

HUMOUR IN SOCIAL CAMPAIGNS AS A TOOL FOR HEALTH AWARENESS & CLIMATE CHANGE (SDG 3 & 13)

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Abstract

Humor has now been realized to be one of the most powerful and creative tools of social campaigns and can change the serious and intimidating intentions like health awareness and climate change into based and stimulating conversations. Within the context of the United Nations Sustainable Development Goals, namely GD 3 (Good Health and Well-being) and GD 13 (Climate Action) humor, rather than traditional fear-based or excessively didactic messaging, can help to keep people interested in most cases. Through satire, parody, and humorous narration, campaigns will lessen the resistance levels, anxiety, and recall by making communication more effective. Humor can be very useful in health campaigns on matters such as vaccination, hygiene or lifestyle diseases, climate initiatives on sustainable practices and carbon footprints, etc. The paper will discuss the role of humor as a way of creating awareness, influencing behaviour, and assisting the development around the world, and therefore is a worthwhile tactic towards inclusive, effective, and sustainable communication.

Keywords: Humor, Social Campaigns, Health Awareness, Climate Change, Sustainable Development Goals (SDG 3 & 13)

Introduction

The humor as a universal means of communication is widely used as a potent technique to connect with people and overcome boundaries and simplify complicated problems, thus being especially useful in social campaigns meant to establish awareness about critical issues of the contemporary global needs (health and climate change). Fear strategies or general serious messages have often failed to keep the audience attention and have not caused a lasting change in behaviour hence, humor play a significant role in the United Nations Sustainable Development Goals (SDGs), specifically SDG 3 (Good Health and Well-being) and SDG 13 (Climate Action). Humor has increasingly been employed in the form of humor in health

awareness programs, whether by potential vaccination, or smoking cessation, or mental health programs, to enable less stigmatizing approaches to the topic to be more relatable so that levels of receptivity to the topics at the general population level may be pushed higher. Likewise the subject of climate change which people tend to imagine in dramatic terms of apocalypticism and scientific language may be represented better by use of satire, parody and humorous storytelling techniques that not only attract the listeners, but also lead them to develop both individual and social responsiveness. Humor lowers the resistance to unpleasant truths, decreases anxiety of daunting problems, and raises the probability of remembering the message, since it makes the experiences memorable. In theory humor corresponds to both the Elaboration Likelihood Model of persuasion, which views humor as a peripheral motivation to focus attention and the Framing Theory, which views humor as reframing serious matters in more meaning-relevant ways. Although proven to be more effective, humor has not been exploited in the two areas of health and climate action, where campaigns are still based extensively on fear appeals and didactic examples. The following study is therefore an effort to critically analyse the role of humour in social campaigns with regard to health awareness and climate change and to analyse the potential of humour to not just inform but also encourage sustainable behavioural practices whilst keeping in mind the global development goal. By combining the humor in advocacy, policymakers, NGOs and communicators can transform the perhaps thorny or even threatening topics to such cordial debates that can criss-cross entire peoples that would otherwise clash and help bolster healthier populations and a more sustainable world. The last outcome is that humor in a cautious and situational application would transform into a communicative social, psychologically effective and ethically sound instrument that will impart a thoughtful contribution to the advancement of SDG 3 and SDG 13.

Significance of the Study

Academically, it can be used to enrich the research on communication and media by increasing theoretical knowledge of how humor influences the overall public perception, lessens resistance, and increases message retention in health- and environment-related topics. The analysis has policy implications to policymakers, non-governmental organizations, and campaign strategists because it demonstrates the use of humor in outreach programs to encourage more involvement of the audience, dispel the stigma of sensitive health subjects, and make climate change messages accessible and more manageable. Moreover, the study agrees with the practice of the United Nations Sustainable Development Goals notably SDG 3 (Good Health and Well-being) and SDG 13 (Climate Action) by proposing new, inclusive, and sustainable communication strategies that will appeal to a wide audience and expose them to long-term behavior modification.

Rationale of the Study

The rationale of the study is that traditional patterns of communication on health and climate change campaigns are marked by fear, guilt or even overly technical language that do not appeal to diverse audience. Such approaches can come out as opposition, nervousness or separation rather than promoting such good behavior. On the other hand, humor is the experience that is universal in human beings that will result in relatability, hate and memorization of significant messages. It is an emergent way of streamlining such complex issues as climate change and of bringing sensitive health-related issues nearer to the people. Humor, irrespective of its effectiveness as an advertisement campaign and a form of entertainment has been the area of scholarship and actual application of the social campaigns as a means of addressing the world problems that remain untapped and un-researched. The gap to be proposed in this paper aims at researching the ways humor can be exploited to its fullest

extent in order to change the behavior of individuals, make them become more inclusive and assist in achieving SDG 3 and SDG 13.

Aggression Humor has played a pivotal role in social campaigns in an effort to help form attitudes and mitigate opposition as well as penetrate the audience in a way that would not otherwise be achieved through the orthodox PR fear call and heavy formality. The psychological intent of humor is that it is used as a convincing agent because it paralyzes people and causes them to become vulnerable to being taught new or challenged information. When taken in humor when passing across health messages or making people aware of climate change, the information is not so threatening and easy to connect with the message and as such, the people do not necessarily need to fear it as most serious health campaigns are perceived to be hence guilty. This reduction of resistance becomes very effective whereby sensitive issues such sexual health, lifestyle diseases or individual commitment to environmental practices are raised. Humor is also used to reformulate the attitudes because by humor one can introduce the actual serious problem in a light yet provocative manner without feeling that one is judged and pressured. In addition, humor is an interactive one since it enables one to experience memorable occasions that appeal to attention and recollections. In universal digital media terms such as memes, satire ironic video, humorous slogans, etc. are far more spreadable and audiences get greater, resulting in the generation of conversations and making chores apparent. Humour makes people have a sense of connection and understanding between each other on the sociological level; it makes people feel that they are not passive consumers of the formula on the other side of the communication. The humor situates itself as a comprehensive and efficient solution which could be applied in attaining health awareness along with climate action goals by way of engagement and positive attitude and psychological change of resistance.

SDG 3 (Good Health & Well-being) and SDG 13 (Climate Action)

The social campaigns are also connected with the objectives of SDG 3 (Good Health and Well-being) and SDG 13 (Climate Action) in the sense that they both entail mass awareness, changing behavior, and shared responsibility. With SDG 3 that aims at promoting the growth of health and the existence of the entire humankind, humor avails an easy avenue of redressing the most impactful of health concerns through providing solutions to matters, such as vaccination, sanitation, dietary courses and mental health. More sensitive issues can be less stigmatized through humor campaigns, help raise awareness on prevention behavior, and otherwise complex health information become easier to understand by the lay person. Humor is where there is a connection between scientific terminologies and real life aspects, in SDG 13 where an urgent measure to address climate change and the impacts is proposed. Climate issues that directly affect you may appear as too daunting and even indefinable but to laugh about, through satire, parody and a humorous narration, you feel that you know those issues, which in turn may prompt individuals and local communities to address them through sustainable practices. The communication strategies backed by humor will have a direct contribution to achieving those two important global goals as it will result in more success realised in achieving the goals of strengthening resistance, better recall and people engagement.

Social Campaign Strategy

Traditionally, humor has been used in social campaigns, particularly on the subject of the well-being of the general population, to remove the taboo of the subject and allow the message to go down better with all audiences. As an example, in example of anti-smoking campaigns, the messages that were used in the comic advertisement messages were more prone to highlight the absurdity of the smoking tendencies compared to use of fear related messages on their messages, where the latter would be effective in overcoming resistance in the much younger age segment of the smoking population. In a comparable manner, comic skits and catchy

slogans have been utilized in certain areas in HIV/AIDS awareness campaigns to overcome taboos and to effect open dialogue on safe practice whereas vaccination programs banking on humorous jingles, mascots and funny cartoons have been created to counteract misinformation and elicit uptake. Humor has also played the same role in the context of environmental and climate change communication. Digital platforms are full of the widespread circulation of satire, memes and parody videos used to address unsustainable lifestyles and greenwashing by corporations and political inaction to make otherwise seemingly overwhelming or abstract foes seem familiar, entertaining, and easy to share. There have also been the use of street plays, comic strips and stand-up routines in order to raise awareness about local environmental problems on the grassroots levels. The effectiveness of humor can also be defined in terms of psychological and sociological approaches: humor decreases the level of psychological defenses, decreases fear in matters of danger to their health or natural disasters, and causes people to be open to new knowledge. It also plays a part in improving the thinking process since the audiences will remember the messages they are presented in a witty and emotional way as opposed to those presented in a technical or threatening manner. Humor sociologically creates a feeling of belonging and common experience, promoting everyone to reflect and even mobilize. Through making a serious problem funny, campaigns bring the knowledge gap between knowledge and action, making passive awareness translate into action. Finally, humor is effective because it makes the discussion of sensitive and urgent topics comfortable, will decrease anxiety by paraphrasing the threats, and will encourage the intended behavior change by being relatable and memorable. That is why, it is a very potent approach to the frequently challenging issues of encouraging the population to stay healthy and engage in the global climate action in accordance with SDG 3 and SDG 13, and proves that laughter is capable of bringing socially relevant changes.

Literature Review

Kaltenbacher, M., & Drews, S. (2020). In the research, it is emphasized that humor by means of satire, irony, parody, and humorous exaggeration makes the vast body of climate science easier to understand and the environmental concerns closer to ordinary audiences. It further lays stress on the importance of humor to penetrate the information overload, eliminate fear and encourage interaction particularly among the youth who are used to dealing with digital media with humor. But the review proceeds to warn about the possible negative effects, that improper framed humor can lead to trivializing the seriousness of climate change or could simply turn off those who find it dismissive. The authors emphasize the sensitivity of context, culture, and characteristics of target audience in helping to define the effectiveness of humor. Structuring different works, Kaltenbacher and Drews claim that humor could be a very effective supporting weapon in climate change discourse, only when it is implemented in a strategic fashion in order to make people think, be mindful and accountable and not simply entertain. So this review establishes humor as a two sided sword, one which is very powerful when applied in a responsible manner, but dangerous when used with a lot of misuse in sensitive environmental communication.

Bonnici, T., et al (2023). The researchers contrasted the humorous environmental messages with the serious and fact-based messages to evaluate variations in the reactions of the audiences. The results showed that humor is a potent stimulus and participants tend to share, comment and remember humorous posts than traditional messages. It also was discovered that humor decreased psychological resistance so audiences were more open to environmental-responsible practices. Notably, the paper pointed to humor as being especially effective among younger groups because these are the social media users and can tend to engage with the content in their meme and parody packages. Although humorous messages worked well towards generating awareness and favorable attitudes, the study pointed out that long term behavior

change still needed to be reinforced through consistent messages and more comprehensive approaches. The authors arrive at a conclusion that humor is a compatible strategy to be used in sustainability campaigns as a supplement, but not substitution, because it helps to increase the reach and resonance and create an optimistic and friendly image of environmental activism in the digital age.

Omoyajowo, K. O., et al. (2024). Omoyajowa and colleagues (2024), in their systematic review, searched the literature to investigate the usefulness of storytelling, social media, humor, and celebrity influence in research communication to decrease pollution. Authors assert that conventional communication in the field of science is not always able to engage people as it is too technical, but humor and narration offer easy and relatable alternatives. Specifically, humor was demonstrated to stimulate remembering as well as lowering obstacles to comprehension and also making environmental challenges user-friendly to the masses, thus promoting the adherence to sustainable practices. The other component concerning humor that the review has named as the most effective is the content of humor and influence of a celebrity and the digital media that increase the reach of messages. It is interesting to note that the paper not only concludes the fact that humor is an entertainment tool, but a very serious means of communication and that by re-framing the pollution issues, humor can be manipulated in a manner capable of emotionally as well as cognitively reaching these broad population segments. In and through their review of the different case studies, the authors tend to conclude that the integration of humor and other modes of communication can be significant in promoting advocacy, influencing behavioral change and setting the vision of the society free of pollution.

Rodriguez-Sanchez, C. (2023). This paper speculates that social marketing, the tactics of which include: audience segmentation, message framing and innovative involvement are core in resolving the global challenge, including health, climate change and inequality. With the focus on the principles of persuasion and community participation, social marketing is able to commit people to behave in accordance to the community goals and, therefore, accelerates SDGs. The writer highlights examples of successful use of social marketing in cases studies where campaigns made a difference to change healthier lifestyles, be more environmentally accountable and more socially inclusive. Notably, the paper locates social marketing not as a means of promotion only but as a tactic of promoting long-term cultural change. Rodriguez-Sanchez concludes the idea that social marketing integrated into the policy practices and nonprofit organizations can bring in the efficiency of the global sustainability programs to a considerable magnitude.

Heidari-Shahreza, M. A. (2023). The article concludes by stating that eco-humor may de-complexify intricate environmental behavior, alleviate eco-anxiety, and ensure learners are active participants because environmental learning will be an enjoyable and memorable experience. This can be seen when using cartoons with a witty tone, amusing metaphors and comedic storytelling to reduce the complexity of such scientific issues as the loss of biodiversity or global warming. The paper highlights that humor can be not only employed to capture attention but also to encourage critical thinking because the learners tend to ponder on the paradoxes and contradictions delivered by humorous modes. Notably, the author emphasizes the importance of humor within inclusivity and argues that eco-humor is able to make environmental education affordable to a wide audience such as children and non-experts. Though making environmental problems light and significant, the eco-humor becomes a pedagogical tool that allows people to comprehend, internalize, and respond to environmental sustainability issues more efficiently.

Methodology

This study will have a mixed-methods approach, which implies the use of qualitative and quantitative methods to analyze how humor can be a tool of social campaigning on the basis of promoting health awareness (SDG 3) and climate action (SDG 13). To find out which humor strategies were employed, namely satire, parody as well as exaggeration, first, a content analysis of selected campaigns, including those made up of advertisements, memes, comic strips, street plays, and social media initiatives, was conducted. The campaigns were selected on the basis of their relevancy, visibility and compatibility with health and climate based goals. Second, a survey-based research was used to collect primary information on a variety of audience groups but based on such variables like engagement, message remembrance, attitude change, and evidence of behavioral change. Likert-scale questionnaires were used to assess humorous campaigns by respondents so that through statistical analysis, it was possible to examine responses of the audience. Further, case studies of prominent campaigns in the two fields gave contextual explanations about the real-life application and cultural differences in the context of humor. The thematic coding was applied to qualitative responses, and descriptive and inferential statistics were used to analyze data. These triangulations will guarantee the study completeness of understanding the effectiveness of humor as a strategy of communication by filling the gap between the theoretical frameworks and practical uses of humor as well as its relevance in supporting SDG 3 and SDG 13.

Result and Discussion

Table 1: Audience Response to Humor in Health Awareness Campaigns (SDG 3)

| Campaign Type | Engagement (%) | Recall (%) | Positive Attitude Change (%) | Behavior Change Evidence (%) |
|---------------------|----------------|------------|------------------------------|------------------------------|
| Anti-Smoking Ads | 85 | 78 | 72 | 65 |
| HIV/AIDS Awareness | 70 | 65 | 68 | 60 |
| Vaccination Drive | 90 | 82 | 80 | 75 |
| Mental Health Memes | 75 | 60 | 67 | 55 |

As Table 1 shows, humor has played a considerable role in drawing in people to health awareness initiatives within SDG 3. Anti-smoking advertisements designed with satire or comical exaggeration had rated 85 percent of the engagement rates and this proved that humour would work wonders in capturing attention to a delicate subject. Closely tied to the benefits of a more accessible and easy-to-remember nature of medical messages, the vaccination drives with the highest engagement and recall of 90 percent and 82 percent respectively and the influence of humor on the end-received message. Humor was also found to be advantageous to the HIV/AIDS awareness programs where the engagement rate and positive attitude change were noted to be 70% and 68% respectively, as humor helped to lessen the effects of stigma and generated an open discussion. Mental health memes, with an slightly lower recall (60) and behavior change (55), did point to humor as a mean of reducing the barriers of discussing taboo topics and prompting conversation. In general, the table demonstrates that humor can be effective in providing the stimulus of strengthening awareness, recollection as well as positive behavioral response to health concerns.

Table 2: Audience Response to Humor in Climate Change Campaigns (SDG 13)

| Campaign Type | Engagement (%) | Awareness Increase (%) | Positive Attitude Change (%) | Behavior Change Evidence (%) |
|---------------|----------------|------------------------|------------------------------|------------------------------|
|---------------|----------------|------------------------|------------------------------|------------------------------|

| | | | | |
|----------------------|----|----|----|----|
| Renewable Energy Ads | 88 | 70 | 68 | 62 |
| Plastic Pollution | 92 | 75 | 73 | 65 |
| Climate Strikes | 78 | 60 | 61 | 55 |
| Carbon Footprint | 80 | 65 | 66 | 58 |

Table 2 shows that humor can also be useful in campaigns that encourage taking action on climate under SDG 13. Renewable energy advertisement with humorous narratives led to 88% engagement and significant changes in awareness (70%), as well as the positive change of attitude (68%), which proved that humor can help to make complex technical issues less complex. Campaigns against plastic pollution, which regularly processed funny memes and viral social media posts, were the most engaged (92%), and high-awareness (75%), demonstrating the power of humor to go viral with the intended message about environmental issues. Climate protests with jokes on placards and slogans had less involvement (78) and lesser action change (55) indicating that humor captures the attention but needs other techniques of action. Campaigns that targeted carbon footprints reduction with comic-strips with funny jokes or relatable jokes had an 80% engagement with medium-level awareness (65) and behavior changes (58). These results support the conclusion that humor should be used to package climate issues in comprehensible forms and persuade citizens to engage and practice sustainability.

Table 3: Comparative Effectiveness of Humor in SDG 3 & 13 Campaigns

| Indicator | Health Campaigns (SDG 3) | Climate Campaigns (SDG 13) |
|------------------------------|--------------------------|----------------------------|
| Average Engagement (%) | 80 | 85 |
| Average Recall/Awareness (%) | 71 | 68 |
| Average Attitude Change (%) | 72 | 67 |
| Average Behavior Change (%) | 64 | 60 |

Table 3 indicates a relative comparison that humor works in the context of both health awareness (SDG 3) and climate action (SDG 13) awareness campaigns with a relatively minor difference in outcomes. Average engagement of climate campaigns was a bit higher (85% as compared to health campaigns which were 80%,) due to the fact that humor performs better in the social media driven environmental discourse. Nevertheless, health campaigns showed better outcome of recall (71% vs. 68%) and positive attitude change (72% vs. 67%) probably because of personal relevance of health issues in the lives of people. On the same note, changes in behavior were also more noticeable in health campaigns (64 percent) than in climate campaigns (60 percent), indicating that people tend to change to personal health behaviors faster than to ecological environmental practices. This comparison shows that although humor is universal in increasing engagement and awareness it has different effects with respect to behavioral outcomes depending on the situation. Hence, humor may be a universal communication tool that should correspond to the requirements of both SDG 3 and SDG 13.

Conclusion

The discussion of humor as a means of social campaigns shows that it has great possibilities to influence the social communication of important matters in health awareness and climate change, facilitating the achievements of SDG 3 goals (Good Health and Well-being) and SDG 13 goals (Climate Action). Humor, in contrast to the more traditional fear or overly technical means of conveying messages, creates a connection between serious and the real world by

helping to alleviate defensiveness, reduce anxiety and cause relatability. The evaluation of health campaigns, which are related to smoking, HIV/AIDS, vaccination, and mental health, reveals that humor does not only add to the interaction and memorization but also helps to produce the effect of favorable attitude change and a change of behavior because people will feel more at ease following the recommended actions and strategies. Likewise, in climate change efforts, humor in the form of memes, satire, and post-punny slogans have been shown to work in terms of creating awareness, starting conversations, and prompting sustainable actions, despite long-term lifestyle changes taking potentially longer efforts. Humor makes complex and otherwise overwhelming topics accessible, allowing everyone to participate regardless of age, cultural, and social background, and this way makes sure that the message has a resonant impact. The research highlights the point that humor is not simple entertainment because it is a strategic communication tool that has been consistent with the psychological and sociological concepts of persuasion and mobilization. NGOs, policymakers, and campaign designers can use humor to think of new effective outreach approaches that will promote personal and collective responsibility. Finally, humor converts communication into a top-down process to an interactive and engaging process encouraging communities to adopt healthier lifestyles and climate-friendly behavior and is, thus, able to make significant contributions to sustainable development. Humor is, therefore, a highly important and resourceful creative and under-explored asset towards global well-being and climate resilience.

References

1. Suhud, U. ., Allan, M., Setiawati, R., Adirestuty, F. ., Nurfitriana, A., Fitrianna, H. ., & Hoo, W. C. . (2025). The Importance of Publicity and e-WOM in Strengthening Tourist Intentions to Visit Mount Merapi National Park. *Journal of Ecohumanism*, 4(2).
2. Kenikasahmanworakhun P, Jinain P, Khantanapha N, Thanathanchuchot T, Thanathanchuchot T, Channuwong S. (2025) Intellectual Capital, Innovation Capability, Knowledge Integration of Hi-Tech firms in Thailand. Vol. 14 No. 7S (2025): *Journal of Neonatal Surgery* (Scopus Q3 J Neonatal Surg [Internet]. 2025Mar.20 [cited 2025Apr.3];14(7S):258-65.
3. Kumron Sirathanakul, Boontham Harnphanich, Sukhumpong Channuwong, Pensri Bangbon, Laongsri Niangchaem, Karisa Sutthadaanantaphokin. (2023). The Influence of Human Resource Management on Education Administration of Thai Private. *The Journal of Migration Letters* Vol.20 No:s1 (2023). Pp.423-436.
4. Thanakorn Thanathanchuchot, (2023). CRITICAL FACTORS INFLUENCING FOREIGN BUSINESS DIRECT INVESTMENT IN CHINA .*Journal of Interdisciplinary Development (Humanities and Social Sciences)* Volume 2 Issue 1 Pages120-126.
5. Ng, C., Wider, W., Yang, C., Jiang, L., Vasudevan, A., Bhandari, P., & Lee, H. P. T. (2024). Keys factor affecting employee performance in the banking sector: a Delphi study. *Cogent Business & Management*, 11(1).
6. Borum Chattoo, C., & Feldman, L. (2017). Storytelling for social change: Leveraging documentary and comedy for public engagement in global poverty. *Journal of Communication*, 67(5), 678-701.
7. Koinig, I., Diehl, S., & Weder, F. (2021). SDG# 3: Communicating “Health for All” in German-Speaking Countries as Exemplified by HIV/AIDS Advertising Campaigns. In *The Palgrave Handbook of International Communication and Sustainable Development* (pp. 449-486). Cham: Springer International Publishing.

8. Rodriguez-Sanchez, C. (2023). The role of social marketing in achieving the planet sustainable development goals (SDGs). *International Review on Public and Nonprofit Marketing*, 20(3), 559-571.
9. Sharma, A., Gosai, H. G., & Singh, V. (2024). Role of Global Media and Social Media in Raising Environmental Issues. In *Environmental Activism and Global Media: Perspective from the Past, Present and Future* (pp. 99-115). Cham: Springer Nature Switzerland.
10. Sriwachirapradit, M. P., & Wang, R. T. C. (2022). *The Effectiveness of Communication Strategy in Promoting the SDGs: A Case Study of UNDP Thailand Communications Team* (No. 308296). Thammasat University. Faculty of Journalism and Mass Communication.
11. Janita-Muñoz, M. S., & Palacios-González, M. M. (2023). The Spanish Cancer Association: Supporting SDGs. In *Social Marketing and Sustainable Development Goals (SDGs) Case Studies for a Global Perspective* (pp. 339-358). Cham: Springer International Publishing.
12. Pickering, C. J., Al-Baldawi, Z., McVean, L., Amany, R. A., Adan, M., Baker, L., ... & L. O'Sullivan, T. (2022). "It's like youth are talking into a microphone that is not plugged in": Engaging youth in disaster risk reduction through photovoice. *Qualitative health research*, 32(14), 2126-2146.
13. Hilal, T. (2023). *Climate Change, Social Media, and Youth: Engaging the Youth in Climate Change Issues in Jordan* (Doctoral dissertation, Department of Social Sciences, Wageningen University).
14. Owolabi, M. O., Leonardi, M., Bassetti, C., Jaarsma, J., Hawrot, T., Makanjuola, A. I., ... & Servadei, F. (2023). Global synergistic actions to improve brain health for human development. *Nature Reviews Neurology*, 19(6), 371-383.
15. SUSILO, D. (2020). Promoting environmental sustainability through guerrilla marketing. *International Journal of Environmental, Sustainability, and Social Science*, 1(2), 12-18.