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ROLE OF SOCIAL MEDIA CAMPAIGNS IN SHAPING SUSTAINABLE ENVIRONMENTAL PRACTICES

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Abstract

Social media is an increasingly important platform for shaping young people's environmental awareness, attitudes, and behavior, as traditional awareness channels continue to fail to reach young people. This research investigates the effect of social media campaigns on sustainable environmental practices among young adults in Lahore. The study used a quantitative design and collected primary data from 150 young adults (18-30 years) living in Lahore through a structured online questionnaire distributed via WhatsApp, Instagram, and Facebook. It was developed using existing literature and used a 5-point Likert scale across four constructs: Social Media Campaign Exposure (SMC), Environmental Awareness (AWR), Attitudes toward Sustainability (ATT),, and Sustainable Environmental Practices (SEP). Convenience sampling was used and data were computerized in MS Excel and analyzed using descriptive statistics, Pearson correlation, and linear regression.

The strong positive and statistically significant correlations ($r = 0.69$ to 0.80, $p < .001$) between all four variables showed that higher social media campaign exposure was associated with higher levels of awareness, more positive attitudes, and greater levels of sustainable practices.

This study recommends that social media campaigns are effective and cost-effective media for promoting sustainable environmental practices among young adults in Lahore, and that well-designed campaigns are essential. The results are relevant to environmental NGOs, government agencies, and digital marketers aiming to create effective awareness campaigns. Strategies recommended are to focus on visual storytelling that is relevant to the local community, collaborate with trusted influencers, offer clear and easy-to-follow instructions, and ensure a unified message across various platforms to translate online interactions into action.

1.1 INTRODUCTION

The issue of environment has emerged as one of the most pressing challenges in front of big cities in Pakistan, and Lahore is not an exception. High levels of smog, inadequate waste disposal, and increased demand for energy resources are

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serious problems with regard to the environment and public health in cities. Young adults are very active on social media and that has also influenced their perception of environmental issues, habits, and views in Lahore. Social media has become one of the best platforms to spread information, awareness, and promote sustainable practices.

Over the last few years, social media campaigns have emerged as more prevalent marketing strategies employed by private organizations, NGOs, and governments to encourage pro-environmental behavior. The campaigns are aimed at the reduction of plastic consumption, the conservation of electrical energy, better waste sorting, the planting of trees and the improvement of transport without polluting materials. They are not just trying to teach users, but also to change their personal habits. Many of these campaigns are based on community-specific stories, short videos, infographics, and influencer endorsements.

But not all campaigns make a difference. Some perform very well on social media but don't lead to behavior change. Some others might be informative; however, they just don't motivate young people enough to live sustainably. This has led to significant concerns in the area of attitudes, awareness, and behavior of young adults in relation to the content of social media. The research problem is thus; how do the campaigns of social media relate to sustainable environmental practices among the young adults of Lahore? This research focuses on what type of content is more effective, what youth think of such campaigns, and whether there is a real-world impact when youth interact online. It targets young adults, the population that can make sustainable change happen in the long-term. The results can then be utilized by environmental groups, policy makers, NGOs and digital marketers in an effort to create campaigns that truly encourage responsible actions and safeguard the environment for generations to come.

The role of social media in sustainability has grown but there is limited evidence of the effectiveness of social media campaigns in influencing the behavior of youth. Some campaigns generate more likes, shares and comments on social media, and some campaigns get more likes and shares but do not really create a change in the day to day. Some users might have an awareness post and feel motivated to take an action but don't actually do anything. Some people may be affected by particular information, like a video of smog in Lahore, but not much when it comes to general lifestyle tips. This disconnect leads to questions of the extent to which these campaigns actualize sustainable behaviors. In Lahore, the situation is extremely critical, and the young adults are the best hope for making positive changes in the environment, which is why this question is very relevant. They're both a part of the problem and a vital piece of the solution.

Based on these observations, this study aims to investigate the effect of social media campaigns on awareness, attitude and behavior of youth in Lahore. It aims to uncover their motivations, the elements that detract from their efforts and what needs to be done to better design campaigns to promote sustainable environmental practices. To achieve this, it seeks to provide analysis which can inform future sustainability efforts in the city.

1.2 Research Question

How do social media campaigns influence young adults' sustainable environmental practices in Lahore?

1.3 Objectives

The main objective of the study is to analyze the effect of the campaigns on the attitudes and adoption of young adults regarding environmental sustainability.

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1.5 Significance of the Study

This research is an addition to the knowledge of using digital communication as a means of promoting sustainability in Lahore. Results will help social media marketers, environmental non-governmental organizations and government agencies to create better and more interesting campaigns. The study is one of the types of messaging that can motivate young adults to change their behavior and get campaigns past the superficial engagement stage. This study can help catalyze greater social benefits, public health benefits and overall city benefits by understanding what is working and what is not.

2. Literature Review

Environmental sustainability has become an important issue in today's world, especially in urban areas, where a growing population, industrialization, and overconsumption are putting pressure on natural resources. Air pollution, smog, lack of control over waste generation, and increasing energy needs are major problems in cities of developing countries like Lahore in Pakistan. Scientists say that these issues need to be tackled on a policy level, and also on the individual level - particularly among young adults, who represent a powerful and large proportion of the population.

There are many studies that have emerged in recent years that have identified the importance of social media as a means of raising awareness of the environment. Organizations can target many people in a matter of days and at a low cost using social media platforms like Facebook, Instagram, TikTok, and YouTube. According to Kaplan and Haenlein (2010), social media facilitates the process of communicating back and forth and is also more engaging than conventional forms of media because users can comment, share, and discuss. This affordance can aid with retention of the message and shape attitude. Visual storytelling and emotion are proven to be effective methods for campaigns targeting young users.

Lee (2017) argued that access to environmental content on social media has positive impacts on environmental concern and awareness among young adults. The more people are exposed to sustainability-related messages, the stronger their perceptions of environmental issues will become and awareness is generally considered the starting point of behavior change, with people starting to be aware of what their actions have an impact on. But awareness without action is not enough.

Other studies are concerned with the relationship between attitudes and sustainable behavior. The results presented by Ajzen (1991) prove that the more positive the attitude of an individual is for a given issue, the more likely he/she is to show the corresponding behavior. Young adults who are pro-environmental are more likely to recycle, conserve electricity and reduce plastic. By portraying sustainability as socially desirable and personally meaningful, social media campaigns can influence such attitudes.

New studies also point to the impact of influencers and peer influence on social media. Kim and Kim (2020) find that young adults are more inclined to engage in sustainable behaviors if they see other people, whether they are influencers or peers, endorsing sustainable behaviors online. This creates a social norm that is understood as acceptable and even commendable practice of being environmentally responsible. The impact of such effects can be especially pronounced in a city like Lahore, where the culture of youth is heavily influenced by online trends.

However, a number of researchers identify constraints on campaigns. Online behavior is not necessarily a driver of lasting behavior change, according to Thøgersen (2018). Many users watch, read or listen to environmental information without making it a part of their daily routine. The disconnect between awareness and action is considered to be one of the biggest problems. Similarly, Pakistani youth are found to

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have a high level of environmental sentiment towards the internet; this is not necessarily reflected in their behavior at home or in public spaces (Zafar and Zaheer, 2021).

So far, in Pakistan, there has been very little empirical study that focuses specifically on the influence of social media campaigns on sustainable practices of young adults. Current research tends to focus on general environmental awareness or marketing performance, but not on behavior change. This is a significant deficit, particularly for a city like Lahore, which has not only extreme environmental pressures but a high penetration of social media as well. Addressing this gap, the present study focuses on the impact of social media campaigns on sustainable environmental practices, campaigns that exhibit the greatest effect, and the possibility of translating interactions in the digital environment into actual behavior in the real world.

2.1 Theoretical Framework

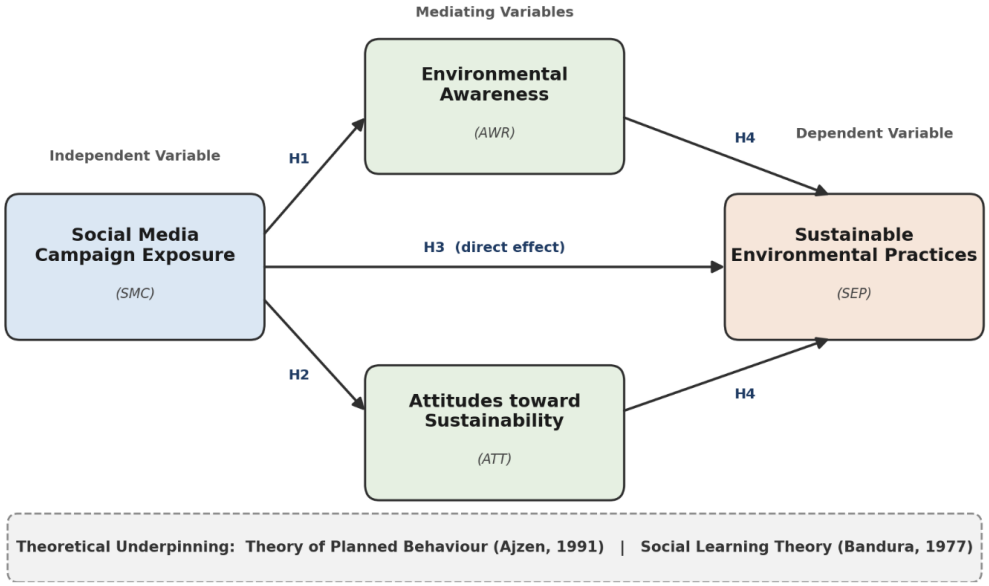
This study is based on the main theory used is the theory of planned behavior (TPB). According to the Theory of Planned Behavior (Ajzen, 1991), an individual's behavior is explained through three determinants: attitude, subjective norm, and perceived behavioral control. The likelihood of performing a behavior is increased if one has a positive attitude to the behavior, believes important others approve of the behavior, and feels able to perform the behavior. In the context of this research, social media campaigns are external entities that influence young adults' attitudes toward sustainability. Campaigns can promote sustainable behaviors in a positive way, and contribute to shaping positive attitudes toward the behaviors like recycling and saving energy.

Subjective norms are also influenced through social media. Young adults can see "social approval" of environmentally responsible behavior when they see peers, influencers and organizations promoting sustainability on the web. This is especially true in Lahore where community influence and social approval is a strong part of the decisions in everyday life. Social platforms reinforce these norms by creating visibility and social validation of sustainable behavior.

Perceived behavioral control is defined as the individual's self-efficacy to execute the behavior. This can be complemented with social media campaigns that provide practical advice, simple steps and success stories to inspire and empower users to take sustainable action, like reducing plastic consumption or saving energy. Young adults are more likely to engage in behavior if they think it's possible without being a burden. In this framework, the social media campaign is the independent variable, environmental awareness and environmental attitudes are the Mediating variables, and sustainable environmental practices are the dependent variable. This gives a clear framework for the analysis of campaign exposure and behavior and also informs questionnaire and statistical analysis.

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3. Methodology

This chapter outlines the research design used for the study and the justification for the use of the design. It includes the type of research, sources of data, instruments, sampling process, fieldwork methods, and analysis methods. The structure of the chapter is designed in a way which is orderly and easily replicable to meet the research objectives and discusses the effect of the social media campaign on sustainable environmental practices among young adults of Lahore.

3.1 Type of Research

The type of study is quantitative study. Quantitative research is the type of research that gathers numerical data and analyzes it with statistical analysis to find patterns, relationships, and trends among variables. This approach was chosen because the goal is to examine how attitudes and sustainable practices of young adults are affected by social media campaigns. Questions with structure and numerical scales can be used to measure variables like campaign exposure, awareness, attitudes, and adoption of sustainable practices. Generalization from sample to the wider population of Lahore's young adults can also be supported by Quantitative research.

3.2 Data Collection Sources

Primary data is the primary source of data for this study. Direct data from young adults in Lahore is drawn from a structured questionnaire to collect data. Primary data is suitable for the study as it will explore the present perceptions, attitudes, and practices of people towards social media campaigns and environmental sustainability.

3.3 Data Collection Tool

A structured questionnaire was used as the main instrument. The questionnaire is economical, time-saving, and can reach a large number of respondents. It also provides respondents with the option of answering privately which helps reduce interviewer bias. It is measured on a 5-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree. Likert scale is commonly used in social sciences and is suitable for measuring attitudes, perceptions, and intentions to act.

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The items in the questionnaire were designed based on the Theory of Planned Behavior (TPB) (Ajzen, 1991, 2002), and on previous research related to green communication and environmental behavior (Kaplan & Haenlein, 2010; Lee, 2017; Kim & Kim, 2020; Thøgersen, 2018; Zafar & Zaheer, 2021). The items were adapted for Lahore context. The entire questionnaire is shown in Appendix A.

3.4 Participants and Sampling

The target population is the young adults of Lahore, 20-30 years old who are using one or more major social media platforms (Facebook, Instagram, TikTok or YouTube). The unit of analysis is the individual young adult.

The sample size of 150 has been deemed adequate for undergraduate quantitative analysis and meaningful statistical interpretation. The sampling frame comprises university students and young professionals in Lahore who are active users of social media. Convenience sampling was employed due to resource and time limitations, a widely accepted method in student research when a complete listing of the population is not available.

3.5 Fieldwork and Data Analysis

The data were gathered from an online survey disseminated through WhatsApp, Instagram, Facebook, and student communities of the universities. This survey was conducted over a period of about three weeks. The respondents were able to fill out the questionnaire at their convenience from all over Lahore. Questions were short and direct, the purpose of the study was introduced briefly, anonymity was guaranteed, and those who provided incomplete or inconsistent answers were screened out during the data collection process to ensure data quality. There was no formal entry to organizations or physical building necessary.

The collected data were analyzed using descriptive statistics (frequencies, percentages, mean, standard deviation), Cronbach's alpha for reliability, Pearson correlation to check the relationship between the variables, and linear regression to check the predictive influence of the social media campaigns on sustainable environmental practices. These methods are consistent with the aims of the research and suitable for the constructs that are being measured on the Likert scale.

4. Data Analysis and Results

4.1 Demographic Profile of Respondents

The demographic features of the respondents are summarized in table 4.1. There is a relatively even distribution between the sexes with the sample having 50.7 percent male and 49.3 percent female. Most of the respondents are in the age group 18-25 (80.7 percent), which is consistent with the age group of young adults targeted. Education-wise, the respondents have the largest number of people with a Bachelor's degree (47.3 per cent), followed by intermediate (24.0 per cent) and master's level (22.7 per cent). The majority of respondents are users of social media (63.3% use it more than 3 hours a day) with Instagram the top app used (41.3%). The above features suggest that the sample is well representative of children of Lahore who are involved in digital activities.

Table 4.1: Demographic Profile of Respondents (n = 150)

Variable	Category	Frequency	Percentage (%)
Gender	Male	76	50.7
	Female	74	49.3
Age Group	18–21	60	40.0

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Variable	Category	Frequency	Percentage (%)
	22–25	61	40.7
	26–30	29	19.3
Education	Intermediate	36	24.0
	Bachelor's	71	47.3
	Master's	34	22.7
	Other	9	6.0
Daily Social Media Use	Less than 1 hour	11	7.3
	1–3 hours	44	29.3
	3–5 hours	56	37.3
	More than 5 hours	39	26.0
Most-used Platform	Instagram	62	41.3
	Facebook	34	22.7
	TikTok	27	18.0
	YouTube	22	14.7
	Twitter / X	5	3.3

Note. Percentages have been rounded to one decimal place and may not total exactly 100 percent.

4.3 Reliability Analysis

The internal consistency of each construct was examined with Cronbach's alpha prior to conducting any inferential analyses. Nunnally and Bernstein (1994) suggest the minimum alpha value be .70 for well-established scales. All four constructs test very well, with alpha values ranging from 0.841 to 0.908, as can be seen in Table 4.2. The Social Media Campaign Exposure scale showed the highest reliability (α = 0.908), and the lowest reliability was for the Attitudes scale (α = 0.841). The results of the present study suggest that the items can be used as internally consistent scales and for further analysis.

Table 4.2: Reliability Analysis (Cronbach's Alpha)

Construct	No. of Items	Cronbach's α	Reliability
Social Media Campaign Exposure (SMC)	5	0.908	Excellent
Environmental Awareness (AWR)	5	0.861	Good
Attitudes toward Sustainability (ATT)	5	0.841	Good

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Construct	No. of Items	Cronbach's α	Reliability
Sustainable Environmental Practices (SEP)	5	0.861	Good

4.3 Multiple Linear Regression

A multiple regression was performed with SEP as the dependent variable and SMC, AWR, and ATT as independent variables to investigate the combined effect of campaign exposure, campaign awareness, and attitudes. Overall, the model is statistically significant, $F(3, 146) = 76.42$, $p < .001$, and the three predictors together explain 61.1 percent of the variance in sustainable environmental practices ($R^2 = 0.611$ and Adjusted $R^2 = 0.603$).

As can be seen in Table 4.7, Social Media Campaign Exposure is also a significant positive predictor of SEP ($B = 0.383$, $p < .001$) and Environmental Awareness is also a significant predictor of SEP ($B = 0.244$, $p = .006$). When the effects of SMC and AWR are controlled, however, attitudes towards Sustainability do not have an independent significant effect ($B = 0.127$, $p = .199$). In the Lahore context, the impact of attitudes on practices is mediated primarily by awareness and the exposure to campaign, in other words, social media campaign awareness leads to action, not attitudes per se.

Table 4.3: Multiple Regression – SEP on SMC, AWR and ATT (n = 150)

Predictor	B	SE B	Beta	t	Sig. (p)
Constant	1.185	0.215	–	5.51	< .001
SMC	0.383	0.075	0.474	5.09	< .001
AWR	0.244	0.088	0.242	2.79	0.006
ATT	0.127	0.098	0.122	1.29	0.199

Note. Dependent Variable: Sustainable Environmental Practices (SEP). $R^2 = 0.611$, Adjusted $R^2 = 0.603$, $F(3, 146) = 76.42$, $p < .001$.

4.4 Summary of Hypotheses Testing

Based on the literature and theoretical framework, four working hypotheses were tested. Table 4.8 summarizes the results.

Table 4.4: Summary of Hypotheses Testing

No.	Hypothesis	Statistical Result	Decision
H1	Social media campaign exposure is positively associated with environmental awareness.	$r = 0.760$, $p < .001$	Supported
H2	Social media campaign exposure is positively associated with attitudes toward sustainability.	$r = 0.801$, $p < .001$	Supported
H3	Social media campaign exposure is positively associated with sustainable practices.	$r = 0.756$, $p < .001$; $\beta = 0.474$, $p < .001$	Supported

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No.	Hypothesis	Statistical Result	Decision
H4	Awareness and attitudes jointly with campaign exposure predict sustainable practices.	$R^2 = 0.611$, $F = 76.42$, $p < .001$	Partially Supported

All four working hypotheses were supported empirically, with the exception of H4, which was only partially supported by the results, as exposure and awareness-controlled attitudes showed no significant effect. The findings of these are discussed next, along with the overall conclusion of this study and recommendations for stakeholders in the next chapter.

5. Conclusion and Recommendations

It covers the major findings of the study in the context of the study objectives and literature, presents the overall conclusion on the effect of social media campaigns on sustainable environmental practices among young adults of Lahore and makes practical recommendations for the stakeholders. Finally, the chapter recognizes some of the constraints of the study and suggests potential avenues for further research.

5.1 Discussion of Findings

The study aimed to get the awareness level of social media campaigns on sustainability of young adults of Lahore. Descriptive results indicate that exposure is not as high as awareness ($M = 3.39$, $SD = 0.87$), attitudes, or actual practices. This indicates that, although campaigns are reaching young adults, the reach is not yet consistent or saturating. Instagram was the most popular platform (41.3 percent), with Facebook and TikTok next, indicating that future initiatives should focus on short, visually rich content that would be ideal on these channels.

The second goal was to study the effect of social media campaigns on young adults' attitudes and sustainable practices. The four variables – campaign exposure, awareness, attitudes, and practices – are strongly and positively correlated, ranging from $r = 0.69$ to 0.80 and $p < .001$. The results are in line with previous studies that emphasize the significance of digital media to environmental cognition (Lee, 2017; Kaplan & Haenlein, 2010; Kim & Kim, 2020).

Regression analysis provides more specific information. Simple regression indicates that the amount of variance in sustainable practices accounted for by exposure to social media campaigns is significant and has a substantial proportion of 57.1 percent. The addition of awareness and attitudes increases the explained variance to 61.1 percent; however, only campaign exposure and awareness are significant independent predictors. Although there is a strong correlation between attitudes and practices, after controlling for exposure and awareness, the former have been found to have no independent predictive power. This is in line with the intention-behavior gap documented by Thøgersen (2018) and Zafar and Zaheer (2021); attitudes must be accompanied by continuous exposure and information to become behaviors.

Overall, the findings substantiate the TPB in this context, specifically the influence of perceived behavioral control and subjective norms conveyed via influencers and online communities. They also support the Social Learning Theory by pointing out that the role of visible and repeated modelling of sustainable behaviors in social media is very important in promoting behaviors among young adults.

5.2 Conclusion

The study concludes that in the context of Lahore, young adults' use of social media campaigns has a meaningful and significant positive impact on sustainable environmental practices based on the empirical evidence found. The association is statistically robust as well as

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practically meaningful, as an increase of one unit in self-reported campaign exposure (on a five-point scale) corresponds to an increase of about 0.61 points in sustainable practices in the simple model and 0.38 points when other factors of interest to the topic are controlled.

The exposure to the campaign affects sustainable practices directly and indirectly by increasing awareness. Awareness becomes a key lever in bridging the digital-to-action gap in campaigns. While attitudes were high among the sample, they alone are not sufficient to ensure behavior change unless they are linked with constant exposure and information that is actionable. The findings thus indicated that well-crafted campaigns on social media are an effective and cost-effective tool to promote environmental behavior change among the young population of Lahore. They also found that digital communication can be a credible policy instrument in response to the city's environmental challenges, if campaigns are designed to be both reach and behavior-relevant.

5.3 Implications

The following recommendations are presented based on the findings to the environmental NGOs, government departments, digital marketers and educational institutions in Lahore:

1. Awareness emerged as a critical pathway from exposure to action, which requires campaigns to do more than just explain the local impact of pollution, smog, and energy loss; rather, statistical data, infographics, and relatable narratives in a campaign are required.
2. The efforts of a campaign should not end at problem awareness. At least one concrete action should be included in each post that the viewer can take immediately to increase perceived behavioral control, such as carrying a reusable bag around, separating recyclables, turning off appliances they aren't using, etc.
3. Encourage social media and give it a specific hashtag to attract online engagement and participation in the on-the-ground activities—such as tree planting drives, recycling collection points, community cleanups—should be encouraged.
4. Encouraging young adults to tell their peers how to sustain their actions extends reach, normalizes actions, and is more likely to have them imitate the actions in accordance with Social Learning Theory.

5.4 Limitations of the Study

Firstly, the study has followed a convenience sampling approach, which makes it difficult to generalize the results beyond the accessible young adults of Lahore who may be online. Second, the sample size was 150, which is sufficient for an undergraduate analysis, but may not be large enough to represent the diversity of attitudes in the city. Third, the cross-sectional design allows for relationships to be observed at one time only; therefore, care should be taken with the interpretation of causality. Finally, the study does not examine the content of particular campaigns, but only respondents' perceptions of exposure to campaigns.

5.5 Suggestions for Future Research

There are a number of ways that this study can be extended in the future. First of all, more representative and bigger samples from several cities of Pakistan would enable the comparison between the various cities and demographic groups. Second, longitudinal designs would enable the determination of causal relationships between exposure to the campaign and behavior change over time. Third, content analytical research of individual campaigns (analyzing frames, images, and messages) could be used to uncover which features of a campaign are effective in changing behavior. Fourth, some experimental research that would randomly allocate individuals to different campaign formats would provide the best evidence of what works.

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