses, and a spray gun for precise application. The coating process starts by surface preparation, the substrate (surface to be waterproofed) is thoroughly cleaned and prepared. This may involve removing dirt, debris, and any existing coatings that could affect adhesion. Afterwards, the polyurea components are loaded into separate heated tanks within the spray equipment. The system heats the materials to the appropriate temperature (typically around 140°F to 160°F) for optimal reaction and application. After that, the heated components are then proportioned and mixed at a precise ratio (usually 1:1) within the equipment and sprayed onto the prepared surface using a specialized spray gun. The polyurea reacts rapidly upon contact, curing within seconds to minutes, creating a seamless and monolithic membrane. Next, the applied coating is inspected for proper thickness, uniformity, and pinholes. Additional coats may be required if necessary. Last but not least, the polyurea cures



completely within a short time frame, allowing for faster project completion compared to traditional methods (Magazine., 2014).

### **1.1. Research aims**

This research aims to:

- Compare between Waterproofing Sheets Membrane and Polyurea Waterproofing Coating Methods applying to the time, the cost, the weight, and materials durability, and the waterproofing methods materials fire resistance properties.

### **1.2. Study methods:**

The researcher used the comparative analytical approach based on the results from laboratory tests and previous studies on the research topic.

### **1.3. The study framework**

The study farmwork will demonstrate the function and aids of using the sheet membrane waterproofing method and the polyurea waterproofing coating method and compere between the methods in various aspects supported by lab tests and practical filed experiments

The study farmwork can be summarized in the following bullet points:

- 1- The waterproofing methods applying time.
- 2- The waterproofing methods applying cost.
- 3- The waterproofing methods materials weigh.
- 4- The waterproofing methods materials durability.
- 5- The waterproofing methods materials fire resistance properties.

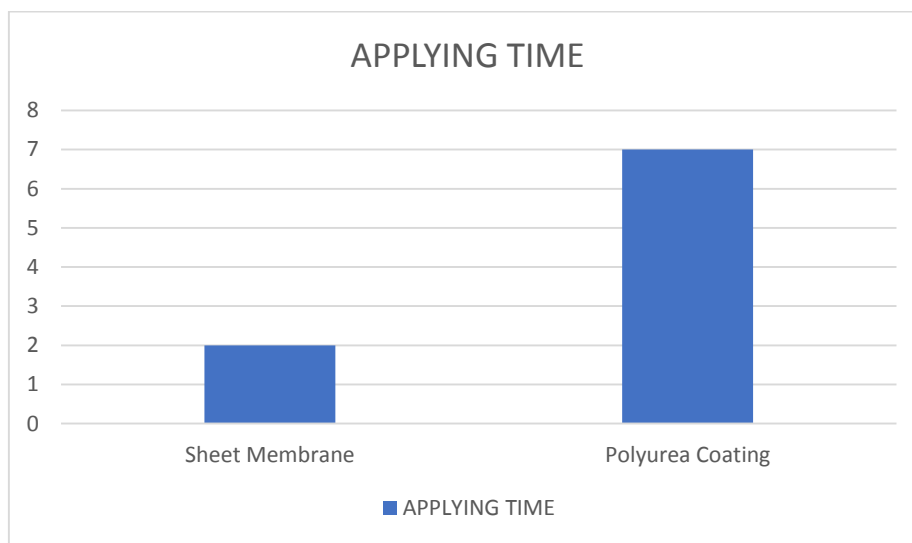
## **2. The waterproofing methods applying time.**

The polyurea waterproofing coating method usually takes between 1 to 2 working days to apply while the traditional sheet membrane waterproofing method takes between 5 to 7 working days applying time.

The following table demonstrate the applying time for 100m<sup>2</sup> roof surface waterproofing using the sheet membrane method and in comparison, with polyurea method.

**Table (1)** methods applying time requirements.

Water proofing system	Time required to Apply(days)
Sheet Membrane (1)	2
Polyurea Coating (2)	7



**Chart (1):** Waterproofing method applying time comparison.

### 3. The waterproofing methods applying cost

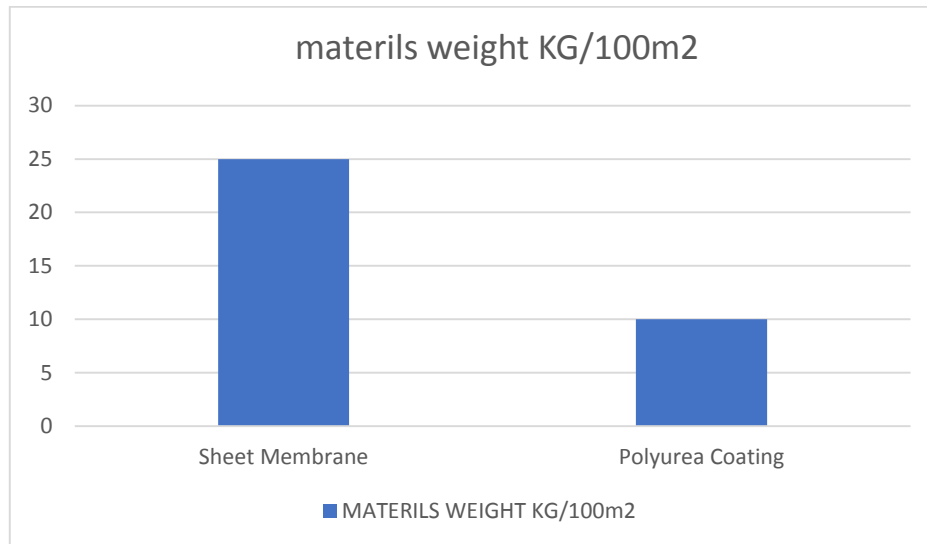
The polyurea waterproofing coating method can be more expensive than the traditional waterproofing sheet membranes method. Applying polyurea requires specialized equipment and trained personnel for proper handling and application. This can translate to higher upfront costs compared to the traditional method. The comparison excludes the protective foam 30cm layer.

### 4. The waterproofing methods materials weight

the polyurea waterproofing coating materials weight is around 10 kg per 100 m<sup>2</sup> square surface. However, the traditional sheet membrane materials layers wrights around 25 kg per 100 m<sup>2</sup> square meters. Both methods materials weight considered relatively light but the polyurea coating method materials is the lighter, the comparison excludes the protective foam 30cm layer.

**Table (2)** methods materials weight per 100 square meter surface.

Water proofing system	Weight KG/100m2
Sheet Membrane (1)	25
Polyurea Coating (2)	10



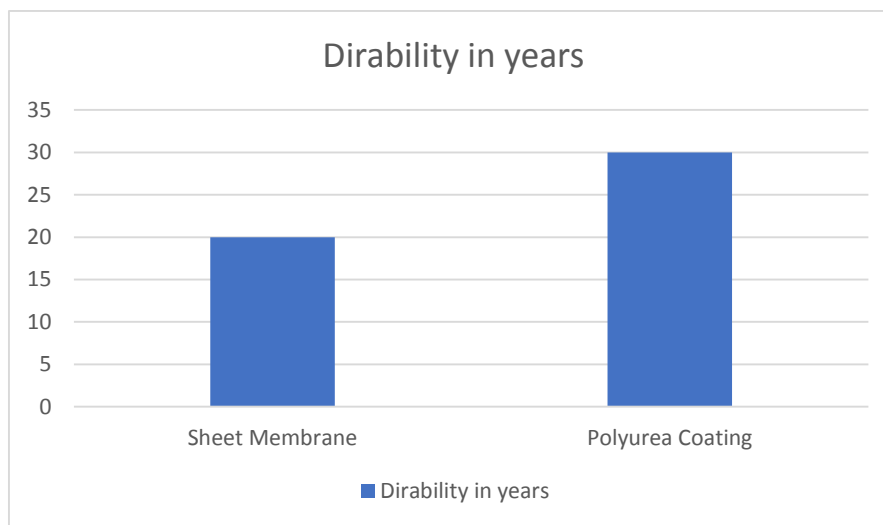
**Chart (2):** Materials Weight KG/100m2

**5. The waterproofing methods durability.**

the polyurea waterproofing coating system last up to 30 years. On the other hand, the traditional sheet membrane system durability is up to 20 years, which gives the polyurea waterproofing system the advantages in the durability aspect.

**Table (3)** Systems durability in years.

Water proofing system	Durability in years
Sheet Membrane (3)	20
Polyurea Coating (3)	30



**Chart (3):** Waterproofing systems durability in years.

### 6. The waterproofing methods materials fire resistance properties.

The polyurea waterproofing coating system considered a good fire resistance system that can resist up to 30 minutes (whitechem, 2020). Unlike the traditional sheet membrane system that does not have a fire resistance ability.

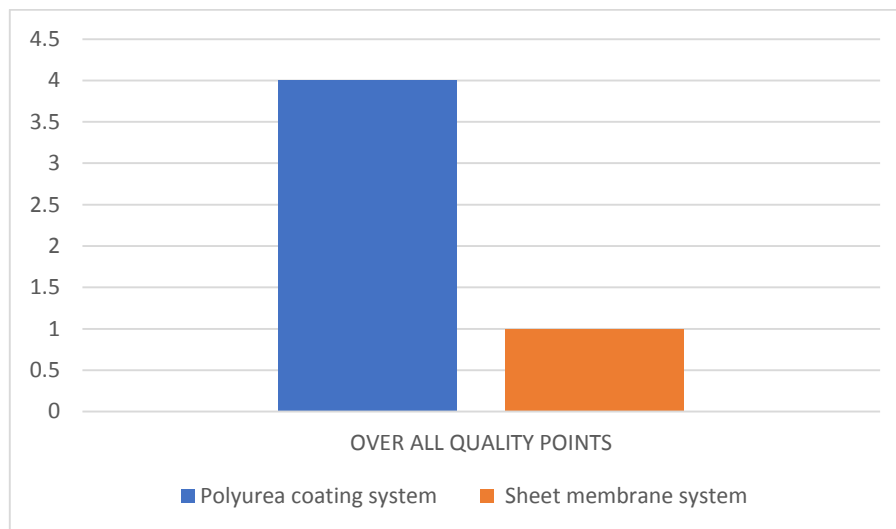
### 7. The study Results Discussing

The above results in table (1) shows that the polyurea waterproofing coating system are fast to apply that requires only 1-2 working days than the traditional sheet membrane system that requires up to 7 days applying time. In addition, the data in table (2) indicate that the polyurea waterproofing coating system is lighter than the traditional sheet membrane system by approximate 40%. Moreover, as shown in table (3) the polyurea waterproofing coating system has a better durability time span of 30 years than the sheet membrane system that last for up to 20 years only. Additionally, the polyurea coating system has fire resistance ability of a rate around 30 minutes unlike the sheet membrane system that does not has such function, on the other hand, the polyurea waterproofing coating system fix costs more than the sheet membrane system due to the requirement of a certain equipment set and special labour skills.

The study results for the Polyurea coating system superior quality comparison points can be summarized in the following table (4) and chart (4).

**Table (4)** Result Summary table.

System method	Polyurea coating system	Sheet membrane system
Building time	1	
Less cost		1
Lighter Surface Mass	1	
Durability	1	
Best fire resistance	1	
Overall quality points	4	1



**Chart (4):** Summary Chart overall quality points Compression Chart.

### 8. The study conclusion

The Polyurea coating system are the better modern era waterproofing system because of the system properties values that suppress the traditional sheet membrane system method starting with the Polyurea coating system fast fixing time, Furthermore, being a light weight waterproofing system that tolls less load on the buildings structure and less pressure on the building man power that results in more work activity per day. Moreover, the Polyurea coating system has fire resistance properties that can withstand active fire for up to 30 minutes. Additionally, the Polyurea coating system has a better life span than the sheet membrane system that can last up to 30 years. On the other hand, the Polyurea coating system applying cost is more than the sheet membrane method but that downside can be compensated with the stated advantages of the Polyurea coating system method.

## 9. The study Recommendations

It is recommended to clean and clear the surface that to be waterproofed before the commence of the waterproofing process. Additionally, the level of hydrostatic pressure the membrane will need to withstand should be Considered. For example, basements or buried structures require higher water resistance compared to a plaza deck. Moreover, the surface need to be tested for at least 3 full days to coniform that the waterproofing system was applied successfully and without missing any openings.

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## Brain Death and the Extent of Acceptance of Donating Organs for the Brain-dead in the Arab Gulf Countries

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## Abstract

The research aimed to examine awareness of brain death definition, diagnosis criteria, and organ donation acceptance in citizens and residents of the Gulf countries. It explores acceptance levels, personal, and cultural differences affecting donation decisions. The study used the online questionnaire by applying it to the six Arab Gulf countries in addition to Iraq during 2024. A 1176 responses were obtained as a random sample of the study population, and after analyzing the data, the research reached several results, the most important is that: the willingness to donate organs for brain-dead individuals is directly proportional with a lack of understanding brain death concepts, medical protocols, legal implications, and religious perspectives. Additionally, there is a lack of coordination with the brain-dead individual's family regarding the donation process, decision-making, and who is responsible for that, and the fear that the donor's family will reject the idea. The research recommends spreading awareness about brain death, and organ donation benefits, the necessity of having a responsible person, a family member, during the period of brain death, who will be the link between the medical staff and the family of the deceased to organize and encourage the donation, and the necessity of adopting methodologies for decision-making and considering family mental health.

**Keywords:** Brain death, acceptance, donating organs, Arab Gulf countries, Cultural and societal factors

## 1. Introduction

The brain death is a most prominent developments in medical science and knowledge, which was destined to see the light, and about which a great controversy arose among the vast majority of doctors, Islamic Sharia jurists, jurists, and jurists. Where - that is, this debate - took place in the context of whether brain death is considered a real and certain death, and therefore the end of human life, or is it not so, and has not yet reached the point of absolute certainty that death occurs and the soul leaves the body?

The second half of the twentieth century witnessed an amazing development in medical sciences and many scientific achievements, such as artificial insemination and cloning, as well as the spread and expansion of human organ transplantation and transfer, the latter being considered one of the most important concerns.

Prominent topics because of their major role in saving patients whose lives are threatened. With certain death, it became possible to transfer organs or parts from one person to another, whether the first person was alive or dead.



Previously, determining the time of death did not raise any medical, religious or even legal issue. But with recent medical developments, a new concept of death has emerged based on the death of the brainstem without the need to wait for breathing and blood circulation to stop. This concept is supported by a large number of doctors, as brain death is considered a major source of extracting organs for transplantation and saving the lives of other patients. (Starr R, 2022)

This disagreement over the definition of brain death has led to different opinions regarding the legal consequences of death. Whoever believes that brain death is a legitimate and legal death applies the effects of legal death, such as annulment of marriage and distribution of inheritance to the person's heirs immediately after his brain death occurs, without the need to wait for breathing to stop. And blood circulation. While others who do not consider brain death a legal death consider brain death a stage of death, and it only entails legitimate and legal consequences related to the loss of capacity and the condition of patients facing the stage of death.

Therefore, it was necessary to address this context in the Arab Gulf countries, and follow up on any new problems, circumstances, and precise details. To clarify its ruling from a legitimate, legal, customs, and culture, perspective, and the extent of society's awareness of this in order to limit any disorder or deviation that could lead to prejudice to the prevailing values and morals in various societies, and the rules of interaction and limits of behavior known to humanity, many of which have reached the point of sanctity; Such as the sanctity of life, and the sanctity of violating physical integrity, As well as the extent of society's acceptance of organ donation according to the definition and awareness of brain death.

### **1.1. Research problem**

The research problem is the extent of acceptance of brain-dead organ donation in the Arab Gulf countries, and the challenges of applying these standards in a consistent and effective manner. The research problem can also focus on challenges that may be complex and differ from one culture to another, such as the technical, legal, ethical and social challenges in this context, which It calls for research to understand different opinions and positions and to develop an ethical framework that can be agreed upon globally. The problem lies in the main question: What are the challenges facing accepting the donation of brain-dead organs in the Arab Gulf countries?

### **1.2. Research question**

1. What is brain death and what are the criteria and conditions for its diagnosis?
2. What are the legal and ethical aspects of diagnosing brain death?

3. To what extent do people of the Gulf countries know about donating organs for brain-dead people in the Arab Gulf countries?
4. To what extent is donation of brain-dead organs accepted in the Arab Gulf countries? Are there differences between countries regarding approval to accept the donation of organs of a brain-dead person?
5. Do citizens of the Arab Gulf states adhere to personal or cultural beliefs regarding donating organs from brain-dead patients?

### 1.3. Research aims

1. Definition of brain death and criteria and conditions for diagnosis.
2. Comprehensive and ethical coverage of the diagnosis of death.
3. Explaining the extent of knowledge of citizens and residents of the Gulf countries about the issue of organ donation for people with simple death in the Arab Gulf countries.
4. A study of brain-dead organ donation acceptance in the Arab Gulf countries, and identifying the differences between the Gulf countries with regard to approval to accept brain-dead organ donation.
5. The revealed with personal or cultural beliefs regarding organ donation for the number of brain dead patients.

### 1.4. Research importance

The importance of the research lies in the sensitive humanitarian aspects related to patients' rights and the urgent need for organs to save their lives and improve their quality of life. It also highlights medical developments and modern technologies that help diagnose cases of brain death, and how they can be developed and employed more effectively in supporting organ donation. It also explores Researching the ethical and legal and culture aspects related to organ donation in the Gulf countries, and seeks to improve the personal orientations and regulations related to this aspect to facilitate and encourage the donation process, and its practical importance lies in increasing public awareness about the importance of organ donation and its benefits to society, and directing decision makers towards taking the right health policies to promote donation and increase the number of Donors, and in general, this research contributes to providing comprehensive and integrated solutions to enhance the organ donation process and thus save people's lives and improve their health.

## 2. Literature Review

The researcher reviewed the literature and mentioned some studies related to the subject of the study as followings:

### 1) **Jinan M. Aljaseem, et al. (2023), Awareness Level Regarding Brain Death and the Acceptance of Organ Donation in Eastern Province, Saudi Arabia,**

This study conducted in Saudi Arabia. The study reported a moderate level of awareness of light death, This study highlighted the level of cognitive awareness of basic death and acceptance of individual donation among residents of the Eastern Province of the Kingdom of Saudi Arabia, through the use of a questionnaire, The eye showed Saudi males and females over the age of eighteen, and the study concluded that the participants had a high level of awareness of death, Understanding death is essential to encourage donation of their organs, so people should make more effort to inform and educate the public about death and a large part of it is on organ donation.

### 2) **Suchita Kosare and Apeksha Gala, (2019) Brain Death and Organ Donation, Research.**

In this review, we attempt to delineate the criteria for brain death as well as the testing methodology. The challenges and the legal aspects related to organ donation have also been discussed, The study reported that, The number of organ transplantation has risen exponentially in the last few decades. The concept of brain death and the ability to harvest vital organs in a limited time have contributed to the recent success,

### 3) **Afaf Barahma. (2020) Organ donation after death from a jurisprudential perspective, and the extent of Saudi society's awareness of organ donation and of King Salman's efforts to donate organs**

This research dealt with the provisions of organ donation. In it, I reached some results, the most important of which are the following: Organ donation allows the donor to benefit from another of his organs during his life or after his death without compensation, and that the reward resulting from organ donation is because it brings benefit to the patient, and the reward of ongoing charity for the donor, and that the types of donation Three of them are transferring an organ from a person to himself, such as skin grafting, and this is permissible. The most important thing that the research recommended is urging members of society to donate organs after death, especially after it has been approved by jurisprudence academies, and educating members of society about the importance of organ donation, its reward, and the benefits sought from it.

#### **4) D. W. McKeown<sup>1</sup>, (2012) Management of the heart beating brain-dead organ donor.**

This study found that there is great variation in the treatments and techniques used to achieve these goals. This is partly because optimal combinations of treatment goals, monitoring, and treatment techniques have not yet been fully defined. However, the key to future developments and research into component technologies is to ensure that currently recommended treatments are delivered consistently and to a high standard, and that there is increasing evidence that moderation of these pathophysiological changes through active management in intensive care preserves organ function and thus increases the number of Organs available for transplantation and their functional quality. An active donor management strategy requires a change in philosophy and treatment on the part of ICU clinicians and has significant resource implications if it is to be delivered reliably and safely.

#### **5) Alaa Marouf Al-Taie. (2018) the role of altruistic values in university youth's attitudes towards organ donation after death, a field study on a sample of University of Sharjah students.**

The study aims to understand young people's attitudes towards organ donation after death and the role of their values in shaping these attitudes in the Emirates. The study adopted several hypotheses, including rational choice theory and capital formation theory. The study focused on the concepts of altruistic values, organ donation, and youth attitudes. The study used a social survey method and research tools such as a scale and an interview guide, and collected data from 400 participants and 50 interviews. The study showed that people with high attitudes towards organ donation have high altruistic values, while those with low attitudes have low altruistic values. The study also showed that awareness of legality is a major obstacle to the idea of organ donation.

### **3. Theoretical framework**

#### **3.1 The concept of brain death**

The developments in life, and what modern discoveries offer, increase day after day in all fields, and among the latest developments in the field of medicine is what relates to the conditions of patients who are placed under life support in intensive care units, without feeling or movement, after their brains die, and progress in methods such as Resuscitation and its modern devices separate the work of the brain from the work of the heart.

If the heart and lungs stop working due to brain death, the heart and lungs can be revived and restored to work. The cessation of the heart and the breath was the recognized sign of death, and

this was not the subject of research and discussion. Rather, it was something agreed upon among doctors, but with the medical progress in artificial resuscitation devices, and what scientific research revealed in terms of knowledge of the parts of the brain, determining the function of each part, the possibility of measuring its functions, and knowing its effect on the functions of the body's organs, all of this led to the emergence of a new definition of death. It is brain death, and this definition was not known until after the existence of artificial respirators, because brain death causes the cessation of all bodily functions, including breathing, heartbeat, and hormonal balance, (alqahtani, 2018) Given this extreme importance of this topic, scientific conferences were held for it, to study its legal ruling, which He still needs to increase research, focus on the descriptions that influence his ruling, and constantly follow up on the medical research and scientific studies that he finds in it, in order to reach knowledge of its rulings and controls, because what has been written about it is mostly because medical science, like all other modern sciences, is a renewable science that is rapidly advancing. Every day he discovers what was not known yesterday. (Al-Far, 2023)

### **3.1.1 Definition of brain death and criteria for its diagnosis**

#### **3.1.1.1 Definition of brain death**

Brain death is the permanent disruption of all brain functions, including the brainstem. Accordingly, a decision was issued by a number of medical committees, and this definition has become accepted in medical circles, (David, 2023) Brain death is also defined as the patient falling into a permanent coma, while not responding to pain stimulation at all, even if it was strong and painful, and repeated, thus causing spontaneous breathing to permanently stop. This can be detected by disconnecting the respirator from the patient for ten minutes, (Kirschen, 2023) It is also defined as an inability to breathe, and the cessation of basic brainstem functions (2), and it is the absence of electrical waves emanating from the brain in the electroencephalogram. (Shemie, 2023), There are many causes of brain death, including stroke, subarachnoid hemorrhage, intracerebral hemorrhage, and cardiopulmonary arrest with appropriate resuscitation.

#### **3.1.1.2 Criteria for diagnosing brain death**

In 1968, new criteria for determining death began to appear, as a committee at Harvard Medical School issued a landmark report that proposed irreversible loss of brain function as an independent criterion for determining the occurrence of death. The report referred to the criteria adopted for diagnosing death on the basis of brain death, which are: (Spears, 2022), (OMELIANCHUK, 2021), (Truog, 2018)

**The first condition** includes the conditions that are set before it is performed, which is that the injured person must be in a deep coma from which he cannot be awakened, and also that the cause of the coma be known, such as severe brain damage due to a severe blow to the head, a large tumor inside the skull, or a loss of blood to the brain, or Head surgery, and this is confirmed by the necessary diagnostic means, by ruling out any case of the victim being in a coma under the influence of sedatives, narcotics, toxins, muscle relaxants, glandular disorders, or a drop in body temperature below 33 degrees Celsius, or it is not known. Its cause. In such cases, symptoms similar to brain death occur, but they are curable with appropriate treatment, and should not be confused with brain death. Finally, at least six hours have passed since the victim fainted.

**The second condition**, which is what lies after its procedure, its conditions are that the patient be in a deep coma with a lack of awareness and response to any stimulus, regardless of its level, and also the inability of the injured person to breathe normally while stopping the breathing pump for a specific period, and certainly the presence of clinical signs of cessation of brainstem functions. This includes the absence of the pupillary and corneal reflex, the cough reflex, vomiting, the pharyngeal reflex, etc. Finally, a complete cessation of brain functions must be ensured, a cessation that lasts for the period of observation, which is twelve hours from the diagnosis of deep coma, and the observation period is increased to twenty-four hours in children. From two months to one year, and for those less than two months, it is increased to seventy-two hours.

**The third condition**, which applies to the person who diagnoses it, this condition includes that the diagnosis be carried out by two doctors with experience in diagnosing cases of brain death, according to recognized medical standards. It is preferable to consult a third doctor who specializes in neurological diseases when needed, and that one of the two doctors is a specialist. In neurological diseases, brain and neurosurgery, or intensive care, the doctor must not be a member of the organ transplant team, or have a special interest in announcing the death of the injured person, such as if he is an heir or legatee.

### **3.1.2 Legal and ethical aspects of diagnosing brain death.**

The final diagnosis of the fact of death is due to the social reality that includes medical, legal, religious and ethical aspects that vary from one country to another and are affected by local laws and cultural and religious values. Below are some legal and ethical considerations that must be taken:

**Legal legislation:** Legislation that defines the criteria for diagnosing brain death must be determined in each country. This includes regulations regarding the time between the two tests required to confirm brain death and the procedures that must be followed to correctly confirm brain death. (alqahtani, 2018)

**Informed consent:** Ethically, informed consent must be obtained from the person or his or her representative (such as a family member) for brain death testing and the decision to discontinue treatment if brain death is diagnosed. (Spears, 2022),

**Fairness and equality:** Ensuring that the diagnosis of brain death is made fairly and equally, without bias or discrimination based on gender, race, religion, etc. (Spears, 2022),

**Preserving human dignity:** The dignity and personal rights of the deceased must be respected after death, including full respect for the wishes of the deceased regarding his body and organs. (Suchita, 2019)

**Compensation and legal liability:** Legal problems and issues may sometimes arise regarding the diagnosis of brain death, especially in decisions related to donating organs of the deceased or related to stopping treatment. (McKeown, 2012)

**Religious and cultural guidelines:** The religious and cultural orientation of the brain-dead person and his or her family must be taken into account, as certain values and beliefs may influence brain death diagnosis and decision-making. (alqahtani, 2018)

### **3.2 The extent of acceptance of organ donation for the brain-dead in the Arab Gulf countries**

In the Arab Gulf countries, the issue of brain death and organ donation after it is dealt with differently according to the laws and legislation of each country. Also, customs, traditions, and cultural and religious influences are a large part of this matter, as most Gulf countries go to encourage organ donation and develop and modernize transplant systems, While these efforts may face challenges such as laws and legislation related to organ donation, and cultural and religious factors that may affect the acceptance of such operations.

#### **3.2.1 Cultural and religious factors that may influence acceptance of organ donation**

There are many cultural influences and religious controls in the Arab Gulf countries, which are the basis for accepting or rejecting deceased organ donations. These influences may include the following:

##### **1- Religion**

Religious controls vary and their interpretation may vary from one person to another, and therefore this difference may affect their positions on the issue of organ donation after brain death, and since

the dominant religion in the Arab Gulf countries is Islam, there may certainly be disagreement in this regard as it conflicts with its controls. And its rulings or not, this is because these societies have cultural diversity and multiple intellectual levels.

## **2- Customs and traditions**

Each country of the Arabian Gulf has different customs and traditions that are rooted in their society, which makes it difficult and affects the acceptance or rejection of donating organs of a brain-dead person, because it may conflict with their principles and traditions, some of which include considering the body of the deceased as sacred and absolutely rejecting any use of it, or even dissection of it. Or there is fear of society or relatives who may exert social pressure on the brain-dead person and his family.

## **3- Awareness and education**

The level of awareness regarding donating organs for brain-dead people in the Gulf countries is considered a major reason for rejecting or accepting organ donation after brain death. This is due to the lack of education about the extent of the medical benefit, or the benefits from a humanitarian standpoint. Therefore, it is important to work on educational and awareness programs before Charitable and humanitarian organizations highlight the humanitarian and medical benefits when donating organs of a brain-dead person, by clarifying these benefits and clarifying the relevant religious laws and rulings, to relieve tension and fear, and eliminate false information.

## **4- Lack of confidence in the medical system**

Confidence in the medical system, or lack thereof, plays an important role in rejecting or accepting the donation of organs for a brain-dead person. These fears include the belief that natural personnel are unable to remove these organs and transplant them reliably and safely. To try to gain this trust, it is necessary to ensure standards of quality, safety, and guarantee. This is done by providing equipment and trained medical teams specialized in this field, and we do not forget the role of transparency and integrity in this matter, by giving the necessary and accurate information to the families of the brain-dead person about the method of the operation and the measures that may guarantee the safety and success of the operation, or the potential risks.

### **3.2.2 The challenges that may face the issue of donating organs for the brain-dead person**

There are many challenges and difficulties facing brain-dead organ donation in the Arab Gulf countries, which are as follows:



**1- Laws and regulations:** Legislation, laws and legal procedures are considered among the first challenges facing organ donation after brain death in the Arab Gulf countries. Each country has specific legislation and regulations related to organ donation, the most important of which is the prior consent of the deceased to do so, or precise consent from his family and their insight into this matter and its signature. Therefore, to ensure the protection of the rights of the donor or his family.

**2- Religion and ethics:** Religious and ethical concerns vary in the Arab Gulf countries, which face the rejection or non-acceptance of donating organs for the brain-dead person, which shows a clear difference in their opinions and beliefs, as some people may consider it to conflict with religion or their moral principles, which impose on them the sanctity of the body. This is considered a violation of bodily rights.

**3- Organ transportation:** This point constitutes a challenge due to the challenges of time and distance, which may interfere with delivering these organs safely and quickly, in the event that there is weakness in some Arab Gulf countries in the absence of infrastructure that supports this process, such as the lack of cars or Private planes equipped to transport organs safely.

## **4. Materials and Methods**

### **4.1. Research methodology:**

The basic method used in this research is the descriptive and analytical method, given that this approach provides the opportunity for the researcher to explore the studied phenomenon through the processes of describing and analyzing it and linking its dimensions and variables with other dimensions and variables that exist within the studied society, given that this approach is used in a manner Major in human studies in societies.

### **4.2. Research community and sample:**

The population of this research was represented by all citizens and residents of the Gulf Cooperation Council countries and Iraq, whose ages range between 18 and 80 years. The research population is considered very large, and a random sample was selected to represent all segments of the study population. Thus, the sample of this research reached a value of (1174), which is considered an appropriate and sufficient percentage for the study according to the percentage chosen in the research population.

### 4.3. Study tool

The "online questionnaire" was used as a main and basic field tool in this research. This questionnaire contained four aspects of demographic data, including participants' gender, age, geographical region, and educational qualification, and Thirteen axes of inferential data analysis to study all relationships between the variables of the study, focusing on all conclusions that result from all participants' responses, The questionnaire was built based on the researcher's experience in the field of organ transplant and donation for more than 20 years, As he work as organ transplant coordinates, additional to that, Carrying out all administrative work as an administrative specialty in organ transplantation and organ donation in accordance with the official regulations and laws of the Saudi Center for Organ Transplantation as the reference center for the Arab Gulf countries. Participants were only allowed to proceed with the survey after they explicitly agreed to participate. Based on repeating the researcher's experience in applying the questionnaire's axes to the research community in the Kingdom of Saudi Arabia, obtaining similar results for the research community at the level of the Arab Gulf countries and over a varying period of time gives a positive indication of the validity of the results and conclusions.

### 4.4. Data collection and analysis methods used in this research

The data for this research was collected by distributing questionnaires to the survey participants in the study areas, and after they were all collected, the researcher worked on arranging and numbering these questionnaires, in addition to coding them and entering them into its statistical analysis program, which is the SPSS program, which is specialized in analyzing such data and classifying them. The answers to all of them, and after the researcher completed the process of filling out all the questionnaires suitable for analysis, amounting to (1176) questionnaires, the researcher carried out the appropriate analysis operations, using a number of appropriate techniques, and the most important of these statistical techniques that are valid and appropriate for this type of analysis are the following:

- 1 - Technique for extracting frequencies and percentages for the characteristics of the study sample and some other variables.
- 2 - The technique of collecting, integrating and examining the values of variables.

## 5. Results and Discussion:

### 5.1. Descriptive analysis of the characteristics of the research sample.

Analysis of the demographic characteristics of the questionnaire participants is represented by gender, age, geographical region, and educational qualification. The results are shown in Table 1.

**Table 1:** Distribution of selected sample according to demographic Characteristics (n=1176)

Age	Frequency	Percent
18-30	193	16.4%
31-40	297	25.2%
41-50	455	38.6%
51-60	172	14.6%
61-70	46	3.9%
Above 70	13	1.1%
Total	1176	99.80%
Gander	Frequency	Percent
Male	621	52.8%
Female	536	45.5%
Total	1157	98.37%
State of residence	Frequency	Percent
Saudi Arabia - Western Region	179	15.2%
Saudi Arabia - Eastern Province	101	8.5%
Saudi Arabia - Central Region	106	9%
Saudi Arabia - Northern Region	103	8.7%
Saudi Arabia - Southern Region	44	3.7%
United Arab Emirates	100	8.5%
Bahrain	106	9%
Qatar	107	9.09%
Oman	107	9.09%
Kuwait	105	8.9%
Iraq	103	8.7%
Total	1161	98.72%

Educational level	Frequency	Percent
Secondary	85	7.2%
Diploma	71	6%
University degree	535	45.4%
Postgraduate	285	24.2%
PHD degree	184	15.6%
Total	1160	98.6%

**Source:** This table was built based on the analysis of questionnaires taken from a sample

Based on the results of Table 1, Majority of participants age between 41-50 years old by (38.6%), This category represents the most aware and capable of making decisions, which gives strong and useful conclusions, Followed by the age category between 31-40 by (25.2%), There is a convergence between the sample responses in terms of gender, and the number of males was higher than that of females by (7.3%), There were 19 people who declined to respond to gender, which represents a percentage (1.6%).

As the table shows There is a higher response rate in the Western Region of the Kingdom of Saudi Arabia with a percentage of (15.2%) It is evident that the sample's acceptance of the response indicates high awareness about organ donation, while the rest of the regions came close to each other and this indicates similarity in culture and understanding of the subject of organ donation, while The southern region in the Kingdom of Saudi Arabia has the lowest percentage of representation (3.7%), and this imposes a lack of awareness of the issue of donation or abstention from participation due to the lack of knowledge of the citizens and residents of the southern region regarding the importance of organ donation, its conditions, and the concept of brain death. The response rates in the table give an impression of the extent of acceptance of the citizens of each region to participate in the study based on Understanding and cultural factors, 15 participants abstained from answering about determining the geographical area for housing, with a percentage of 1.1%, It is considered a small percentage and does not affect the answers.

Majority of participant's Educational level University degree by (45.4%), This category is considered the most aware, cultured, and most receptive and responsive to the issue of organ donation. This group also represents the most promising future in society and the most important factor for spreading the culture of organ donation.

Followed by the Postgraduate category with a percentage of (24.2%), which is considered a somewhat acceptable percentage. The Minority participant's is diploma came by percentage of (6%), and the Secondary by percentage of (7.2%) sample's response in this category indicates a lack of awareness about organ donation and its importance, and it requires spreading awareness and the culture of organ donation and the concept of brain death among secondary schools and vocational training centers.

## **5.2. Descriptive analysis of the sample's response to organ donation axes.**

The questions of these axes were formulated to determine the extent of participants' awareness of brain death, which is a condition that occurs when the brain stops working permanently and its functions cannot be restored. Donating organs from the brain-dead person is a major charitable act that aims to utilize healthy, transplantable organs from the brain-dead person to help people who suffer from serious diseases and need organ transplants to survive.

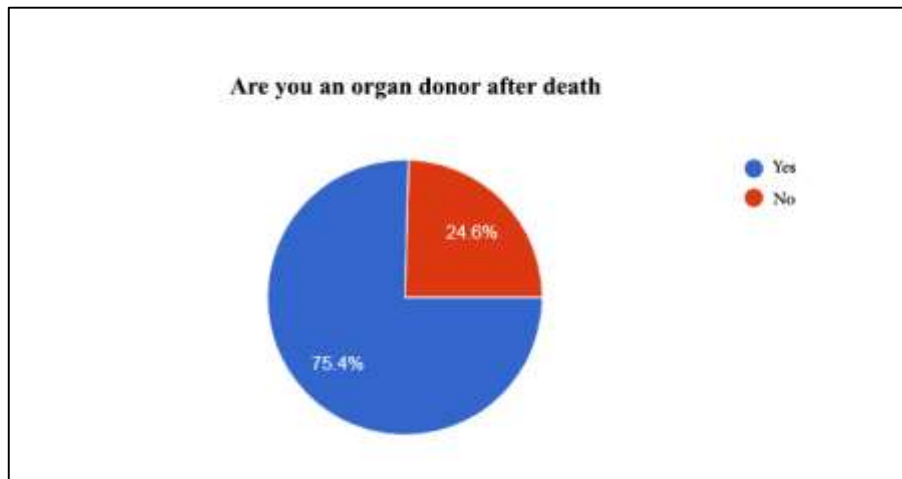
Donating organs of a brain-dead person requires careful legal and medical procedures to ensure the safety and quality of the donated organs. Donating organs from a brain-dead person can contribute to saving the lives of many people and improving their quality of life. Through this great charitable work, individuals can make a valuable contribution to their community and help others have the opportunity to live and enjoy a healthy and happy life. More than 25 thousand people in the Kingdom of Saudi Arabia and the Gulf countries are waiting for their turn for organ transplant operations. Unfortunately, many may never receive the call that a suitable organ donor has been found and that a second chance at life has arrived. According to personal estimates, one or more patients die every month in the Kingdom of Saudi Arabia due to the lack of availability of organs such as the heart, lungs, liver, kidneys and pancreas. Through the participant's answers, we derive insights that help disseminate the concepts of organ donation, and help decision makers respond and support this valuable and ethical topic.

### **5.2.1. Personal beliefs about organ donation and participants' responses to the second axis of the questionnaire?**

Through the participant's answers, we derive insights that help disseminate the concepts of organ donation, and help decision makers respond and support this valuable and ethical topic.

#### **5.2.1.1. Are you an organ donor after death?**

The participants' response was as shown in Figure (1)

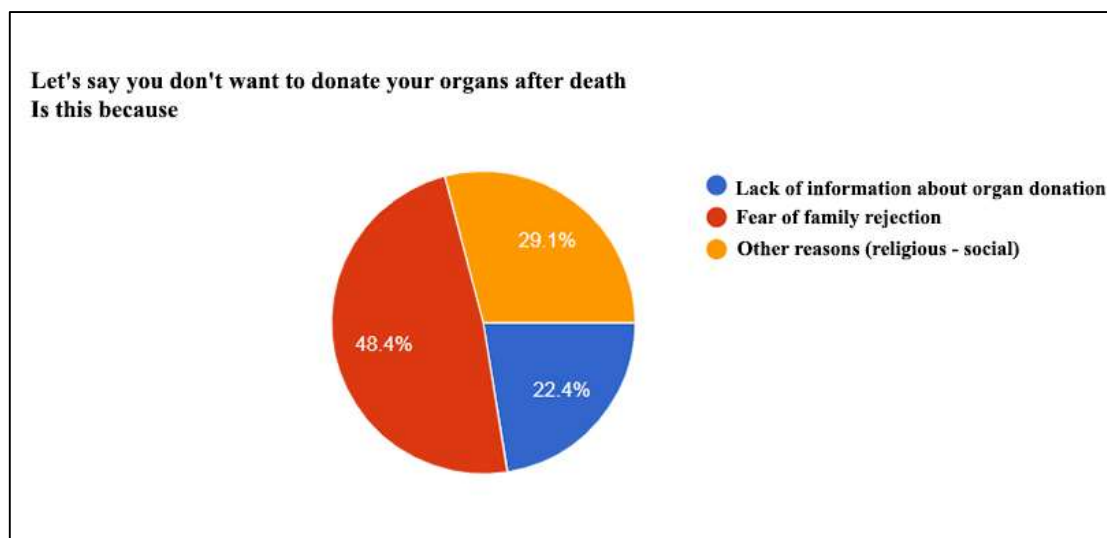


**Figure (1)** participants' response to the question: Are you an organ donor after death

The participants’ response to this question was Yes (886) (75.4%), No (289) (24.2%), We find that the acceptance or refusal of organ donation after death can be influenced by a multitude of factors, ranging from cultural beliefs and religious convictions to personal experiences and ethical considerations, And Many people may not fully understand the process of organ donation, including how it works, the criteria for eligibility, or the potential impact it can have on recipients’ lives, As well as the Trust in Healthcare System, The experiences of relatives of deceased organ donors and individuals who lived after receiving donated organs can be shared With society And on media, it may motivate others to accept the concept and principle of organ donation.

**5.2.1.2. Let us say that you do not want to donate your organs after death, is this due?**

In this question, three open options were presented to the participants, and Figure No. (2) show that:



**Figure (2)** participants' response to the question: let’s say you don’t want to donate your organ after death is this because:-

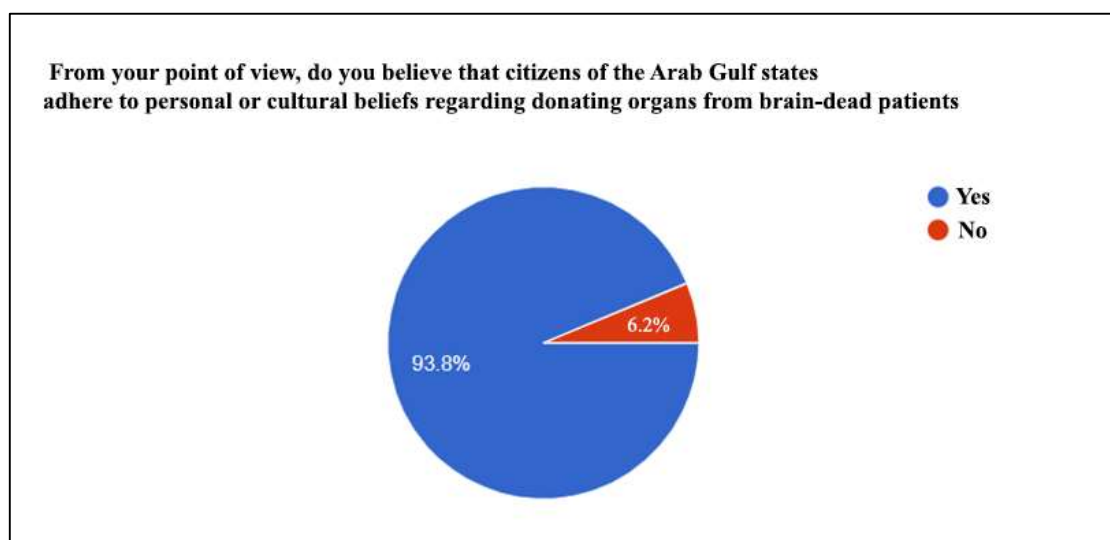
From the participants’ response, the percentage of lack of information you have about organ donation (22.4%), the fear of family rejection (48.4%), and other reasons (religious - social) were (29.1%), This can have multiple causes and varies from person to person, The reason behind some families’ unwillingness to donate organs of a brain-dead person may be a result of their lack of awareness of the importance of donation, their fear of the surgical procedure, or the cultural or religious consequences they will face.

They may also have other personal reasons, such as not wanting to think about death or what happens after brain death, or their desire to preserve their body completely. In addition, there may be a fear that their family will determine their fate after brain death without their consent, so communicating with the family and discussing the options available to them may be the method used to ensure that their wishes are respected after death.

In the end, the reason depends on the individual’s preferences and his personal, cultural and religious beliefs, which may affect his decision regarding donating his organs after cerebrovascular accident and when he is diagnosed with cerebral affliction.

**5.2.1.3. From your point of view, do you believe that citizens of the Arab Gulf states adhere to personal or cultural beliefs regarding donating organs from brain-dead patients?**

To answer this question, the participants’ response was as follows, as shown in Figure No. (3):

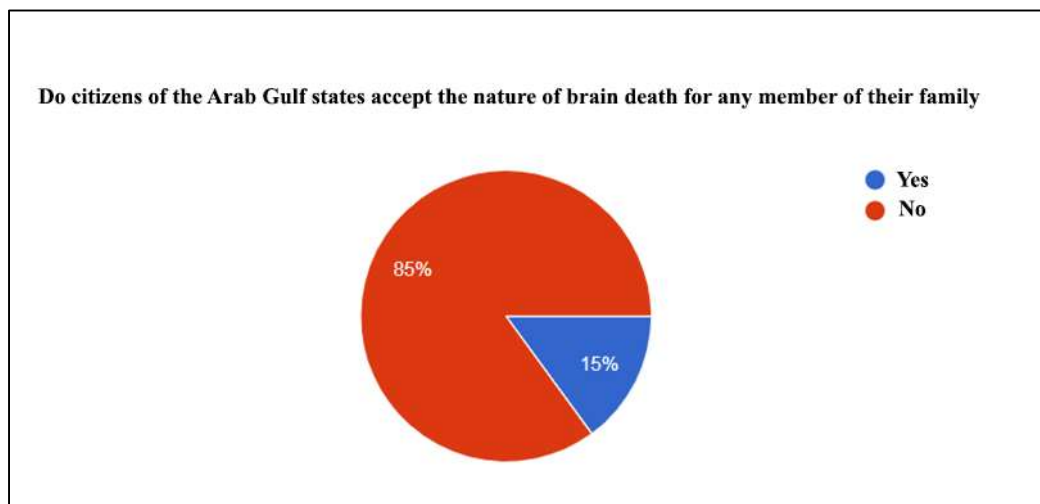


**Figure (3)** participants' point of view for believe that citizens of the Arab Gulf states adhere to personal or cultural beliefs regarding donating organs from brain-dead patients

From figure (3) Participants answered Yes by percentage of (93.8%) and No at a percentage of (6.2%), It is difficult to give a final answer to this question because it depends on several factors, including culture, education, religion, and personal orientations. However, there may be a diversity of opinions among citizens of the Arab Gulf countries regarding organ donation. Some people may support organ donation as an opportunity to save the lives of others, While others consider it to be a violation of cultural or religious practice. In the end, awareness of the importance of organ donation and education about this topic may contribute to changing viewpoints to increase the rate of organ donation from brain-available organs.

#### 5.2.1.4. Do citizens of the Arab Gulf states accept the nature of brain death for any member of their family?

To answer this question, the participants' response was as follows, as shown in Figure No. (4):



**Figure (4)** participants' answer to the question: Do citizens of the Arab Gulf states accept the nature of brain death for any member of their family

From figure (4) Participants answered Yes by percentage of (15%) and No at percentage of (85%), the Individuals in the Arab Gulf countries may differ regarding acceptance of the nature of brain death of a family member. Some individuals may accept this fact and understand it well as a result of increased awareness of the subject as well as progress in the field of medicine and science. However, others may deal with this idea with difficulty due to cultural factors. Or religious which may influence their views on brain death and its definition.

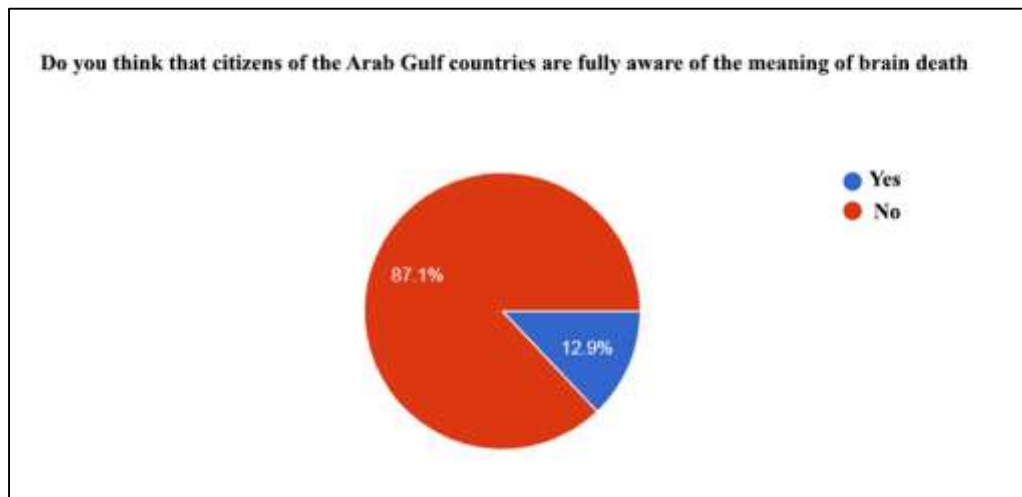
May most citizens of the Gulf countries do not accept brain death, as awareness and understanding regarding brain death can vary from one person to another, from one family to another, and from one country to another.



There may be multiple factors that affect individuals' acceptance of brain death, including culture, religion, and education, as well as Personal orientations, Some people may consider brain death to be part of the process of life and death, while others may feel difficult to accept it due to cultural or religious factors, fear of the unknown, or lack of confirmation of the diagnosis of brain death because the deceased is breathing on devices and they believe that he is still alive ( He breathes due to assistive devices).

#### 5.2.1.5. Do you think that citizens of the Arab Gulf countries are fully aware of the meaning of brain death?

To answer this question, the participants' response was as follows, as shown in Figure No. (5):



**Figure (5)** Participants' opinions about their thinks that citizens of the Arab Gulf countries are fully aware of the meaning of brain death

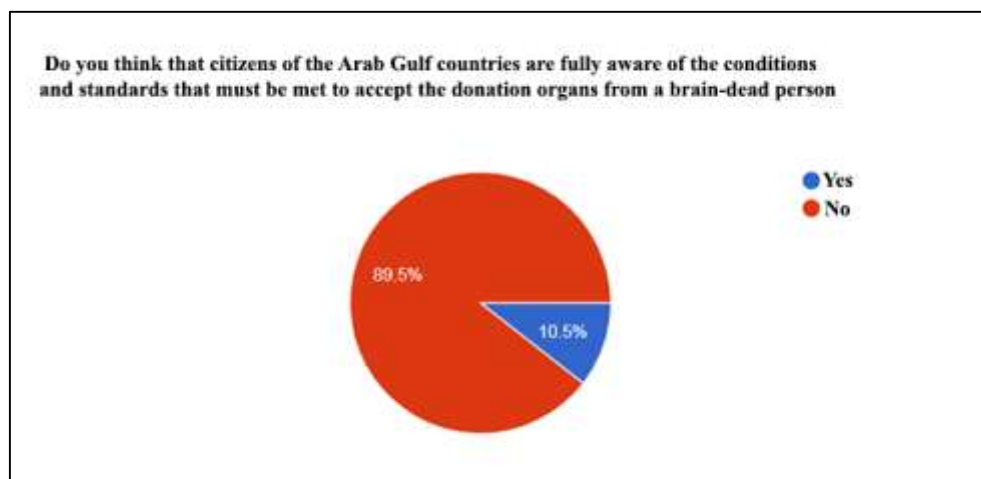
From figure (5) Participants answered Yes by percentage of (12.9%) and No at percentage of (87.1%), Awareness of the meaning of brain death may vary among individuals in the Arab Gulf countries. Some individuals may be fully aware of these concepts as a result of medical and media awareness, which increases their understanding of the processes of determining and confirming brain death according to the procedures followed, while others may be less familiar with these terms and concepts. This depends on factors such as education, culture, religious directives as well as personal orientations. If there is an interest in increasing awareness about this topic, awareness and continuous education can be provided to the Gulf community to enhance their understanding and medical concepts related to brain death. As well as from the results of the participants, the responsible authorities and media institutions need to spread awareness of the concept of brain death, the processes of diagnosing it, and the medical and legal concepts for this.

The low percentage of organ donations may be due to a lack of complete understanding of the basics and the complete mechanism in detail for brain death concept.

According to Laura A, et .al (2003) The families' understanding of brain death may be a factor that contributes to decisions regarding organ donation, the sample consisted of 403 families of organ donor–eligible patients who reported that someone at the hospital told them the patient was brain dead, Most families (96%) were told their family member was brain dead, but only 28.3% were able to provide a completely correct definition of brain death, the families informed the patient was brain dead were more likely to donate than those who did not consider the patient dead until mechanical support was turned off and the heart stopped.

#### **5.2.1.6. Do you think that citizens of the Arab Gulf countries are fully aware of the conditions and standards that must be met to accept the donation organs from a brain-dead person?**

To answer this question, the participants' response was as follows, as shown in Figure No. (6):



**Figure (6)** Participants' opinions about their thinks that citizens of the Arab Gulf countries are fully aware of the conditions and standards that must be met to accept the donation organs from a brain-dead person

From figure (6) Participants answered Yes by percentage of (10.5%) and No at percentage of (89.5%), The low level of awareness of the conditions and criteria that must be met to accept donation of organs from a brain-dead person may be due to a lack of awareness of the concept of brain death, the mechanism of donation, the procedures controlling that, the applicable laws and medical procedures associated with the donation process, as well as a lack of understanding of how to organize and carry out the donation process safely. Hence, it is necessary to raise awareness for all segments of society and organize awareness campaigns in cooperation with official bodies,

non-governmental organizations and health organizations, to spread awareness by following modern methods of infographics and short videos to address the principle of organ donation from a general perspective, raising awareness of the concept of brain death and the conditions for its diagnosis, and progressing to the benefits and value for patients waiting to donate. To have a new life for them, convey their experiences, and raise awareness about the conditions and criteria that must be met to accept organ donation.

However, this obstacle can be overcome through awareness and education about the concepts of brain death and its importance in providing an opportunity to save patients with organ failure and their families, as well as providing correct information and understanding the medical processes related to brain death and how to remove the organs of the brain-dead person. This may help in increasing awareness and acceptance among citizens in countries.

**5.2.1.7. From your personal point of view, if there was a case of brain death of a patient in a Gulf family (God forbid), would his organs be approved for donation through An individual decision for the eldest family member, or a family decision.**

The participants' responses were whether the decision to donate the organs of a brain-dead person was made through an individual decision of the eldest person in the family, or a family decision. The results were as shown in figure (7):

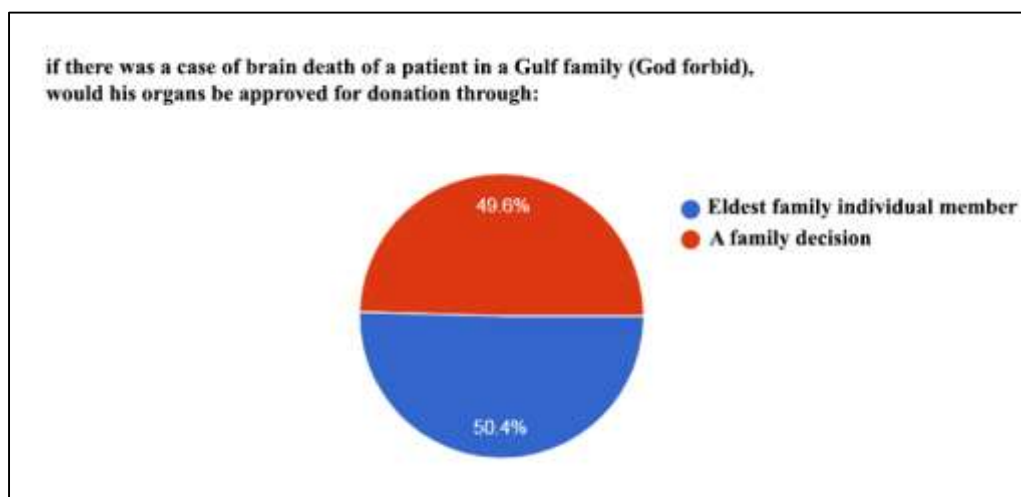


Figure (7) Participants' opinions about organs approval for donation through an individual decision for the eldest family member, or a family decision

Through the results shown in Figure (7), the participants showed that the decision to agree to donate the organs of a brain-dead person is made by the decision of the eldest person in the family by percentage of (50.4%),

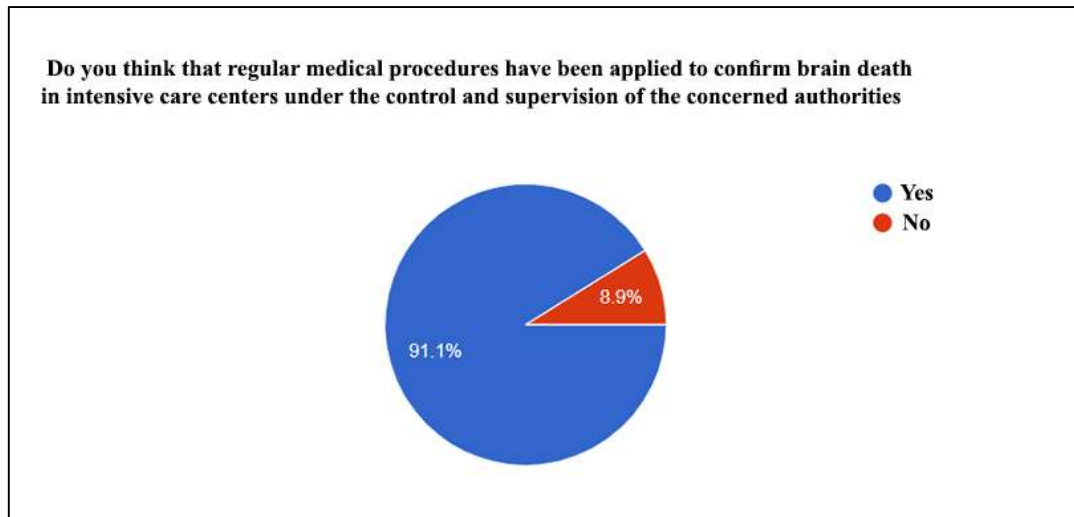
And the participants who think that the decision to donate is made by the family decision by percentage of (49.6%), The decision to donate organs for a brain-dead person depends on many factors, including culture, religious, legal, and personal orientations in the Arab Gulf countries. There may be restrictions or special considerations related to donating organs from a brain-dead person, which must be taken into account because some families may agree to donate organs based on their values. The personality and its religious beliefs, while other families may reject this idea, the family must make the decision that is consistent with the values and principles regarding donating the organs of the brain-dead person in order to save a human soul in need.

Since the results of the responses are close, it is preferable to clarify the decision-making mechanism within the legal conditions and clarifications of the donation mechanism and not to leave the room open for decision-making based on the eldest member of the family, or a family decision, so that the door to disagreement is not opened in the future, and based on the consultation of legal experts. With the correct mechanism for making a donation decision, clarifying this within awareness campaigns, and obtaining informed legal consents from those concerned.

There are several decision-making models involving a complex interplay of medical, ethical, legal, and societal factors, Although some mechanisms depend on the legal and cultural context of each country or region, For example, individuals in Spain and Belgium use the Opt-out system as a decision-making mechanism, as individuals are presumed to consent to organ donation unless they explicitly opt out, and in the United States and many European countries the opt-in system requires individuals to explicitly consent to organ donation by registering as donors. other approach is shared decision-making, In this approach, the decision to donate organs is made collaboratively between healthcare providers, the potential donor's family. In generally suggested higher donation and transplantation rates in countries with an opt-out strategy (Adam et .al, 2019).

#### **5.2.1.8. Do you think that regular medical procedures have been applied to confirm brain death in intensive care centers under the control and supervision of the concerned authorities?**

The participants' answers were about the application of regular medical procedures to confirm brain death in intensive care centers under the control and supervision of the concerned authorities, as shown in Figure (8).



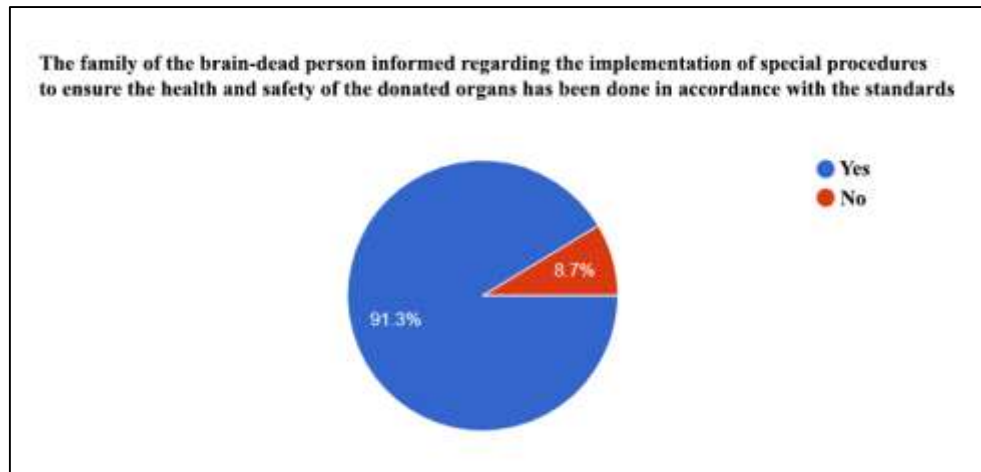
**Figure (8)** Participants' thinks about regular medical procedures applied to confirm brain death in intensive care centers under the control and supervision of the concerned authorities

From the results shown in Figure (8), the participants answered Yes (91.1%), and who answered No (8.9%), This shows participants' confidence in the health system and the center designated for donation, As it is rare for procedures to confirm brain death to take place without supervision and supervision by the competent authorities in intensive care centers, these procedures rely on precise and specific medical protocols and standards, which include various tests to evaluate brain functions and ensure that its activity has stopped permanently.

These procedures are performed by a specialized medical team that follows specific guidelines and protocols. This team includes intensive care doctors, neurologists, and doctors who specialize in evaluating brain functions. In addition, this procedure may require review and approval by special medical committees or bodies specialized in evaluating brain death cases. And ensure that the procedures are applied correctly in accordance with the standards and medical directions of the state.

**5.2.1.9. Do you think that informing the family of the brain-dead person regarding the implementation of special procedures to ensure the health and safety of the donated organs has been done in accordance with the standards?**

The participants' answers for this question shown in Figure (9).



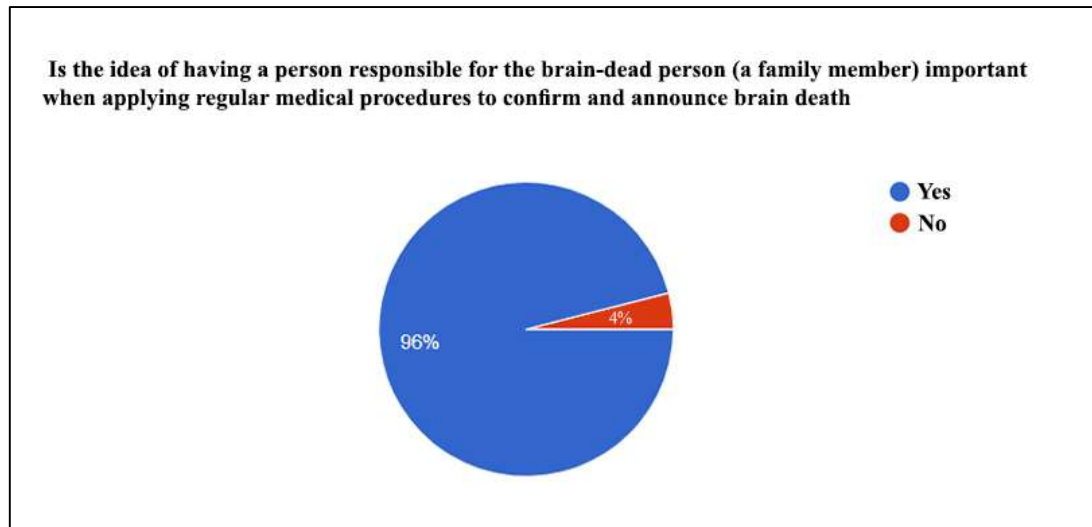
**Figure (9)** Participants' thinks about informing the family of the brain-dead person regarding the implementation of special procedures to ensure the health and safety of the donated organs has been done in accordance with the standards

From the results shown in Figure (9), the participants answered Yes (91.3%), and who answered No (8.7%), The results show that it is very important to inform the family of the brain-dead person correctly and accurately regarding the implementation of special procedures to ensure the validity and soundness of the diagnosis of brain death, and this information must be presented in a transparent and clear manner to the family, including an explanation of the procedures that were taken, the standards that were followed, and the results that were achieved. reached.

This effective and transparent communication with the family helps in calming feelings and providing emotional support to them in this difficult moment. It also enhances confidence in the medical work that is being carried out. In addition, it contributes to achieving transparency and credibility in the diagnostic process and ensures respect and wishes of the family who has a brain dead person in their desire to donate his organs. Or not, so providing correct and accurate information and emotional support to the family of the brain-dead person is an essential part of the beginning of effective communication in order to donate the brain-dead person's organs.

#### **5.2.1.10. Is the idea of having a person responsible for the brain-dead person (a family member) important when applying regular medical procedures to confirm and announce brain death?**

To obtain the participants' answer to this question, it appears in the results shown in Figure (10), as the answers to this question constitute a pivotal point for completing the donation process, and this is what helps decision makers focus on this concept.



**Figure (10)** Participants' thinks about the idea that there is a person responsible for the brain-dead person (a family member) who is important during the application of regular medical procedures to confirm and announce brain death.

From the results shown in Figure (10), the participants answered Yes (96%), and who answered No (4%), this confirms that the presence of a person close to a brain-dead patient is important during the implementation of procedures to confirm brain death. It can be important for several reasons.

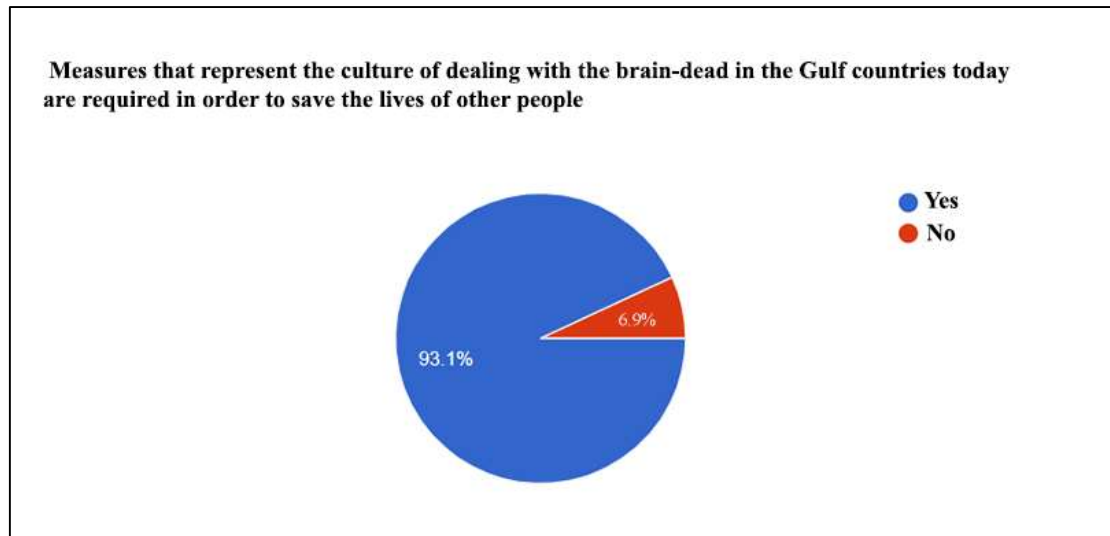
The close person can provide emotional support to the patient's family and family members. It also helps in understanding the procedures and providing important information to the medical team when they request any information regarding the deceased. Cerebrally.

This person can also help in helping the family of a brain-dead patient make difficult decisions about donating his organs.

According Tawil, et .al (2014) the family presence educational intervention during brain death evaluation improves understanding of brain death with no apparent adverse impact on psychological well-being. Family presence during brain death evaluation is feasible and safe, and it helps increase the donation rate.

#### **5.2.1.11. Are the measures that represent the culture of dealing with the brain-dead in the Gulf countries today required in order to save the lives of other people?**

The participants' answers for this question shown in Figure (11).



**Figure (11)** Participants' thinks about the Measures that represent the culture of dealing with the brain-dead in the Gulf countries today are required in order to save the lives of other people.

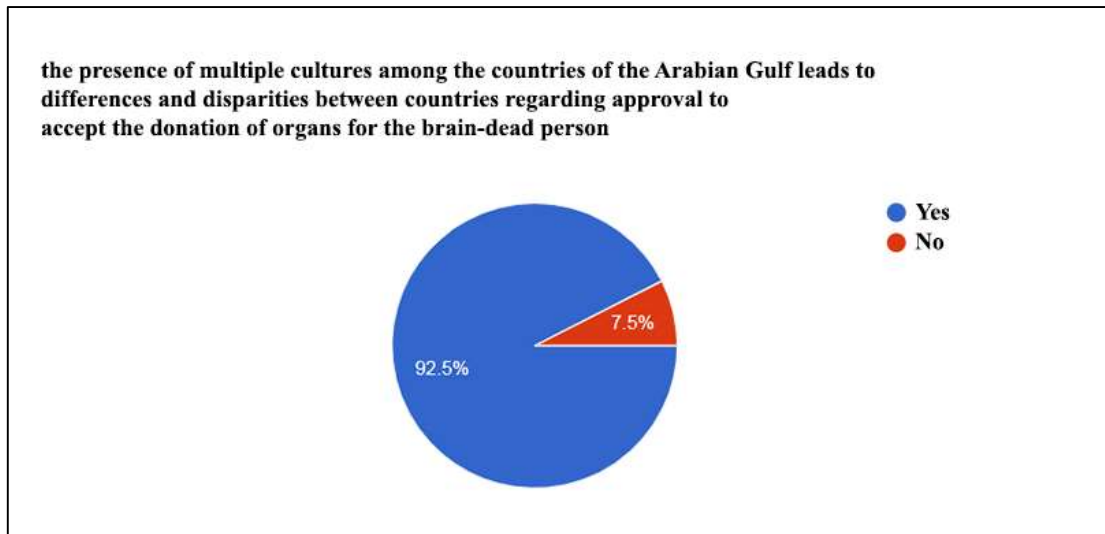
From the results shown in Figure (11), the participants answered Yes (93.1%), and who answered No (6.9%), The above results show that procedures that represent the culture of dealing with the brain-dead in the Gulf countries are important for saving the lives of other people by requesting organ donation for the brain-dead and that organ donation can be a source of hope and opportunities to save the lives of others who suffer from chronic diseases that require organ transplantation.

Individuals who are diagnosed with brain death can provide the opportunity for treatment for other patients, and this contributes to strengthening human values and community solidarity. Therefore, it is necessary to strengthen the culture of organ donation in the Gulf countries and provide support and awareness to the community to understand the importance of this step and contribute to saving the life of the Gulf citizen.

#### **4.2.1.12. Because of the presence of multiple cultures among the countries of the Arabian Gulf, do you think that there is a difference and discrepancy between countries regarding approval to accept the donation of organs from the brain-dead person?**

To find out whether the presence of multiple cultures among the countries of the Arabian Gulf leads to differences and discrepancies between countries in order to agree to accept the donation of organs for the brain-dead person. The results of this axis appear in Figure (12).





**Figure (12)** the presence of multiple cultures among the countries of the Arabian Gulf leads to differences and disparities between countries regarding approval to accept the donation of organs for the brain-dead person.

From the results shown in Figure (12), the participants answered Yes (92.5%), and who answered No (7.5%), Despite the similarity in religious factors between the countries of the Arabian Gulf, the results of this question showed a difference, as the higher percentage confirms the existence of a difference in multiculturalism with regard to consent to accept organ donation from the brain-dead person, and this may be due to fears of violating the donor’s rights or concerns about unethical donation operations in not agreeing to organ donation, and this may differ from one culture to another, or the difference in legal legislation regarding organ donation, and perhaps as a result of the weak level of awareness and education regarding the extent of societal acceptance Organ donation operations. There may be a lack of education about the medical and ethical benefits of organ donation for some.

**5.2.1.13. What will you choose in your last answered?**

The results of the last open question of the second section of the questionnaire showed the participants’ answers as shown in Table (2) As follows:

**Table (2)** participants’ last answered

The answer	percentage %
In the name of God, the Most Gracious, the Most Merciful (and whoever saves a life, it is as if he saved all of mankind) God Almighty has spoken the truth.	38.6%

I need more information to understand the meaning of brain death and organ donation	7.2%
Support the program for donating organs from brain dead people in the Arab Gulf countries because of its charity, and saving the human soul.	37.4%
I find that there would be great embarrassment if my family found out about my donation of my organs after death	4%
I now have a lot of information about brain death and organ donation, and I will educate my family about this	5.8%
There are some unclear matters regarding donating organs for brain-dead people from a religious and social perspective	7.1%
<b>Total</b>	<b>100%</b>

From the results Table (2) shows The higher percentage of participants' (38.6%) answers to accept the concept and idea of donating organs from a brain-dead person stems from a religious standpoint of contributing to the life of another person, Then Support the program for donating organs from brain dead people in the Arab Gulf countries because of its charity, and saving the human soul by percentage of (37.4%) This gives an impression of the participants' acceptance of the idea of donation after receiving comprehensive clarifications about the concept of brain death, its procedures, conditions, conditions, and mechanism.

Then it comes with a percentage (7.2%) I need more information to understand the meaning of brain death and organ donation, here, it is necessary to spread awareness to cover all religious, cultural, medical and societal aspects of the donation mechanism, its stages and steps.

Then it comes with a percentage (7.1%) There are some unclear matters regarding donating organs for brain-dead people from a religious and social perspective, It is considered a percentage that calls for awareness campaigns to include the presence of a religious guide or religious instructions for the donation process and Sharia and legal provisions.

And percentage of (5.8%) I now have a lot of information about brain death and organ donation, and I will educate my family about organ donation, this indicator gives an impression of participants' agreement with the concept of donating organs from brain-dead patients and taking action to spread awareness to their families.

This percentage constitutes complete conviction about the issue of organ donation, this gives importance to encouraging community contribution and the participation of individuals in spreading education and information about the concept of brain death and organ donation from brain-dead people, as the participation of individuals in awareness gives greater benefit than educational campaigns.

In last point comes I find that there would be great embarrassment if my family found out about my donation of my organs after death at a percentage of (4%), Individuals who are afraid of donating their organs after death can be encouraged through awareness and provision of counseling and support services to individuals who are considering organ donation. This can help them navigate their feelings and concerns, including those related to potential family reactions, and Encourage open family discussions using honest Live TV programs about organ donation within families, to remove fears and shyness about donating.

## 6. Summary of results

Based on the results of the cross-sectional study, we can summarize the results as follows:

- 1- Participants between the ages of 41-50 and 31-40 showed a high response to answering and participating in the study, and this gives an impression of the extent to which this age group accepts the topic of organ donation. Based on the useful age group, those who make the decision to donate are targeted with awareness and guidance.
- 2- The gender of the respondents to the study showed similarity in gender, and this gives an indication that it is possible for the donation to come from females, not just males.
- 3- Based on the State of residence, Saudi Arabia - Western Region received the highest response, and this indicates the existence of a culture around the topic of donation, while the rest of the regions and countries came close, except for the southern region, which calls for intensifying awareness and motivation operations in this geographical region and for the geographical regions to be targeted equal proportions.
- 4- The highest response rate to the study was from University degrees and postgraduate, and this gives an impression of the importance of this societal group and its contribution to awareness in universities, as the university stage is considered the basic stage for determining the orientation, beliefs, and culture of the individual, while Diploma and Secondary had the lowest response rate, which calls for spreading awareness in schools and vocational centers.

- 5- There was a response rate by percentage of (75.4%) in accepting organ donation after death; this gives the impression of society's acceptance of the idea of donation.
- 6- The family's rejection of the donation process is the highest reason for not donating after death from the participants' point of view, and this calls for solutions to encourage families to consider donating, then the lack of information about organ donation, then by religious and social factors.
- 7- A high percentage of participants showed personal or cultural beliefs regarding donating organs from brain-dead patients.
- 8- A high percentage of participants showed that citizens of the Arab Gulf states not accept the nature of brain death for any member of their family, this is due to multiple factors that affect individuals' acceptance of brain death, including culture, religion, and education.
- 9- It showed a percentage of (87.1%) citizens of the Arab Gulf countries are not fully aware of the meaning of brain death.
- 10- It showed a percentage of (89.5%) citizens of the Arab Gulf countries are not fully aware of the conditions and standards that must be met to accept the donation organs from a brain-dead person.
- 11- There is a similarity between the participants' answers about organs be approved for donation through an individual decision for the eldest family member, or a family decision.
- 12- A high percentage of participants showed their confidence in the health system and the application of regular medical procedures to confirm brain death in intensive care centers under the control and supervision of the concerned authorities, at a rate (91.1%).
- 13- A high percentage of participants showed that informing the family of the brain-dead person regarding the implementation of special procedures to ensure the health and safety of the donated organs must be done, at a rate (91.3%).
- 14- The presence of a person responsible for the brain-dead person (a family member) is very important when applying regular medical procedures to confirm and announce brain death, at a rate (96%).
- 15- There is a need to implement procedures to deal with the brain death concept and organs donations in the Arab Gulf countries in order to save the lives of others.
- 16- There is a difference and discrepancy between multiple cultures of Arabian Gulf countries regarding to approval to accept the donation of organs from the brain-dead person.

17- Most participants' responses showed moral and religious motives for donating in order to save other lives in accordance with religious teachings. Whoever saved one's life is like one who saved all people's lives.

18- Some participants' responses showed that there would be great embarrassment if my family found out about my donation of my organs after death.

19- Some participants in responses need guidance and teachings from a religious and societal perspective.

## 7. Conclusion

Brain death is a condition that occurs when the brain stops working permanently and its functions cannot be restored. Donating organs for the brain-dead person is considered a major charitable act that aims to exploit healthy, transplantable organs from the brain-dead person to help people who suffer from serious diseases and need organ transplantation to survive. Donating brain-dead organs requires careful legal and medical procedures to ensure the safety and quality of the donated organs. This process is organized through the Saudi Center for Organ Transplantation in the Kingdom of Saudi Arabia (as an accredited center and reference for the Arab Gulf countries) in order to coordinate the donation and organ transplantation process between donors and patients in need. Donating organs from a brain-dead person can contribute to saving the lives of many people and improving their quality of life. Through this great charitable work, individuals can make a valuable contribution to their community and help others have the opportunity to live and enjoy a healthy and happy life.

Through this study, it is clear that there is a lack of knowledge about brain death, as well as the initiative to donate, as well as the procedures for diagnosing brain death, the medical protocols followed for that, the legal controls, and the mechanism for dealing with the family of the brain-dead person to encourage their consent to donate. It is also due to cultural and social factors, such as the fear of rejection by the family and society. Weak religious and media awareness.

From a religious perspective, we find that the two councils: the Islamic Jurisprudence Council affiliated with the Muslim World League and the Islamic Jurisprudence Council emanating from the Organization of the Islamic Conference have agreed on the permissibility of removing life support from a brain-dead person after performing all medical procedures, after confirming that all his brain functions have been completely disrupted, and the consultant doctors have ruled that this is The failure is irreversible, although the heart and breathing still function automatically due to the installed devices.

## 8. Recommendations:

Based on the results obtained, the researcher presents several important recommendations to decision makers that enhance the development, organization and encouragement of organ donation. As follows:

- 1- Intensifying awareness and education campaigns targeting useful and effective age groups regarding the concept of brain death and organ donation for brain-dead individuals which can significantly support rapid awareness through Early Educating people from a young age, Educating the people to make informed decisions about their own organ donation preferences, and Covering all geographical areas so that the process is not focused on one geographical area and so that the culture of donation becomes a general culture among all members of society.
- 2- The necessity of Having a designated person responsible for the brain-dead patient, typically a family member, is crucial during medical procedures to confirm and declare brain death for several reasons: provide informed consent for the medical procedures required to confirm brain death, ensuring that the medical team can proceed with necessary tests and treatments, and provide emotional support not only to the patient but also to other family members involved when Dealing with a brain-dead loved one can be emotionally challenging and serving as a primary point of contact for the medical team, facilitating communication and ensuring that information regarding the patient's condition is relayed effectively to the family, and helping the facilitate these discussions and decisions, ensuring that the patient's wishes, if known, are respected, and help convey any cultural or religious preferences or concerns to the medical team.
- 3- It is necessary to informing the family of the brain-dead person about the implementation of special procedures to ensure the health and safety of donated organs is essential for ensuring transparency, obtaining informed consent, addressing concerns, and providing emotional support throughout the donation process.
- 4- Organizing the donation decision-making mechanism based on the globally followed donation decision-making approaches, and clarifying this within the legal controls and conditions.
- 5- Religious motivation and clarification of the religious conditions and controls and the legal ruling for donating organs of the brain-dead person, with the presence of mentors and religious figures for this.

- 6- Enacting a unified awareness and education system among the Arab Gulf countries that clarifies the medical mechanism for diagnosing and determining brain death, its conditions, and the protocols followed for that.
- 7- Strengthening community confidence in the health system and centers specialized in diagnosing brain death and donating brain-dead organs offers Increased Organ Donation Rates, and Improved Access to Care, and Enhanced Collaboration.
- 8- Publishing the experiences of a family who have agreed to donate organs from one of their members after brain death can play a significant role in promoting organ donation awareness, dispelling myths, inspiring others, fostering dialogue, providing support, and celebrating acts of generosity within the community.
- 9- Participation of civil society organizations, non-governmental organizations and health organizations according to a joint program to encourage donations and raise awareness about this, and engage the community in discussions about important healthcare issues
- 10- It is necessary to raise awareness of the general concept of brain death and everything related to it, before raising awareness of the mechanism of donation and the conditions for that, as a large percentage of participants showed that they did not know about brain death until they determined their inclination to donate.
- 11- Spreading awareness of the specialized and responsible centers authorized to diagnose brain death and organizing the donation mechanism, their locations and contact information.
- 12- Supporting meetings and television talk shows that bring together open discussions with the family members to encourage donation to eliminate the fear of the family among donors.
- 13- It is necessary to have social and psychological counselors to enhance the mental health of family members, take into account the mental health of family members of the brain-dead person, and motivate them to donate organs.
- 14- Awareness of the legal controls, conditions, and approvals necessary for the donation process.

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This cross-sectional study did not include any experiments on humans or animals, and no personal information was collected about the participants, whether their opinions, after they were informed of the objectives of the study and agreed to participate.

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