BARRIERS TO IMPLEMENTING GREEN INITIATIVES AMONG THE GENERAL PUBLIC IN THE UAE

[1] Alzaabi M, [2] Al Nuaimi K, [3] Al Ali R, [4] Varatharajan V, 4 Elhadary S[5]
[1,2,3] BSN Students, College of Nursing, Gulf Medical University
[4.] Lecturer, College of Nursing, Gulf Medical University
[5.] Assistant Professor, College of Nursing, Gulf Medical University
Author for correspondence – Dr Samar Elhadary email - dr.samar@gmu.ac.ae

Abstract

Background: Green initiatives are essential for sustainable development and environmental conservation. While governments and organizations globally promote eco-friendly policies, public participation remains inconsistent.

Purpose: This study aimed to assess the barriers to implementing green initiatives among the general public in the UAE and explore the association of these barriers with demographic variables.

Methodology/Approach: A descriptive cross-sectional study was conducted using a non-probability convenience sample of 400 adults aged 18–65 years residing in Ajman, Sharjah, and Dubai. Data were collected using the validated Sustainability Consciousness Questionnaire (SCQ), which assessed participants' knowledge, attitudes, and behaviors related to sustainability.

Major Findings of the Study: The mean age of participants was 34.3 ± 8.6 years, with 54.5% females. Most had a bachelor's degree (46.3%) and were from Sharjah (34.8%). Nearly half (48.3%) showed good knowledge of sustainability (mean score: 62.4 ± 16.5). The majority (60.5%) demonstrated a good attitude (mean score: 46.3 ± 11.8), and 48% showed good sustainable behavior (mean score: 52.4 ± 12.3). Significant associations were found between sustainability knowledge, attitude, and behavior with age, gender, education level, and occupation. A strong positive correlation was observed among knowledge, attitude, and behavior ($p < 0.001$).

Conclusion: The study revealed generally good sustainability knowledge, attitude, and behavior among the UAE public. Addressing green initiative barriers requires public awareness, policy support, financial incentives, and educational efforts to foster a culture of sustainability.

Key Words: Barriers, Green Initiative, Sustainability, Environmental Awareness, General Public, UAE

Introduction:

Recent literature suggests a rising global awareness of the importance of green initiatives, though implementation barriers persist. Studies highlight issues such as economic constraints, lack of public awareness, and regulatory challenges as common barriers across different countries [1]. Challenges vary by region: European nations face issues like cost and traditional practice adherence despite supportive policies[2], while Southeast Asia and Africa grapple with infrastructural and funding deficiencies[3]. These global insights offer a valuable comparative perspective for understanding and addressing similar barriers in the UAE.

The government of UAE has started several large-scale sustainability initiatives, including the Dubai Clean Energy Strategy 2050, the Energy Strategy 2050, and the UAE Green Agenda 2015–2030 [4]. These programs show the country's commitment to being a sustainable global center. Despite these initiatives, there are still barriers standing in the way of the general population adopting green practices. Preliminary studies and reports suggest that barriers such as lack of public awareness about the benefits of green initiatives, perceived high costs, cultural preferences for conventional practices, and insufficient incentives could be hindering wider public engagement [5].

Objectives:

1. To determine barriers to implementing green initiatives among the general public in the UAE.
2. To correlate barriers to implementing green initiatives with demographic variables.

Methods:

This study used a quantitative, descriptive cross-sectional design to assess barriers to implementing green initiatives among the general public in the UAE. A total of 400 adults from Ajman, Sharjah, and Dubai were selected through convenience sampling. Participants had to be between 18 and 65 years old and living in the UAE for at least one year to be included. Data was collected through an online survey using the Sustainability Consciousness Questionnaire (SCQ), which measures knowledge, attitudes, and behaviors toward sustainability.

Results

A total of 400 participants completed the survey. The results are organized into different sections that cover demographics, knowledge, attitudes, sustainable behaviors, associations with demographic characteristics, and correlations among the main variables.

SECTION I: Demographic Characteristics:

The average age of the participants was 34.3 years (SD ± 8.6), with the largest group (45.8%) falling between 18 to 25 years. More than half of the participants were female (54.5%), and most held a bachelor's degree (46.3%). The highest proportion of participants were unemployed (37.5%), followed by those working in the private sector (25.3%). Participants were fairly evenly distributed among the three emirates: Sharjah (34.8%), Ajman (33.0%), and Dubai (32.2%). About 70.3% reported having heard about the concept of sustainable development, mainly through school or online sources.

Table 1. Distribution of the socio demographic characteristics of the study sample		
	n	%
Age (Years)		
18 – 25	183	45.8
26 – 35	83	20.8
36 – 45	57	14.2
46 – 55	41	10.3
56 – 65	36	9.0
Mean ±SD	34.3 ±8.6	
Gender		
Female	218	54.5
Male	182	45.5
Educational Level		
Primary Education	40	10.0
Secondary Education	97	24.3
Bachelor's Degree	185	46.3
Master's Degree	53	13.3
PhD	25	6.3
Occupation		
Business	59	14.8

Ministry Job	90	22.5
Private	101	25.3
Unemployed	150	37.5
Emirate Residing in		
Ajman	132	33.0
Dubai	129	32.3
Sharjah	139	34.8
Have you heard the notion of sustainable development?		
Yes	281	70.3
No	119	29.8
If yes, in what connection have you heard of sustainable development? (n=281)		
Work	2	0.7
The internet	60	21.4
On TV	52	18.5
On radio	10	3.6
In the newspapers	24	8.5
In school	96	34.2
From friends	35	12.5
Business	2	0.7

SECTION II: Knowledge of Sustainability Issues

When assessing participants' knowledge, almost half (48.3%) demonstrated a good level of understanding regarding sustainability, 33.8% showed an average level, and 18% had poor knowledge. The mean knowledge score was 62.4 (SD ± 16.5), indicating that, overall, participants had a relatively good grasp of sustainability concepts, although some misconceptions were noted, particularly regarding the role of nature conservation.

Table 2. Distribution of the Knowledge of Sustainability Issues of the study sample												
	No knowledge		Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	n	%	n	%	n	%	n	%	n	%	n	%
Economic development is necessary for sustainable development.	31	7.8	35	8.8	32	8.0	54	13.5	135	33.8	113	28.2
Improving people's health and opportunities for a good life contribute to sustainable development.	24	6.0	40	10.0	43	10.8	42	10.5	141	35.3	110	27.5
Reducing water consumption is necessary for sustainable development.	21	5.3	41	10.3	59	14.8	56	14.0	127	31.8	96	24.0
Preserving nature is NOT necessary for sustainable development. *	31	7.8	52	13.0	69	17.3	52	13.0	109	27.3	87	21.8
A culture where conflicts are resolved peacefully through discussion is necessary for sustainable development.	49	12.3	32	8.0	59	14.8	64	16.0	121	30.3	75	18.8
Sustainable development demands that we humans reduce all sorts of waste.	17	4.3	33	8.3	46	11.5	46	11.5	141	35.3	117	29.3
People who exercise their democratic rights are necessary for sustainable development (for example, they vote in elections, involve themselves in social issues, express their opinions)	35	8.8	22	5.5	48	12.0	76	19.0	135	33.8	84	21.0
Reinforcing girls' and women's rights around the world is necessary for sustainable development.	34	8.5	40	10.0	52	13.0	66	16.5	130	32.5	78	19.5
Respecting human rights is necessary for sustainable development.	22	5.5	22	5.5	68	17.0	43	10.8	141	35.3	104	26.0
To achieve sustainable development, all the people in the world must have access to good education.	26	6.5	27	6.8	53	13.3	54	13.5	127	31.8	113	28.2
To achieve sustainable development, companies must treat their employees, customers and suppliers in a fair way.	26	6.5	39	9.8	64	16.0	47	11.8	130	32.5	94	23.5
Preserving many different natural species is necessary for sustainable development.	46	11.5	23	5.8	39	9.8	58	14.5	126	31.5	108	27.0
Having respect for other cultures is necessary for sustainable development.	29	7.2	34	8.5	60	15.0	40	10.0	143	35.8	94	23.5

Sustainable development demands a fair distribution of, for example, food and medical care among people in the world.	34	8.5	45	11.3	53	13.3	50	12.5	131	32.8	87	21.8
Wiping out poverty in the world is necessary for sustainable development.	32	8.0	34	8.5	74	18.5	59	14.8	127	31.8	74	18.5
Sustainable development demands that we switch to renewable resources (renewable resources include, for example, wind power, solar panels, ethanol, cardboard packaging.)	33	8.3	26	6.5	26	6.5	33	8.3	150	37.5	132	33.0
Sustainable development demands that people understand how the economy functions.	26	6.5	29	7.2	57	14.2	49	12.3	150	37.5	89	22.3
For sustainable development, big infectious diseases such as HIV/AIDS and malaria must be stopped.	44	11.0	38	9.5	46	11.5	50	12.5	129	32.3	93	23.3
For sustainable development, people need to be educated in how to protect themselves against natural disasters.	29	7.2	32	8.0	49	12.3	55	13.8	137	34.3	98	24.5
Total knowledge level	n						%					
Poor knowledge	72						18.0					
Average knowledge	135						33.8					
Good knowledge	193						48.3					
Mean ±SD	62.4 ±16.5											

*: item is reverse scored

Knowledge scores range from 0 – 95, scores lower than 50% (range between 0 – 46) are considered poor, scores that are between 50% to 65% (range between 47 – 61) are considered average, and scores that are higher than 65% (range 62 – 96) are considered good

SECTION III: Attitudes Toward Sustainability

In terms of attitudes, 60.5% of participants showed a good attitude toward sustainability, 20.5% had an average attitude, and 19% fell into the poor category. The mean attitude score was 46.3 (SD ± 11.8). Most participants expressed strong support for environmental education, stricter environmental regulations, and fairness in resource distribution, although a few misconceptions persisted in certain areas.

Table 3. Distribution of the Attitudes Toward Sustainability of the study sample

	No knowledge		Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	n	%	n	%	n	%	n	%	n	%	n	%
I think that everyone ought to be educated in how to live sustainably.	14	3.5	38	9.5	37	9.3	45	11.3	151	37.8	115	28.7
I think that we who are alive now should make sure that people in the future will be as well off as we are today	33	8.3	39	9.8	52	13.0	43	10.8	133	33.3	100	25.0
I think that companies have a responsibility to reduce the use of packaging and disposable articles.	16	4.0	28	7.0	27	6.8	47	11.8	143	35.8	139	34.8
Using more of nature's resources than we need does not threaten people's health nor their chances for wellbeing in the future. *	42	10.5	81	20.3	96	24.0	74	18.5	63	15.8	44	11.0
I think that we need stricter laws and regulations to protect the environment.	19	4.8	31	7.8	42	10.5	47	11.8	145	36.3	116	29.0
I think it is important to reduce poverty.	26	6.5	39	9.8	47	11.8	33	8.3	144	36.0	111	27.8
I think that companies in rich countries should give employees in poor nations the same conditions as in rich countries.	34	8.5	21	5.3	63	15.8	73	18.3	114	28.5	95	23.8
I think that it is important to do something about problems which have to do with climate change.	28	7.0	29	7.2	38	9.5	40	10.0	133	33.3	132	33.0
I think that the government should provide financial aid to encourage more people to make the shift to green cars.	36	9.0	34	8.5	44	11.0	61	15.3	126	31.5	99	24.8
I think that the government should make all its decisions on the basis of sustainable development.	27	6.8	29	7.2	34	8.5	59	14.8	157	39.3	94	23.5
I think it is important that people in society vote in elections and express their views on important issues.	33	8.3	33	8.3	41	10.3	64	16.0	154	38.5	75	18.8
I think that people who pollute land, air or water should pay for the damage they cause to the environment.	25	6.3	21	5.3	43	10.8	56	14.0	165	41.3	90	22.5
I think that women and men throughout the world must be given the same opportunities for education and employment.	31	7.8	36	9.0	29	7.2	57	14.2	130	32.5	117	29.3
I think it is okay that each one of us uses as much water as we want.	32	8.0	90	22.5	51	12.8	50	12.5	120	30.0	57	14.2

Total attitude level	n						%					
Poor Attitude	76						19.0					
Average Attitude	82						20.5					
Good Attitude	242						60.5					
Mean ±SD	46.3 ±11.8											

Attitude scores range from 0 – 70, scores lower than 50% (range between 0 – 34) are considered poor, scores that are between 50% to 65% (range between 35 – 44) are considered average, and scores that are higher than 65% (range 45 – 70) are considered good

*: item is reverse scored

SECTION IV: Sustainable Behaviors

Regarding sustainable behaviors, 48% of participants demonstrated good practices, while 28.7% were in the average range, and 23.3% showed poor sustainable behavior. The mean behavior score was 52.4 (SD ± 12.3). Participants reported engaging in actions such as reducing waste, recycling, supporting aid organizations, and conserving water, although some behaviors like avoiding harm to the environment still needed improvement.

Table 4. Distribution of the Sustainable Behaviors of the study sample	No knowledge		Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	n	%	n	%	n	%	n	%	n	%	n	%
Where possible, I choose to cycle or walk when I'm going somewhere, instead of travelling by motor vehicle	30	7.5	44	11.0	46	11.5	73	18.3	131	32.8	76	19.0
I never waste water.	25	6.3	31	7.8	81	20.3	82	20.5	114	28.5	67	16.8
I recycle as much as I can.	28	7.0	47	11.8	79	19.8	71	17.8	117	29.3	58	14.5
When I use a computer or mobile to chat, to text, to play games and so on, I always treat others as respectfully as I would in real life.	26	6.5	38	9.5	63	15.8	54	13.5	143	35.8	76	19.0
I often do things which are not good for my health. *	25	6.3	45	11.3	123	30.8	76	19.0	77	19.3	54	13.5
I do things which help poor people.	17	4.3	26	6.5	49	12.3	59	14.8	150	37.5	99	24.8
I pick up rubbish when I see it out in the countryside or in public places.	27	6.8	44	11.0	42	10.5	67	16.8	148	37.0	72	18.0
I don't think about whether things I do might harm the natural environment. *	21	5.3	42	10.5	133	33.3	76	19.0	72	18.0	56	14.0
I often purchase second-hand goods over the internet or in a shop.	26	6.5	53	13.3	66	16.5	93	23.3	118	29.5	44	11.0
I always separate food waste before putting out the rubbish when I have the chance.	20	5.0	54	13.5	51	12.8	56	14.0	144	36.0	75	18.8
I avoid buying goods from companies with a bad reputation for looking after their employees and the environment.	36	9.0	53	13.3	46	11.5	62	15.5	122	30.5	81	20.3
I do things to reduce waste (e.g., throwing away less food and not wasting paper).	27	6.8	43	10.8	45	11.3	48	12.0	160	40.0	77	19.3

I work on committees (e.g. the student council, my class committee, the cafeteria committee) at my school.	31	7.8	51	12.8	83	20.8	52	13.0	106	26.5	77	19.3
I treat everyone with the same respect, even if they have another cultural background than mine.	23	5.8	31	7.8	33	8.3	58	14.5	136	34.0	119	29.8
I support an aid organization or environmental group.	28	7.0	47	11.8	46	11.5	68	17.0	129	32.3	82	20.5
I watch news programs or read newspaper articles to do with the economy.	29	7.2	50	12.5	65	16.3	81	20.3	119	29.8	56	14.0
I show the same respect to men and women, boys and girls.	34	8.5	27	6.8	27	6.8	61	15.3	124	31.0	127	31.8

Total behaviors level	n	%
Poor Attitude	93	23.3
Average Attitude	115	28.7
Good Attitude	192	48.0
Mean ±SD	52.4 ±12.3	

*: item is reverse scored

Behaviors scores range from 0 – 85, scores lower than 50% (range between 0 – 42) are considered poor, scores that are between 50% to 65% (range between 43 – 54) are considered average, and scores that are higher than 65% (range 55 – 85) are considered good

SECTION V: Association Between Demographic Characteristics and the Three Core Variables

The study found significant associations between several demographic variables and the participants' knowledge, attitudes, and behaviors. Age, educational level, and occupation were significantly associated with all three core variables ($p < 0.001$). Gender was significantly associated only with attitudes ($p = 0.002$). Place of residence was associated with sustainable behavior ($p = 0.046$), while prior knowledge of sustainable development was linked with participants' attitudes ($p = 0.014$).

Participants' characteristics	Knowledge Chi – square / fisher's exact test		Attitude Chi – square / fisher's exact test		Behavior Chi – square / fisher's exact test	
	X^2	P	X^2	P	X^2	P
Age (Years)	53.153	<0.001**	48.922	<0.001**	41.938	<0.001**
Gender	5.250	0.072	12.082	0.002*	0.256	0.880
Educational Level	78.376	<0.001**	67.205	<0.001**	82.861	<0.001**
Occupation	21.277	0.002*	25.497	<0.001**	18.357	0.005*
Emirate Residing	8.609	0.072	7.201	0.126	9.710	0.046*
Have you heard the notion of sustainable development?	4.422	0.110	8.588	0.014*	1.828	0.401

Table 5: Association Between Demographic Characteristics and the Three Core Variables

SECTION VI: Correlation Between Knowledge, Attitudes, and Behaviors

Table 6 shows that there was a strong positive relationship between all three variables. Participants who had better knowledge about sustainability issues also tended to have more positive attitudes toward sustainability and were more likely to engage in sustainable behaviors. Similarly, those with stronger attitudes about sustainability were more likely to act sustainably in their daily lives. All correlations were highly significant, indicating a consistent and meaningful link between what people know, how they feel, and what they do regarding sustainability.

Table 6: Correlation Between Knowledge, Attitudes, and Behaviors

	Knowledge of Sustainability Issues		Attitudes Toward Sustainability		Sustainable Behaviors	
	R	p	r	p	r	p
Knowledge of Sustainability Issues			0.763	<0.001**	0.711	<0.001**
Attitudes Toward Sustainability	0.763	<0.001**			0.717	<0.001**
Sustainable Behaviors	0.711	<0.001**	0.717	<0.001**		

Discussion

The present study assessed barriers to implementing green initiatives among the general public in the UAE. Findings revealed that almost half of the participants demonstrated good knowledge regarding sustainability, with most showing positive attitudes and sustainable behaviors. However, some misconceptions, particularly about the role of nature preservation, were noted. Demographic factors such as age, education, and occupation were found to significantly influence knowledge, attitudes, and behaviors.

There was a strong positive correlation between participants' knowledge, attitudes, and behaviors. Individuals with higher knowledge levels were more likely to have positive attitudes and engage in sustainable practices. These results highlight the importance of strengthening sustainability education and awareness programs.

The findings are supported by a study conducted in Malaysia, which found that environmental concern, media power, and subjective norms positively influenced environmental behavior after attending green initiative events[6]. Another study from Australia showed that moral norms and environmental values play a key role in shaping sustainable behaviors among university students[7]. Similarly, research conducted in South African universities identified operational barriers despite increased awareness[8]. Studies from Vietnam and the United States also emphasized financial constraints, lack of training, and insufficient government support as significant obstacles, similar to the barriers identified in the present study[9].

Overall, the study suggests that while there is good awareness and engagement toward sustainability among the UAE public, continuous efforts are needed to bridge knowledge gaps, address misconceptions, and encourage consistent sustainable behavior across all demographic groups.

Conclusion

This study clarifies the intricacies of public participation in UAE environmental projects. Though most of the participants had great knowledge and good attitudes toward sustainability, there was an obvious behavior difference: awareness and care of the environment do not always translate into sustainable actions. Important problems are poor infrastructure, misinterpretation, convenience, and insufficient incentives.

These results highlight the importance of national efforts aimed at behavioral adjustment above only awareness. Policymakers should increase incentives, improve access to green infrastructure, and adapt sustainability education for different population groups. More participation will enable future studies to help to clarify issues and increase the general relevance of the results.

Ethical Considerations

The study proceeded after permission from the Institution Review Board, consent was obtained and confidentiality maintained.

Conflict of Interest

There is no conflict of interest

Contribution of Authors

All authors have contributed to this research

References

1. Licastro A, Sergi BS. Drivers and barriers to a green economy. A review of selected balkan countries. Cleaner Engineering and Technology. 2021 Oct 1;4:100228.

2. Lawrence RJ. Overcoming barriers to implementing sustainable development goals. Human Ecology Review. 2020 Jan 1;26(1):95-116.

3. Abdullah M, Zailani S, Iranmanesh M, Jayaraman K. Barriers to green innovation initiatives among manufacturers: the Malaysian case. Review of Managerial Science. 2016 Oct;10:683-709.

4. U.ae (2020). Waste Management. The official portal of the UAE Government. Available at: Waste management - The Official Portal of the UAE Government

5. MOCCAE (2022). Wastes and chemicals | Knowledge | UAE Ministry of Climate Change and Environment. Available at: https://www.moccae.gov.ae/en/knowledge-and-statistics/wastes-and-chemicals.aspx

6. Lai MY, Chiu WT, Ling CC, Tang LC, Chang YY. The factors affecting people's intention to practice environmental protection after attending green initiative events. Environmental Research. 2020;188:109773.

7. Pham TTM, Pham TLT, Nguyen TTH. Green university initiatives and environmental values: A modified theory of planned behavior. Journal of Cleaner Production. 2020;253:119938.

8. McKenna S, Baijnath N, Johnson J. Benefits and barriers to implementing green initiatives in South African universities. International Journal of Sustainability in Higher Education. 2020;21(1):54-69.

9. Habib Md, Karim MR, Islam MS. Impediments to implementing sustainable practices in residential and commercial structures: A comparative study among USA, India, and Afghanistan. Sustainability. 2018;10(12):4722.