



THE ROLE OF SOCIAL MEDIA DISCOURSE IN SHAPING CONSUMER BEHAVIOR AND
INFLUENCING ENVIRONMENTAL POLICY RESPONSES TO PLASTIC POLLUTION IN THE
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Abstract:

This study aims to investigate the impact of social media on consumer behavior regarding plastic pollution in the Mediterranean region. Data collected from 1,651 participants from the study countries Spain, Tunisia, Greece and Lebanon show that social media play a role in raising awareness regarding environmental issues, with 85% of participants indicating an interest in environmental content posted on social media. The results showed that 60.4% changed their plastic consumption habits due to being influenced by environmental content posted on social media. The changes included improving waste disposal and reducing the use of plastic bags and single-use plastic. In addition, 63.8% of participants considered social media campaigns against plastic pollution to be very effective, indicating that visual content, especially before and after photos of polluted areas, as well as video campaigns and emotional stories, significantly shape consumer behavior, further highlighting the role of social media in promoting environmental responsibility.

Keywords: Social media, Plastic Pollution, Consumer Behavior, Environmental Awareness, Environmental Policy.

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1. Introduction:

The Mediterranean region holds the status of being one of the world's most contaminated marine ecosystems where the issue of plastic pollution represents a major environmental challenge. The gathering of plastic waste in sea areas and coastline environments represents plastic pollution which endangers biodiversity and destabilizes ecosystems and creates dangerous health risks for marine life and human beings¹. The Mediterranean faces urgent remediation because its rising plastic waste production occurs alongside insufficient waste management practices. Plastic waste generation in the region exists at high rates due to its abundance of popular tourist spots and port-based economic activity. The resolution of marine littering demands combined strategies through modified legislation combined with corporate accountability together with essential changes in individual waste-related practices².

Microplastic contamination worsens the plastic pollution problem in the Mediterranean due to the decomposition of bigger plastic goods and industrial processes involving microbeads from products and synthetic textile fibers. Smaller plastic particles pass through marine food systems eventually building up inside seafood organisms thus creating possible health dangers for humans consuming seafood. Practical measures require urgent implementation because research demonstrates the Mediterranean contains globally outstanding levels of microplastics³.

The necessary solution needs multiple levels of attention which combines government policies with technology developments and behavioral changes from consumers. The development of effective plastic waste intervention strategies needs a profound understanding of what causes customers to use plastics and create waste. Social media has developed into an influential tool which controls the direction of public conversations as it modifies personal point of views alongside behavioral patterns⁴.

Social media use has changed how individuals interact with environmental issues on a mass scale. Environmental causes find strong support through social media platforms including Facebook, Instagram, Twitter/X, TikTok, and YouTube⁵. Social media engages public perception by creating viral campaigns which combine visual content with influential activism that drives plastic-related discussions while shaping responsible consumption behaviors. Through digital platforms environmental organizations together with policymakers and individuals can share information as they work to promote sustainability and build collective action initiatives. Social media enables instant engagement that makes it an essential communication platform to modify consumer perspectives about plastic products and waste management practices⁶.

Social media allows immediate community engagement between users who both participate in environmental challenges and share personal environment-related stories as well as sustainable alternative information. The hashtag movements #PlasticFreeJuly and #BeatPlasticPollution have proven how social media brings people from every corner of the globe together for shared environmental causes. Social movements aimed at behavior change share knowledge about plastic's environmental consequences while presenting people with straightforward steps that diminish their use of plastic products⁷.

Researchers investigate through this study the impact social media has on consumer conduct regarding plastic applications and waste disposal practices. The research investigates the effectiveness of digital campaigns to shift public opinions and support sustainable practices as



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well as generate collective involvement to fight against Mediterranean plastic pollution. The examination of content methods together with audience participation and behavioral reactions within this study provides data regarding how well social media works to advocate for the environment and drive behavioral transformations. This research will evaluate both short and longer-term effects of online activism by studying what happens to behavioral patterns after sustainability content interactions to determine if these actions transform steady habits or stay superficial.

Research has not yet determined how much digital platforms actively drive behavioral change regarding plastic consumption rates. The evidence regarding social media-based environmental responsibility promotion shows contradictory results because some research shows positive outcomes while other findings show limited impact. Users express eco-friendly standpoints online even though they show no visible action in their actual routines. Untrue information and misleading advertisements about green activities may negatively affect genuine actions against plastic pollution.

This research fills the lacking knowledge concerning social media influence on consumer conduct specifically in Mediterranean markets. The study explores behavioral change elements along with digital activism effects to advance comprehension of social media role in developing environmental responsibility. Social media advocacy response levels among Mediterranean consumers will be evaluated for cultural elements and geographic region effects in order to develop effective localized environmental communication strategies⁸.

1.1.Literature review

The research conducted by Borg⁹ evaluated how Australian supermarkets utilized social media platforms to share their policy about banning plastic bags. During the process from announcement to implementation the public showed different reactions toward the plastic bag ban policy beginning with initial approval that transitioned to negative reception and decreased participation. The new policy's reception from consumers became possible through social media platforms enabling the stores to reformulate their approach.

The research by Valeria Pop¹⁰ demonstrates fundamental knowledge about media-driven shifts in public understanding regarding environmental dangers especially regarding plastic contamination. The research aimed to determine whether media narratives influence Romanians' awareness of Members of Parliament (MPs), as well as to investigate whether media narratives influence Romanians' perceptions of MPs' health and environmental risks. An online survey was conducted among 417 Romanian respondents. The questionnaire contained 21 questions. The questions concerned MPs' awareness, MPs' perceived health risks, MPs' perceived environmental risks, intensity of exposure to media narratives about MPs' impact on health and the environment, and demographics. The results showed that MPs' awareness was influenced by the media narrative "microplastics in the sea threaten fish stocks", and that when the frequency of exposure to this media narrative increased, the likelihood of reporting awareness of MPs increased. The results also showed that increasing age was associated with a higher likelihood of reporting awareness of MPs.

Based on a survey of 550 people conducted in China, Han and Xu's study¹¹ aimed to compare the influence of traditional media and social media on the relationships between people's perception of environmental risks, environmental knowledge, and pro-environmental behavior. The results showed that traditional media had no significant influence on pro-



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environmental behavior; while social media had an influence on pro-environmental behavior mainly through the enhancement of interpersonal communication effects. The research revealed that while different types of information exposure affect pro-environmental behavior differently, interpersonal communication plays a central role.

Rapada¹² aimed to analyze the impact of social media on consumer behavior toward plastic products. Responses from 213 individual observations were collected on four media posts representing the overall aspects of the plastic use problem, and the results showed that social media increases the likelihood of avoiding plastic consumption when the self-interest is more likely to be involved in the topic. This study demonstrates that social media can effectively influence consumer behavior toward plastic consumption if the information provided is derived from validated studies that can be easily translated into outcomes based on their own actions and have a direct impact on their health.

Most studies have focused on the impact of policies to reduce the use of plastic bags; in addition to focusing on a specific country, and because social media has become widely used in recent times, this study aims to measure the impact of information published on social media on consumer behavior towards plastic pollution in the Mediterranean Sea.

1.2.Social Media and Influencing Consumer Behavior:

Through social media consumers learn essential behaviors that lead them to become environmentally conscious and sustainable. Individuals along with organizations use accessible digital platforms to spread information quickly which helps people learn about plastic pollution problems. Social platforms have demonstrated their effectiveness because they use educational content such as infographics together with videos along with interactive posts which educate people about plastic waste dangers while motivating positive behavioral changes¹³.

Social media produces major behavioral changes in customers through its successful implementation of peer-based impact combined with social standards¹⁴. The adoption of sustainable behaviors by peers leads people to adopt these behaviors through social validation processes. The social validation process using likes shares and comments creates a dual effect that demonstrates eco-friendly behavior as desirable social acceptance. Individuals tend to perform activities when they think their circle of friends view those activities as typical practices according to behavioral theories¹⁵.

Today sustainability messages have spread more broadly because influencers work together with brands to reach a wider audience. By recommending plastic-free lifestyles as well as sustainable brands and ethical consumption eco-conscious influencers significantly influence consumers' purchasing decisions. Such personal connections enable influencers to promote their recommendations with higher credibility which makes their messages more persuasive to their followers. The social media advocates demonstrate real methods to cut down on plastic consumption which helps people adopt sustainable practices that they can actually implement¹⁶.

Companies along with brands have seen the substantial effect that social media has on customer opinions and thus adopted its utilization. Modern businesses utilize social media platforms for sustainability-based promotions alongside their displays of environmental product offerings. The drive toward positive transformation by industries comes with risks because companies may exaggerate their ecological responsibility through greenwashing tactics. Through their platform on social media consumers have gained critical perspective so they frequently



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expose brands which fail to show sustainable practice in alignment with their sustainability claims¹⁷.

Through social media platforms users have the power to create immediate activism for environmental causes which enables them to force change through demands made to governmental officials and corporate stakeholders. Online petitions coupled with viral hashtags and coordinated digital movements successfully push for policy changes which resulted in bans on single-use plastics and enhanced corporate responsibility. Digital activism works as a main catalyst for systematic modifications which extend past simple individual lifestyle transformations¹⁸.

The power of social media excels at influencing customer behavior related to plastic pollution and sustainability issues¹⁹. Through peer influence as well as influencer advocacy together with brand engagement and digital activism social media raises awareness while prompting behavioral modification. The main obstacle lies in transforming virtual engagement into long-term physical actions. The research community and stakeholders need to unite efforts on creating approaches that both keep behavioral change lasting and support revised regulations.

1.3. Plastic Pollution in the Mediterranean

The world-renowned Mediterranean Sea, famous for its biodiversity, experiences an environmental emergency because plastic pollution keeps rising. The Mediterranean exists as a closed sea region which encompasses 22 countries spread across three continents named Europe, Africa and Asia. Spain along with France and Monaco constitutes the European countries while Italy together with Slovenia follows as well as Croatia followed by Bosnia and Herzegovina next to Montenegro and Albania before Greece leads to Turkey with Cyprus completing the list. The five African nations involved in this body of water include Egypt and Libya together with Tunisia and Algeria and Morocco. The Asian countries situated in the Mediterranean region consist of Turkey and its neighboring countries Palestine and Israel and the neighboring countries Lebanon and Syria²⁰. With 2.5 million square kilometers as its extent the sea features restricted water circulation between the Atlantic Ocean and itself through the narrow Strait of Gibraltar in its hydrological system. High human population settlements bordering the Mediterranean Sea increase its susceptibility to environmental pollutants because of its restricted water circulation²¹.

Plastic contamination in the Mediterranean represents a major environmental problem because 570,000 tons of plastic waste enters its water annually thus making it one of the most heavily contaminated seas by plastic in the world. Geographic conditions of the Mediterranean Sea make the pollution issue much worse. Plastic pollutants have the tendency to stay in the Mediterranean sea for long periods because this region has a minimal water cycle which takes about a century to complete. Plastic waste rises in the Mediterranean Sea because of the high population density of urban areas and industrial centers and popular tourist destinations that circle the region²².

A variety of interconnected elements form the basis of plastic pollution in the Mediterranean region. The main cause behind plastic pollution exists in the insufficient waste management systems throughout coastal areas. The lack of proper waste management infrastructure in North African states along with Southern European countries produces plastic leakage through malfunctioning disposal systems which allows waste materials to enter rivers before reaching the ocean. Inappropriate waste disposal known as illegal dumping intensifies



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water contamination because discarded items flow into waterstreams and build up in the Mediterranean basin²³.

Single-use plastics discharge from tourism activities have become the second most important cause of pollution in the Mediterranean where tourism functions as a major economic engine. More than 200 million people visit this region yearly and especially during summer months cause an increase of single-use items including bottles, packaging and disposable food containers. Local waste management systems become overloaded during seasonal waste production periods which leads to plastics entering maritime environments²⁴.

The pollution crisis receives large contributions from fishing activities combined with maritime transport systems. Fishermen lose a significant amount of their fishing equipment to oceans which persistently creates environmental hazards for water ecosystems. The pollution problem worsens when maritime transport adds commercial shipping and cruise tourist activities to the growing plastic waste from operational vessel discharges²⁵.

Plastic contamination throughout the Mediterranean causes severe effects which extend beyond ecological damage to both marine ecosystems and economic sectors and public health. Marine wildlife faces special susceptibility to plastic trash in their environment. Scientific records show about 267 different marine species are harmed by consuming plastic waste and becoming trapped by plastic items. Microplastics generated from decomposed plastic objects present a serious threat because they accumulate in marine life which subsequently passes them along to food chains. The danger microplastics present to biodiversity emerges through changes in feeding patterns together with depletion of reproductive capabilities and elevated mortality rates experienced by affected species²⁶.

Equitable financial losses stem from plastic contamination in the environment. Tourism in Mediterranean regions suffers economic loss because polluted beaches and degraded coastal areas scare away visitors which results in revenue reduction. The fishing industry experiences damage from plastic pollution which affects its fishing equipment and leads to reduced fish stocks and seafood contamination with microplastics. Economic losses spread throughout communities leading to decreased stability in coastal areas where they impact inhabitants' main sources of revenue²⁷.

Scientific studies about plastic contamination and human health concerns are newly developing and new evidence shows how these substances might endanger our well-being. Research indicates that microplastics along with plastic production additives have been found in seafood which creates health risks for humans. Research shows microplastic ingestion patterns possess unknown long-term health risks yet extensive studies point to the possibility of causing endocrine disruption and inflammation with chemical substance accumulation in human tissue²⁸.

A complete solution to reduce plastic pollution in the Mediterranean depends on implementing various elements which combine national policies with enhanced waste management systems alongside public education programs with international governing partnerships. Multiple Mediterranean regional programs are dedicated to controlling marine waste through their goals of decreasing marine litter while implementing sustainable waste management protocols. An ongoing challenge exists for successful enforcement as well as proper implementation of the regulatory measures²⁹.

The reduction of plastic leakage into the ocean requires developing proper waste management infrastructure systems throughout Mediterranean developing nations. Implementing circular economy systems to minimize waste and recycle products together with their



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repurposing functions as an effective method to reduce pollution problems. Such initiatives should combine audience education with community-based activities to promote responsible behavior change and plastic waste reduction through both local population and visiting tourists.

Plastic pollution affects the Mediterranean Sea specifically because of its geographic positioning while being worsened by human-made activities including tourism operations industrial growth and non-effective waste disposal systems. A crisis solution needs joint action from Mediterranean countries as well as industry leadership and government policy support together with regional communities. Quick intervention measures must be implemented to protect both the marine biodiversity and economic system and public health from plastic pollution throughout the Mediterranean region.

2. Study Area

The Mediterranean Sea is a semi-enclosed sea bordered by Europe, North Africa and the Levant. Due to the diverse environmental characteristics of the Mediterranean Sea, it is often divided into four geographical regions:

- Western Mediterranean: Spain, France, Italy, Portugal, Monaco, Andorra , and Malta³⁰.
- Central Mediterranean: Italy, Malta, Tunisia, and Libya³¹.
- Eastern Mediterranean: Greece, Turkey, Cyprus, Syria, Lebanon, Palestine, and Egypt³².
- Southern Mediterranean: Morocco, Algeria, Tunisia, Libya, Egypt³³.

For this study, Spain, Tunisia, Greece, and Lebanon were selected. Spain stands as the top EU player regarding plastic reduction policies yet continues to experience serious plastic pollution in its coastal regions³⁴. The location of Tunisia makes it an exemplary case for analyzing Central Mediterranean plastic pollution because the country holds key features as an African nation facing serious pollution challenges alongside expanding environmental activism. Tunisia introduced forward-thinking environmental measures including a complete prohibitory regulation of single-use plastics which started in 2020³⁵. Greece one of the most visited in Europe and it is creates substantial plastic waste management barriers for the country especially along its beachfront areas³⁶. Lebanon, despite its size, has a strong environmental movement tackling plastic pollution amid political instability and weak waste management³⁷.

3. Research Methodology:

The survey for this research reached participants located in four Mediterranean nations comprising Spain, Tunisia, Greece, and Lebanon. The survey evaluated participants about their social media behaviors while measuring their environmental understanding and plastic usage modifications.

The researchers selected convenience sampling to reach social media users because the audience composition is varied. The sampling process used snowball technique to obtain participants for maximum inclusion. As part of the study, a quantitative research methodology served to gather data. The research gathered 1700 responses yet only 1651 valid responses were analyzed. The research survey took place in the period of June 2024 to January 20254 through



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WhatsApp, distribution of the survey link through social media channels. The researchers initially organized their coded data through Microsoft Excel before processing it and performing analyses through frequency distribution tables within IBM SPSS Statistics 20.

The research focused on understanding how social media content affects consumer responses when it comes to Mediterranean plastic pollution. Survey content received evaluation from field specialists together with key stakeholders to confirm its appropriate nature and ease of understanding. A small pilot study using target population members performed tests on survey questions to verify their interpretability and ease of understanding.

In order to ensure the effectiveness of the content analysis tool, graduate students at the Faculty of communication at Akdeniz University and students of natural sciences at the University of Sciences in Tunis analyzed a sample of data. Then, the researchers evaluated the reliability of the evaluation using the Azuroff & Mayer equation. The results showed that there was an agreement of 87%, which confirms the reliability of the coding process in the questionnaire.

There were 15 items in the survey questionnaire. Respondents provided demographic data in the first four questions before answering questions 5 to 12 regarding their environmental knowledge sources from social media. The survey included Question 14 for behavioral assessment of plastic use alongside examinations of plastic-related attitudes before completing with inquiries about social media usage and consumer behaviors.

4. Results and Discussion

A questionnaire targeting nationals of Spain and Tunisia and Greece and Lebanon of different professional levels and age groups reached these participants using online survey methods. The study incorporated 1651 valid surveys out of a total 1700 respondent replies. The eliminated surveys lacked completed sections and contained unreasonable responses. Figure 1 illustrates how survey participants responded by their national origin. The participants from Spain provided 397 responses which made up 24.0% of the total while Tunisia contributed 401 responses that corresponded to 24.3% and Greece shared 433 responses that totalled 26.2% and Lebanon supplied 420 responses which constituted 25.4%.



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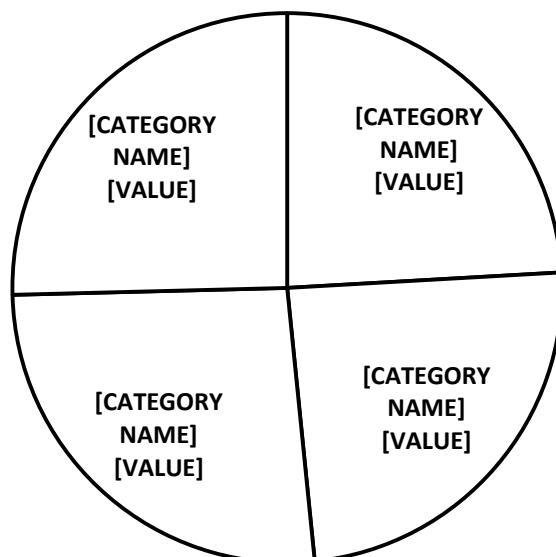


Figure2. Country classification of participants in the Survey.

Survey respondents distributed as shown in Figure 3 based on their gender configuration. The population consists of 45.3 percent female while 54.7 percent represents the male gender.

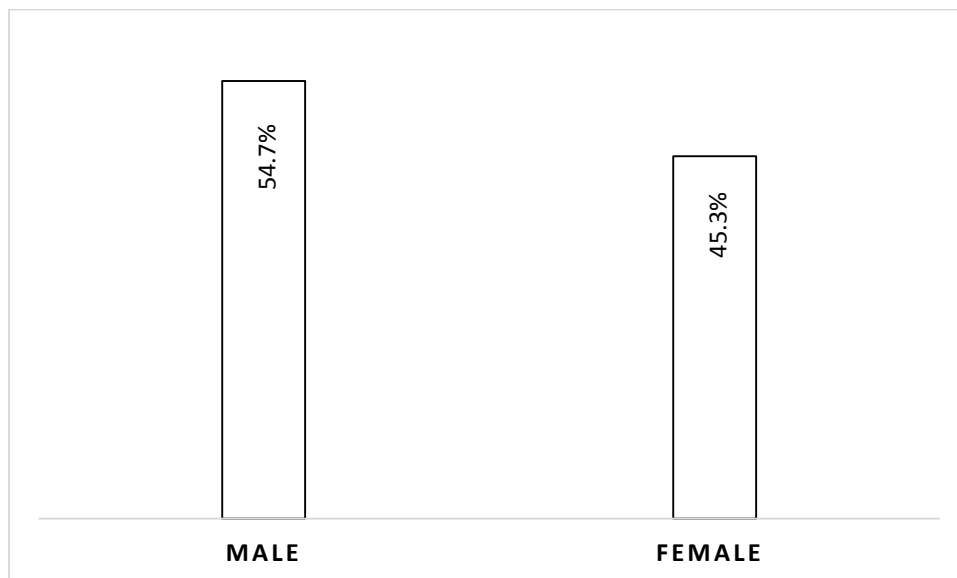


Figure 3. Gender Classification of participants in the Survey.

The age group of 26 and 32 years garnered the most replies, accounting for 35 percent of the total number of responses. Those between the ages of 18 and 25 came in second, with a proportion of 33 percent. Table 1 shows that the age group 33 and 40 years has 15 percent of the total.

Table 1 shows the response distribution by age group.

Age	No. of responses	Response Percent
Under 18 years	116	18.7%



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18 - 25 years	545	33%
26 - 32 years	578	35%
33 - 40 years	248	15%
41 - 48 years	116	7%
Over 48 years	50	3%

Regarding the educational level, the results showed that university graduates accounted for about half of the answers, at 51%, followed by university students at 29%, then those with Postgraduate at 12%, and in last place came 8%. (Table 2)

Table 2 shows the distribution of replies by greatest degree of education.

Education Level	No. of responses	Response Percent
Secondary school or less	132	8%
University student	479	29%
University graduate	842	51%
Postgraduate	198	12%

In Figure 3, respondents were asked about their use of social media. About half of them used it daily (49.7%), while 30.2% used it frequently, and 15.3% used it occasionally.

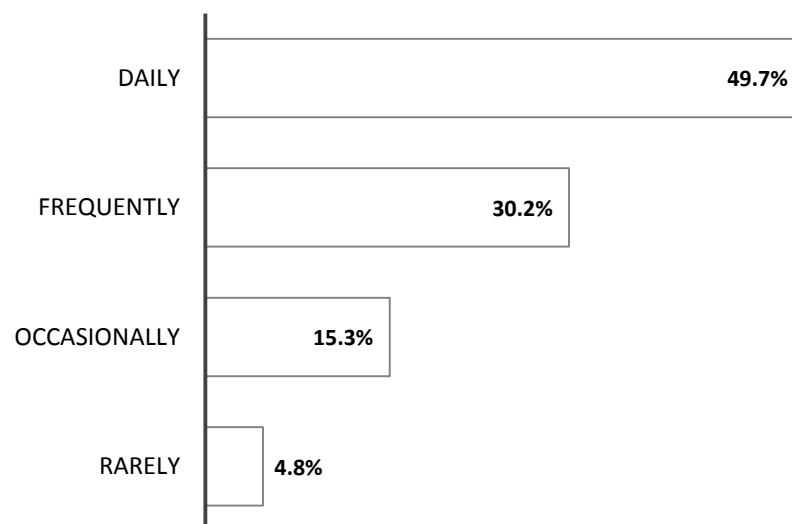


Figure 3. Frequency of Social Media Use.

Participants were asked in the survey if environmentally related posts keep their attention. Almost nine out of ten participants (85%) show interest in environmentally related content whereas ten percent keep away from such materials. Respondents who selected "No" could move forward to question 15 without responding to questions 8 through 14, which dealt with environmentally related posts. As shown in Figure 4.



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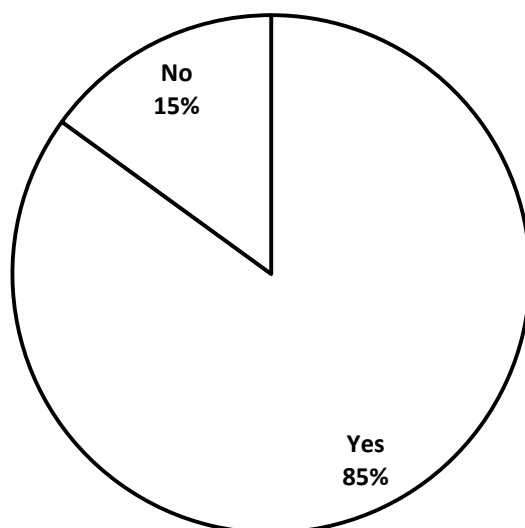


Figure 4. Attention to Environmental Posts

Those who answered that posts related to the environment made their attention indicated that they usually like these posts at a rate of 59.5%, while those who share them at a rate of 42.5%, and commenting on these posts came in third place at a rate of 25.5%, while 8.5% do not show any interaction towards these posts. See table 3.

Table 3. Engagement with Environmental Posts.

Engagement Type	Percentage
Like	59.5%
Share	42.5%
Comment	25.5%
Ignore	8.5%

Figure 5 shown the impact of social media on perceptions of plastic pollution. 38% of respondents answered that social media greatly affects their behavior, the same percentage answered that it has a moderate effect, 15.9% has a Little effect, and 8.1% answered that it does not affect them at all.

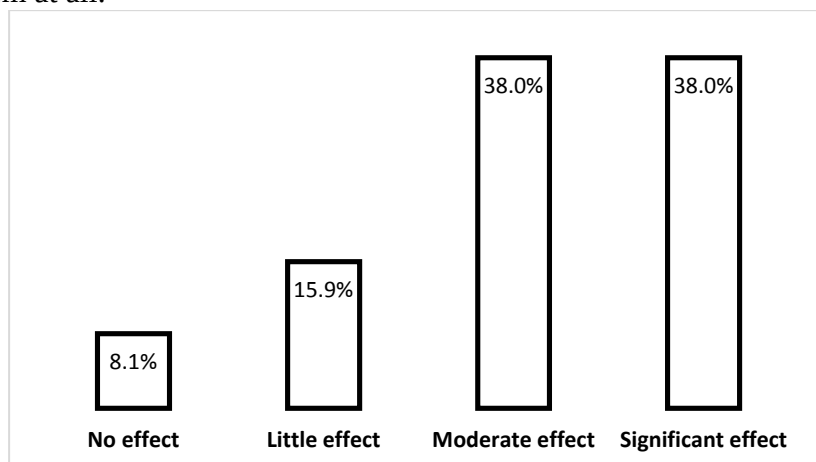


Figure 5. Influence of Social Media on Perception of Plastic Pollution.



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Nearly 60.4% of participants indicated that they changed their plastic consumption habits due to the influence of social media. However, 33.6% did not change their habits due to social media posts. See Figure 6.

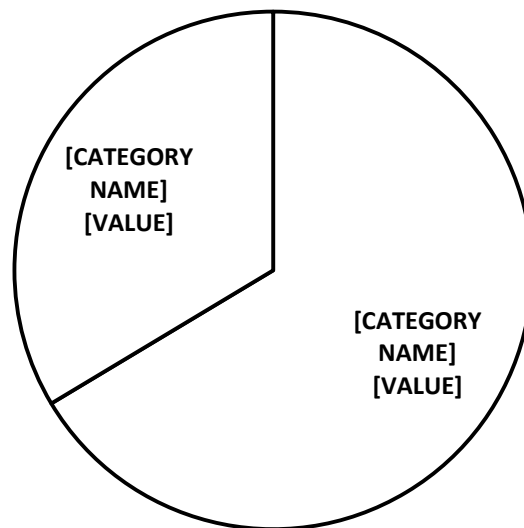


Figure 6. Behavioral Change Due to Social Media.

As table 4 shown, the most common behavioral change influenced by social media was disposed of waste properly in designated bins (59.5%), reduced use of plastic bags (55.3%), followed by Minimized use of plastic water bottles (51%), reduced use of disposable plastic products (46.8%), and replaced plastic bags with environmentally friendly alternatives 42.5%.

Table 4. Behavioral Changes Due to Social Media Influence.

	Behavioral Change	Percentage
1	Minimized use of plastic water bottles	51%
2	Reduced use of plastic bags	55.3%
3	Replaced plastic bags with environmentally friendly alternatives	42.5%
4	Reduced use of disposable plastic products	46.8%
5	Disposed of waste properly in designated bins	59.5%
6	Other	8.5%

63.8% of respondents believe that social media campaigns are somewhat or very effective in reducing plastic pollution. 17.0% of respondents somewhat effective, while 4.3% believe that these campaigns do not have any effective at all. See figure 7.



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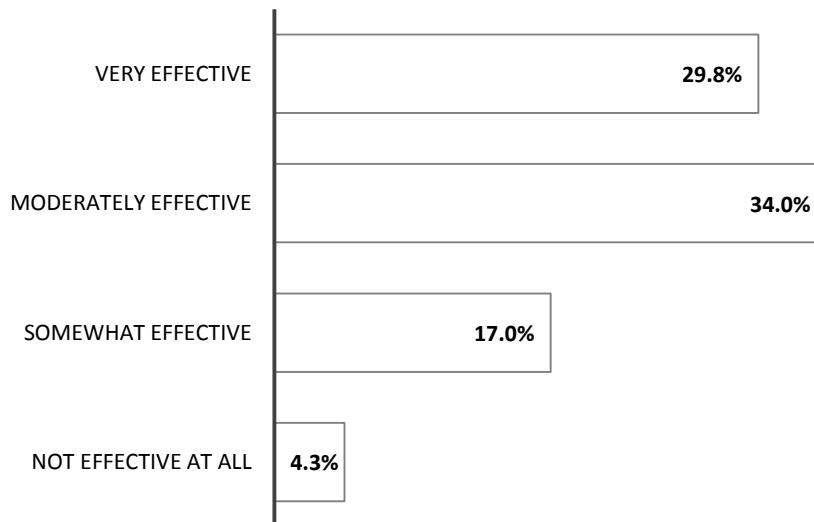


Figure 7. Perceived Effectiveness of Social Media Campaigns on Plastic Pollution Reduction.

A general question for all respondents about what motivates them most to reduce plastic use, 60% answered that personal environmental responsibility is what motivates them to reduce plastic use, 55% the influence of social media, and in third came media coverage such as news and documentaries 50%, while government regulations 40% came in fourth. Table 5 shows the results.

Table 5. Motivation for Reducing Plastic Use.

	Motivation Factor	Percentage
1	Personal environmental responsibility	60%
2	Influence of social media	55%
3	Government regulations	40%
4	Family and peer influence	35%
5	Media coverage (news, documentaries, etc.)	50%
6	Other	10%
7	Motivation Factor	60%

The last question aimed to find out the most effective content on social media to raise awareness about plastic pollution. It was clear that 60% believe that showing pictures of polluted areas versus clean areas (before and after pictures) helps to raise awareness about plastic pollution. 55% believe that video campaigns and documentaries have a positive impact. 50% believe that emotional stories and real-life experiences. Third came media posts containing statistics and facts 40%. As shown in Figure 8.



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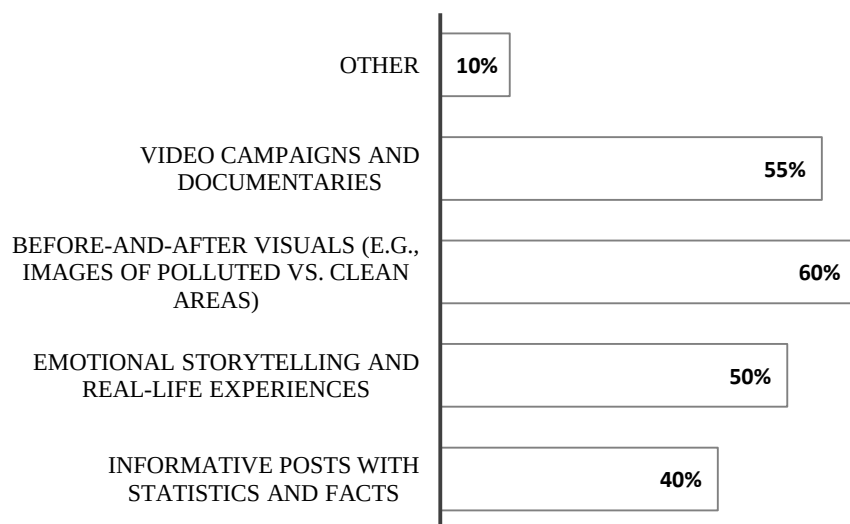


Figure 8. Most Effective Social Media Content for Raising Awareness on Plastic Pollution.

Conclusions and Recommendations

The research results demonstrate that social media substantially impacts how people behave regarding plastic pollution problems in the Mediterranean area. Research data collected from 1,651 participants distributed across Spain, Tunisia, Greece and Lebanon yields important findings according to study results.

The results showed widespread use of social media, with nearly half of the participants (49.7%) reporting daily use of these sites. A large proportion (85%) also reported interest in environmentally-related content, suggesting that social media serves as an effective platform for raising awareness of environmental issues. In addition, the study found that 60.4% of participants had changed their plastic consumption habits due to their influence on social media. The most common behavioral changes were proper waste disposal (59.5%), reducing the use of plastic bags (55.3%), and reducing the use of single-use plastic products (46.8%).

Studies show that social media platforms create effective campaigns against plastic pollution because 63.8% of study participants find these initiatives either highly effective or moderately effective. Personal environmental responsibility led responders to predominantly recognize plastic reduction as their key driver (60%) while social media impacts and media coverage both reached 50% and 55% respectively. Individually, people show more response to visually appealing peer-based messages (40%) instead of government regulations (40%).

Additionally, the study found that visual content are effective method for raising awareness, with 60% of respondents believe that showing pictures of polluted areas versus clean areas (before and after pictures) helps to raise awareness about plastic pollution. Video campaigns and documentaries have a positive impact Video 55% and emotional stories and real-life experiences 50% were identified as highly impactful in shaping consumer behavior.

Recommendations

Given the impact of social media on reducing plastic pollution, policymakers, environmental organizations, and digital content creators should focus on enhancing campaign



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strategies by prioritizing visually engaging content, such as before-and-after images and emotional narratives. Given that young people are the most responsive demographic, targeted engagement strategies should be implemented to address their interests and behaviors. Encouraging proactive engagement—such as sharing, commenting, and participating in challenges—can increase the reach and effectiveness of social media campaigns. While government regulations play a lesser role in direct behavioral change, aligning legislative efforts with social media campaigns can promote sustainable practices through policy measures such as plastic bans and incentives for alternative solutions. Finally, ongoing research and monitoring should be conducted to assess the evolving impact of social media on environmental behavior and improve digital strategies to be more effective in combating plastic pollution.

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