

COMMENTARY **OPEN ACCESS**

# Hidden Persuasion: Big Alcohol's Tactics on Social Media

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## ABSTRACT

Alcohol marketing is harmful as it increases the consumption of alcohol, age of initiation of alcohol and hazardous drinking patterns. Dark nudges and sludge are behavioural economics techniques used to exploit cognitive biases to manipulate consumers to make decisions that are not in their best interest. These have previously been described in alcohol industry corporate responsibility materials and in digital tools and apps funded by the alcohol industry and are potentially being used in alcohol advertising including on social media. Dark nudges and sludge are potentially very influential within digital environments due to the potential for targeted advertising, the ubiquity of smartphones, the pervasive use of social media and the nature of the marketing, which is often difficult to identify. This commentary provides background information about the use of dark nudges and sludge on social media platforms, outlines key concerns in this space for critical health researchers, and outlines some future research directions for examining the alcohol industry's use of dark nudges and sludge in digital environments, including social media.

## 1 | Dark Nudges, Sludge and Big Alcohol

Dark nudges and sludge are tactics that exploit cognitive biases to influence choice, increase sales of a harmful product, such as alcohol, and subvert health information to misrepresent the evidence on alcohol harms [1]. Dark nudges and sludge are techniques that can exploit cognitive biases in human information processes to manipulate consumers to act against their best interests [1, 2]. Dark nudges and sludge may restrict consumer autonomy to make informed choices [2], as well as change consumer behaviour by mixing facts with inaccurate information, social norming, the position and presentation of products [3], omission, priming, stimulus incompatibility between wording and images and more [1]. 'Sludge' uses cognitive biases to make psychological resistance more difficult. By promoting instinctive decision-making based on unconscious shortcuts prone to biases and mistakes (heuristics), these practises can lead to harmful automatic decision making [1]. For example, alcohol companies have been found to use dark nudges and sludge to subvert health information in corporate social responsibility

material and to ensure it has little to no influence on consumer drinking decisions [1]. Dark nudges and sludge that rely on exploiting cognitive biases are, by definition, obfuscated and 'unseen' by consumers and therefore raise critical questions about autonomy of choice.

Alcohol industry marketing is harmful as it increases the consumption of alcohol [3], age of initiation of alcohol [3–5], amounts of alcohol consumed [4, 6] and hazardous drinking patterns [7, 8]. Research on how the alcohol industry uses dark nudges and sludge has focused on corporate social responsibility materials. Petticrew et al. [1] discuss several key types of tactics deployed by the alcohol industry within these materials. One tactic is social norming, which has frequently been used in alcohol marketing [1]. Social norming involves the alcohol industry framing consumption of their products as normal or culturally expected, nudging consumers towards purchasing their products [1]. Another tactic employed by the alcohol industry is positioning and presentation strategies, which increase the visibility and prominence of their products, such as positioning

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drinks prominently and in favourable settings. Alcohol companies, for example, might use salience bias, which creates visual prominence using brightness or colour, or middle bias, which creates visual prominence by placing products in the middle of images or videos, in social media advertising to make their products stand out to consumers. Positioning and presenting can also be used to encourage inertia and make psychological resistance more difficult. For example, information about alcohol harms can be positioned and presented on products in a way that is inaccessible for consumers or hard for them to understand by using small font or difficult-to-read colour combinations [1].

Priming is another key tactic employed by the alcohol industry. Priming is a cognitive bias that exposes individuals to stimuli capable of unconsciously shaping their decision-making processes or attitudes [1, 9]. Alcohol companies work to prime consumers towards adopting beliefs and behaviours that are not in their best interest [1], for example, by offering verbal and pictorial cues to consume alcohol. The use of smiling faces in advertising campaigns is a key example of priming [1]. Roy-Highley et al. [10] found examples of priming in alcohol industry-funded tools which depicted happy social drinking situations alongside text discussing the health risks of alcohol. When marketing primes consumers, it can bypass rational decision-making to influence behaviour [9].

While alcohol companies have been found to use dark nudges and sludge tactics in corporate social responsibility materials [1], and apps to subvert health information to misrepresent the evidence on alcohol harms [10], the issue extends beyond these channels. Alcohol brands are likely to be using similar strategies in advertising and promotional content across social media platforms, including Instagram, TikTok, YouTube and Facebook. Given social media is increasingly utilised for advertising by alcohol companies [11], it is critical to begin to investigate and conceptualise these practises online.

## 2 | Dark Nudge and Sludge and Alcohol Advertising on Social Media

Exploring dark nudging and sludge is important as alcohol companies use platforms such as Instagram, TikTok, YouTube and Facebook, in a way that is largely unregulated, to embed alcohol advertising into young adults' lives [1, 12–19]. The alcohol industry was an early adopter of social media marketing and by 2012 alcohol companies had achieved the highest level of user engagement compared to all other industries on Facebook [11]. Social media platforms have transformed the nature of advertising; these platforms generate and analyse large-scale personalised data to tune the delivery of online content using generative AI algorithms often based on user engagement [13, 20]. Their aim is to hold users' attention and shape emotional and behavioural responses—such as mood, desire and affect [13]. Platform systems gather behavioural data to train algorithmic models to shape user behaviour for the benefit of advertisers [21]. Advanced machine learning technology enables alcohol companies to work with social media platforms to deliver highly targeted and personalised alcohol promotions to users [13]. More specifically, this technology enables systems to alter the type, timing and placement of content within the flow of social media feeds so it

appears when the user is most susceptible to it [22]. In the case of tactics that exploit cognitive bias, these platforms have the capacity to allow alcohol companies to exploit user data and behavioural insights to influence consumption patterns in ways that are often invisible to consumers. Social media platforms already use tactics to exploit users for the benefit of various stakeholders [23, 24]. Kelly and Rubin [25], for example, found dark/deceptive patterns on social media platforms that make it difficult for users to delete their accounts.

Dark nudges and sludge on social media platforms have the potential to exacerbate inequities amongst groups already disproportionately harmed by alcohol [1]. Young people, for example, are an at-risk group in terms of alcohol consumption [11] and may be vulnerable to dark nudges and sludge because they are extremely high users of social media [13]. Some Indigenous groups are also disproportionately affected by the harms of alcohol [26] and are early adopters of new technologies [27] necessitating careful attention to the relationship between indigenous groups and advertising tactics. Heavy drinkers, identified through their online habits and patterns, are exposed to a relentless stream of alcohol-related posts and messages, which may be cues encouraging them to drink more [19]. Ultimately, the alcohol industry's deployment of dark nudges and sludge on social media platforms may represent a new frontier of digital manipulation that has the potential to undermine people's autonomy and exacerbate existing inequalities in alcohol-related harm. Further research is needed to unpack these tactics and inform effective policy and legislative discussions by engaging policymakers, public health agencies and advocacy organisations working on alcohol harm reduction.

An overarching concern is that alcohol marketing, including on social media, around the world remains largely unregulated apart from a handful of countries. Russia, Lithuania, Thailand, Vietnam and Norway have introduced policies which limit digital or physical forms of alcohol advertising, and some Islamic countries have banned alcohol marketing for religious reasons [11]. While there may be alcohol industry voluntary/self-regulation advertising codes or platform policies and partnerships [28], for example, which attempt to limit young people's (under legal purchase age) exposure to alcohol advertising, industry self-regulation is ineffective because it fails to prevent exposure to harmful content [11]. The use of tactics that exploit cognitive biases by alcohol companies, coupled with the almost complete vacuum of regulation in the social media environment, raises critical questions about the nature of these practises that need to be explored empirically.

## 3 | Future Research Directions

Research examining alcohol companies' use of dark nudges and sludge on social media is needed. Building this field of research requires a multi-pronged approach including developing an understanding of how alcohol companies employ dark tactics on platforms, engaging with the users of these platforms to explore how they experience dark nudges and sludge and any impacts on drinking. One such approach that can be used to examine these concerns is participatory science where research is carried out by and with participants

[29]. Participatory approaches, where research is carried out by and with participants [29], enable researchers to ground understandings in people's online worlds and explore and elucidate alcohol industry dark practises as experienced by people who themselves are targeted. Within these participatory approaches, it is important to design research that explores the potential inequities in exposure to dark nudge and sludge tactics and engage with groups that are disproportionality affected by alcohol harm. It is also important to consider possible unintended risks of using participatory approaches. For example, while participants' exposure to alcohol advertising is expected to be similar to their usual social media use using such approaches, participating in the research could temporarily influence advertising algorithms. Researchers must also consider the potential that through taking part in the research participants may seek out online spaces that could be unsafe or problematic, and find ways to mitigate this risk.

While current social science and public health theory of marketing operations have started to consider targeted personalised content on social media [13], how unhealthy industries exploit human cognitive biases within the digital world is omitted from such conceptualisations. The urgency to examine these practises has intensified within the context of a rapidly changing digital world. Virtual reality-based internet environments, for example, which have the potential to strengthen the effectiveness of dark nudges and sludge, are currently being developed. This is particularly concerning given the lack of regulation around alcohol advertising in digital—and particularly social media—environments. It will also be important to consider and explore if dark nudges and sludge are being used in other types of alcohol advertising on social media including online influencers, user-generated content and in other digital environments, such as metaverses, apps and online games going forward. Research is also needed to extend theory in this space and to develop a robust field of enquiry so that we can identify dark nudges and sludge and enable governments to enact effective policies and interventions that reduce exposure to alcohol harms.

## 4 | Conclusion

The potential for alcohol companies to exploit consumer cognitive biases through dark nudges and sludge on social media warrants urgent research to understand the extent and implications of these practises. Dark nudges and sludge exploit cognitive bias and are 'unseen' by consumers raising critical questions about autonomy of choice, are potentially being employed on social media where users are algorithmically targeted by alcohol content which is largely unregulated and these dark tactics have the potential to further exacerbate alcohol health inequities and disparities. Research is required to examine what types of tactics are being deployed, in which ways and how users experience these including the impacts they have on drinking behaviours. Research in this space is at a critical juncture, especially given the potential for artificial intelligence tools to augment the design (e.g., GenAI) [30] and targeting of such content, the rapid development of new virtual reality technologies and platforms, and the potential for dark nudging and sludge to covertly and exploitatively change consumer behaviour.

## Author Contributions

Each author certifies that their contribution to this work meets the standards of the International Committee of Medical Journal Editors.

Georgia McLellan conceptualised the commentary, designed its framework, and drafted the initial manuscript. Dr. Antonia Lyons, Dr. Acushla Sciascia, Rawiri Nicholls, Nason Maani and Dr. Taisia Huckle, contributed substantially to the conception and design of the work, revised the manuscript critically for important intellectual content, and provided domain expertise throughout the development of the commentary.

All authors reviewed and approved the final version of the manuscript and agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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## Conflicts of Interest

The authors declare no conflicts of interest.

## Data Availability Statement

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

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