The Awareness Level of Saudi Housewives Towards Environmental Sustainability: The Relevance with their Practices to Maintain the Environment

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ABSTRACT

Environmental sustainability is one of the main strategic goals the Saudi Arabia is trying to meet, incorporated in the national transformation program to achieve the Kingdom's vision by 2030. For ages, humans have mistreated and damaged the environment, and thus for many acute ecological problems have surfaced. Hence the research was inspired. The purpose of this research is to find out the relation between the Saudi housewives' sustainability level of awareness and the actual practices they perform to preserve the environment, also to identify the differences between the impact of demographic variables on both environmental awareness and the procedures carried out by the Saudi housewives. Two questionnaires were filled by 200 Saudi housewives - Jeddah residence. The findings showed statistical significances from 0.001 to 0.05 between the environmental sustainability awareness level in the elements of (air, food, noise pollution & the exploitations of natural resources) and the actual practices performed by the housewives to preserve the environment and its resources, taking into account their career life, educational, social & economic backgrounds. According to the findings, the sustainability awareness level should be risen, incorporating it in the women & family programs using all kinds of media & social media platforms, educational curriculums, and finally put a strategy to create an integrated system to preserve the environment.

KEY WORDS: POLLUTION, ENVIRONMENT, PRACTICES, SUSTAINABILITY, HOUSEWIVES, AWARENESS.

INTRODUCTION

Environmental sustainability is one of the strategic goals the Saudi Kingdom is trying to incorporated in the national transformation program to achieve the Kingdom's vision by 2030. Caring for the environment and protecting it from all kinds of pollution is one of the most important and crucial national and international causes that have plagued the scientists for centuries. However, humans have mistreated the environment and performed many unfair practices, to meet their needs and lead a luxurious life, which has led to natural resources depletion, resulting in wastes and pollutants which deflected back on the environment (Rebecca, 2020). Those wastes and pollutants caused the environmental pollution problem. Thus, environmental sustainability and keeping it from all kinds of pollution, waste, and misuse of its resources, is one of the most pressing causes in modern history and a fundamental challenge facing the upcoming generations (Nathanson, 2000 and Marma, 2019).

The most problematic environmental issues are air, food, water & noise pollution, besides the depletion and waste of resources, as the human activities are draining the

natural resources; it didn't stop there. It went to the extent of destroying nature, which is threatening the existence of humankind itself in the long run if we didn't comply with the environmental sustainability methods (Scientific and cultural organization, 2018).

As noticed that most of these problems are caused by the short-term human strategies focusing only on increasing production levels, without taking into account the adverse outcomes of these practices on the environment (Holum, 2017). The environmental effect on human life is bound by his sustainability awareness level, as he is the number one factor in the ecological status and the first to be affected by it as well (Kingdom of Saudi Arabia UN High-Level Political, 2018). Thus, it's evident the importance of the environmental sustainability awareness to face pollution problems and reach sustainability, as this is the only solution to preserve the life of the current organisms and the upcoming generations as well (Khalil, 2019).

Sustainability awareness is the level of understanding the possesses of the natural surroundings human. It can be defined as the interaction between the humans with the environment without the depletion of its natural resources and preserving the planet for as long as we can (Middle East Institute Viewpoint, 2011). Daud (2017) stated that the idea of humankind's existence on this planet is very much bound by the perseverance of the natural resources. There is importance for sustainability awareness in the national or international communities, the more immense responsibility lies on all family members and particularly on the housewife's, as she is the one responsible for the family's consumption habits dynamics. Also, the vital role she play in raising her children with the right morals, motives, behavioral dynamics, and the sustainable or unsustainable use of natural resources (John, 2017).

The importance of these practices with nature lies in the impact affecting life on Earth such as: Climate change (Blackwell and Chris, 2016). It's noteworthy that climate change affects every region differently, and all organisms (US Environment Protection Agency, 2017). Biodiversity extreme reduction level, habitat destruction, and pollution is currently ranked as the primary cause of species extinction worldwide and the incredible decrease in numbers for some others (Brito and Pinon 2012), as a result of the large-scale usage of pesticides that specifically affected bees and butterflies. Unsustainable consumption and production patterns, natural resources are being used globally with productions and consumptions patterns that involve converting the raw materials into commodities that are widely misused and consumed, then disposing of it recklessly, resulting in more pollutants and waste accumulations (Khan and Mujahid, 2011 and Islam et al., 2016).

Environmental elements pollution: It is one of the most severe environmental problems that arise from wrong practices, behaviors, and the fraudulent and unsafe usage of the environmental elements, such as:

Air pollution: that leads to an undesired change in the natural properties of the air surrounding the domestic environment resulting from an increased percentage of pollutants such as dust, fumes. Cigarettes smoke, odors, commercial air fresheners, the use of toxins such as pesticides and others, which takes place by the family members themselves, especially the housewives (Stieb et al., 2002).

Food contamination affects the environment starting from the poor choices the housewife makes while purchasing food commodities, as checking the expiration date, the preservatives & artificial additives, or the purchase of exposed goods to environmental pollutants. This is in addition to not observing the hygienic & healthy regulations, which ultimately leads to a deterioration in the health of family members (Oskarsson, 2018). Noise pollution: which is one of the types of moral pollution, resulting from irrational usage of electrical devices such as using more than one electrical device at the same time, or turning the volume up of the television, radio, or cassette equipment, or use loudspeakers frequently (Chris et al., 2005).

Despite all efforts spent nationally by the Saudi Kingdom to preserve the environment from all kinds of pollution at all legislative, execution, and scientific levels, most studies refer to the need to change the group and family dynamics to face such problems or alleviate it, and to raise awareness of the relationship between humankind and the environment (Former, 2019). The research questions are determined in whether the level of awareness of the Saudi housewives of the concept of environmental sustainability has to do with their actual practices to preserve the environment from pollution if their behavior is affected by their social and economic status, what is the impact of the work, their educational background, and finally income, on the level of environmental awareness and the actual practices they take to preserve the environment from pollution?

The relation between the Saudi housewives' environmental sustainability level of awareness and the actual practices they perform to preserve the environment from different kinds of pollution (air pollution, food contamination, noise pollution, waste, and misuse of environmental resources) also introducing the correlation between demographic variables related to the (economic, educational, family income and the number of family members) and the practices of the housewives to protect the environment from pollution.

The research is a unique one in the field because it focused to the relation between housewives awareness of sustainability and their practices. It also sheds light on the most crucial factor that contributes to raising awareness of sustainability among the Saudi housewives and then placing them at the center of concerns in women and family programs through various media & social media platforms. This research assumes the existence of a statistically significant discrepancy in the averages of both awareness of environmental sustainability and the

practices of the working and non-working housewives to preserve the environment from pollution, and the existence of a positive correlation between demographic variables related to the economic, educational, family income and the number of family members, and the practices of the housewives.

It is also assumed that the relative measures of the variables of both awareness of sustainability and the practices of the housewives may differ. Preserving the environment from pollution according to the different types of those variables, and assuming the difference in the relative measures between each variable with its elements such as (air, food, noise, waste and depletion of natural resources) and the practices of the housewives to preserve the environment from pollution.

MATERIAL AND METHODS

This research followed a descriptive and analytical method.

Search limitations: Objective limits: a study of Saudi housewives' awareness of the concept of sustainability and the practices they perform to preserve the environment from pollution. Human limits: results are drawn from a self-administered questionnaire of a random sample of 200 Saudi housewives. Spatial limits the research was applied in the Kingdom of Saudi Arabia- Jeddah residence. Time limits: This research was conducted from January 2020 and June 2020.

Research samples: The research examined two hundred (200) Saudi working & non-working housewives with different educational, socio-economic backgrounds and resided in various neighborhoods in Jeddah. They were randomly selected from the population of the research sample.

Research tools: The data is collected through a self-administered questionnaire including three parts : First part: General family information (education level, social level, economic level, career, and family income). Second part: Assessed the awareness level of sustainability included thirty-five (35) phrases distributed under four main categories: Air pollution awareness consists of 10 phrases; food contamination awareness consists of 9 phrases; noise pollution awareness consists of 7 phrases, and natural elements depletion and overconsumption awareness consist of 9 phrases.

This questionnaire measures the awareness level of the housewives of sustainability inside and outside their households. The responses were (agree, neutral, disagree) and on a related scale (1-2-3). The questionnaire was characterized by global & content validity, as the correlation coefficients of each category of the questionnaire and the total score of the questionnaire were statistically significant at the level of significance (0.01) Table (1). It is evident from Table (1) that all fields of the questionnaire, based on the level of significance, are considered transparent to what they have been measured. The questionnaire received a high value in its correlation coefficient Table (2). This confirms the consistency of the questionnaire and the reliability of the used techniques to measure sustainability awareness. Thus, supporting the validity of the data collected from the respondents

Third part: Assess the Saudi housewives' practices to protect the environment from pollution, the practices they perform to preserve the environment, and the alternatives they have within and outside the household, including thirty-two (32) phrases distributed under four main categories. Air pollution consists of 9 phrases; food contamination consists of 9 phrases; noise pollution consists of 6 phrases, and the natural elements depletion and overconsumption consists of (8) phrases. This questionnaire measures the practices housewives perform to preserve the internal & external environment of their households. The responses were (always - sometimes - rarely) and on a related scale (1-2-3).

The questionnaire was characterized by global & content validity, as the correlation coefficients of each category of the questionnaire and the total score of the questionnaire were statistically significant at the level of significance (0.01) Table (3).

Table 1. Career life significance variables			
Significance level	Significance type	Significance variable	Category
0.000	Significant	0.986	First
0.000	Significant	0.966	Second
0.000	Significant	0.978	Third
0.000	Significant	0.978	Fourth

Table 2. Cronbach's Alpha & split half to measure reliability				
Category	Alpha Cronbach's Reliability Value		Half Split value	
	Number of phrases	Number of phrases	Persons Factor	Half Split Value
First	10	0.605	0.679	0.750
Second	9	0.819	0.708	0.828
Third	7	0.732	0.798	0.673
Fourth	9	0.655	0.586	0.550

Table 3. Career life significance variables			
Category	Significance variable	Significance Type	Significance Level
First	0.875	Significant	0.000
Second	0.987	Significant	0.000
Third	0.690	Significant	0.000
Fourth	0.945	Significant	0.000

Figure 1: Distribution of housewives according to the educational level (A) and career (B) The first hypothesis
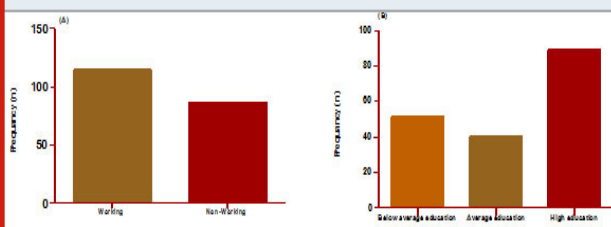

Table 4. Alpha Cronbach's & split half to measure reliability				
Category	Alpha Cronbach's Reliability Value		Half Split value	
	Number of phrases	Alpha Cronbach's Value	Persons Factor	Half Split Value
First	9	0.563	0.760	0.871
Second	9	0.761	0.896	0.707
Third	8	0.568	0.970	0.870
Fourth	8	0.679	0.708	0.659

Table 5. Level of awareness of sustainability by the working & non-working housewives						
Career	Mean	SD	Respondents	Freedom Level	(T) Value	Significance
Working	85.667	15.279	114	198	17.612	0.01
Non-working	50.883	11.619	86			

It is also evident from Table (4) that the questionnaire obtained a high value for the alpha coefficient and the half-segmentation It is evident from Table (4) to ensure the consistency of the questionnaire to measure the practices of the housewife's actual performed practices to preserve the environment. Implementation of the research tools on the respondents: The research tools were applied to the randomly selected working and non-working housewives, where some of them work at educational and administrative institutions. The study conducted during the months of the academic year (1440/1441 AH), taking into account the control and procedures following the instructions specified in the research tools

Table 6. The differences in the average of practices of the working and non-working housewives to preserve the environmen						
Career	Mean	SD	Respondents	Freedom Level	(T) Value	Significance
Working	77.315	12.523	114	198	18.024	0.01
Non-working	47.151	10.551	86			

Statistical analysis: The statistical analysis program (SPSS Version 24) was used to analyze the study data, with the help of the necessary statistical methods, to verify the study hypotheses. These methods were as follows: Frequencies & percentages or mean± standard deviation to represented the data. Cronbach's alpha for the halftone segmentation method & split half. Pearson correlation coefficient to measure the validity of the internal consistency of the study items. One sample t- test: to check for statistically significant differences. T-test for two independent samples to check for statistically significant differences in the responses of the respondents due to the personal variables. One-way ANOVA test to check for statistically significant differences in the responses of the respondents due to the personal variables.

RESULTS AND DISCUSSION

Demographic data: It was found that the basic research included 200 Saudi housewives respondents split into (114 workings + 86 non-working), 51 housewives had below-average education with the percentage of 25.5%, another 60 housewives had received an average education level, with the percentage of 30%, and lastly 89 housewives who had high education degrees with the percentage of 44.5%, and they belong to families of different social and economic backgrounds Figure 1(A&B).

There are statistically significant differences in the averages of both awareness of the concept of sustainability and the practices performed by the working & non-working housewives''. The (T) value elaborates the significance of the differences between the averages of the awareness level of the working and non-working housewives of sustainability with its various elements (air, food and noise pollution, waste & depletion of the natural resources) and their practices to preserve the environment. The following Tables (5) and (6) illustrate this hypnosis: First: awareness of sustainability by the working & non-working housewives

Table (5) shows that there are statistically significant differences between the working and non-working housewives, where the value of t (17,612) was a significant level (0.01). That is, the level of awareness sustainability, in regards to environmental pollution problems inside and outside the household, it is higher among the working housewives compared to the non-working ones, and this may be due to the increased opportunities of social interaction among workers in the workplace and other areas compared to the non-working housewives, which raise their awareness, knowledge, and

sense of environmental problems in terms of their causes, effects, and means. This result is in agreement with the study (Al-Zahhar, 2016), which indicated that there is a positive relationship between work and the enrichment of cognitive and emotional aspects.

The practices performed by the working and non-working Saudi housewives to preserve the environment from pollution: Table (6) shows that there are statistically significant differences between the practices of the Saudi working and non-working housewives in favor of the female workers, as the value of T (18.024) was significant at the level of significance (0.01), meaning that the practices performed by the housewives to preserve the environment are higher among the working ones compared to the non–working housewives. Some studies show statistically significant differences between working and non-working housewives in regards to making decisions related to consumer rationalization in the areas of food and resource conservation, and other show a positive effect the career life has on individuals, and from the previous review, it is evident that the first hypothesis has been partially fulfilled.

The second hypothesis ''the existence of a positive correlation between the demographic variables related to the socio-economic level (the educational level, income, and the number of the family members) and each of the variables of awareness of sustainability and the practices performed by the housewives to preserve the environment.''A matrix of correlation coefficients was found between the independent demographic variables related to the socio-economic level (educational level – age- the income - the number of the family members) and each of the variables of awareness of sustainability and the practices performed by the housewives to preserve the environment Table (7).

Table 7. Matrix correlation coefficients between the demographic variables and sustainability awareness of natural resources and the practices performed by the housewives to preserve the environment.

Demographic Variables	Sustainability awareness of natural resources					Practices performed to preserve the environment				
	Air	Food	Noise	Resources depletion	Whole	Air	Food	Noise	Resources depletion	Whole
Educational background	0.632*	0.823**	0.796**	0.906**	0.819**	0.915**	0.624*	0.845**	0.826**	0.882**
Age	0.867**	0.782**	0.643*	0.728**	0.772**	0.762**	0.793**	0.803**	0.619*	0.794**
Career Life	0.131	0.198	0.107	0.225	0.162	0.145	0.203	0.118	0.176	0.123
Family number	0.192	0.115	0.178	0.204	0.121	0.109	0.137	0.187	0.153	0.216
Income	**0.156**	0.213	0.182	0.105	0.168	0.718**	0.626*	0.774**	0.863**	0.725**
* Significant at p<0.05. ** Significant at p< 0.001										

The existence of a positive correlation between the demographic variables related to the socio-economic level (the educational level of the housewives - the household income - the number of the family members) and each of the variables of awareness of sustainability and the practices performed by the housewives to preserve the environment. The educational backgrounds for these

housewives, respectively (0.632), (0.823), (0.796), (0.906), (0.819), all of which are statistically significant at a level of significance between (0.05) & (0.001). This confirms that education contributes to raising the awareness level of sustainability. It is also evident from Table (7) that the value of (R) between the educational level of the housewives and the practices performed to preserve the

environment are: (0.915), (0.624), (0.845), (0.826), (0.882) respectively. All of them are statistically significant at a significance level between (0.05) & (0.001). That is, the higher the educational level of the family, the higher its ability to carry out practices that help preserve the environment. This indicates that the educational level of the housewives contributes to their wise and rational exploitation of the natural resources, and by referring to previous studies that dealt with the effect of education on environmental awareness and the formation of trends towards protecting the environment from pollution.

Afifi (2018) confirmed the results of this study, as they indicate the importance and power of education in forming sustainability awareness and making a positive change in the dynamics and behaviors of the individuals to protect the environment. As shown in Table (7), there is a positive correlation between the variable of family income and each of them performed practices to preserve the environment, as the value of (R) is (0.718), (0.626), (0.77), (0.863) respectively, and all of them are statistically significant at significance level between (0.05-0.001). Accordingly, the higher the level of the family's financial income, the higher the level of practices performed by the housewives to protect the environment from pollution, also having a positive behavior towards protecting the domestic environment. However, there is no correlation between these variables and the level of awareness of sustainability. It also shows that there is

no correlation between the number of family members and the level of awareness sustainability, and the actual practices performed. Thus, the second hypnosis was partially fulfilled.

The third hypothesis,'the existence of a positive correlation between the variables of sustainability awareness and the practices performed by the housewives (research sample) to preserve the environment.'A matrix of correlation coefficients was found between the level of awareness of sustainability with all the elements (air, food, noise, environmental resources, and their depletion) and the actually performed practices to protect the domestic and external environment Table (8). Table (8) shows the existence of positive correlations between the variables of sustainability awareness and their ability to perform actual practices to preserve the domestic & external environment from pollution. The levels of significance between them and all the variables ranged between (0.01 and 0.05), which confirms the strength of the relationship between the housewives' awareness level of sustainability and the ability to perform actual practices to preserve the environment. Indicating that sustainability awareness, is positively related to the individual's attitudes towards protecting the environment, and it is also associated with the positive behavior represented in implementing rational and wise practices to protect the domestic and external environment.

Table 8. Matrix correlation coefficients for the awareness of environmental sustainability the actual performed practices to protect the domestic and external environment

Sustainability awareness level	Practices to Sustain the environment				Taking decisions to preserve the environment
	Air	Food	Noise	Natural resources depletion	
Air	0.737**	0.812**	0.904**	0.641*	0.702**
Food	0.829**	0.602*	0.921**	0.846**	0.789**
Noise	0.914**	0.898**	0.717**	0.638*	0.873**
Natural resources depletion	0.708**	0.804**	0.617*	0.837**	0.865**
Sustainability awareness	0.856**	0.763**	0.807**	0.764**	0.749**
* Significant at p<0.05. ** Significant at p< 0.001					

This result is consistent with what was reported by some previous studies that confirmed the existence of a positive correlation between knowledge and behavior. That is, between the three sides of the trend, the cognitive, emotional, and behavioral aspects. This is consistent with the model presented by psychologists, which emphasizes that the cognitive and emotional sides work to direct the behavioral side of the individuals, (Sitompul,2020).Awareness of sustainability, including perception, feeling, and knowledge of the dimensions of environmental pollution problems in terms of their causes, effects, and means of solving them, lies in its core positive, wise, and rational practices to protect the environment from pollution. Environmental awareness

is related to its ability to form a sense of the problem, and its awareness leads to a sense of urgency.

The current study outcome is compatible with the findings of Qadir (2019) study, which indicates that the success of awareness programs is related to the ability to create a sense of the problem and its awareness, leading to a sense of urgency. Furthermore, Abd al-Masih (2019), which showed statistically significant differences in sustainability awareness of students in different educational stages before and after the implementation of sustainability awareness programs. Thus, there is a positive relationship between knowledge and awareness, and the attitudes and behaviors toward preserving the

environment. While the results of this study differed with some other studies that showed the opposite of that, and the importance of the impact of sustainability awareness in creating a change in the dynamics and behaviors of the individuals, indicating that the knowledge and information that individuals received will not help in changing individuals dynamics and attitudes to protect the environment, Pointed (Littlejohn, 2015) Pointing out that (80%) of those who received theoretical lectures on environmental preservation & sustainability did not have any impact on the dynamics & behaviors towards protecting the environment. This is because they did not develop a sense of urgency and awareness of it.

Table 9. Level of environmental sustainability awareness among the Saudi housewives

Sustainability variables awareness	Relative variables	Percentage	Order
Air pollution awareness	215	24.1	1
Food contamination awareness	241	27	2
Noise pollution	206	23.1	3
Natural Resource depletion	229	25.7	4
Total	891	100	

Table 10. Relative variables of taking the right decision to preserve the domestic environment

Taking decisions variables to preserve the domestic environment	Relative variables	Percentage	Order
Taking decisions against air pollution	229	24.3	3
Taking decisions against food contamination	244	25.8	2
Taking decisions against noise pollution	210	22.2	4
Taking decisions against resources depletion	261	27.6	1
Total	944	100	10

Several studies' results revealed the insignificance and usefulness of sustainability awareness and programs influencing students' attitudes and creating a positive change in their dynamics to protect the environment. And thus, there is no relationship between knowledge and individual's behavior (Al-Azhar, 2016; Hassanin, 2018). Abdul Hamid (2019) agreed with the results of these studies, where he indicated that knowledge is one thing, and practice and implementation is another, and that there is a big difference between saying, doing, knowing, and actually applying, and a weak relation associates them together. This means that the relationship between sustainability awareness and the individual's behavior to preserve the environment is fragile.

The fourth hypothesis, "the difference in the relative measures between each variable of sustainability awareness and the actual practices performed by the Saudi housewives". The relative measures of all the elements of sustainability awareness that was included in the research (air, food & noise pollution, and depletion of natural resources) and sustainability awareness as a concept. It was found that the level of sustainability awareness among the housewives' sample of the research. And the relative measures of all the variables of practices towards protecting the environment was found to determine the capacity level for practices towards protecting the domestic environment from pollution and its elements (awareness of sustainability for air, food, noise, depletion of natural resources, and awareness of the concept of sustainability as a whole) among the housewives Tables (9) and (10).

Awareness of environmental sustainability: It is evident from Table (9) that the ranking of the level of sustainability awareness of among the housewives came as follows: Food sustainability awareness came in first; secondly, the depletion of the natural resources, in the third place was the air pollution, and lastly noise pollution awareness. These results indicate an increase in awareness of sustainability in the area of awareness of food contamination. It also shows the high level of awareness of sustainability in the field of depletion and misuse of natural resources among the housewives subjected to the research.

The practices performed by the housewives to preserve the environment: Table (10) shows the ranking of practices towards protecting the domestic environment from pollution among the housewives as follows: resource exploitation came. First, the practices regarding food contamination came in second, then practices regarding air pollution, and lastly, practices on noise pollution. These results indicate the high degree of practices performed by Saudi housewives toward preserving the environment. This indicates the high level of administrative and consumption awareness among the Saudi housewives of the research sample. It also shows the high capability potentials to perform positive practices in the field of food contamination, which shows the high-level of attention these housewives are paying towards having healthy family members by avoiding the causes and sources of food contamination. This is when determining their nutritional needs, purchasing food commodities, preparing, cooking, and providing healthy meals to them, taking into account the methods of rationalizing food consumption. These results indicate that awareness of the concept of sustainability is related to wise practices to protect the environment. This applies to what was reported by previous studies, which

confirmed the existence of a positive correlation between knowledge and dynamics.

The fifth hypothesis "the share of independent variables (socioeconomic variables) with both awareness of sustainability and the actual ability to perform practices to preserve the environment from pollution among housewives as dependent variables according to the measures of regression coefficients and the degree of correlation with the coefficients". The percentage of participation of the independent variables (socioeconomic level variables) with the dependent variable (sustainability awareness) and (the ability to make decisions towards protecting the environment) was calculated as a dependent variable among the housewives, according to the measures of regression coefficients and the degree of association with the dependent variable.

Table 11. Multiple regression analysis by step-forward method for independent variables (socioeconomic variables) with the dependent variable (sustainability awareness)									
	Independent Variable	Dependent Variable	Relativity variable	Participation %	(F) Value	Significance	Regression factor	(T) Value	Significance
variable (sustainability awareness	1st step	Husband's education	0.851	0.725	73.816	0.1	0.545	8.592	0.1
	2nd step	Housewife's education	0.819	0.671	57.160	0.1	0.482	7.560	0.1
	3rd step	Housewife's age	0.772	0.595	41.209	0.1	0.398	6.419	0.1
	4th step	Income	0.740	0.548	33.923	0.1	0.348	5.824	0.1

Table 12. Multiple regression analysis in a step-forward method for independent variables (socioeconomic variables) with the dependent variable (practices towards preserving the environment)									
Environmental sustainability variables	Independent Variable	Dependent Variable	Relativity variable	Participation %	(F) Value	Significance	Regression factor	(T) Value	Significance
Dependent variable Practices towards protecting the environment from pollution	1st step	Husband's education	0.882	0.778	98.084	0.1	**0.611**	**9.904**	0.1
	2nd step	Housewife education	0.794	0.631	47.928	0.1	**0.437**	**6.923**	0.1
	3rd step	Housewife age	0.757	0.574	37.683	0.1	**0.375**	**6.139**	0.1
	4th step	Income	0.725	0.526	31.037	0.1	**0.325**	**5.571**	0.1

Environmental sustainability awareness: It is evident from Table (11) that the husband's educational level was the first variable to be introduced in the regression analysis (first step), as the value of the participation rate was (0,725). This means that (72.5%) of the husband's educational level participates in raising the level of awareness of sustainability for the housewives, where the value of T (8,592) is statistically significant at the level of significance of (0.01). This means that the husband's educational level is one of the most important factors to raise awareness of sustainability among the housewives, with the positive impact it has on acquiring information and experiences through family relations and interactions between them

This is followed by the education of the housewives themselves (the second step) at a rate of (67.1%), where the value of the participation rate was (0.671) at a significant level of (0.01). This confirms that education contributes to gaining awareness of sustainability, to raise their level of awareness and sense of urgency towards the environmental pollution, in terms of their causes, effects, and means of solving them. Then came in the age of the housewives (the third step) at a rate of (59.5%), Where the value of the participation rate was (0.595) at a level of significance (0.01), which means that the age of the housewives is one of the factors affecting awareness of sustainability. That is, the higher the age of the housewife, the higher the level of awareness of sustainability she possesses. Then came in the husband's profession (in the fourth step). The last at a rate of (54.8%), where the value of the participation rate was (0.548) at the level of significance (0.01), this means that the husband's profession is one of the factors affecting the awareness level of the housewives, with the distinct educational level associated with it. Thus, its reflection on the level of awareness of sustainability.

The ability to take decisions towards protecting the domestic environment from pollution: Table (12) shows

that the educational level of the wife was the first variable to be introduced in the regression analysis (the first step), as the value of the participation rate was (0.778) meaning that (8.77%) of the wife's educational level participates in raising awareness of sustainability, for the housewives, where the value of T (9.904) is statistically significant at the level of significance of (.010), which means that the educational level of the wife is one of the most important factors affecting the improvement of her ability to carry out these practices to protect the domestic and external environment. This result is aligned with the findings of the study of (Resurrección, 2013). Which indicated a correlative relationship between the wive's perception of the problem of pollution and planning the available resources; secondly the age of the housewives (the second step) is at (63.1%), where the value of the participation rate was (0.631) at a significant level of (0.01),

This confirms that age contributes to gaining experiences related to the actual practices performed to protect the environment. Then the husband's education came in (the third step) at a rate of (57.4%), where the value of the participation rate was (0.574) at a level of significance (0.01). This means that the husband's education is one of the factors affecting the actual ability to perform positive practices to protect the environment, then came the monthly income (fourth step), meaning that the monthly income is one of the factors that affect the level of practices as well, with the financial capabilities that help the housewives in choosing the various means and methods to alleviate environmental pollution.

CONCLUSION

The current study highlights the existence of a positive significance correlational between awareness of the concept of sustainability in the elements (air, food, natural resources exploitation and rationalization of their consumption, and noise) and the variables of practices towards preserving the environment. There were significant differences between the awareness level and the variables of practices to protect the environment among the working and non-working housewives, as well as between sustainability awareness in the elements (air, food, natural resources exploitation and rationalization of their consumption, and noise) and the variables of practices to preserve the domestic environment among the housewives of the research sample, according to their different educational levels.

Also, there was a positive significance correlation between awareness of the concept of sustainability in the elements variables of (air, food, natural resources exploitation and rationalization of their consumption, and noise) and between practices to protect the domestic environment from air, food, noise pollution and depletion of resources, while the results showed that there is no relationship between them and the number of family members, and also showed the level of sustainability awareness among the housewives to protect the environment, came as follows: awareness of food contamination came in first, then depletion of

the natural resources is ranked second, then awareness of air pollution ranked third, then awareness of noise pollution came fourth and last. And that the ranking of the actual level of ability to perform positive practices to protect the environment among the housewives of the research sample, in all its variables came as follows: the ability to take decisions towards protecting the domestic environment and resource exploitation came in first, food contamination came in second, then air pollution ranked third, and then noise pollution came in fourth and last.

Recommendations: Based on the research results, it is recommended that it should raising sustainability awareness through women and family programs using all media and various social media platforms, on the other hand proposing appropriate and easy-to-implement solutions in the environment. Focus on aspects of environmental awareness in the educational curriculums in all different educational stages. Raising awareness will enforce the change in the behavioral habits & family dynamics to preserve the domestic and environment in general, and develop a strategy to protect the environment from pollution in an integrated system that leads to interaction and integration between the environmental advocates, family members, and the whole community to face pollution problems in the Saudi society.

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