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SELF-ESTEEM OF FEMALE UNIVERSITY STUDENTS AND ITS RELATIONSHIP WITH GREEN CONSUMPTION BEHAVIOUR IN LIGHT OF SUSTAINABLE ENVIRONMENTAL TRENDS

Wahba Samah Gouda Ali[1]*, Hagagg. Riham Galal Desokey[2], Borg. Eman Hamad Ismail[3], Elmorshdy Asmaa Hassan Abd-Elmonem[3], Abo-Gabal. Hayat Edrees Mohamed[3], Elshorpagi Dalia Abd-Elmonem Abd Elkawy[3], Shehata. Fatma Mohamed Abd-ElHamid[3], Seada Doaa Mohammed Ali[3], Eissa Dina Hamdy Abd-Elwahab[4], Bella Wafaa Abd-Elsattar Elsayed[1]

[1]Associate Professor, Department of Family & Childhood Management, Faculty of Home Economics, Al-Azhar University, Egypt.
[2]Associate Professor, Department of Home and Institutions Management ,Faculty of Home Economics, Al menoufia university, Egypt.
[3]Doctorate, Department of Educational Home Economics, Faculty of Home Economics, Al-Azhar University, Egypt.
[4]Doctorate, Department of Agricultural Extension and Rural Society - Faculty of Agriculture for Girls - Al-Azhar University, Egypt.

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Corresponding author: Wahba Samah Gouda Ali (Wahba Samah Gouda Ali)

ABSTRACT

The current research aimed to study the relationship between self-esteem and green consumption behaviour among female undergraduate students. The research sample consisted of (321) female undergraduate students from various social and economic levels. The research tools included a general data form for the students and their families, a self-esteem questionnaire with its three axes, and a green consumption behaviour questionnaire. After collecting the data, it was classified, tabulated, and analyzed using appropriate statistical methods via the SPSS program to reach the results. The research followed a descriptive-analytical methodology, The most significant results were: A statistically significant positive correlation between self-esteem (across its three axes) and green consumption behaviour.No statistically significant differences between the study sample of female students from rural and urban areas regarding both self-esteem and green consumption behaviour.No statistically significant variation among the female students in (self-awareness, self-confidence, self-assertion, and total self-esteem) based on monthly family income.A statistically significant variation among the university students in green consumption behaviour based on monthly family income at a significance level of (0.001). The study provided a set of recommendations, the most important of which were:Creating a university environment where students feel their value and importance in their society, contributing to improving their level of self-esteem and green consumption behaviour. Developing self-development programs and integrating them into the educational curriculum as an accredited course that teaches self-awareness and self-assertion skills for all educational levels, while training psychologists to implement them. Encouraging small projects adopted by female students in the field of recycling by providing financial support from universities and families. Directing companies that produce eco-friendly products to open sales outlets within university campuses and rural areas to reduce barriers preventing students from acquiring these products.

KEYWORDS: Self-esteem, Self-awareness, Self-confidence, Self-assertion, Green consumption behaviour, Sustainable environmental trends, Female undergraduate students.

1. INTRODUCTION AND PROBLEM OF THE STUDY

Youth represent the true wealth of society, and university students are a vital segment of this group, bearing the greatest responsibility for its advancement. This necessitates a focus on their well-being and ensuring they maintain an appropriate level of adjustment and mental health. Self-esteem is considered one of the significant dimensions of personality, having a profound impact on the mental health of individuals in general, and university students in particular. Furthermore, the study of self-esteem remains a top priority in psychological research. The term emerged in the late 1950s and quickly gained a distinguished position alongside other terms within self-theory, such as the "Real-Self," "Self-Acceptance," and the "Ideal-Self" ***(Maamria, 2011: 133).***

University students live in an era characterized by rapid and diverse changes that directly affect them, increasing levels of hardship and stress. These factors may lead to increased psychological and physical disorders, hindering proper adjustment and significantly impacting their personality by causing a defect in a key trait: self-esteem ***(Hadar & Suleimani, 2016: 3).***

The concept of self-esteem is not only an important dimension of personality but is regarded by scientists as one of the most influential dimensions affecting behaviour. A clear understanding of personality or human behaviour cannot be achieved without including self-esteem as a mediating variable. "Allport" suggests that self-esteem permeates all traits and emotional aspects of an individual. Some consider positive self-esteem a vital and fundamental variable in understanding the personality structure that plays a major role in its organization. Similarly, "Gergen" pointed out that an individual's evaluation or esteem of themselves plays a primary role in determining their behaviour. "Rogers" notes that the basic human motive is self-actualization and improvement, while "Becker" asserts that the drive for control is merely an expression of the need for self-esteem. "Hayakawa" and others viewed the fundamental purpose of all types of activity as an attempt to enhance self-esteem ***(Yamaguchi & Sun Kim, 2013: 35).***

Accordingly, it can be said that self-esteem is the reference framework that provides strength and flexibility to human behaviour. Therefore, the importance of the self-esteem concept in educational psychology is an indisputable axiom ***(Salem, 2012: 92).***

The importance of self-esteem is evident in facing challenges and difficulties across various situations. Students with high self-esteem possess "self-efficacy" in confronting challenges, unlike students with low self-esteem who find it difficult to handle problems encountered during their learning process ***(Al-kfaween, 2017: 85).***

During the university stage, students are exposed to numerous pressures different from those previously faced, such as academic requirements or forming new social relationships. This requires responses and reactions that students may feel unable to provide due to a lack of appropriate skills and methods to meet those pressures ***(Hussein, 2023: 12).***

From this, the role of self-awareness becomes clear in the university student's ability to solve academic problems by finding multiple ways to overcome personal and social difficulties. Thus, mastering self-awareness is crucial at the university stage ***(Al-Kahali & Al-Kahali, 2024: 432).***

Self-awareness contributes to achieving success, progress, and excellence because the individual understands themselves correctly by managing their capabilities, strengths, weaknesses, and interests. It also enhances the ability to make correct decisions, enabling them to face problems in various life fields through the conscious acquisition of actual, emotional, and social experiences ***(Al-Najjar, 2018: 6).***

Furthermore, self-assertion skills are among the most important skills for effective interaction with others. A lack of these skills leads to many problems for both the individual and society, including psychological disorders such as anxiety and depression ***(Amara & Abdel Wahab, 2016: 56).***

The danger of weak assertive behaviour for students lies in their inability to express their feelings or defend their rights. Over time, maintaining this passive response leads to negative psychological and social consequences, such as anxiety, depression, and feelings of inferiority. Consequently, their social relationships are affected as they become unable to communicate effectively with others ***(Al-Arafi, 2013: 11-12).***

Based on the above, high self-esteem helps students complete tasks skillfully by increasing their self-confidence, self-awareness, and self-assertion, while also managing the problems they face, which ultimately increases academic achievement ***(Schunk, Meece, Pintrich, 2014: 32).***

Enhancing self-esteem in female university students drives them to adopt green consumption behaviour, reflecting their environmental awareness. Consumption shifts from mere desire-fulfillment to a social responsibility aimed at protecting resources

and ensuring their sustainability for future generations to achieve sustainable development.

Development is a global goal acknowledged by the international community as an ambitious vision for shaping development strategies and policies for all nations, particularly the least developed ones. The primary aim of development is to stimulate the economy, thereby positively impacting individuals' living standards and ensuring minimum levels of prosperity, happiness, and a decent life. This ensures that countries can keep pace with global economic progress***(N. Safouh, et.al (2025:525).***

Sustainable development seeks to create balance in the environment by harmonizing available resources with actual needs. This can be achieved by establishing more sustainable behaviours, such as eco-friendly practices, and transferring expertise from developed to developing countries in the field of sustainability ***(Abdel Alim, 2020: 259).***

The concept of achieving sustainable development and its values is linked to a set of behaviours that reflect the value system of any society. Therefore, every society is governed by a set of standards and values that undergo development and change, making values an inherent variable in most theoretical trends explaining the phenomenon of development ***(Zayed, 2010: 10).***

Pro-environmental behaviours represent a set of purposeful activities focused on preserving natural resources through recycling, water conservation, and rationalizing energy use. This involves convincing others to protect the environment and providing a model that leads to various behaviours with environmental consequences. Rationalization is the effective outcome in achieving balance and sustainable development of resources that serve both present and future generations ***(Nassib & Mardawi, 2020: 731).***

Studies by ***Heshmati (2014: 23), Sukhdev (2015: 3),*** and ***Radi (2014: 53)*** emphasized that current patterns of development and economic growth are environmentally unsustainable in the long run. They recommended the transition from the current economy to a "Green Economy" as a prerequisite for achieving sustainable development in local communities to reduce the environmental waste imposed by the pace of unsustainable production and consumption over past decades.

Bella et al. (2025: 2049) also emphasized the need to integrate sustainability concepts into university education, including sustainable development issues in curricula, organizing workshops and training courses for university youth on the Sustainable Development Goals (SDGs), launching awareness campaigns via social media, and producing visual and audio content that explains sustainable development concepts in a youthful language.

The green economy is a new developmental model aimed at improving human well-being and achieving social justice while considering environmental risks. It incorporates many sustainable development plans and programs to provide solutions for social and environmental problems by ensuring sustainability in resource consumption and providing eco-friendly services and green products ***(Abdel Ghani, 2017: 48).***

Western countries have focused on creating specific systems for sustainable consumption by increasing green products and publishing environmental reports as essential measures to expand sustainable consumption patterns ***(Mehri & Mehri, 2019: 197).***

Increasing awareness has not been limited to developed countries; steps have been taken to generate more awareness in developing nations as well. Consumers worldwide are becoming ready to adopt "Green Products" that reflect a healthy lifestyle, contribute to environmental protection, conserve energy, reduce resource waste, and eliminate pollution and waste ***(Dangelico, 2015: 560).***

Therefore, it has become necessary to focus on regulating consumer behaviour patterns and changing the culture from one of irrational consumption to "Green Consumption," which protects the environment and preserves the rights of future generations. Reducing the negative impacts of consumption culture on the environment has become an urgent necessity to ensure human existence and continuity. This has led to the emergence of "Green Consumption," which is an extension of several terms such as the green economy, green shopping, and green education ***(Hussein, 2020: 9).***

Green consumer behaviour differs from ordinary consumer behaviour because it stems from the belief that the environment suffers from many problems affecting its safety and continuity. These problems must be addressed effectively to preserve the environment. An individual can participate, even in a small way, in solving these problems through their consumption trends ***(Abdel Dayem & Belkarn, 2020: 166).*** Identifying green consumption values helps in developing appropriate marketing strategies and opens the way for interest in the concept of sustainable consumption, which is based on a transition from traditional consumption to green consumption ***(Abdel Moneim, 2019: 191).***

The results of ***Lina Huang's (2012)*** study revealed that the more consumers are aware of the environment around them, the more they support

green products and become more willing to choose them. All consumers should have a desire to adopt green products that reflect a healthy lifestyle and help protect the environment, preserve resources, and eliminate pollution.

Meshaal's (2021) study also confirmed a statistically significant positive correlation between housewives' awareness of green consumption behaviour and environmental responsibility. Among green consumption practices is recycling, which is one of the most important economic benefits that green technology has brought to the environment. Glass, plastic, paper, and metal waste are recycled for benefit, as these materials are the most recyclable and adaptable to the surrounding environment. They are not only of environmental importance but also an entry point for rationalizing consumption ***(Nofal et al., 2015: 103).*** Safe waste disposal also protects the environment; ***Dabash (2016)*** explained in her study that a housewife's disposal of waste in a healthy, correct, and safe manner positively affects environmental safety, which in turn reflects positively on her and affects her life satisfaction.

Therefore, effective waste management must be provided through sorting and classifying waste at its source, such as homes, as happens in developed countries by providing containers of different shapes and colours near homes. This method reflects the concept of sustainable development, which aims to create real development in its various forms—health, environmental, and economic ***(Al-Suwailem, 2016: 64).***

It is essential to spread the culture of green consumption. ***Muslim et al. (2018)*** recommended the necessity of spreading the culture of rationalizing consumption to contribute to raising awareness of green practices and sustainable development, emphasizing the need for attention from state ministries, various media outlets, and social media to achieve development.

University students today are the housewives of tomorrow. ***Darfour and Shahed (2017: 11)*** believe that a housewife is considered a green consumer when she has eco-friendly attitudes reflected in her purchasing and consumption behaviour. She is a more civilized consumer who contributes directly to community activities and includes the environmental dimension in her purchasing decision-making stages. Therefore, women are considered green consumers with the driving force toward improving environmental performance.

Based on the above, the researchers believe that self-esteem can be a powerful psychological driver directly and deeply affecting green consumption behaviour, especially among educated groups like university students. The relationship here is not just a purchase process but an expression of identity and personal values. In light of sustainable environmental trends, self-esteem acts as an internal motive that transforms environmental knowledge from mere theoretical information into actual green consumption practices. Due to the scarcity of studies—to the researchers' knowledge—that addressed self-esteem and its relationship to green consumption behaviour, the current study was conducted. The problem of the study is crystallized in the following main question:

What is the relationship between the self-esteem of female undergraduate students (across its three axes) and green consumption behaviour?

1.1. Research Objectives

The primary objective of this research is to examine the relationship between self-esteem and green consumer behaviour among university female students. From this main objective, the following sub-objectives emerge:

- To determine the level of self-esteem across its three dimensions (self-awareness, self-confidence, self-assertiveness, and overall self-esteem).
- To determine the level of green consumer behaviour.
- To examine the correlational relationship between self-esteem in its three dimensions (self-awareness, self-confidence, self-assertiveness, and overall self-esteem) and green consumer behaviour.
- To identify differences between university female students from rural and urban areas in terms of self-esteem (across its three dimensions) and green consumer behaviour.
- To identify differences between university female students in terms of self-esteem (across its three dimensions) and green consumer behaviour according to the type of faculty (theoretical vs. practical).
- To identify differences between university female students in terms of self-esteem (across its three dimensions) and green consumer behaviour according to certain demographic variables (father's educational level, mother's educational level, and family size).
- To identify differences between university female students in terms of self-esteem (across its three dimensions) and green consumer behaviour according to monthly family income.

1.2. Significance of the Research

This research derives its importance from the following considerations:

- The study of the self is considered one of the most complex areas in psychology, as it provides individuals with insight into their own identity.

Human nature is dynamic and constantly changing, which has widened the gap between material advancement and spiritual development. Therefore, self-esteem has become one of the most important concepts to study to help individuals understand themselves and interact effectively with others.

- The study addresses three essential dimensions in an individual's life: self-awareness, self-confidence, and self-assertiveness. These dimensions play a significant role in developing students' abilities, readiness, and academic and future achievements. Examining these dimensions and identifying the relationships among them benefits not only students but also contributes to the growth and development of society.
- The importance of this study also lies in its contribution to university research that focuses on identifying and addressing students' problems. University female students represent a large segment of society. When they enjoy good mental health and psychological balance, they are better able to overcome life's complexities and changing social conditions. This balance enhances their ability to adapt, persist, and remain productive in various domains.
- The study enriches the Arabic academic library with research tools addressing the current topic, given the scarcity—within the researcher's knowledge—of Arabic studies linking self-esteem with green consumer behaviour. Most previous research has focused primarily on economic aspects or environmental awareness alone.
- The study contributes to grounding the concepts of "green consumption" and "sustainable orientations" among youth and linking them to personality theories and social psychology.
- It highlights university female students as future mothers and primary decision-makers in family consumption. Enhancing their awareness ensures the sustainability of environmentally responsible behaviours for future generations.
- The research supports national strategies, as it aligns with Egypt's Vision 2030 toward transitioning to a green economy and promoting a culture of sustainability.
- The findings may benefit those responsible for youth development programs in universities by helping them design counseling programs that enhance self-esteem as an entry point for modifying incorrect consumption behaviours.
- It contributes to environmental protection by promoting rational resource consumption and encouraging practices such as recycling, reducing waste, and purchasing environmentally friendly products.

2. RESEARCH HYPOTHESES

2.1. First Hypothesis

There is no statistically significant correlational relationship between self-esteem in its three dimensions (self-awareness, self-confidence, self-assertiveness, and overall self-esteem) and green consumer behavior among university female students in the study sample.

2.2. Second Hypothesis

There are no statistically significant differences between university female students from rural and urban areas in terms of self-esteem (across its three dimensions) and green consumer behavior.

2.3. Third Hypothesis

There are no statistically significant differences between university female students in terms of self-esteem (across its three dimensions) and green consumer behavior according to the type of faculty (theoretical vs. practical).

2.4. Fourth Hypothesis

There is no statistically significant variance among university female students in terms of self-esteem (across its three dimensions) and green consumer behavior according to certain demographic variables (father's educational level, mother's educational level, and family size).

2.5. Fifth Hypothesis

There is no statistically significant variance among university female students in terms of self-esteem (across its three dimensions) and green consumer behavior according to monthly family income.

3. RESEARCH DESIGN

3.1. First: Scientific Terminology and Operational Definitions

- **Self-Esteem**

Self-esteem includes the judgments an individual makes about themselves and how they perceive themselves, as self-esteem has a direct impact on an individual's self-efficacy due to the relationship between one's self-evaluation and perceived competence ***(Woolfolk, Hughes, & Walkup, 2013).***

The Canadian Mental Health Association (2013) defines self-esteem as representing good mental health and self-knowledge in terms of strengths, weaknesses, problems, limits, and requirements, which allows for the formation of a realistic self-image.

It is also defined as the appreciation perceived by the individual from others, reflecting feelings of confidence, competence, effectiveness, social acceptance, and a sense of value ***(Mostafa, 2016, p.***

291).

3.2. Operational Definition of Self-Esteem

Self-esteem is operationally defined as an affective process involving the university female student's judgment of her level of personal competence and self-evaluation. This includes her positive and negative attitudes toward herself, beliefs, values, feelings, thoughts, orientations, self-acceptance or lack thereof, perceived competence in social situations, expectations of success or failure, and strength of personality. It is measured by the score obtained on the scale used in this study.

3.3. Dimensions of Self-Esteem

3.3.1. Self-Awareness

Self-awareness refers to cognitive, emotional, and behavioral awareness, as well as awareness of problems, abilities, potentials, and everything related to the individual's life that influences them; that is, general awareness of the self ***(Ali, 2022, p. 4).***

Tasha (2018: 55) defines self-awareness as awareness of the different aspects of the self. It is an individual's perception of what happens to them, their awareness of their reactions, and understanding why they behave in certain ways. It also includes recognizing strengths and weaknesses.

3.3.2. Operational Definition of Self-Awareness

It is the university female student's ability to perceive her realistic self in its physical, emotional, intellectual, and social dimensions; her self-concept; awareness of various experiential aspects; identification of strengths and weaknesses; awareness of the surrounding environment and the world around her; and awareness of how others perceive her, enabling her to achieve harmony with herself and others and to interact effectively with various life situations.

3.4. Self-Confidence

Self-confidence is defined as the individual's ability to rely on themselves, make decisions, possess determination and persistence, and perceive their social competence (approaching and interacting with others), academic competence (continuing to acquire knowledge and new experiences), and physical competence and effective utilization thereof ***(Mostafa, 2016, p. 290).***

3.4.1. Operational Definition of Self-Confidence

It is the university female student's belief in her abilities and potentials, with awareness of the limits of those abilities, acceptance of them, and conviction that these potentials are granted by Allah Almighty. Behaviorally, this is reflected in translating positive self-beliefs into actions and observable behaviors that demonstrate her confidence through effective, adaptive, and harmonious interaction with life situations.

3.5. Self-Assertiveness

Al-Dalaeen (2011: 3) defines self-assertiveness as behavior performed by an individual consisting of independent responses appropriate to the situations and conditions in which the individual lives.

3.5.1. Operational Definition of Self-Assertiveness

It is defined as the set of verbal and non-verbal skills of the university female student that ensure the expression of positive and negative feelings, initiating and maintaining interactions, complimenting others, defending rights without violating the rights of others, expressing differing or unpopular opinions, accepting others' requests to change behavior, and refusing unreasonable demands in a socially appropriate manner consistent with prevailing cultural norms.

- **Behavior**

Behavior is the activity exerted by the individual to satisfy multiple needs; it refers to the human actions through which goods and services are used to satisfy needs and desires ***(Obaid Al-Muzaffar, 1431 AH, p. 23).***

- **Consumer Behavior**

Consumer behavior is the pattern adopted by the consumer to carry out a set of activities, tasks, or efforts in sequential stages beginning with thinking about acquiring a product and continuing through perception, usage, and the resulting satisfaction or dissatisfaction ***(Abu Bakr, 2015, p. 30).***

- **Green Consumer**

Al-Bakri (2020) defines the green consumer as an individual governed by values and attitudes toward environmental preservation, translating these into purchasing behavior by refraining from buying products believed to harm the environment or society and preferring environmentally friendly products.

- **Green Consumption**

Green consumption refers to changing consumer habits by preferring products with higher efficiency and less environmental harm, relying on recyclable products, and minimizing waste generation as much as possible ***(Nasser Al-Zahrani, 2017, p. 125).***

- **Green Consumer Behavior**

Operational Definition of Green Consumer Behavior

Green consumer behavior is operationally defined as the set of behaviors and attitudes practiced by the university female student, represented in green

purchasing through the use of environmentally friendly, chemical-free products; ensuring packaging is recyclable or biodegradable and carries an eco-label; selecting energy-efficient and health-safe products; practicing consumption rationalization across various domains; using natural green alternatives; and adopting positive attitudes and practices toward recycling waste into new products, reusing materials, and properly sorting and disposing of waste to maintain a sustainable green environment.

- **Sustainable Environment**

A sustainable environment is an approach that respects and aligns with environmental, technological, economic, and social considerations. It aims to meet the needs of the present generation without compromising or harming the ability of future generations to meet their anticipated needs (Al-Otaibi, 2022, p. 78).

3.6. Operational Definition of Sustainable Environmental Trends

In this study, sustainable environmental trends are defined as orientations and policies aimed at achieving sustainable development and environmental protection through responsible and sustainable use of natural resources, such as utilizing renewable resources, reducing the use of non-renewable resources, enhancing environmental sustainability, and achieving balance between economic growth and environmental protection. The objective is to ensure sustainable development and environmental protection for future generations while maintaining economic and social growth.

3.7. Operational Definition of University Female Students (Research Sample)

They are defined as female students enrolled in university education (both theoretical and practical faculties) at Al-Azhar University, coming from families of varying socioeconomic levels.

4. SECOND: RESEARCH METHODOLOGY

The present study adopted the **descriptive-analytical method**, which is an approach that involves describing a particular phenomenon, events, or objects, collecting facts, information, and observations about them, describing their specific circumstances, and reporting their condition as it exists. It is also concerned with determining what things and phenomena **ought to be**, considering certain values or standards, and proposing steps or methods that can be followed to reach the desired state according to those values or standards ***(Al-Mahmoudi, 2019: 46).***

4.1. Third: Research Delimitations

These include:

- **Human Delimitations**

Study Population: The study population consisted of female university students from Al-Azhar University. A random sample was derived from this population.

Pilot Sample: The questionnaire was administered to a pilot sample of female university students. They were selected using a purposive convenience method from both rural and urban areas and from different social and economic levels. They were later included in the main sample.

Main Study Sample: The final sample consisted of **321 female university students** from Al-Azhar University, representing both theoretical and practical colleges and different social and economic levels.

- **Time Delimitations:** The field study was conducted during the period from **August 1, 2025 to September 15, 2025**.

Spatial Delimitations: The research tools were applied to a sample of female university students through a questionnaire administered via personal interviews.

4.2. Fourth: Research Variables

- **Independent Variable:** Self-esteem of female university students.
- **Dependent Variable:** Green consumer behavior of female university students.

Fifth: Research Tools

The study tools consisted of the following:

1. General Data Form for Female University Students and Their Families

The general data form was prepared to obtain certain information that defines the characteristics of the study sample. It included a set of questions designed to collect data about their social and economic aspects, including:

- **Place of residence:** Divided into (Rural – Urban).
- **Type of college:** Divided into (Theoretical – Practical).
- **Father's educational level:** Divided into three levels:Low level: (Illiterate, can read and write, primary or preparatory education). Medium level: (Secondary education or equivalent). High level: (University education, Master's degree, or PhD).
- **Family monthly income:** Divided into three levels:Low level: (Less than 6,000 Egyptian pounds) Medium level: (From 6,000 to less than 10,000), High level: (More than 10,000).
- **Family size:** Divided into three levels:Small family: (4 members or fewer), Medium family: (5–6 members), Large family: (More than 6 members).

4.3. Self-Esteem Questionnaire for Female

University Students

The aim of this questionnaire was to study self-esteem among female university students across its three dimensions.

The questionnaire was prepared in its initial form consisting of **36 statements**, distributed across three dimensions:

1. **Self-awareness** – (12 statements)
2. **Self-confidence** – (12 statements)
3. **Self-assertion** – (12 statements)

4.4. Scoring of the Questionnaire

The self-esteem questionnaire was scored by determining the responses of the study sample to each statement according to three options:(Yes – Sometimes – No), Using a continuous three-point scale (3, 2, 1) for positively worded statements, and the reverse scoring (1, 2, 3) for negatively worded statements. Numerical scores were assigned to the responses of female university students for each statement.The questionnaire consisted of **36 statements**, including(20 positive statements and 16 negative statements) ,Based on the responses, the minimum and maximum scores were determined to calculate the range.

The range was calculated using the following formula:

Range = Maximum value – Minimum value

Then, the class length was calculated as:

Class length = Range ÷ 3

Accordingly, self-esteem scores were divided into three levels(Low level- Medium level -High level).

Table 1: Presents the Minimum and Maximum Scores, Range, and Class Length for the Levels of Female University Students' Self-esteem Across its Dimensions (N = 321)

High Level	Medium Level	Low Level	Class Interval Length	Range	Maximum Reading	Minimum Reading	Statement
29:36	22:28	14:21	8	22	36	14	Self-Awareness
29:35	21:28	13:20	8	22	35	13	Self Confidence
29:35	23:28	17:22	6	18	35	17	Self-Assertion
85:103	66:84	46:65	19	57	103	46	Overall self Esteem

Table 1 shows that the highest score obtained by the undergraduate students in total self-esteem was 103, while the lowest score was 46. The range was 57, and the class interval length was 19. Accordingly, the questionnaire scores were divided into three levels: (Low level – Medium level – High level).

4.5. Green Consumption Behaviour Questionnaire for Undergraduate Students:

The objective of conducting this questionnaire was to study the green consumption behaviour of undergraduate students. It included a set of statements prepared by the researchers after reviewing the most important Arabic and foreign references and studies addressing the research topic. The questionnaire was prepared in its initial form, consisting of **(33) statements** measuring the students' green consumption behaviour.

Questionnaire Scoring: The green consumption behaviour questionnaire for undergraduate students was scored by determining their responses to each statement based on three options: (Yes – Sometimes – No). A continuous rating scale of (3, 2, 1) was applied to positive statements, while the scoring was reversed (1, 2, 3) for negative statements. Numerical scores were assigned to the students' responses in the questionnaire. The total number of statements was (33), consisting of (8 negative statements) and (25 positive statements). Based on the response results, the minimum and maximum scores were identified to calculate the range using the formula (Range = Maximum value – Minimum value). Subsequently, levels were determined by calculating (Class interval length = Range ÷ 3). Accordingly, the green consumption behaviour questionnaire scores were divided into three levels: (Low level – Medium level – High level). Table (2) illustrates this:

Table 2: Minimum and Maximum Readings, Range, and Class Interval Length for Undergraduate Students' Levels of Green Consumption Behavior (N = 321)

High Level	Medium Level	Low Level	Class Interval length	Range	Maximum Reading	Minimum Reading	Statment
86:101	69:85	52:68	17	49	101	52	Green Consumption Behaviour

It is evident from Table 2 that the highest score obtained by the respondents among undergraduate students in total green consumption behaviour was (101), the lowest score was (52), the range was (49), and the class interval length was (17). Accordingly, the questionnaire scores were divided into three levels: (Low level – Medium level – High level).

Standardization of Tools: Standardization refers to calculating the validity and reliability of the questionnaire.

First: Calculating Questionnaire Validity: Internal Consistency Validity: This was calculated

for the self-esteem questionnaire and the green consumption behaviour questionnaire. The correlation coefficients were calculated between the score of each item and the score of the axis it belongs to. This was conducted through application on a pilot sample of (50) undergraduate students who met the study sample criteria. Table 3 illustrates this:

Table 3: Pearson Correlation Coefficient Values for the items of each Axis in the Self-esteem Questionnaire and the Green Consumption Behaviour Questionnaire, and the Total Score of the Axis

Self Esteem					
self awareness		**Self confidence**		**Self assertion**	
statements	**Correlation**	**statements**	**Correlation**	**statements**	**Correlation**
1	0.573**	1	0.537**	1	0.317**
2	0.475**	2	0.611**	2	0.389**
3	0.435**	3	0.561**	3	0.373**
4	0.519**	4	0.431**	4	0.598**
5	0.536**	5	0.585**	5	0.322**
6	0.444**	6	0.494**	6	0.265**
7	0.452**	7	0.644**	7	0.459**
8	0.496**	8	0.546**	8	0.438**
9	0.408**	9	0.593**	9	0.483**
10	0.456**	10	-0.126*	10	0.466**
11	0.390**	11	0.426**	11	0.430**
12	0.348**	12	0.656**	12	0.540**
Green Consumption Behaviour					
statements	**Correlation**	**statements**	**Correlation**	**statements**	**Correlation**
1	0.586**	13	0.358**	25	0.532**
2	0.523**	14	-0.164**	26	0.248**
3	0.506**	15	0.499**	27	0.414**
4	0.639**	16	0.267**	28	0.462**
5	0.206**	17	0.260**	29	0.316**
6	0.586**	18	0.664**	30	0.274**
7	0.513**	19	0.662**	31	0.260**
8	0.466**	20	0.586**	32	0.512**
9	0.660**	21	0.629**	33	0.531**
10	0.533**	22	0.605**		
11	0.493**	23	0.492**		
12	0.394**	24	0.579**		

Significance at level(0.05), Significance at level(0.01)

It is evident from **Table 3** that all items of the self-esteem questionnaire achieved significant correlations with the total score of the axis to which they belong at a significance level of (0.01). This indicates that the questionnaire possesses a high degree of internal consistency and is suitable for evaluating the self-esteem of undergraduate students. Furthermore, all items of the green consumption behaviour questionnaire achieved significant correlations with the total score of the questionnaire at significance levels of (0.05 and 0.01). This indicates that the questionnaire is characterized by a high degree of internal consistency and is suitable for evaluating the green consumption behaviour among the sample members.

Second: Calculating Scale Reliability: Reliability was calculated using two methods:

1. **First Method:** Using the **Cronbach's Alpha** formula to calculate the reliability coefficient and determine the internal consistency value of the questionnaire across its various dimensions.
2. **Second Method:** Using the **Split-half** test. To correct the impact of splitting the scale, the **Spearman-Brown** and **Guttman** correction formulas were applied.

Table 4: Reliability Coefficients for the Self-esteem Questionnaire (with its Three Axes) and the Green Consumption Behavior Questionnaire using Cronbach's Alpha and Split-half Tests

Axes	Number of Phrases	Cronbach's Alpha Coefficient	The Split-Half	
			Spearman-Brown Correlation Coefficient	Guttman Correlation Coefficient
Self-esteem questionnaire				
Self-awareness	12	0.642	0.597	0.593
Self confidence	12	0.714	0.682	0.678
self-assertion	12	0.578	0.656	.656
Overall self esteem	36	0.841	0.830	0.830
Green Consumption Behavior Questionnaire				
Green Consumption Behavior	33	0.877	0.848	0.848

It is evident from the previous table that the **Cronbach's Alpha** value for the self-esteem questionnaire is (0.841), the **Spearman-Brown** coefficient and **Guttman** coefficient are (0.830). The Alpha value for the green consumption behavior questionnaire is (0.877), with the Spearman-Brown and Guttman coefficients at (0.848). These values are considered high, which indicates the consistency and reliability of the questionnaire items, thus making the questionnaire valid for application.

5. RESULTS AND DISCUSSION OF THE FIELD STUDY

First: Description of the Study Sample Characteristics

Table 5: Relative Distribution of the Study Sample According to Socio-Economic Status Variables (n = 321)

The Variable	Repetition	%	The Variable	Repetition	%
Place of residence			**College Type**		
Countryside	229	71.3	Theoretical	108	33.6
City	92	28.7	Practical	213	66.4
Total	321	100.0	Total	321	100.0
Educational Level of the father			**Educational Level of the mother**		
Low	44	13.7	Low	60	18.7
Medium	105	32.7	Medium	122	38.0
High	172	53.6	High	139	43.3
Total	321	100.0	Total	321	100.0
Number of Family Members			**Family Financial Income**		
Less than 5	41	12.8	Less than 6000 Egyptian Pounds	122	38.0
From 5 to 6	258	80.4	From 6000 – to Less than 10000 Egyptian Pounds	139	43.3
More than 6	22	6.9	More than 10000 Egyptian Pounds	60	18.7
total	321	100.0	Total	321	100.0

Table 5 shows the following: Variations in the percentages of undergraduate students in terms of **residence**, where the highest percentage was for rural areas at 71.3%, while the percentage of students from urban areas was 28.7%. Regarding the **type of college**, 66.4% of the students were from practical colleges, while 33.6% were from theoretical colleges. The highest percentage of students had parents with a **high educational level**, as the high level for fathers reached 53.6%, while for mothers it was 43.3%. As for **monthly family income**, the medium level (from 6,000 to less than 10,000 EGP) ranked first at 43.3%, followed by the low level (less than 6,000 EGP) at 38%, and finally the high level (more than 10,000 EGP) at 18.7%. It was also found that the highest percentage of students belonged to **medium-sized families** (5 to 6 members) at 80.4%.

Second: Descriptive Results of the Study Tools: Based on the response results of the study questionnaire, the minimum and maximum scores were determined to calculate the range and subsequently define the levels.

A: Description of the study sample's responses to the Self-Esteem Questionnaire for undergraduate students

Table 6: Relative Distribution of the Undergraduate Students in the Study Sample According to Levels of Self-esteem (Across its Three Axes) and Levels of Green Consumption Behavior (N=321)

%	No.	Level	Axes	%	No.	Level	Axes
Self esteem questionnaire							
9.0	29	Low Level (13:20)	**Self confidence**	3.1	10	Low Level (14:21)	**Self awareness**
60.7	195	Medium Level (21:28)		36.8	118	Medium Level (22:28)	
30.3	97	High Level (29:35)		60.1	193	High Level (29:36)	
4.6	15	Low Level (46:65)	**overall self esteem**	7.8	25	Low Level (17:22)	**Self assertion**
50.5	162	Medium Level (66:84)		50.5	162	Medium Level (23:28)	
44.9	144	High Level (85:103)		41.7	134	High Level (29:35)	
Green Consumption Behaviour Questionnaire							
				8.7	28	Low Level (52: 68)	**Overall Green Consumption Behaviour**
				49.2	158	Medium Level (69:85)	
				42.1	135	High Level (86:101)	

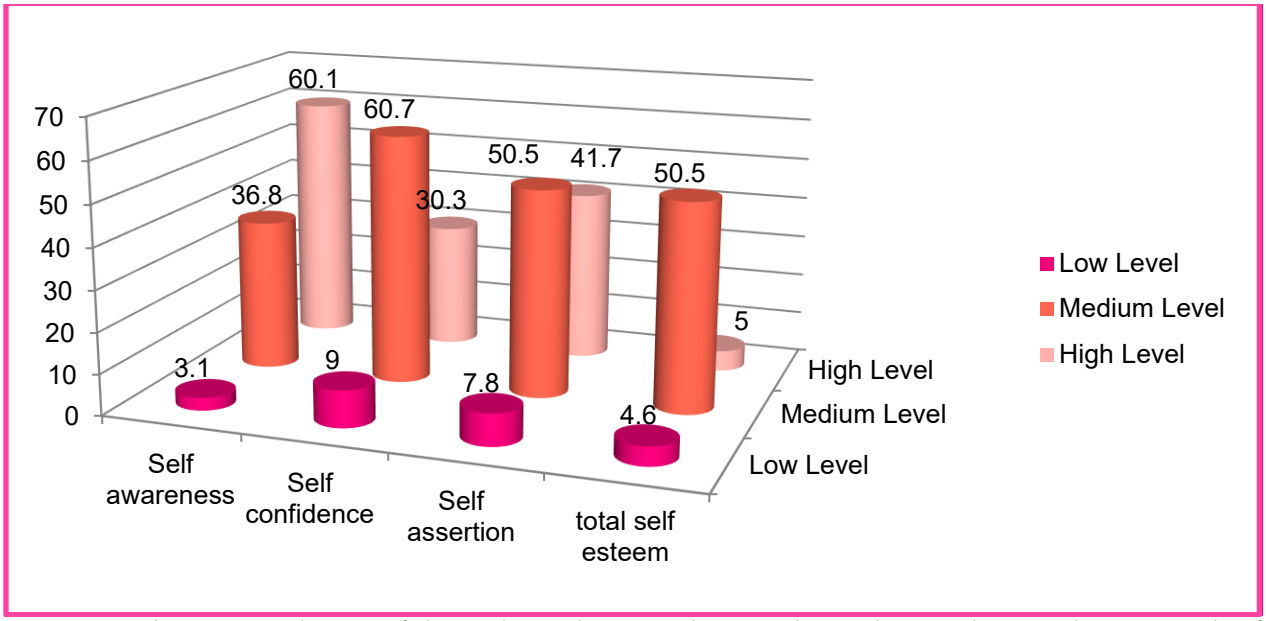

Figure 1: Relative Distribution of the Undergraduate Students in the Study Sample According to Levels of Self-esteem Across its Three Axes (n=321).

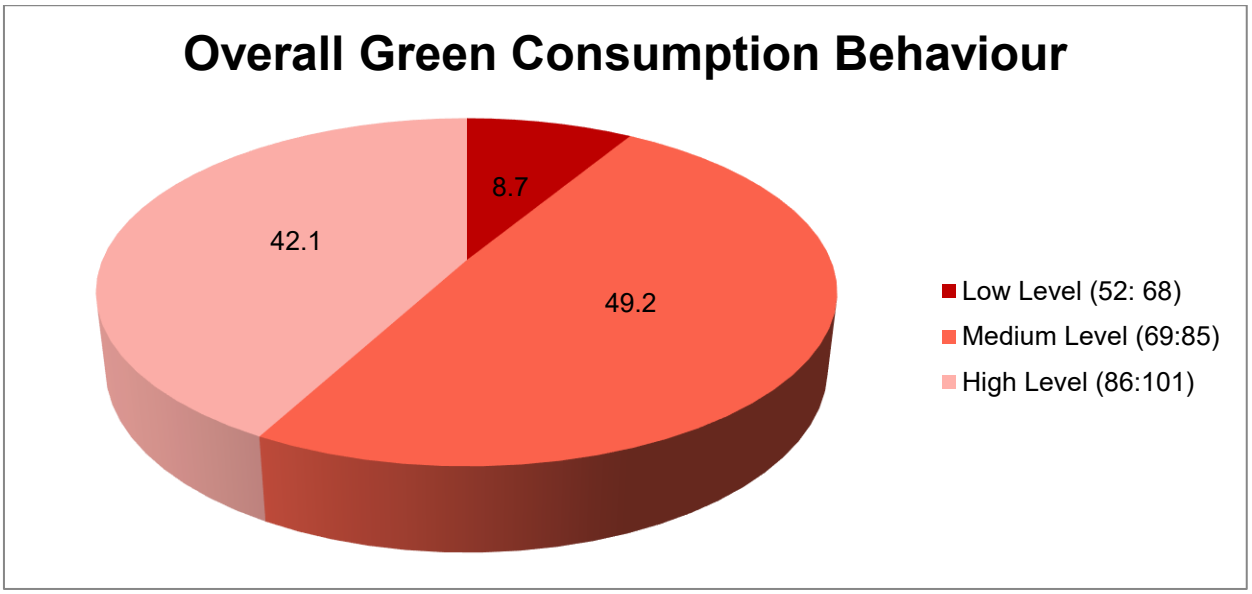

Figure 2: Relative Distribution of the Undergraduate Students in the Study Sample According to Levels of Green Consumption Behavior (n=321).

Table 6, Figure (1), and Figure 2 show the following:

- **(60.1%)** of the study sample falls within the **High Level** of the **Self-Awareness** axis. This indicates that the majority of undergraduate students possess a high level of self-awareness. This result is consistent with studies by Muhaisen, Abd, and Jawad (2017) and Al-Kahali & Al-Kahali (2024), which found a high level of self-awareness among university students. However, it differs from the studies of Al-Qawaqzah (2015), Al-Hammouri (2020), and Ali (2022), where self-awareness among female students was found to be at a medium level.
- **(60.7%)** of the sample falls within the **Medium Level** of the **Self-Confidence** axis, suggesting that undergraduate students possess moderate self-confidence.
- Half of the study sample **(50.5%)** falls within the **Medium Level** of the **Self-Assertion** axis. This indicates that undergraduate students achieve self-assertion at a moderate rate.
- Half of the study sample **(50.5%)** falls within the **Medium Level** of **Total Self-Esteem**. This shows that the self-esteem of undergraduate students is realized at a moderate level. This result aligns with ***Al-Kfaween's study (2019),*** which showed a medium level of self-esteem among university

students. On the other hand, it differs from the studies of Al-***Smadi & Al-Saud (2018),*** which found a low level of total self-esteem, and the studies of ***Al-Amrat & Al-Rafou' (2014)*** and ***Al-Gharaybeh & Bani Ersheid (2016),*** which indicated high levels of self-esteem among their study samples.

The researchers attribute this result to the increasing complexity and difficulty of modern life, which has become a defining characteristic of the current era. Additionally, the inability of guardians to meet all their daughters' needs as desired may lead to a lack of certain requirements. Furthermore, being females, they may not have the same access as males to certain jobs that would allow them to satisfy their own needs. The university environment is full of temptations, and a young woman may face these alone. Therefore, it is crucial to raise students' awareness regarding their educational and social duties and roles, which supports their self-confidence. This also enables them to practice leadership roles within their families and communities, supported by awareness bulletins from educational, media, and social media institutions, which play a vital role in delivering essential information for self-awareness in society.

- The highest percentage of undergraduate students regarding **Total Green Consumption Behaviour** was at the **Medium Level (49.2%)**. This indicates that the students possess a moderate level of green consumption behaviour. This moderate level may be attributed to the variance in students' commitment between their awareness of the need to acquire green products and the practical challenges that limit recycling and proper waste disposal. Such challenges include a lack of facilities, resources, and practical means available in the university or home environment, as well as the high cost of sustainable green alternatives.
- This result is consistent with Meshaal's study (2021), which found that the green consumption behaviour of the study sample was at a medium level. Shahin's study (2021) also confirmed that the average consumer who lacks full awareness of green products is less inclined to purchase them due to low knowledge. Conversely, it differs from the studies of Abu Rayyah & Amer (2022) and Al-Zaki (2023), where the study samples showed a high level of inclination toward green consumption behaviour.

Third: Results in Light of the Research Hypotheses

Results related to the First Hypothesis: The first hypothesis states: "*There is no statistically significant correlation between self-esteem across its three axes (self-awareness, self-confidence, self-assertion, and total self-esteem) and the green consumption behaviour of the undergraduate students in the study sample.*"

Table 7: Pearson Correlation Coefficients for the Self-esteem Questionnaire (Across its Three Axes) and the Green Consumption Behaviour Questionnaire (n = 321)

Green Consumption Behaviour	Axes
0.411**	Self awareness
0.422**	self confidence
0.370**	self assertion
0.467**	Overall self esteem

**Significance at level(0.01)

Table 7 reveals the following:

- There is a statistically significant positive correlation between **Self-Esteem** (across its three axes: Self-Awareness, Self-Confidence, and Self-Assertion; as well as Total Self-Esteem) and **Green Consumption Behaviour** among undergraduate students at a significance level of **(0.01)**. This indicates that as a student's self-esteem increases, her adoption of green consumption behaviour also increases.
- This result can be interpreted by the fact that a student with high self-esteem possesses a high degree of **Self-Awareness**; she understands the impact of her actions on the surrounding world and moves away from "**Conspicuous Consumption**." Individuals with low self-esteem often resort to over-purchasing international brands to prove their social status. In contrast, a confident student does not derive her value from goods but from her actions, leading her to choose eco-friendly products even if they are not "trendy." Furthermore, she is better equipped to **resist peer pressure** at the university; while some may drift toward excessive consumption, a student who is self-assertive has the courage to say "no" to environmentally harmful products. She chooses "Green Consumption" as a message expressing her personal identity and ethical values. High self-esteem also generates a feeling that the individual is "**capable of making a difference**." Here, the university student does not feel like just a number; she believes that her decision to buy a recycled product or reduce plastic use will effectively contribute to protecting the planet. This sense of responsibility is the core of green behaviour.

Based on the above, it is evident that: There is a statistically significant positive correlation between the three axes of self-esteem and green consumption behaviour. Consequently, the **first hypothesis is rejected**.

2. Results in Light of the Second Hypothesis

The second hypothesis states: "*There are no statistically significant differences between undergraduate students from rural and urban areas in any of the three axes of self-esteem (Self-Awareness, Self-Confidence, Self-Assertion, and Total Self-Esteem) or in Green Consumption Behavior.*"

Table 8: Significance of Differences between the Mean Scores of the Undergraduate Students in the Self-esteem Questionnaire (Three Axes) and the Green Consumption Behaviour Questionnaire According to Place of Residence (Rural – Urban) (n=321)

Value Axis		Rural N= (229) Average calculation	Urban N= (92) Average Calculation	difference between the averages	T Value	Sig. Value	Sig.
Self-esteem questionnaire	Self-awareness	28.738	29.456	-0.718	-1.713	0.088	No Sig.
	self confidence	25.794	26.500	-0.705	-1.419	0.157	No Sig.
	Self-assertion	27.292	28.076	-0.783	-1.847	0.066	No Sig.
	Overall self esteem	81.825	84.032	-2.207	-1.916	0.056	No Sig.
Green Consumption Behaviour		82.589	80.260	2.328	1.886	0.060	No Sig.

Table 8 reveals the following:

There are **no statistically significant differences** between the undergraduate students in the study sample from rural and urban areas in self-esteem across its three axes (Self-Awareness, Self-Confidence, Self-Assertion, and Total Self-Esteem). This is a logical and interesting result in light of current social transformations. This result can be explained by the **fading of the cultural gap** (technological openness); students in both environments now have the same exposure to models, role models, and ideas. This "cultural standardization" has made aspirations and self-evaluation methods very similar. Furthermore, the **university itself acts as a "melting pot."** Once a student enters the campus, she is exposed to the same educational stimuli, interacts with the same peers and professors, and faces the same academic challenges. This shared context unifies the level of self-awareness and self-confidence, as the student derives her esteem from her academic achievement and social interaction within the university rather than her geographical background. Additionally, **rural areas have witnessed significant development** in recent years, with increased interest in girls' education and their attainment of university levels. This family and social support in rural areas has given the female student self-confidence equivalent to her urban counterpart, enhancing her sense of self and self-assertion as an effective and equal member of society.

This result **differs** from the study by ***Al-Kfaween (2019)***, which indicated statistically significant differences in self-esteem based on the place of residence in favour of students living in the city.

There are **no statistically significant differences** between the mean scores of undergraduate students from rural and urban areas in **Green Consumption Behaviour**. This homogeneity in green consumption behaviour between rural and urban students may indicate the fading of the cognitive gap thanks to digital openness, in addition to the role of the university environment in instilling similar consumption values and patterns. Moreover, the similarity of environmental challenges and the **ease of accessing sustainable products through e-commerce** have contributed to this. This result **agrees** with the study by ***Al-Zaki (2023)***, which proved no differences between rural and urban women in green consumption behaviour, while it **differs** from the study by ***Meshaal (2021)***, which proved statistically significant differences in green consumption practices in favour of urban women.

Based on the above, it is evident that there are no statistically significant differences between the undergraduate students in the study sample from rural and urban areas in both self-esteem and green consumption behaviour; thus, the **second hypothesis is accepted**.

3. Results in Light of the Third Hypothesis

The third hypothesis states: "*There are no statistically significant differences among undergraduate students in self-esteem across its three axes (Self-Awareness, Self-Confidence, Self-Assertion, and Total Self-Esteem) and Green Consumption Behavior according to the type of college (Theoretical – Practical).*"

Table 9: Significance of Differences between the Mean Scores of Undergraduate Students in the Study Sample for the Self-Esteem Questionnaire (three axes) and the Green Consumption Behaviour Questionnaire According to the Type of College (Theoretical – Practical) (n=321)

Value Axis		Theoretical N= (108) Average calculation	practical N= (213) Average calculation	difference between the averages	T Value	Sig. Value	Sig.
Self-esteem questionnaire	Self-awareness	29.018	28.906	-0.112	-0.274	0.785	No Sig.
	Self-confidence	26.203	25.892	-0.311	-0.629	0.530	No Sig.
	Self-assertion	27.629	27.460	-0.169	-0.402	0.688	No Sig.
	Overall self esteem	82.851	82.258	-0.593	-0.513	0.608	No Sig.
Green Consumption Behaviour		83.527	81.108	-2.419	-2.069	0.040	Sig. at 0.005

Table 9 reveals the following:

There are no statistically significant differences between the undergraduate students in the study sample from theoretical and practical colleges in Self-Esteem across its three axes (Self-Awareness, Self-Confidence, Self-Assertion, and Total Self-Esteem). This result can be interpreted by the fact that while there was previously a type of "academic superiority" associated with practical colleges, a balance in societal perception has recently occurred. Students in theoretical colleges (such as Languages, Media, or Law) have become aware of the importance of their role in society, which enhances their "Self-Assertion" to a level equal to students in practical colleges. Despite the difference in academic content, the psychological and social pressures faced by all students are identical, such as: the desire to excel and prove oneself, anxiety about future careers, and building social relationships within the campus. These common factors merge the differences and make "Total Self-Esteem" closely aligned between the two groups. There are statistically significant differences between the undergraduate students from theoretical and practical colleges in Green Consumption Behaviour, in favour of students from theoretical colleges at a significance level of (0.005). The superiority of theoretical college students in green behaviour may be due to their specializations' focus on human values and social responsibility, which strengthens the moral motive toward the environment, unlike practical colleges that may focus more on technical and practical aspects. Additionally, the nature of study in theoretical colleges relies on research, reading, and critical analysis; this makes the theoretical college student more likely to read articles, follow public issues, and engage in cultural discussions about climate change and sustainability, thereby increasing her green behavioural awareness. Students in practical colleges may suffer from high academic pressure due to the nature of their studies, which might lead them to seek "speed and convenience" in consumption, such as fast food or single-use products. In contrast, a theoretical college student may have greater time flexibility, allowing her to search for green alternatives or practice waste sorting.

Based on the above, the following is evident: There are no statistically significant differences between theoretical and practical college students in self-esteem across its three axes (Self-Awareness, Self-Confidence, Self-Assertion, and Total Self-Esteem), while statistically significant differences were found in green consumption behaviour in favour of theoretical college students at a significance level of (0.005). Thus, the third hypothesis is partially accepted.

4. Results in Light of the Fourth Hypothesis

The fourth hypothesis states: "*There is no statistically significant variance among undergraduate students in self-esteem across its three axes (Self-Awareness, Self-Confidence, Self-Assertion, and Total Self-Esteem) and Green Consumption Behaviour according to some demographic variables (Father's Education Level – Mother's Education Level – Family Size).*"

Table 10: One-Way Analysis of Variance (ANOVA) for the Self-Esteem Questionnaire and Green Consumption Behaviour Questionnaire for University Students in the Study Sample According to Some Variables (n = 321)

Level of Sig.	F Value	Mean Square	(DF)	Sum of Squares	Source of Variance	Axis
Father Educational level						
0.0980 No sign	0.020	1.810 88.365	2	3.619	Between Groups	**Self Esteem**
			318	28100.063	Within Groups	
			320	28103.682	Total	
0.118 No sign	2.156	215.853 100.130	2	431.707	Between Groups	**Green Consumption Behaviour**
			318	31841.346	Within Groups	
			320	32273.053	Total	
Mother Educational Level						
0.499 No sign	0.696	61.284 87.991	2	122.569	Between Groups	**Self Esteem**
			318	27981.114	Within Groups	
			320	28103.682	Total	
0.178 No sign	1.736	174.237 100.392	2	348.474	Between Groups	**Green Consumption Behavior**
			318	31924.579	Within Groups	
			320	32273.053	Total	
Number of Family Members						
0.194 No sign	1.648	144.130 87.470	2	288.259	Between Groups	**Self Esteem**
			318	27815.423	Within Groups	
			320	28103.682	Total	
0.487 No sign	0.721	72.837 101.029	2	145.675	Between Groups	**Green Consumption Behavior**
			318	32127.378	Within Groups	
			320	32273.053	Total	

Table 10 reveals the following:

There is no statistically significant variance among the undergraduate students in the study sample regarding Self-Esteem (across its axes) and Green Consumption Behaviour according to the father's educational level. The calculated (F) values were (2.156 and 0.020) respectively, which are statistically insignificant. This may be attributed to the fact that the orientation towards sustainability and green consumption behaviour among university students is derived from modern awareness sources, such as digital platforms and the university environment, which transcend the family's educational framework. This indicates that environmental awareness has become a general trait formed independently of the parents' traditional cultural background. This result is consistent with the study of *Abu Rayyah and Amer (2022),* which proved no statistically significant variance in the attitude toward green consumption behaviour based on the father's education level, as well as the study of *Raqban et al. (2013)*, which showed no association between the educational levels of the head of the household and environmental protection. However, it differs from *Meshaal's study (2021),* which showed significant differences in green consumption practices in favour of higher educational levels. There is no statistically significant variance among the undergraduate students in the study sample regarding Self-Esteem (across its axes) and Green Consumption Behaviour according to the mother's educational level. The calculated (F) values were (0.696 and 1.736) respectively, which are statistically insignificant. This result differs from the study of *Abu Rayyah and Amer (2022)* and *Meshaal (2021),* which found that higher educational levels for mothers positively influence the adoption of green consumption behaviours.

There is no statistically significant variance among the undergraduate students in the study sample regarding Self-Esteem (across its axes) and Green Consumption Behaviour according to family size. The calculated (F) values were (1.648 and 0.721) respectively, which are statistically insignificant. The lack of differences may be due to the fact that awareness of green consumption behaviour is a product of contemporary environmental and cognitive socialization formed outside the traditional family framework, where the university, media, and the internet play a major role. This result aligns with *Meshaal (2021)* but differs from *Al-Zaki (2023),* who found variance in favour of larger families, and *Abdel Aal and Ali (2021),* who found it in favour of smaller families. Based on the above, the following is evident: There is no statistically significant variance among the undergraduate students in the study sample regarding self-esteem and green consumption behaviour according to some variables (father's education, mother's education, family size); thus, the fourth hypothesis is accepted.

5. Results in Light of the Fifth Hypothesis

The fifth hypothesis states: "*There is no statistically significant variance among undergraduate students in self-esteem across its three axes (Self-Awareness, Self-Confidence, Self-Assertion, and Total Self-Esteem) and Green Consumption Behaviour according to monthly family income.*"

Table 11: One-Way Analysis of Variance (ANOVA) for the Self-Esteem Questionnaire (three axes) and Green Consumption Behaviour Questionnaire for University Students in the Study Sample According to Monthly Family Income (n = 321)

Level of Sig.	F Value	Mean Square	(DF)	Sum of Squares	Source of Variance	Axis
Family Monthly Income						
0.202 No sig.	1.605	18.575 11.572	2	37.149	Between Groups	**Self awareness**
			318	3679.841	Within Groups	
			320	3716.991	Total	
0.341 No sig.	1.079	17.533 16.251	2	35.066	Between Groups	**Self confidence**
			318	5167.931	Within Groups	
			320	5202.997	Total	
0.146 No sig.	1.937	22.903 11.825	2	45.805	Between Groups	**Self assertion**
			318	3760.350	Within Groups	
			320	3806.156	Total	
0.282 No sig.	1.269	111.280 87.676	2	222.561	Between Groups	**Overall self esteem**
			318	27881.121	Within Groups	
			320	28103.682	Total	
0.000 sig. at (0.001)	8.149	786.729 96.540	2	1573.458	Between Groups	**Green Consumption Behaviour**
			318	30699.595	Within Groups	
			320	32273.053	Total	

To determine the direction of significance, the Tukey Test for multiple comparisons was used as follows:

Table 12: Tukey's test to Determine the Significance of the Differences in Green Consumption Behaviour According to Monthly Family Income

Axes	Level	Mean Squares
Family Mostly Encome		
Green Consumption Behaviour	Low level less than 60,000 Egyptian Pounds	84.065
	Medium Level from 60,000 to 100,000 Egyptian Pounds	81.812
	High Level more than 100,000 Egyptian Pounds	77.816

It is evident from Tables 11 and 12 that:

- There are no statistically significant differences among the university female students in the study sample in terms of (self-awareness, self-confidence, self-assertion, and overall self-esteem) according to the family's monthly income. The calculated F-values were (1.605, 1.079, 1.937, and 1.269), respectively, which are not statistically significant.
- This result is consistent with the study of ***Samour (2015)***, which confirmed that there were no statistically significant differences in self-esteem among girls attributable to the economic level variable. However, it differs from the study of ***Al-Kfaween (2019),*** which found statistically significant differences among university female students in self-esteem according to family income, in favour of students from high-income families. Similarly, ***Taher and Meziane (2017)*** found differences in university students' levels of self-esteem according to economic level, also in favour of higher income.

On the other hand, there is a statistically significant difference among university female students in green consumer behaviour according to the family's monthly income. The calculated F-value was (8.149), which is statistically significant at the (0.001) level. To determine the direction of significance, the Tukey post-hoc test for multiple comparisons was applied to identify differences between the mean scores of university female students in green consumer behaviour according to family monthly income level.

The results showed that these differences were in favour of the low-income group, whose mean score was (84.065), indicating that female students from low-income families demonstrate higher levels of green consumer behaviour.

This may be attributed to the overlap between the concept of green consumption and the consumption-rationalization strategies commonly adopted by low-income families. Female students in these families tend to adopt environmentally friendly practices such as recycling, extending product lifespan, and reducing waste as adaptive mechanisms to cope with limited income. This makes their consumption behaviour more sustainable and environmentally aligned compared to the more luxury-oriented consumption patterns associated with higher income levels.

This finding differs from the studies of ***Al-Zaki (2021), Mishaal (2021),*** and ***Abdel-Aal & Ali (2021),*** whose results demonstrated statistically significant differences in green consumer behaviour according to monthly income in favour of higher income groups.

From the above, it can be concluded that:

- There are no statistically significant differences among university female students in (self-awareness, self-confidence, self-assertion, and overall self-esteem) according to family monthly income.
- There are statistically significant differences in green consumer behavior according to family monthly income at the significance level (0.001). Thus, the fifth hypothesis is partially supported.

SUMMARY OF RESULTS

- There is a statistically significant positive correlation between self-esteem (with its three dimensions) and green consumer behaviour.
- There are no statistically significant differences between rural and urban university female students in self-esteem or green consumer behaviour.
- There are no statistically significant differences between students from theoretical and practical colleges in self-esteem (self-awareness, self-confidence, self-assertion, and overall self-esteem).
- There are statistically significant differences between students from theoretical and practical colleges in green consumer behaviour, in favour of students from theoretical colleges at the significance level of 0.005.
- There are no statistically significant differences in self-esteem and green consumer behaviour according to certain variables (father's education level, mother's education level, number of family members).
- There are no statistically significant differences in (self-awareness, self-confidence, self-assertion, and overall self-esteem) according to family monthly income.
- There are statistically significant differences in green consumer behaviour according to family monthly income at the significance level (0.001).

Research Recommendations

In light of the findings of the current study, the researchers propose the following recommendations:

1. Decision-makers in educational institutions should emphasize the importance of organizing awareness and training courses at universities to help students build positive self-esteem. Teachers should employ strategies that foster positive self-esteem through well-designed educational activities.
2. Organize awareness programs for parents to stress the importance of helping children develop positive self-esteem from early childhood.
3. Create a university environment in which students feel valued and important within their society, thereby enhancing their self-esteem and green consumer behaviour.
4. Develop self-development programs and incorporate them into educational curricula as accredited courses that teach self-awareness and self-assertion skills at all educational levels, and train psychological specialists to implement them.
5. Design social media campaigns focusing on self-esteem and linking it to environmental responsibility, as it is a strong internal driver of behaviour.
6. Encourage small recycling projects initiated by female students by providing financial/support from universities and families.
7. Direct environmentally friendly product companies to open sales outlets within university campuses and rural areas to reduce barriers preventing students from purchasing these products.
8. Families should allocate a designated space at home for waste sorting (plastic, paper, glass) and involve children in proper disposal processes. This transforms the student's environmental awareness into a daily household practice.

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