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Mini-Review

Engaging Youth to Address Misinformation Pertaining to E-Cigarettes: Youth Participation in the Research Process

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Abstract

The electronic cigarette industry has been able to successfully reach youth across multiple platforms, including on social media. With the industry targeting various channels, youth are bombarded with a variety of information on e-cigarettes. On top of this, the industry was recently able to influence an academic journal by sponsoring a special issue. The information highlighted by these published studies may make it even more challenging for youth to conceptualize the true harm these products may pose. It may also further reduce the trust that youth have with evidence-based information generated by academia. In order to address these challenges, this article highlights youth-led strategies that the Current Research in Psychology and Behavioral Science may consider to reduce misinformation and the industry's impact on academia.

Introduction

The electronic cigarette (e-cig) industry is known for its aggressive marketing programs targeting vulnerable youth [1]. E-cigs are available in a variety of flavours, including fruit and chocolate, which increases the desirability of these products [2,3]. The attractive promotion of e-cigs, coupled with the availability of desirable flavours can make it challenging for youth to conceptualize the harm these products pose to their wellbeing. Academia, in addition to other identified methods, may be helping e-cig industries in promoting e-cigs by publishing research papers with known conflicts of interest [4]. Although teens use e-cigs for different reasons than most adult users, they are often the targets of the e-cig industry resulting in a recent and rapid rise of their use [1-3]. We propose increased involvement of youth in the research and peer review phase of scientific publications relating to e-cigs through the formation of a Youth Advisory Committee (YAC). This advisory committee may be helpful when reviewing the appropriateness of studies on e-cigs.

Methods of Misinformation Promotion

Academic journals

Recently, it was discovered that the e-cig industry was able to influence an academic journal, specifically the American Journal of Health Behaviour (AJHB), by sponsoring a special journal issue [4]. This highlights the far reach of the e-cig industry by its ability to influence academic publications and public perceptions of its products. Furthermore, it showcases the unsettling idea that several of the existing academic publications on e-cigs may be industry-influenced and therefore positively biased towards the use of e-cigs. The articles that were published in AJHB may persuade youth, as data from these articles can be cited and shared as evidence-based, into believing that e-cig use is safe. Additionally, the industry's impact on the academic literature may tarnish the trust that youth have in academic information. This may make it even more challenging to engage and disseminate evidence-based information among youth in the future. Furthermore, it was found that e-cig industry-funded research is less likely to find harm with e-cig use, while almost all research papers without a conflict of interest found potential harmful effects [5]. This highlights the ability for academic information to be influenced by private interests.

Social media

Although most youth may not be actively reading academic journals as their primary sources of information, many proponents of e-cigs are using research publications in favor of e-cigs to strengthen their pro-vaping stances on social media platforms such as Twitter, Facebook, or Instagram, all of which are frequently accessed by youth [6]. A recent study [6] analyzed 4,432 vaping-related tweets on Twitter and found that conversations about vaping generally encourage the use of e-cigs. The study also found a small number of pro-vaping public health professionals, researchers and academics skewing the conversation, and referring to e-cig use as a socially acceptable practice [6]. Advocates for e-cig use often selectively cite scientific papers, using certain pro-vaping papers to strengthen their arguments while discrediting papers opposing their views. During the COVID-19 pandemic, misinformation pertaining to e-cigs has been circulated on social media platforms accessed by youth [7]. While it is not clear who is the source responsible for spreading this misinformation, it can be narrowed down either to the e-cig industry or casual social media users. Some of the misinformation contained inaccurate health claims that discussed the protective effects of e-cigs against becoming sick with COVID-19 [7].



E-Cig industry

A promotion strategy used by some e-cig companies in the United States included awarding a \$300-5000 USD scholarship to high school students for writing an essay about the benefits of vaping [8]. These students often need to conduct their own research using online forums, social media platforms, and scientific publications to strengthen arguments in their essays [8]. The essays generated by youth may be leveraged by the industry in an effort to continually promote e-cigs.

Public marketing

Historically, the e-cig industry has marketed its products as being harmless by highlighting the key constituent to be water vapour [9]. These messages may veer youth towards a perception that e-cigs are safe and harmless because they only contain water. Additionally, as a result of these products being marketed in general, youth may struggle to grasp the detriment e-cigs can pose to their wellbeing.

Proposed Youth Engagement Strategy

When considering the impacts of the industry on academia, the misinformation spread on social media, and marketing content, youth are bombarded with inaccurate information that encourages them to pursue the use of e-cigs. Moving forward, it is necessary to consider strategies that mitigate the spread of misinformation pertaining to e-cigs in academic literature, just one of the many methods of misinformation promotion. Recently, two authors of this paper suggested for academic journals to create accessible knowledge dissemination tools for youth as a method for combating misinformation [7]. However, the challenge of battling misinformation that can make its way into academic literature is a different issue in itself. The Current Research in Psychology and Behavioral Science (CRPBS) is a globally trusted journal. However, the journal, like all academic journals, may be vulnerable to submissions containing industry-generated misinformation. We propose that CRPBS considers battling industry-generated misinformation that may appear in the future through a multi-faceted approach promoting youth-engaged research and peer review through the form of a YAC.

The ‘Why’

Actively involving youth in research addressing their wellbeing is necessary [10]. Youth are the best knowledge holders on issues pertaining to their health and wellbeing. They can support the CRPBS to achieve its goal of disseminating relevant knowledge. Promoting the involvement of youth as valuable partners in all stages of the research process, ranging from generating research questions all the way to disseminating findings, encourages them to be engaged stakeholders while combating the misinformation concerning the usage of e-cigs. By providing youth with research opportunities and the ability to collaborate with professional researchers in this field, they may develop a clearer perspective on effectively disseminating information pertaining to e-cigs, as well as enhancing their research skills. Collaboration with youth is important as they are aware of the issues they and their peers face, and hence, provide valuable insights, allowing researchers to make far-reaching impacts within the community. Further, some youth may have more trust in research findings generated by their peers, as they may feel a greater sense of connection to how research is carried out.

The ‘How’: Youth Advisory Committee (YAC)

The YAC could consist of around 10 youth from different nations. Creating a successful YAC that best understands the diverse health needs of youth, will require the recruitment of youth from diverse backgrounds. Heterogeneous purposive sampling can be used to select youth based on age, gender, race, socioeconomic status, and education level. YAC members should receive training and mentorship from CRPBS staff and researchers on relevant aspects of the research process, including peer review, to ensure adequate preparation and confidence. Regular meetings to support their needs, answer their questions, and discuss ongoing and relevant health research themes is paramount. By creating a YAC, CRPBS’s journal staff can consult with committee members during the manuscript screening stage to understand how articles meet the health priorities of youth. Through exploring youth-identified research needs, we can reduce the ability for the industry to penetrate and disseminate their agendas and priorities; especially if there is a discrepancy between the two. Furthermore, having youth involved in the peer review process allows for them to critically analyze research using their unique perspectives and life experiences. Building on the previous strategy, the CRPBS may consider having YAC members participate in the peer review process,

where they can share their perspectives on articles alongside other content experts. This process has the potential to further increase the rigour of the submission process, while giving youth an opportunity to bring forward their concerns on manuscripts. They can leverage their experiences to highlight unique forms of misinformation they may come across and utilize those experiences to address misinformation at the manuscript level. (Table 1) below highlights specific steps to implement a YAC.

Table 1: Proposed steps to implement a YAC

Step 1	Create guidelines for YAC members, including their role and commitment. Build a space for future communication with YAC, for example, a social media page. Develop educational material - online modules and presentation slides - for YAC to use.
Step 2	Post recruitment opportunities on different social media platforms.
Step 3	Review applications and contact prospective YAC members (depending on interest, interviews might be needed as well).
Step 4	Train YAC members on the process of peer review through online modules and presentations.
Step 5	Give YAC members the opportunity to review papers and provide ongoing support to them.
Step 6	Host regular meetings and collect feedback from YAC members at different points in the year.

Potential challenges

The YAC might face a steep learning curve learning about the research process. This can be addressed by providing long-term training through creating online modules and dedicated mentorship time. Communication among youth may be challenging given the global nature of the YAC (i.e., language barriers, time zones). This speaks to the importance of having an effective communication platform, such as a group chat, and web-based interpreters readily available.

Conclusion

Ultimately, industry-generated misinformation on e-cigs is a major concern in academic literature and can negatively impact the wellbeing of youth [4-7]. By promoting youth as stakeholders in the research and peer review process by creating a YAC, we can mitigate the risk of misinformation entering academic literature. It is important to note these strategies are only a component of our approach to dismantling the spread of misinformation. Moving forward, evaluation of these strategies and further changes are necessary to stay ahead of industry-generated misinformation.

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