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AN EMPIRICAL STUDY ON INVESTIGATING THE ENVIRONMENTAL CONSEQUENCES OF BOTTLED WATER CONSUMPTION IN CHENNAI

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ABSTRACT:

Bottled water consumption is increasing worldwide, offering convenience and purity to consumers. However, this convenience has a serious impact on the environment. This overview provides an overview of the environmental impact of bottled water, focusing on the impact of plastic bottle production, waste generation, and pollution. Plastic bottles, commonly used for water packaging, are a major contributor to the growing plastic waste crisis. Its production consumes valuable resources and emits greenhouse gases, and its disposal often leads to pollution of terrestrial and marine ecosystems. This brief also discusses the role of government policy, corporate responsibility, and individual choice in mitigating these impacts. This highlights the growing need to move towards sustainable alternatives, increase recycling efforts and increase awareness of the environmental impact of bottled water. By recognizing the challenges posed by bottled water, society can work together to minimise environmental impact and promote a more sustainable future.

KEYWORDS: Bottled water, government initiatives, waste management, impacts, human health.

INTRODUCTION:

Evolution of impact of bottled water on the environment, The evolution of the impact of bottled water on the environment has undergone significant shifts over time. Initially perceived as a convenient and purified alternative to tap water, bottled water gained popularity, leading to a surge in plastic production and consumption. During the early stages, the environmental consequences of plastic bottle production were often overlooked, with minimal consideration given to the long-term effects on ecosystems and natural resources. Government initiatives of the impact of bottled water on the environment, Plastic Reduction and Recycling Programs: Many governments have initiated comprehensive plastic reduction and recycling programs to minimise the environmental impact of plastic bottles. Water Infrastructure Development: Some governments have prioritised the development of clean and accessible tap water infrastructure, ensuring that high-quality drinking water is readily available to the public.Factors affecting the impact of watered bottle on the environment, Material Composition: The type of material used in manufacturing water bottles significantly impacts their environmental footprint. Factors such as the use of plastic, glass, aluminium, or other materials determine the energy consumption, carbon emissions, and recyclability of the bottles. Production Process: The energy requirements, raw material extraction, and manufacturing processes involved in producing water bottles play a critical role in determining their environmental impact. Waste Management Practices:The disposal and recycling of used water bottles significantly affect their environmental impact.Factors such as the effectiveness of recycling infrastructure, consumer recycling behaviour.Current trends related to impact of bottled water on the environment, Shift Towards

Sustainable Packaging: Many bottled water companies were beginning to adopt more sustainable packaging options, such as using recycled materials, biodegradable plastics, or alternative packaging solutions to reduce the environmental impact of their products.Government Regulations and Bans: Several regions and countries were implementing stricter regulations, such as bans on certain types of single-use plastics, including water bottles, to curb environmental pollution and encourage the adoption of more sustainable practices.Comparison with other countries of impact of environmental, Regulatory Frameworks: India: The Indian government has implemented various regulations to address plastic waste, including bans on single-use plastics in certain regions and the promotion of extended producer responsibility. The U.S. has a mix of federal and state-level regulations, with some states implementing bottle deposit programs and others introducing bans on specific types of plastic products. The country also has recycling laws and initiatives aimed at reducing plastic waste.

OBJECTIVES:

• To study the environmental impacts caused due to bottled water.

• To explore the human health consequences of drinking water from plastic.

• To investigate the problem of bottled water waste management.

REVIEW OF LITERATURE:

People in the United States drink almost four times the amount of bottled water than they did 20 years ago, even though tap water supplies in the United States are considered to be among the safest in the world. These findings provide useful information for drinking water policy experts and water utilities about consumer perceptions of the relative virtues of tap and bottled water **(Gamze Güngör-Demirci, Juneseok Lee, 2016).**Contaminants of emerging concern have recently been detected in bottled water and have brought about discussions on possible risk for human health. defined in relation to CEC's levels,their possible sources,And their risk or summarised based on the gathered data in this review the contaminants of emerging concern level except for empty bottled water of most countries do not rice a safety consumed for humans.**(Razeghi Akhbarizadeh, Sina Dobaradaran, 2020).**Bottled water is becoming more popular worldwide and possible contamination's need to be analysed.Microplastics (MPs) are ubiquitous environmental pollutants and have recently been regarded as an important contaminant in bottled water due to oral intake and possible threats to human health. Environmental factors including sunlight exposure and the age of bottles showed the most degradative effects on the structure of polymers in the body of PET bottles and release of MPs.**(Shadi Taheri, Bahareh Shoshtari-Yeganeh,2023)**.Nowadays, microplastic has been detected in many environmental samples, including aquatic and terrestrial environments.However, few studies recently have addressed their attention to microplastic contamination in different drinking sources and food packages.Literature showed that different pieces of microplastic fragment**(Md. Iftakharul Muhib, Md. Khabir Uddin,2023)** This study examined differences in consumer preferences and willingness to pay for sustainable bottled water based on pro-environmental guidance, Internet information search, and research setting (i.e., laboratory or online).Findings also revealed a considerable amount of preference heterogeneity with regard to the type of water product or type of plastic used to manufacture the bottles.**(Carola Grebitus, Rod D. Roscoe,2023)**. This exploratory study examines the consumption motivations of those consumers who choose to buy bottled water, while at the same time exploring the perceptions they hold about the potential environmental consequences of their actions. Based upon a sample of sixteen participants aged from 19 to 56, our findings revealed five

main themes as to why people purchase bottled water, including: (1) Health, comprising the two sub themes of personal health and cleanliness, (2) the bottle, (3) convenience, (4) taste, and (5) self-image.**(Paul W. Ballantine,2019).** The plastic bottles that are used for packaging water are harmful to the environment. The objective of this study was to examine the influence of consumers' environmental concern on both their intention to reduce consumption of water sold in single-use plastic bottles and their actual behaviour. The results support the model, as all tested relations are statistically significant. More specifically, we confirm the indirect impact of environmental concern on both intention and behaviour concerning bottled water consumption.**(Barbara Borusiak,2021).** A narrative review was carried out to describe the current knowledge related to the occurrence of MPs in drinking water. The high variability in the results makes it difficult to compare the findings of different studies and build up a general hypothesis on human health risk.**(Isabella Gambino,2023).** The aim of this study is to advance a social-psychological understanding of how to effectively reduce bottled water consumption.Findings also show that while beliefs about health, taste, water quality, lifestyle, the environment, and perceived alternatives are all correlated with bottled water consumption, belief strength varies significantly based on rate of consumption.**(Sander van der Linden, 2022)**.This paper considers bottled water with respect to the three pillars of sustainability: economic viability, environmental impacts, and social equity. Per-capita consumption of bottled water has been growing steadily and is the fastest-growing sector of the packaged beverages industry, with expected annual growth of 10% until 2026. Most bottled water is sold in PET containers, and various impacts are evident along all phases of the product life cycle.**(Yael Parag,2023).**Bottled water is becoming more popular worldwide and possible contamination's need to be analysed. Microplastics (MPs) are ubiquitous environmental pollutants and have recently been regarded as an important contaminant in bottled water due to oral intake and possible threats to human health. Environmental factors including sunlight exposure and the age of bottles showed the most degradative effects on the structure of polymers in the body of PET bottles and release of MPs.**(Shadi Taheri, Bahareh Shoshtari-Yeganeh,2023)**.Spring mineral water might have the properties favourable to health, which should be assessed by clinical and pharmacological analyses.This paper reviews the state-of-the-art on the biochemical studies related to the effects of drinking mineral water. In the light of the review of the literature on the matter, we conclude that further studies are necessary to avoid any possible implication for public health connected with mineral water misuse. **(Maria Cristina Albertini, Marina Dacha,2007).** This study examined differences in consumer preferences and willingness to pay for sustainable bottled water based on pro-environmental guidance, Internet information search, and research setting (i.e., laboratory or online). Specifically, we investigated willingness to pay for bottled water produced with plant-based plastics and post-consumer waste plastics.**(Carola Grebitus, Rod D. Roscoe, 2020).**A declaration of conformity according to European regulation No. 10/2011 is required to ensure the safety of plastic materials in contact with foodstuffs. This regulation established a positive list of substances that are authorised for use in plastic materials. Some compounds are subject to restrictions and/or specifications according to their toxicological data.**(Cristina Bach , Xavier Dauchy , 2011).**Policy awareness increases the likelihood of policy-congruent behaviour. Yet individuals may differ in the extent to which they notice certain policies; thus, psychological factors that explain behaviour can have a differing effect on policy-congruent behaviour of individuals. We investigated to what extent the relationship between normative, habitual, intentional, and situational factors that explain bottled water purchasing behaviour vary

regarding individuals awareness of policy targeted at reducing bottled water purchasing **(Lina Jovarauskaite, Audra Balunde, 2021).**Worldwide the environmental weight of the packaging has overtaken the threshold, both due to the waste and the emissions generated. This issue stimulated the European Union (EU) to provide for a stringent regulation to tackle this burden. Particularly, the consumption of mineral water packed is very significant, as regards the use of plastic bottles, especially in the small size, which stresses the need for a boosted management of packaging by the governments, industries and consumers.**(Annarita Paiano, Teodoro Gallucci, 2021)**.A cross-regional comparative study was conducted to survey the drinking behaviours of university students, in Singapore, Hong Kong, and Macau.Using the Theory of Planned Behavior framework, the perceptions and factors that determine the choices were studied. In terms of determinants of the drinking water choices, "Safety and Hygiene" and Convenience and Availability ranked highest for all three regions.**(Neng Qian,2018).** Microplastics (MPs) have recently been detected in different products and environmental samples, ranging from wastewater to drinking water, as well as in products consumed by humans. However, few studies have addressed the contamination by MPs in bottled mineral water. Therefore, in the present study, the contamination by MPs was investigated from 11 samples of popular brands of bottled mineral water in Iran.**(Pouran Makhdoumi, Abdulfattah Ahmad Amin, 2021).** The occurrence of polymer additives such as 1,3-diphenylguanidine (DPG) has been recently reported in different human samples, including urine and plasma. It has also been widely reported in many sources of drinking water and tap water. Here, we present the first comprehensive assessment of the occurrence of DPG in bottled water samples.**(Mauricius Marques, 2023).** The global surge in bottled water consumption is attributed partly to consumers' perception that bottled water is superior to tap in terms of physical, microbial, and chemical qualities. However, a comprehensive study on the actual chemical quality parameters of bottled water, especially in developing countries like Nigeria, with less stringent monitoring, to justify this claim is lacking.

METHODOLOGY:

The study was based on the empirical method of the research. The data was collected within Chennai by adopting the convenient sampling method and the sample size is 230. The used for the study is the structured questionnaire. The independent variable included in the study is age, gender, occupation,place of living, educational qualification.The dependent variable used in the study is the opinion of the respondents about the government policies, environmental impacts of plastic bottle production and disposal,the promotion of tap water or purified water, reduce the conception of plastic Water bottles and rating about the awareness from 1 to 10.The tools used for analysis were bar charts. Hypothesis was tested and analysed by using the chi square test.

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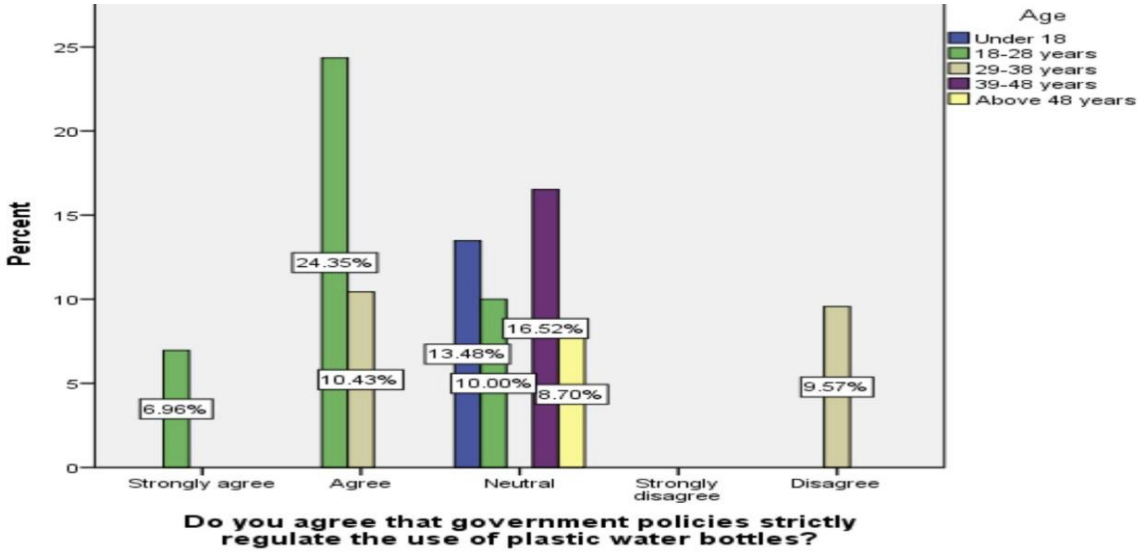
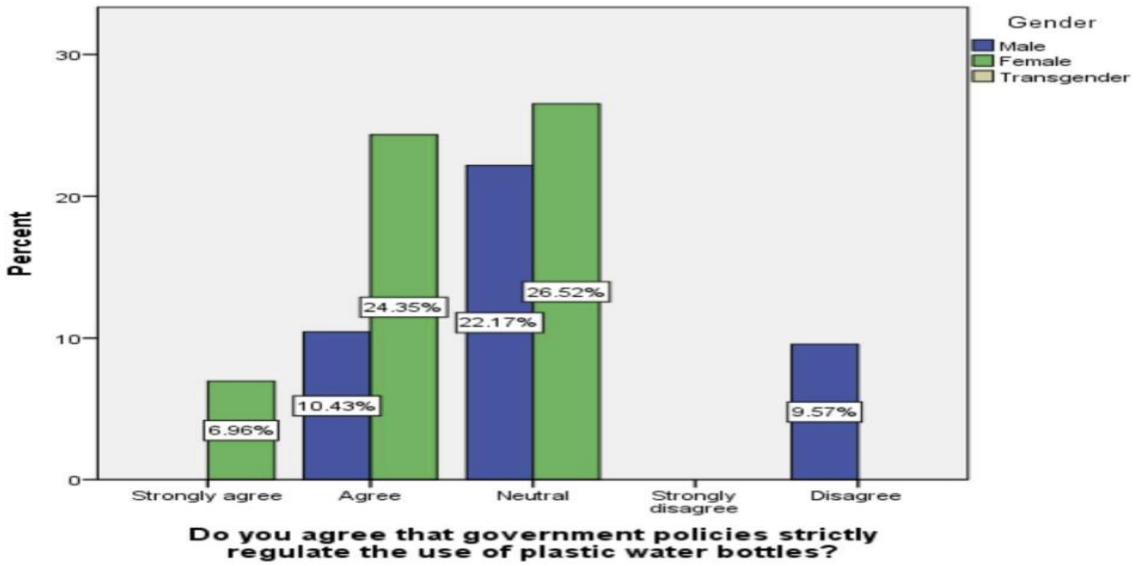
ANALYSIS:

FIGURE 1:



LEGEND: This figure 1 shows the comparison between age and do you agree that government policy strictly regulates use of plastic Water bottles.

FIGURE 2:



LEGEND: This figure shows the comparison between Gender and do you agree that government policies quickly regulate the use of plastic water bottles.

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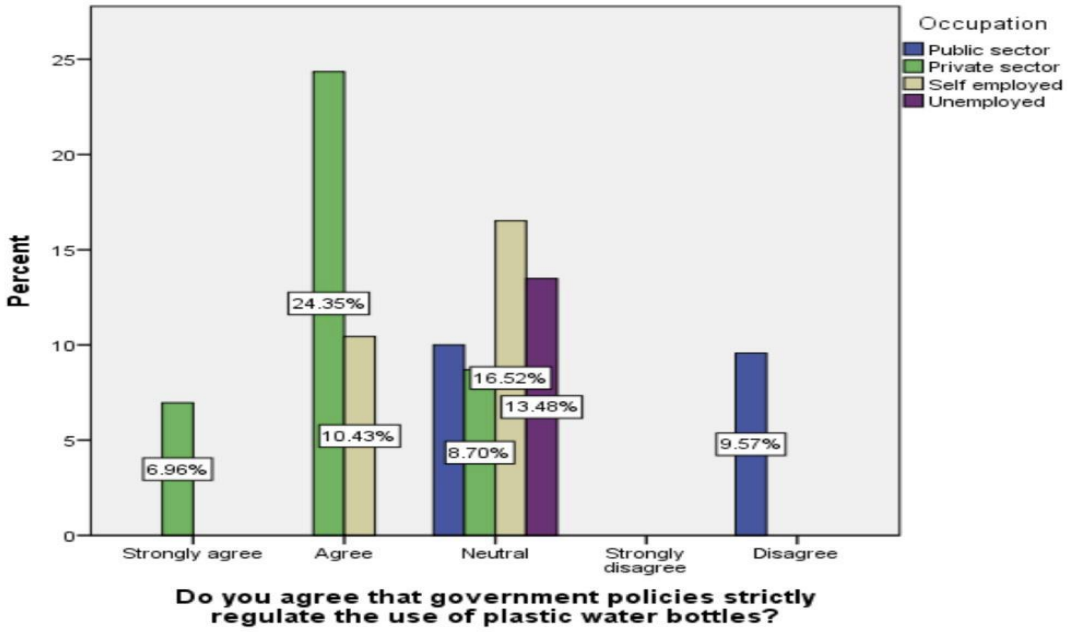
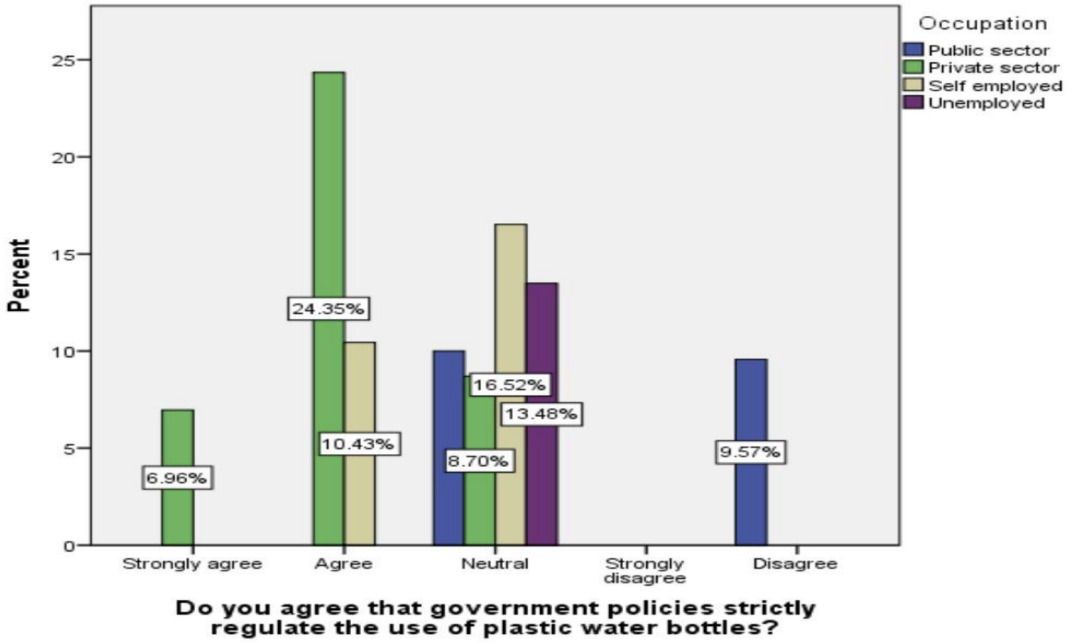
FIGURE 3:



LEGEND: This figure shows the comparison between occupation and do you agree that government policies strictly regulate use of plastic Water bottles.

FIGURE 4:



LEGEND: This figure shows the comparison between places of living and do you agree that government policies strictly regulate the use of plastic Water bottles.

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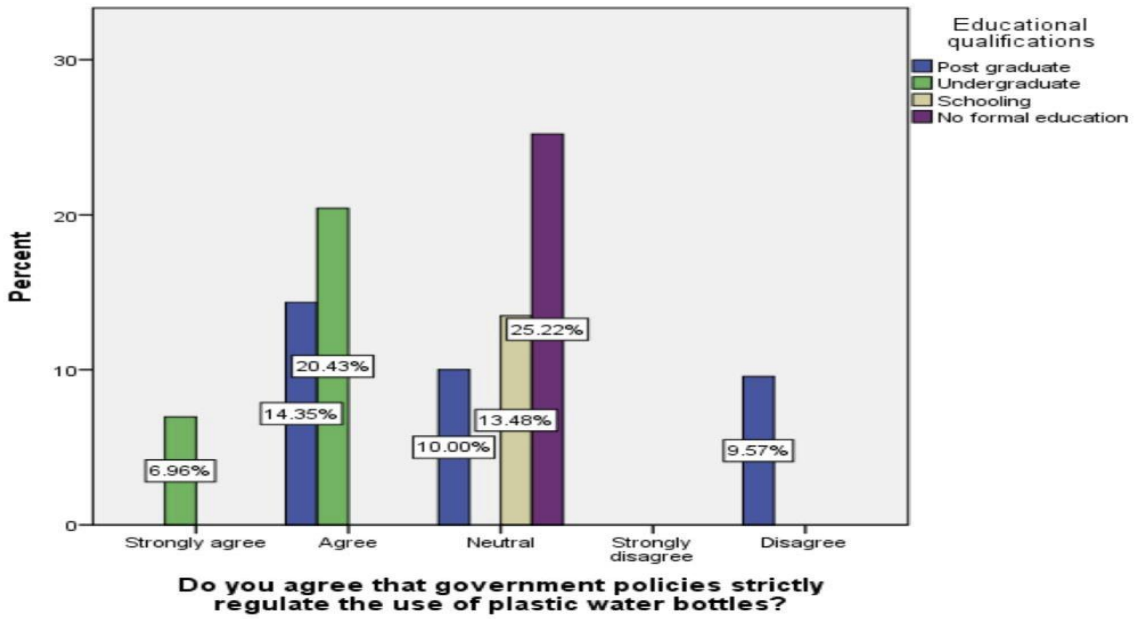
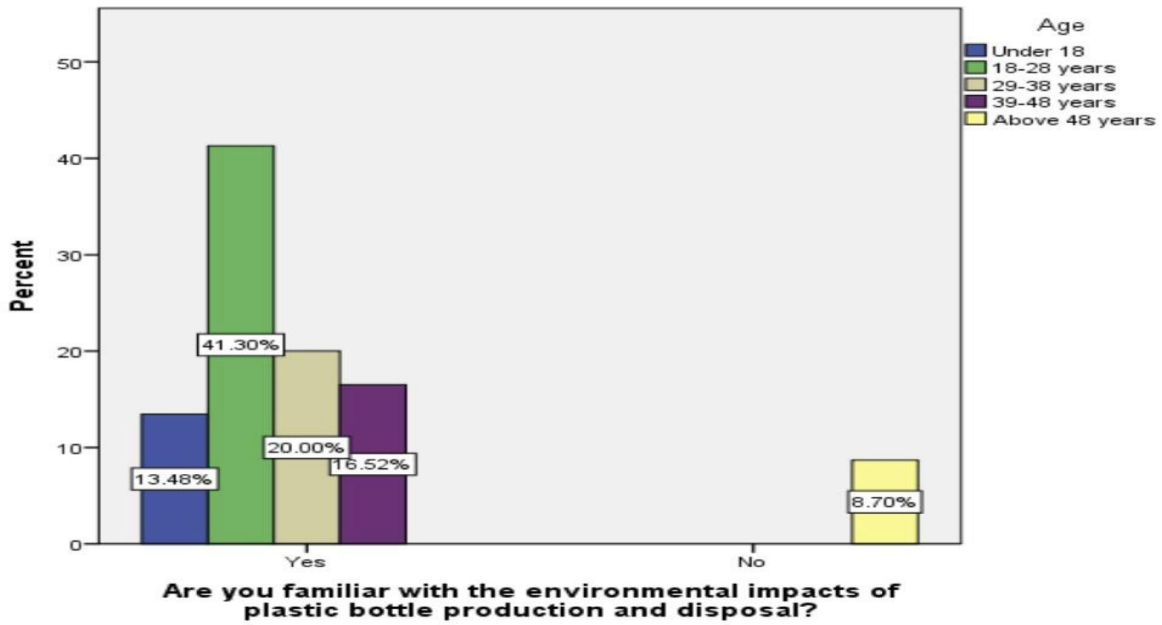
FIGURE 5:



LEGEND: This figure shows the comparison between educational qualification and do you agree that government policies strictly regulate use of plastic Water bottles.

FIGURE 6:



LEGEND: This figure shows the comparison between age and are you familiar with the environmental impacts of plastic bottle production and disposal.

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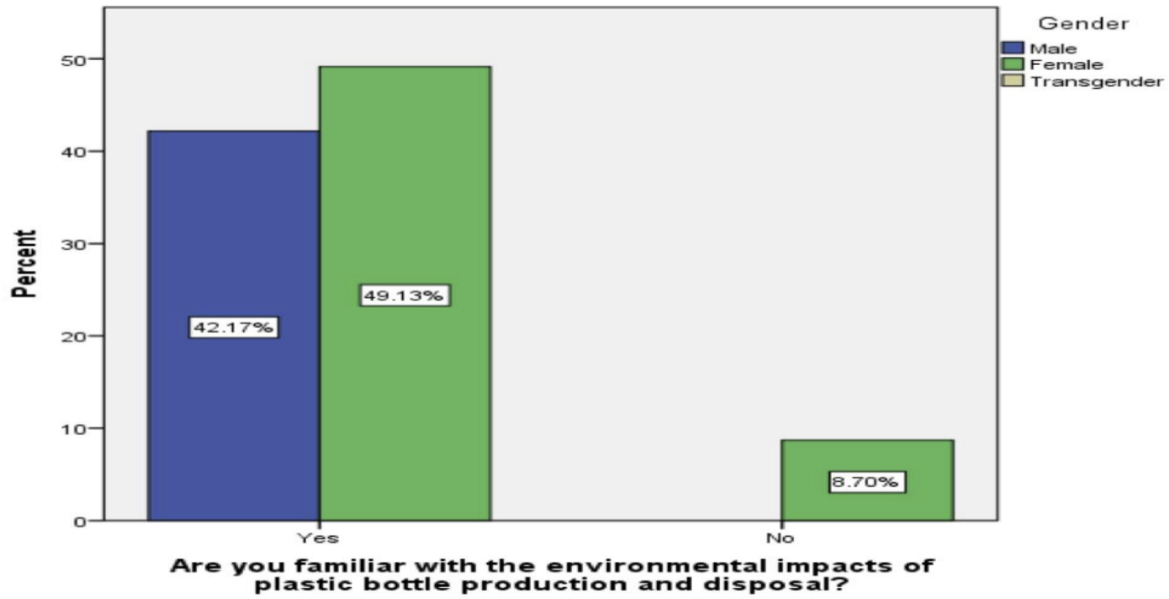
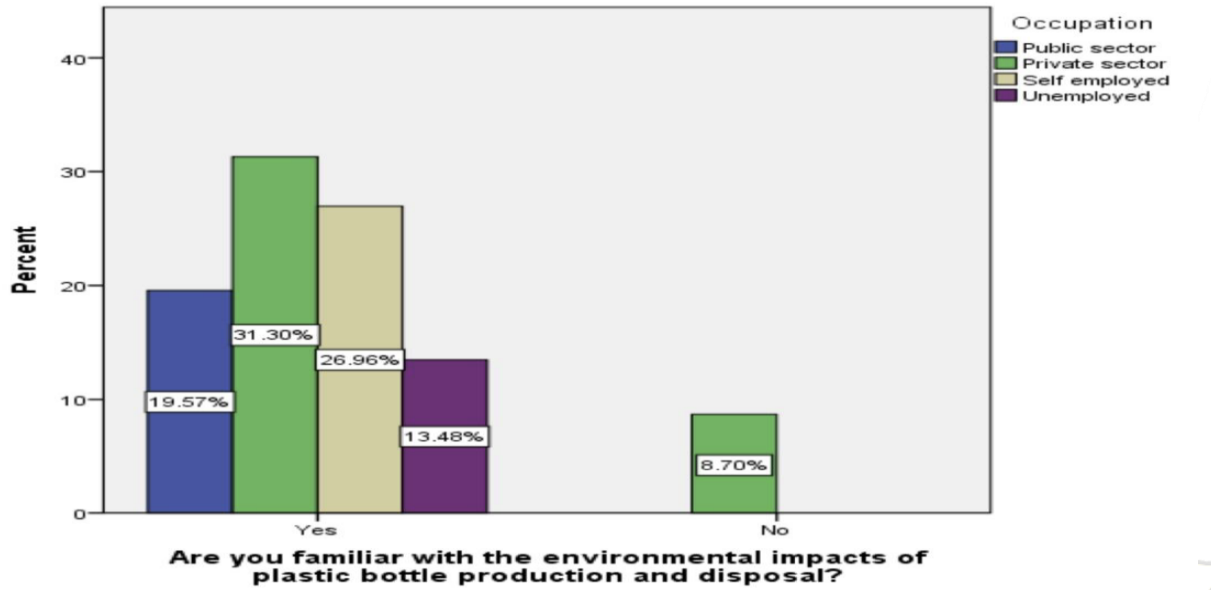
FIGURE 7:



LEGEND: This figure shows the comparison between gender and are you familiar with the environmental impacts of plastic bottle production and disposal.

FIGURE 8:



LEGEND: This figure shows the comparison between occupation and are you familiar with the environmental impacts of plastic bottle production and disposal.

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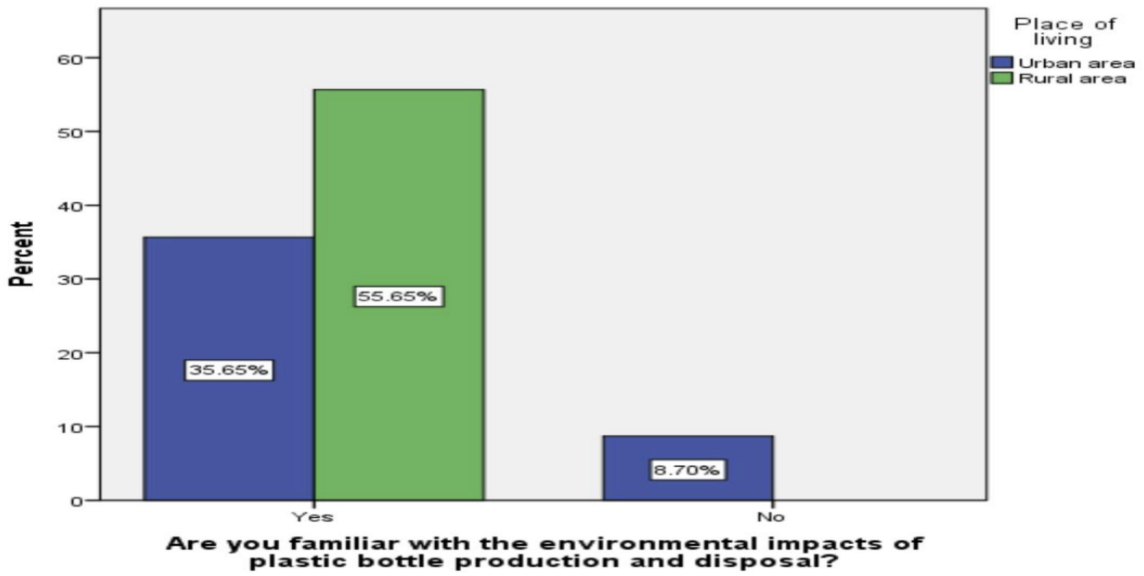
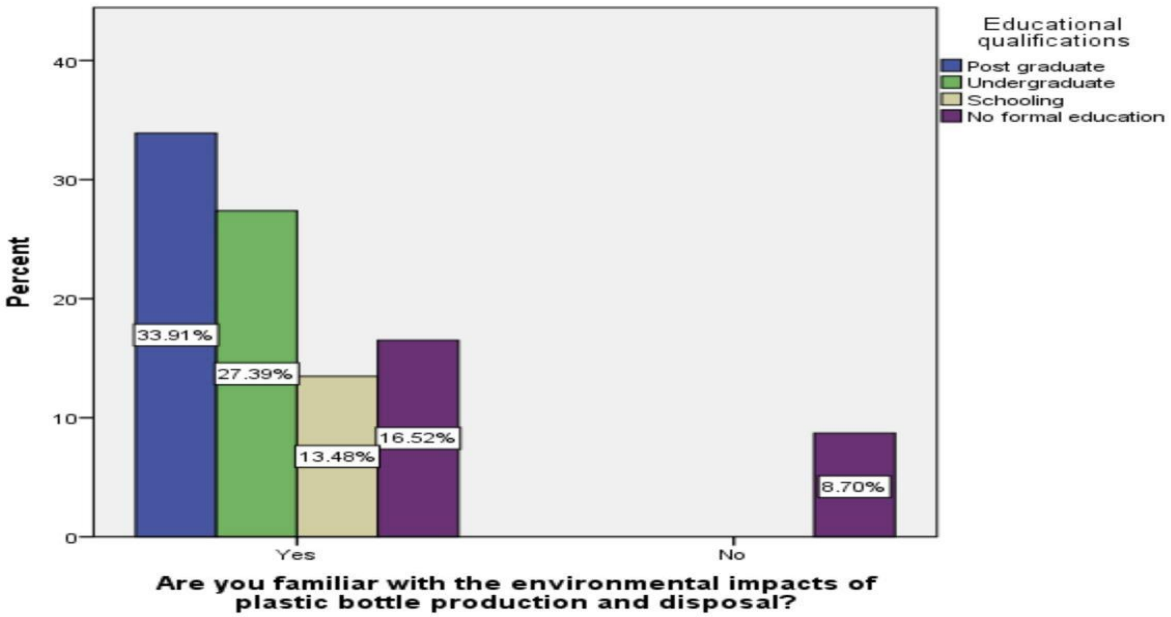
FIGURE 9:



LEGEND: This figure shows the comparison between place of living and are you familiar with the environmental impacts of plastic bottle production and disposal.

FIGURE 10:



LEGEND: This figure shows the comparison between educational qualification and are you familiar with the environmental impacts of plastic bottle production and disposal.

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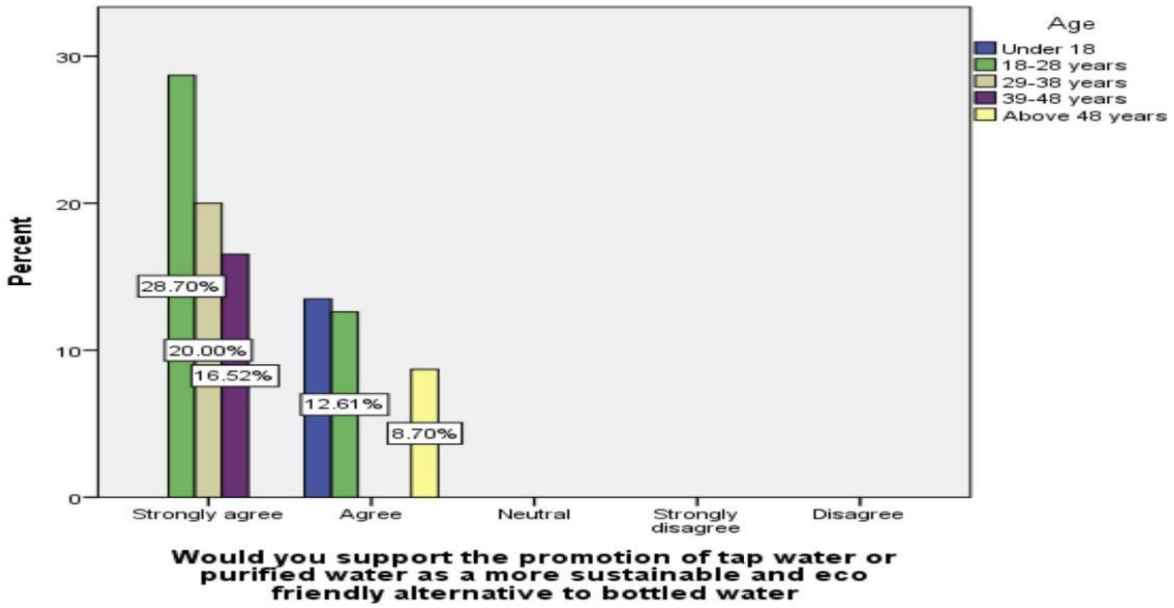
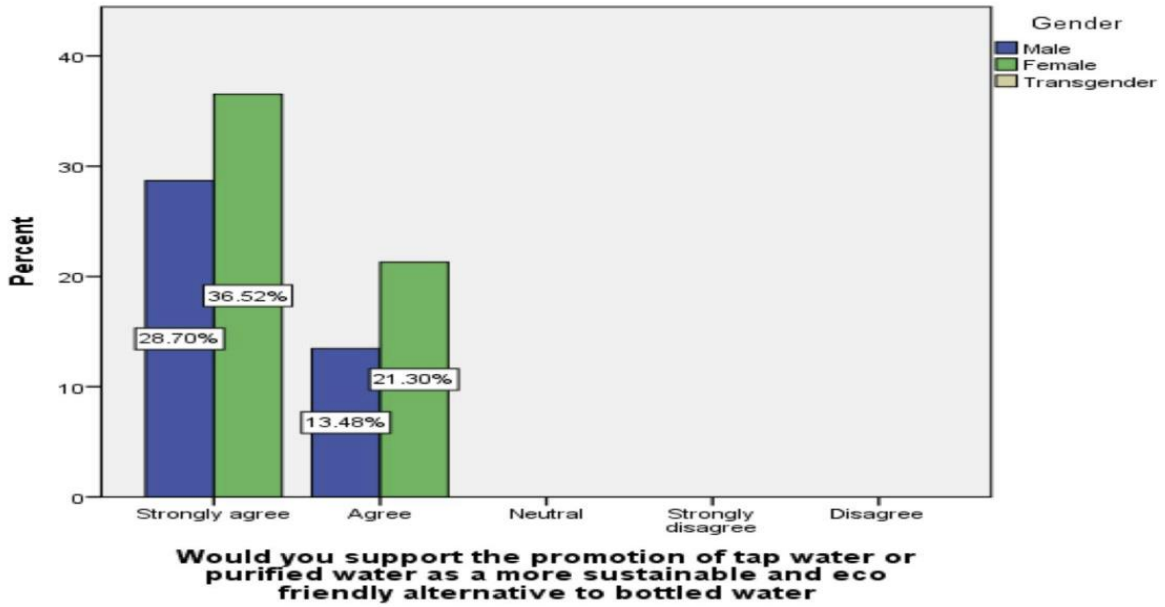
FIGURE 11:



LEGEND: This figure shows the comparison between age and would you support the promotion of tap water or purified water as a more sustainable and eco friendly alternative to bottled water.

FIGURE 12:



LEGEND: This figure shows the comparison between gender and would you support the promotion of tap water or purified water as a more sustainable and eco friendly alternative to bottled water.

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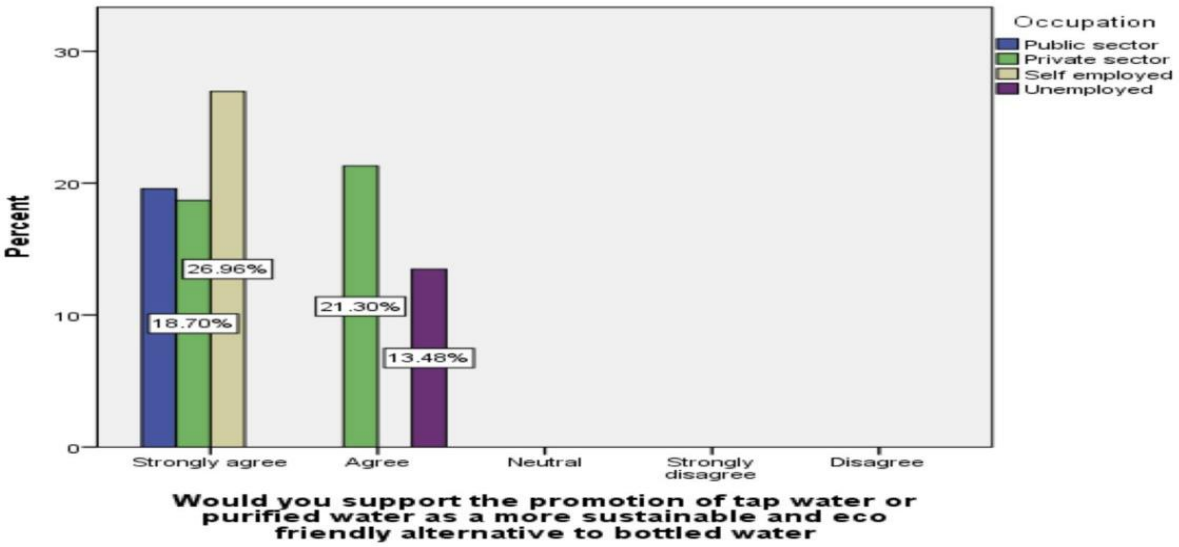
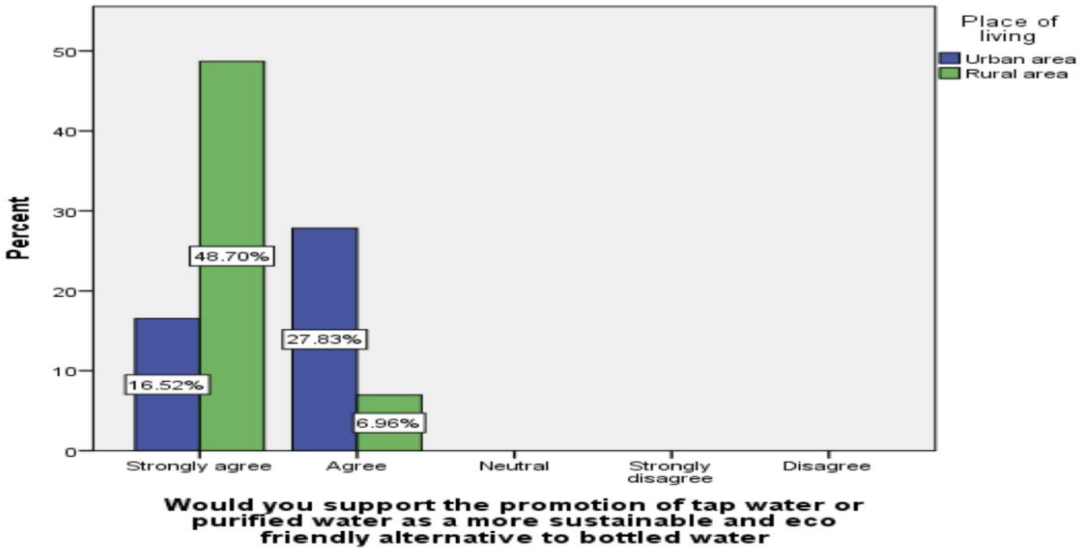
FIGURE 13:



LEGEND: This figure shows the comparison between occupation and would you support the promotion of tap water or purified water as a more sustainable and eco friendly alternative to bottled water.

FIGURE 14:



LEGEND: This figure shows the comparison between place of living and would you support the promotion of tap water or purified water as a more sustainable and eco friendly alternative to bottled water.

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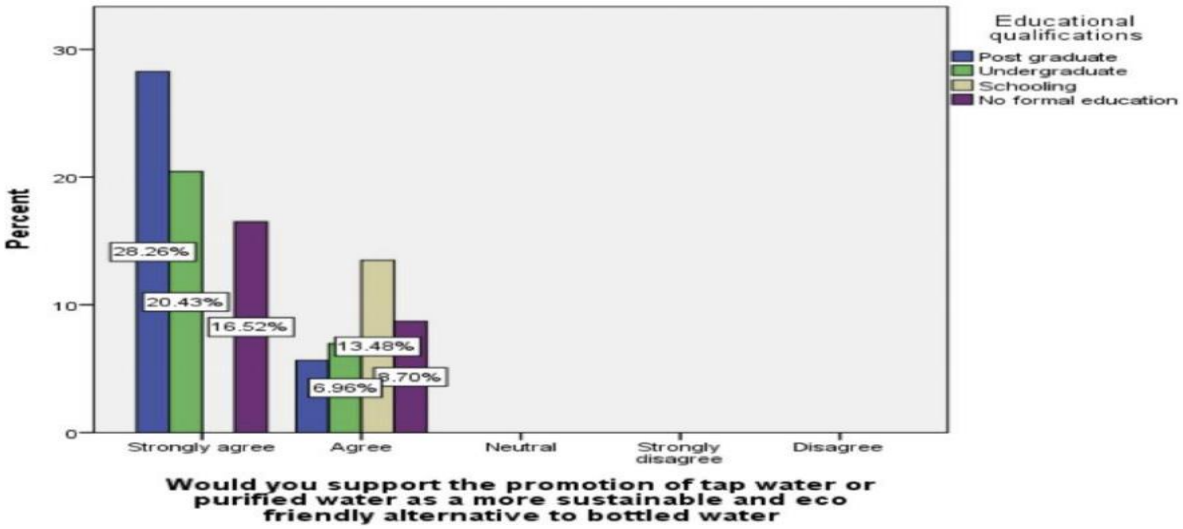
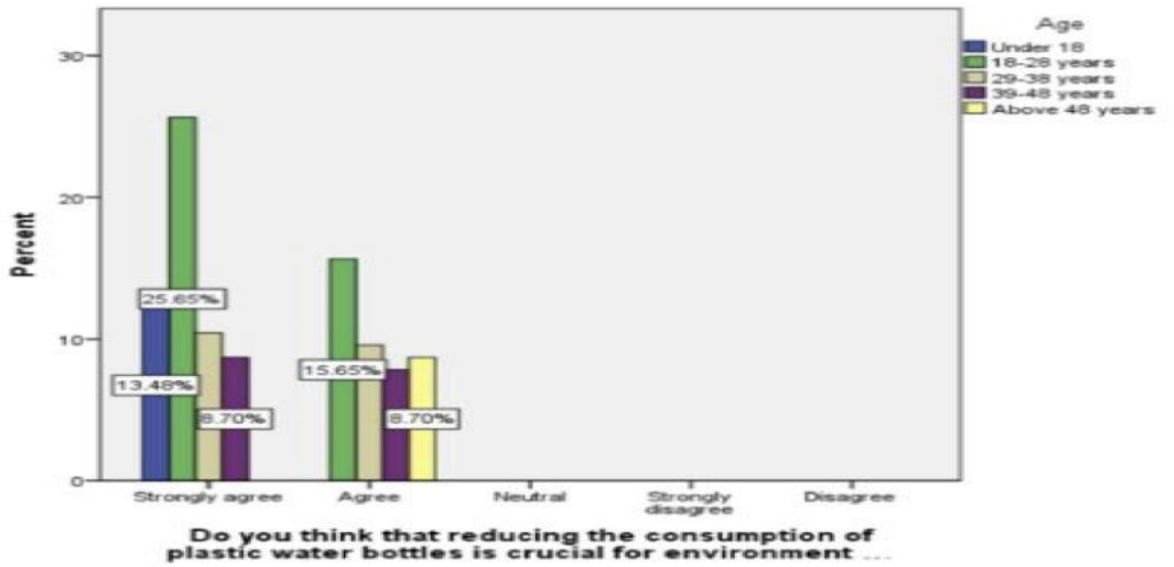
FIGURE 15:



LEGEND: This figure shows the comparison between educational qualification and would you support the promotion of tap water or purified water as a more sustainable and eco friendly alternative to bottled water.

FIGURE 16:



LEGEND: This figure shows the comparison between age and do you think that reducing the conception of plastic water bottles is crucial for the environment.

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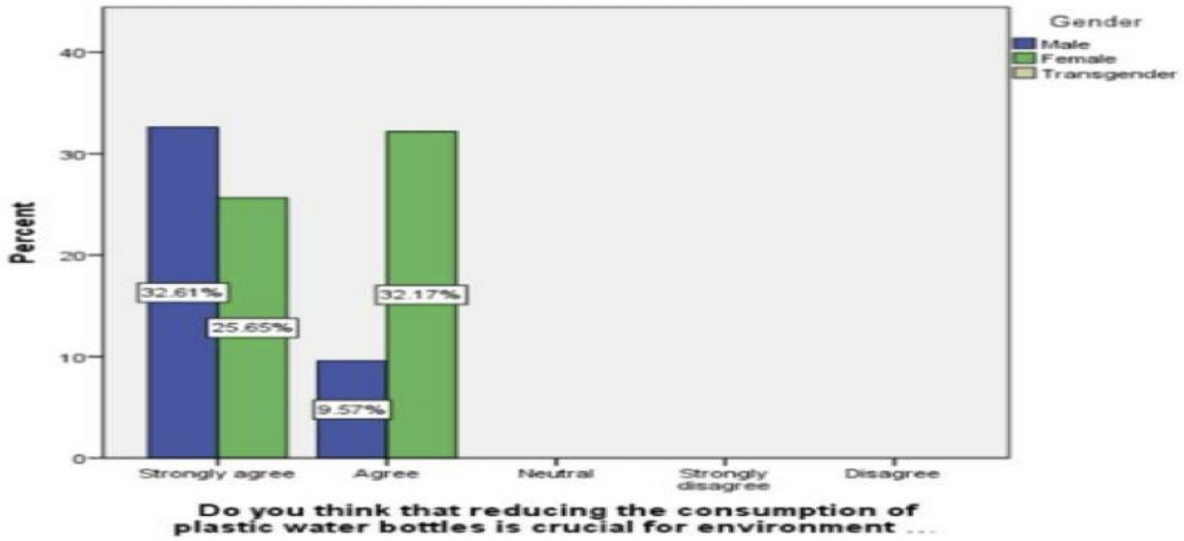
FIGURE 17:



LEGEND: This figure shows the comparison between gender and do you think that reducing the conception of plastic water bottles is crucial for the environment.

FIGURE 18:

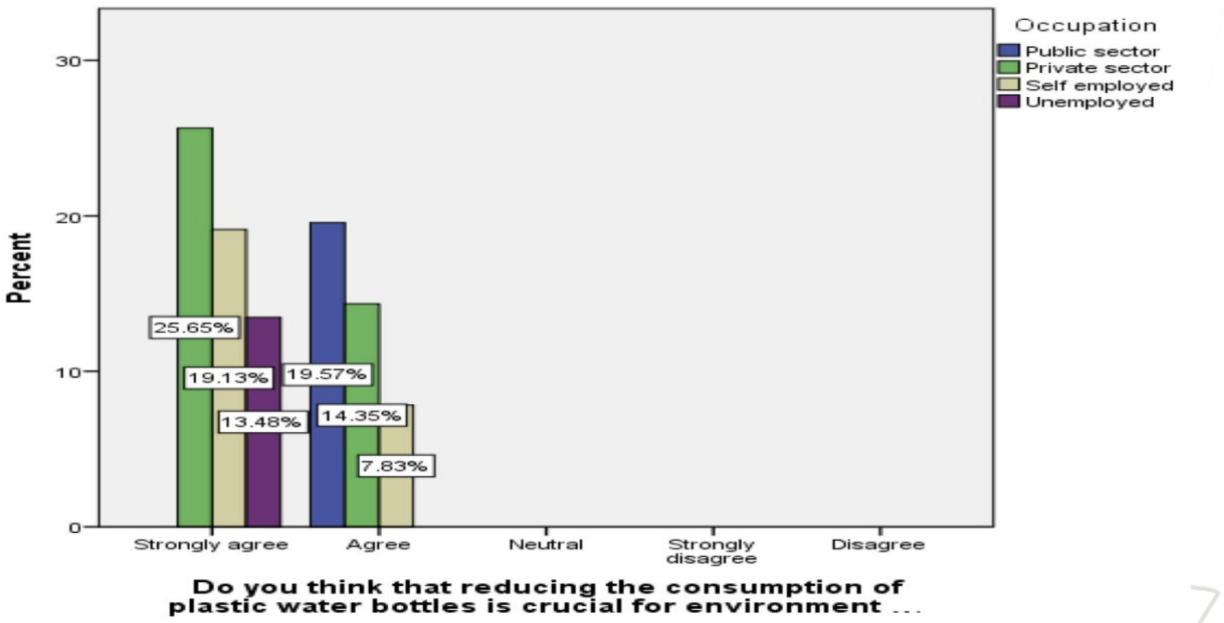


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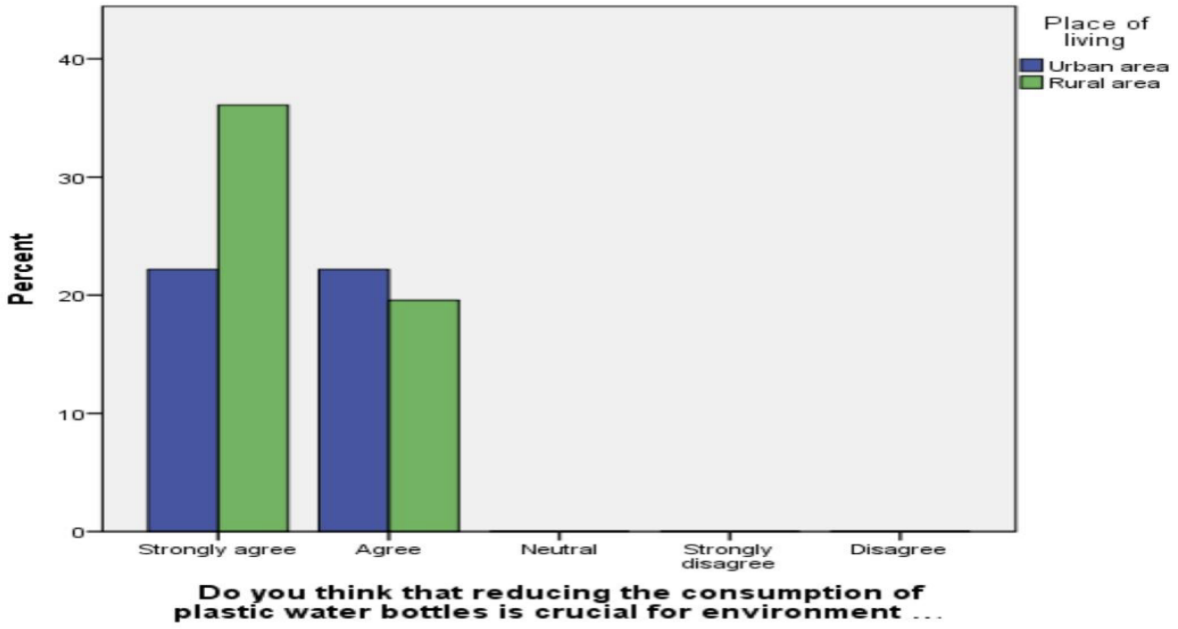
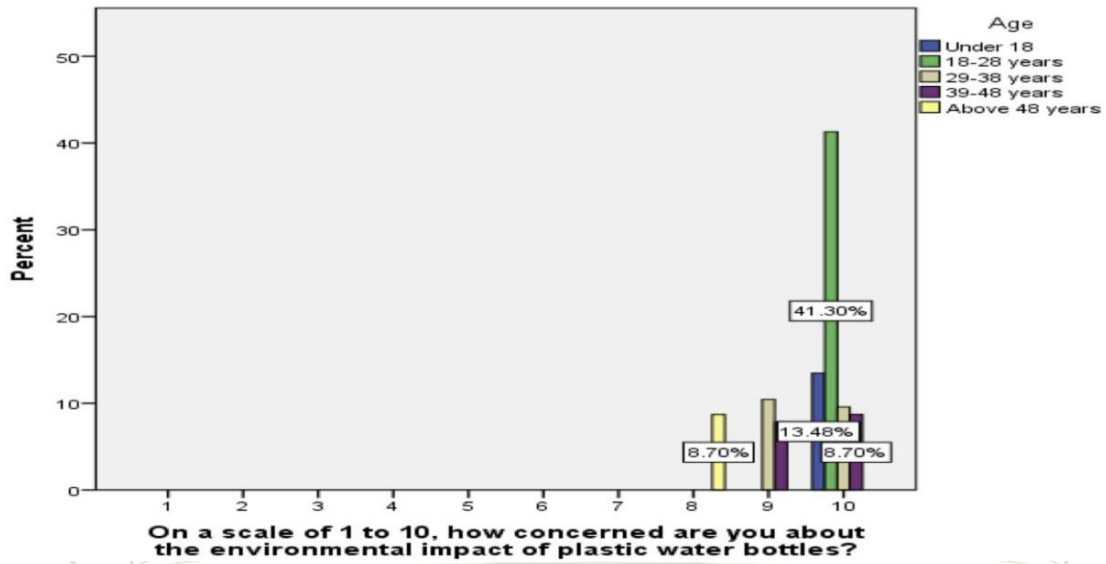
FIGURE 19:



LEGEND: This figure shows the comparison between place of living and do you think that reducing the conception of plastic water bottles is crucial for the environment.

FIGURE 20:



LEGEND: This figure shows the comparison between age and on a scale of 1 to 10, how concerned or concerned you are about the environmental impact of plastic Water bottles.

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RESULTS:

It shows the comparison between age and do you agree that government policies strictly regulate use of plastic Water bottles, the respondent age of Under 18 is neutral with 13.48% and the age group of 18 to 28 years agree with 24.35 percent and the age group of 29 to 38 years also agree with 10.4 3% and 39 to 48 year neutral with 8.70%.**FIGURE 1**.It shows the comparison between Gender and do you agree that government policies strictly regulate the use of water bottles, the respondent of gender, male neutral with 22.1 7% where as female agree with 24.35%.**FIGURE 2**.It shows the comparison Between occupation and do you agree that government policies strictly regulate use of plastic Water bottles, the respondent with public sector neutral with 8.70% and private sector agree with 24.35% and self employed neutral with 16.52% where is unemployed neutral with 13.48%.**FIGURE 3.** it shows the comparison between the place of Living and do you agree that government policy,the respondents of urban area or neutral with 38.70% where is rural area agree with 29.13%.**FIGURE 4**.It shows the comparison between educational qualification and do you agree that government policies strictly regulate use of plastic Water bottles, the respondents of post graduate agree with 14.35% and undergraduate agree with 20.43 % and schooling are neutral with 13.48% and no formal education are neutral with 25. 22%.**FIGURE 5.** it shows the comparison between the age and are you familiar with the environmental impacts of plastic bottle production and disposal, respondents of Under 18 are yes with 13.48% and 18 to 28 years with 41.30% and 29 to 38 years are 20% and 39 to 48 years are with 16.42% and the age of above 48 years are with no of 8.70%.**FIGURE 6**.It shows the comparison between the gender and are you familiar with the environmental impacts of plastic bottle production and disposal, the respondent of male with yes is 42.17% where is female with 49.3%.**FIGURE 7.**it shows the comparison between occupation and are you familiar with the environmental impact of plastic bottle production and disposal? The public sector with yes are 19.57% and private sector with 31.30% and self-employed with 26.96% and unemployed with 13.46%.**FIGURE 8.** It shows the comparison between place of living and are familiar with the environmental impact of plastic bottle production and disposal, the respondents of urban area are yes with 35.65% whereas rural area with 55.65%.**FIGURE 9**.It shows the comparison between educational qualification and are you familiar with the environmental impact of plastic bottle production and disposal, the respondents of post graduate are yes with 33.91% and undergraduate with 27.39% and schooling with 13.48% and no formal education with 16.52%.**FIGURE 10**. it shows the comparison between age and would you support the promotion of tape water or purified water as a more sustainable and eco friendly alternative to bottle to water, the respondent of Under 18 agree with 12.61% and 18 to 28 years strongly agree with 28.70% and 29 to 38 years of age strongly agree with 20% and 39 to 48 years with 16.52% and the above 48 years ago with 8.70%.**FIGURE 11** It shows the comparison between gender and are you familiar with the environmental impacts of plastic bottle production and disposal with yes of male with 42.17% where as female 49.13%. **FIGURE 12**.It shows the comparison between occupation and would you support the promotion of tap water or purified water as a more sustainable and eco friendly alternative to bottle to water, respondent of public sector strongly agree with 18.70% and private sector agree with 21.30% and self employed strongly agree with 26.96% and unemployed agree with 13.48%.**FIGURE 13.** It shows the comparison between place of living and would you support the promotion of tap water or purified water as a more sustainable and eco friendly alternative to bottled water, respondents of urban areas agree with 27.83% whereas rural areas strongly agree with 48.70%.**FIGURE 14.** it shows the comparison between educational qualification and would you support the promotion of tap water or

purified water as a more sustainable and eco friendly alternative to bottle to water,Respondents of post graduate strongly agree with 28.6% and undergraduate strongly agree with 20.43% and schooling agri with 13.48% and no formal education strongly agree with 16.52%.**FIGURE 15**.It shows the comparison between the age and do you think that reducing the consumption of plastic water bottles is crucial for environment, the respondents of Under 18 strongly agree with 13.48% and 18 to 28 years strongly aggravate 25.65% and the age group of 29 to 38 years strongly agree with 8.70% and the age group of 39 to 48 years strongly agree with 8.70% and above 48 years 8.70.**FIGURE 16.** It shows the comparison between Gender and do you think that reducing the conception of plastic Water bottles is crucial for environment, the respondent of male strongly agree with 32.61% where as female agree with 32.17%.**FIGURE 17**.It shows the comparison between occupation and do you think that reducing the conception of plastic Water bottles is social for environment, The respondent of public sector agree with 19.57% and private sector strongly agree with 25.65% and cells employees wrongly agree with 19.3% and unemployed with 13.48%.**FIGURE 18.**It shows the comparison between place of living and do you think that reducing the conception of plastic water bottles is crucial for environment, respondent of urban areas strongly agree with 27.83% where is female strongly agree with 48.70%. **FIGURE 19.** it shows the comparison between the age and on a scale of 1 to 10, how concerned or your about the environmental impact of plastic Water bottles, the respondents of Under 18 are with 13.48% and 18 to 28 years with 41.30% and 29 to 38 years with 8.70% and 39 to 48 years with 13.48% and above 48 years are with 8.70%.**FIGURE 20.**The Chi-square test depicts that the null hypothesis is rejected and an alternative hypothesis is accepted. There is a significant relationship between age and do you agree that government policies strictly regulate the use of plastic Water bottles.

DISCUSSIONS:

The majority of the respondents of age are compared with the opinion of do you agree that government policies strictly regulate use of plastic water bottles, The age group of 18 to 28 years are highest with 24.35% . **FIGURE 1.** The majority of the respondents of gender are compared with the opinion of do you agree that government policies strictly regulate use of plastic Water bottles, females are highest neutral as they think government policies strictly regulate in the society.**FIGURE 2.** The majority of the respondent of occupation or compared with the opinion of do you agree that government policies strictly regulate use of plastic Water bottles and private sector agree with 24.35% as they think government policies strictly regulate the use of plastic Water bottles.**FIGURE 3.** The majority of the respondents of place of Living are compared with do you agree that government policies strictly regulate use of plastic water bottles and the highest are with urban area of 38.70% with neutral as they think maybe government strictly regulate and also not strictly regulate.**FIGURE 4.** The majority of the respondents of educational qualification are compared with do you agree that government policies quickly regulate the use of water bottles and the highest are no formal education with a neutral of 25.22% as they think maybe government strictly regulate and also not strictly regulate the use of plastic water bottles.**FIGURE 5.** The majority of the respondents of age are compared with are familiar with the environmental impacts of plastic bottle production and disposal, The age of 18 to 28 years are highest with yes of 41.30% as they are aware of this surroundings and the plastic bottle production and disposal.**FIGURE 6.** The majority of the respondents of gender are compared with the opinions of are you familiar with the environment and impacts of plastic bottle production and disposal and the highest with 49.3% is female with yes because they are aware of environmental impacts and are familiar with environment.**FIGURE 7**.Majority of the respondents of occupation are compared

with the opinions of the respondent are you familiar with the environment impacts of plastic bottle production and disposal and the highest with a yes of 31.30% are the private sector because they are familiar with environmental impacts of bottled water and their production.**FIGURE 8.** The majority of the respondents in place of living or compared with are familiar with the environmental impacts of plastic bottle production and disposal and the highest are 55.65% because they are aware of environmental impacts of plastic bottle production and their disposal.**FIGURE 9.** The majority of the respondent of educational qualification are compared with or you familiar were the environmental impacts of plastic bottle production and disposal with highest of 33.91% are post graduate because they are well educated and are aware of the environmental impacts of plastic bottles and their disposal **.FIGURE 10**.The majority of the respondent of age are compared with the opinion of 67.6% of the respondents would support the promotion of tap water or purified water as a more sustainable and a friendly alternative to bottled water. The age group of 18 to 28 years strongly agree with 28.70% because they support tape water or purified water as an eco-friendly alternative.**FIGURE 11.** The majority of the respondents of gender or compared with the opinion of the respondent as would you support the promotion of tap water or purified water as a more sustainable and aqueous friendly alternative to bottle to water with the highest of female strongly agree 36.52% because they support the promotion of safe water or purified water as and sustainable source.**FIGURE 12**.The majority of the respondents of occupation or compared with the opinion of the respondent as would you support the promotion of tape water or purified water as a more sustainable and eco friendly alternative to bottle water with the highest response of strongly agreeing our self employed with 26.96% because they are more concerned with environment as Tap water or purified water is a sustainable and eco friendly alternative.**FIGURE 13.** The majority of the respondents of place of living or compared with the opinion of would you support the promotion of tap water or purified water as a more sustainable and eco friendly alternative to bottled water as rural areas strongly agreeing with 48.70% because rural people value the environment more than people and try to support tape water and purified water **FIGURE 14**. The majority of the respondents of educational qualification are compared with the opinion of would you support the promotion of tap water or purified water as a more sustainable and eco friendly alternative to bottled water as post graduate strongly agree with 28.26% because they are highly educated and know the impact of environment later.**FIGURE 15** The majority of the respondents of age or compared with the opinion of do you think that reducing the conception of plastic water bottle is crucial for environment as 18 to 28 years strongly agree with 25.65% because they are more concerned about the environmental impacts.**FIGURE 16**. The majority of the respondents of gender are compared with the opinion of do you think that reducing the conception of plastic water bottle is crucial for the environment as male strongly agree with 32.61% because they are more aware of environmental impacts and future.**FIGURE 17**. The majority of the respondents of occupation are compared with the opinion of do you think that reducing the conception of plastic water bottles is crucial for the environment as the private sector strongly agree with 25.65% because they are more about the environment and to reduce the conception of plastic Water bottles figure **FIGURE 18**.The majority of the respondents of place of Living are compared with the opinion of do you think that reducing the conception of plastic water bottle is crucial for environment as rural areas strongly agree with highest of 48.70% because rural people are the one who are mostly eco friendly and are more concerned about environment. **FIGURE 19**. The majority of the respondents of age are compared with the opinion of how concerned are you about the environmental impact of

plastic Water bottles and the respondents rated it with 10 with 41.30% of 18 to 28 years are highest because they are more concerned of impacts of using the plastic bottles and future environment .**FIGURE 20**. The majority of the responses for the age of the respondents is compared with the opinion of the respondents on do you agree that government policies strictly regulate the use of plastic water bottles on the basis of chi square test.

LIMITATION:

Due to the lack of time the study was restricted within a limited sample frame. The large area was unable to be studied and there is a major constraint in the convenient sampling method, the survey was conducted through questionnaires by google forms to collect responses from the people. Another limitation is the sampling size of 230 which cannot be used to assume the thinking of the entire in a particular country, state or city. The physical factors have a larger impact on the study so, it limits the study.

CONCLUSION:

The environmental impacts of bottled water remain a pressing concern in 2023. The widespread use of single-use plastic bottles contributes significantly to plastic pollution, with adverse effects on ecosystems and wildlife. The production process, involving the extraction of resources and energy consumption, further exacerbates environmental degradation and contributes to climate change. The persistent generation of plastic waste poses challenges for waste management and exacerbates the global solid waste problem.However, there is a growing awareness of these issues, leading to increased efforts to promote sustainable alternatives and reduce the use of single-use plastics. Initiatives encouraging the adoption of reusable bottles, the installation of water fountains, and the implementation of policies to limit plastic usage are steps in the right direction. The need for continued vigilance and concerted efforts to address the environmental impacts of bottled water is evident. By adopting eco-friendly practices and embracing alternatives, individuals, businesses, and policymakers can contribute to a more sustainable and environmentally conscious future.

REFERENCE:

• Gamze Güngör-Demirci, Juneseok Lee, Majid Mirzaei, Tamim Younos, Water and Environment JournalVolume 30, Issue 3-4, First published: 19 August 2016,Journal of Hazardous Materials

• Volume 392, 15 June 2020, 122271 Worldwide bottled water occurrence of emerging contaminants: A review of the recent scientific literature panel, Razegheh Akbarizadeh, Sina Dobaradaran.

• Published: 03 November 2022, Investigating the pollution of bottled water by the microplastics (MPs): the effects of mechanical stress, sunlight exposure, and freezing on MPs release, Shadi Taheri, Bahareh Shoshtari-Yeganeh, Spring link volume 195,

Article number: 62 (2023)

• Occurrence of microplastics in tap and bottled water, and food packaging: A narrative review on current knowledge, Md. Iftakharul Muhib a, Md. Khabir Uddin a, Science of The Total Environment, Volume 865, 20 March 2023, 161274

• Journal of Cleaner Production, Volume 267, 10 September 2020, 121930, Sustainable bottled water: How nudging and Internet Search affect consumers' choices, Carola Grebitus a, Rod D. Roscoe.

• Exploring Perceptions of Bottled Water Consumption and Its Environmental

Consequencesby Paul W. Ballantine,Received: 11 January 2019 / Revised: 30 January

2019 / Accepted: 30 January 2019/Published: 1 February 2019

• The Impact of Environmental Concern on Intention to Reduce Consumption of Single-Use Bottled Water, by Barbara Borusiak, Received: 2 March 2021 / Revised:

23 March 2021 / Accepted: 29 March 2021 /Published: 2 April 2021

• Occurrence of Microplastics in Tap and Bottled Water: Current Knowledge, by Isabella Gambino, Received: 24 February 2022 / Revised: 22 April 2022 / Accepted:

24 April 2022 /Published: 26 April 2022

• Exploring Beliefs About Bottled Water and Intentions to Reduce Consumption: The Dual-Effect of Social Norm Activation and Persuasive Information, Sander van der

Linden View all authors and affiliations, Volume 47, Issue.

• Bottled Water: An Evidence-Based Overview of Economic Viability, Environmental Impact, and Social Equity, by Yael Parag 1, Received: 1 March 2023 / Revised: 8 May 2023 / Accepted: 15 June 2023 /Published: 19 June 2023

• Investigating the pollution of bottled water by the microplastics (MPs): the effects of mechanical stress, sunlight exposure, and freezing on MPs release, Shadi Taheri, Bahareh Shoshtari-Yeganeh, Environmental Monitoring and Assessment volume 195,

Article number: 62 (2023).

• Home International Journal of Environment and Health Vol. 1, No.1, Drinking mineral waters: biochemical effects and health implications - the state-of-the-art, Maria Cristina Albertini, Marina Dacha, Laura Teodori and Marcelo Enrique Conti, Published Online: January 30, 2007 pp 153-169.

• Journal of Cleaner Production, Volume 267, 10 September 2020, 121930, Sustainable bottled water: How nudging and Internet Search affect consumers' choices, Carola Grebitus, Rod D. Roscoe.

• Water Research, Volume 46, Issue 3, 1 March 2012, Pages 571-583, Chemical compounds and toxicological assessments of drinking water stored in polyethylene terephthalate (PET) bottles: A source of controversy reviewed, Cristina Bach a b, Xavier Dauchy.

• Toward Reducing Adolescents' Bottled Water Purchasing: From Policy Awareness to Policy-Congruent Behavior 2021, Lina Jovarauskaite, Audra Balunde.

• The Environmental Performance of Glass and PET Mineral Water Bottles in Italy, Annarita Paiano, Teodoro Gallucci.

• Bottled Water or Tap Water? A Comparative Study of Drinking Water Choices on University Campuses, by Neng Qian, Received: 6 November 2017 / Revised: 6

January 2018/ Accepted: 8 January 2018/Published: 11 January 2018.

• Journal of Water Process Engineering, Volume 39, February 2021, 101708, Occurrence of microplastic particles in the most popular Iranian bottled mineral water brands and an assessment of human exposure, Pouran Makhdoumi a, Abdulfattah Ahmad Amin.

• Occurrence of the Rubber Additive 1,3-Diphenylguanidine (DPG) in Bottled Water, Mauricius Marques, Cite this: Environ. Sci. Technol. Lett. 2023, 10, 10, 937-942, Publication Date:September 19, 2023.

• Vol. 7 No. 2 (2022): Journal of Good Governance and Sustainable Development in Africa (JGGSDA), Chemical Quality of Bottled Water in Nigeria: A Systematic Review, Dominic Oteino Ojatta.