



An Analysis of Technology-Oriented Marketing in Vape Advertisements

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Abstract

Vaping remains a significant health concern among adolescents due to its highly addictive nature and risks to teen brain development and lung health. Today, according to the Centers for Disease Control and Prevention (CDC), about 1.63 million (~5.9%) middle and high school students engage in vaping practices, making it highly prevalent among the demographic. Despite the overall increased awareness about teenage vaping, very little research examines how vape advertisements imitate consumer technology marketing and how this framing may influence adolescent perceptions. This study contributes to filling this research gap by systematically examining twenty vape advertisements from various vape companies, such as Geek Bar, Lost Mary, RAZ, etc., for five predefined marketing characteristics: technology oriented framing, emphasis on flavor, product feature promotion, use of upbeat music, and a disclaimer of health risks. Because technology-focused advertising may encourage adolescents to perceive vaping devices as innovative consumer electronics rather than nicotine products, identifying the prevalence of these strategies is essential for understanding their potential psychological influence. Technology-oriented marketing appeared in 70% of advertisements, flavor promotion in 60%, product feature emphasis in 70%, upbeat music in 85%, and only 20% had a meaningful disclaimer. This study suggests that modern vape advertisements resemble consumer technology marketing, emphasizing design, batteries and charging, and performance features. These findings suggest that vape companies increasingly frame nicotine products as consumer electronics rather than addictive substances, potentially reducing adolescents' perception of risk through psychological framing and positive product associations. These findings contribute to understanding how contemporary vape advertising may shape adolescent perceptions and can inform future research and public health policy.

Introduction

Although the health risks of vaping are well established, adolescents continue to pursue vaping and view it as substantially less harmful than smoking traditional cigarettes. This research highlights marketing strategies as a strong source of this misconception. Modern advertising rarely embodies the anti-smoking imagery associated with tobacco. Instead, many modern vape advertisements emphasize the product's sleek design, features, vibrant displays, battery power, and colorful interfaces that resemble advertisements for smartphones or computers.

Previous studies have identified numerous marketing techniques that appeal to younger audiences. Researchers have shown that vape companies frequently use bright colors, flavors, celebrity endorsements, and "toy-like" packaging to increase product appeal. Research from Yale University found that adolescents exposed to vape commercials on social media are more likely to initiate vaping than those who are not exposed^[9]. Additional research published by the CDC and the American Lung Association concludes that flavoring, attractive packaging, and emotional advertising all contribute to increased youth experimentation with vape products^[2, 3]. Marketing is clearly an important factor in adolescent use of vape products.

While previous research has established that vape companies intentionally target adolescents through various strategies, comparatively little research has examined the extent to which these



companies imitate consumer technology marketing. This is especially relevant today because today's teenagers have grown up heavily reliant on gadgets such as smartphones, tablets, televisions, computers, etc. Technology advertisements can be seen frequently emphasizing innovation, design, battery life, and user experience. When vape commercials utilize these same strategies in their advertisements, adolescents may unconsciously form an association between vaping and technology^[6], categorizing vaping devices among harmless consumer electronics rather than addictive tobacco products.

This research also strives to explain this association through the principles of cognitive psychology. The framing theory suggests that individuals process and evaluate information differently based on the way that it is presented to them. Furthermore, the theory of classical conditioning states that when a neutral stimulus is paired with positive emotional experiences, it can create a favorable attitude towards that stimulus. This can be seen taking place in vape commercials. When vape advertisements pair nicotine products with familiar technology aesthetics, viewers may develop a positive association with the product, in turn reducing the perceived risk and increasing the overall product appeal^[5, 6].

This research was conducted under the following overarching question:

What persuasive techniques are most prevalent in modern vaping advertisements, and how might these techniques increase adolescent susceptibility to vaping?

This research was conducted with two primary objectives in mind:

Objective 1: Determine the prevalence of consumer technology marketing style tactics among vape commercials, and other strategies used to target adolescents

Objective 2: Analyze how these advertising strategies may influence adolescent perception and susceptibility to vaping from a psychological standpoint

At the initial time of research, the hypothesis was the following: vape advertisements predominantly use tactics that mask the harmful aspect of their product by minimizing references to health risk, and by capitalizing on the aspects of the product that are more relatable to teens, their target market.

The remainder of this paper describes the methods used to analyze twenty vape advertisements, presents the observed patterns within the collected data, and discusses the psychological implications of these findings in relation to existing research on adolescent advertising and substance use.

Literature Review

Previous research on youth vaping consistently demonstrates that e-cigarette companies employ a variety of marketing strategies designed to increase the appeal of their products to adolescents. An article by the Truth Initiative reveals that vape companies usually utilize youth-appealing imagery, bright colors, flavor descriptions, and toy-like packaging to appeal to the younger demographic. Similarly, the American Lung Association reports that companies emphasize attractive flavors, celebrity endorsements, and playful packaging while minimizing the perceived risks associated with nicotine use. Together, these studies suggest that vape



advertising extends beyond simply promoting a product; instead, it seeks to present vaping as fashionable, enjoyable, and socially acceptable among younger audiences. In addition to traditional advertising, researchers at Yale University studied the impact of social media on the susceptibility of teens to vaping products, revealing that teens that have seen tobacco advertisements on social media are more likely to start vaping than kids who have not.

Methods

Overarching Approach

To conduct this study, a qualitative analysis of the content of vape advertisements was utilized to examine the persuasive strategies used in modern vape advertisements. This content analysis was chosen to allow the identification of recurring strategies, themes, and patterns within the selected content. This study focused on the presentation of the vape products to the viewers and the advertising techniques most frequently used to appeal to adolescents.

Advertisement Selection

Advertisements from five leading vape companies in the United States were identified and selected for analysis. The companies are as follows: Geek Bar, Lost Mary, RAZ, Geekvape, and Vapresso. Commercials published within the past two years were located through public platforms like YouTube and the companies' official promotion channels. Of these commercials, twenty were chosen to serve as the sample for this study. Advertisements were selected based on their availability, quality, and overall focus on the vape product. Duplicate advertisements were excluded from the study.

Procedure

Each advertisement was viewed multiple times and coded according to five predetermined characteristics based on prior research:

- Presence of a disclaimer about negative health effects, age requirement, or harmful chemicals the product contains
- Emphasis on fruity flavors or the product's ability to hold long-lasting flavors
- Technology-oriented marketing (keywords or references to batteries, charging, displays, user interfaces, screens, or advanced technology)
- Promotion of product features
- Use of upbeat music or energetic audiovisual presentation

Each characteristic was recorded as either present or absent for every commercial. Additional notes pertaining to each individual commercial were also recorded when necessary.

Data Analysis

Following this procedure the frequency of each characteristic was calculated to determine how commonly each strategy appeared across the sample. Percentages were computed by dividing the number of advertisements containing each characteristic by the total number of advertisements analyzed. In addition to this quantitative analysis, basic observations allowed the identification of broader themes regarding the framing of vape devices throughout the advertisements.

Ethical Considerations

Advertising material analyzed in this study was publicly available. This study did not involve human participants or personal information. Thus, Institutional Review Board (IRB) approval was not necessary. All of the advertisements examined were used solely for research purposes.

Results

Prevalence of Marketing Strategies in Modern Vape Advertisements

What it does	Number of Ads
Contains a disclaimer about negative health effects, age requirement, or harmful chemicals the product contains	4/20 20%
Emphasizes fruity flavors or the product's ability to hold long-lasting flavors	12/20 60%
Models technology advertisements (uses terminology like screen, UI, charging, battery, colors)	14/20 70%
Focuses on the promotion of specific features of the product itself	14/20 70%
Use of upbeat music or energetic audiovisual presentation	17/20 85%
Features a person and/or multiple people engaging with the product	2/20 10%
Direct mention of nicotine or tobacco	4/20 20%

Primary Outcome

The results show that vape advertisements blur the line between substance marketing and consumer technology marketing. According to the data, 14 out of 20 ads modeled themselves after tech ads, referencing UI design, screens, batteries, charging, etc. This is very similar to what smartphone ads, gaming hardware ads, and gadget commercials do. This may reduce the perception of the product as a harmful substance and instead encourage it to be associated with technology^[6].

Secondary Outcomes

Flavor-focused advertising increases sensory appeal and masks perceptions of harm to the viewer^[7]. 12 out of 20 ads emphasized flavors, whether they capitalized on fruity flavors and cartoon fruits, the strength of the flavor, or the ability of the flavor to stay long-lasting. Furthermore, upbeat music and cinematic visuals are utilized in these advertisements in order to emotionally condition positive associations with vaping. 17 out of 20 ads used upbeat music throughout the commercial.

Analysis/Discussion

Findings

This study sought to determine the prevalence of persuasive techniques used in vape advertisements and examine how these techniques may influence adolescent susceptibility (based on previous research). The results indicate that modern vape advertising extends beyond traditional youth-oriented strategies, instead frequently framing vaping devices as sophisticated consumer technology. Technology-oriented marketing appeared in 70% of advertisements, while explicit health warnings appeared in only 20%, suggesting that advertisers consistently emphasize product innovation rather than nicotine or health risks.

- I. Contains a disclaimer about negative health effects, age requirement, or harmful chemicals the product contains (4/20; 20%)*

This relatively low prevalence of health disclaimers suggests that vape companies do not prioritize communicating the harmful nature of their product to the viewers of the commercials. Even when some commercials chose to include a disclaimer, these disclosures were typically small, brief, or overshadowed by the rest of the promotional content. This lack of emphasis on health risks contributes to reduced risk salience^[7], leading to the viewers of the advertisements to perceive the disclaimer as less significant because of the minimal attention it receives. Advertisers encourage viewers to focus on the benefits of the product rather than its potential health consequences by prioritizing the product promotion itself over the disclaimer.

**The U.S. Food and Drug Administration mandates that all commercial advertisements for electronic nicotine products display a clear warning stating that the product contains nicotine. Ads that do not have these disclaimers are usually operating illegally or posted by unauthorized vendors.*

- II. Emphasizes fruity flavors or the product's ability to maintain long-lasting flavor (12/20; 60%)

These commercials frequently emphasized the flavor aspect of the product, demonstrating that the taste remains one of the company's primary marketing tools. The majority of the advertisements highlighted fruit flavors, sweetness, and long-lasting taste rather than the nicotine content. These sensory appeals make vaping appear more similar to a product like candy than a traditional tobacco product, making it particularly more attractive to adolescents. Furthermore, by emphasizing taste rather than nicotine, advertisements may reduce perceptions of harm and instead increase product appeal.

- III. Models technology advertisements (14/20; 70%)

Technology-oriented marketing supports the central hypothesis of this study, and was one of the most common of the strategies observed. Many of the advertisements emphasized features like digital displays, battery life, charging, user interfaces, and screens using language commonly associated with smartphones and other consumer electronics. The presentation of the vape shifts the viewer's attention away from the nicotine and toward the device's technological innovation. Due to this framing, vaping devices may be perceived as less of an addictive substance and more as a modern lifestyle product^[5]. This is a relatively understudied marketing strategy and extends beyond the tactics previously identified.

- IV. Focuses on the promotion of specific product features (14/20; 70%)

A majority of the commercials emphasized specific product features such as an improvement in battery capacity, airflow control, display quality, etc. By placing an emphasis on these features, the vape companies encourage viewers to select products based on innovation and technology quality, similar to consumer technology products. The framing of this product positions it to be

evaluated for quality and convenience, instead of a nicotine product. It may also further normalize vaping by encouraging consumers to think about vapes as a device, rather than the substance it contains.

V. Uses upbeat music or energetic audiovisual presentation (17/20; 85%)

Upbeat music was the most prevalent advertising characteristic identified in this study. These energetic soundtracks created a positive atmosphere that increases viewer engagement. This strategy aligns with classical conditioning, in which positive emotional stimuli become associated with the advertised product due to the repeated exposure. This strategy fosters favorable attitudes toward the vape, relying on emotional appeal.

VI. Features a person or multiple people engaging with the product (2/20; 10%)

Only a very small proportion of the advertisements depicted real people actively engaging with the product. Instead, the majority of the advertisements focused exclusively on the product through animations, close-ups, and demonstrations. This suggests that most advertisers intend to present the vapes as an innovative object rather than emphasizing the act of nicotine consumption. Reducing the amount of real people that are featured in the commercial encourages consumers to evaluate the product in the same way that they would evaluate consumer technology.

VII. Direct mention of nicotine or tobacco (4/20; 20%)

Despite all of the products having high nicotine levels, very few of them actually referenced nicotine in their advertisements. Instead, most advertisements overwhelmingly emphasized other features such as flavors, design, battery, and innovation. This shifts the viewer's attention away from the substance itself. This also contributes to reduced risk salience, as less of the attention is directed towards the harm the product may pose. This finding further supports the study's hypothesis that modern vape advertising focuses on selling the device rather than the addictive substance it delivers.

Psychological Strategies

There are many psychological factors at play beneath these advertising strategies. The perception of the vape by the adolescent changes because of the context in which the product is presented. In fact, by emphasizing features like screens, batteries, charging, and design, as opposed to the effects it has on the user, the ad no longer seems to be about the nicotine, but about the product itself. The framing of this ad encourages the viewers to think about innovation and technology, shifting the attention away from the substance's harmful nature.

Classical conditioning also takes place in these advertisements. This effect takes place when a subject forms an association between two stimuli, forming a learned reaction. In this case, the viewer forms an association between technology, which they view positively and can relate to widely, and the vape. This makes them more inclined to engage with the vape. Similarly, when the positive sensory stimuli of the music become associated with the product, the viewer is more susceptible to trying and enjoying the substance.

Framing is the phenomenon through which people perceive and judge a product differently depending on context and the way that the product is presented to them. When a vape is presented as a traditional tobacco product alongside cigarettes, it would be perceived as dangerous, making teenagers less susceptible to it. However, since it is presented as a piece of technology, it creates a modern feel, thus making teenagers more susceptible.



Reduced risk salience is also created by these commercials. The advertisements emphasize the modern features of the vape and the flavors it contains, while rarely mentioning nicotine or the subsequent health consequences of using the product. In fact, only four out of twenty ads even contained a disclaimer about addiction/harmful effects. This makes the risk less mentally accessible because the attention of the viewer is directed elsewhere.

Comparison to Previous Research

Previous research has consistently identified flavors, colorful packaging, celebrity endorsements, and social media marketing as strategies used to appeal to adolescents^[3, 4, 8]. The present study supports these findings, as flavor promotion appeared in 60% of the advertisements analyzed. However, this study extends previous literature by identifying technology-oriented branding as another major persuasive strategy. Rather than simply advertising nicotine products, many companies market vaping devices similarly to smartphones or consumer electronics, emphasizing innovation, battery performance, displays, and user interfaces.

Limitations

This data set only examines vape advertisements across the leading brands in the USA, which may lead to minor inaccuracies. Commercials across different nations may utilize different strategies; thus, this research strictly pertains only to the United States. Additionally, all of the ads were manually examined, not through a computerized process. This may lead to some human error in this experiment. Furthermore, this study was conducted with a single coder, and thus, there is no method of checking inter rater reliability. A second coder would be necessary to verify all of the data to a higher degree of accuracy. Finally, the effect of these strategies on adolescents were concluded based on previous research; they were not tested on real adolescents, which is a limitation to the results of this study.

Considerations for the Future

The results of this research do raise some questions for the future, however. Can the same strategies be applied to adults, who are less compatible with technology, and are the same psychological factors at play? How can we regulate the marketing tactics of these companies to better prevent further harm to the adolescent population?

Conclusion

Overall, this research found that vape advertisements utilize psychological techniques to increase adolescent susceptibility to their products and to mask any perception of harm. The analysis of twenty different vape commercials revealed several trends, with the most prominent one being the emphasis on technology and innovation, highlighting features such as screens, user interface, battery life, and charging. Many of the ads also promoted upbeat music and polished visuals, creating an association between the sensory stimuli of upbeat music and vaping by classical conditioning. In contrast, very few advertisements contained a disclaimer about the harmful effects of the product, proving that most advertisements aim to draw as little attention as possible to the harmful aspect of the product.

Overall, the findings of this research suggest that vaping is not primarily advertised as a nicotine or tobacco product but is instead presented to the adolescent population as a sleek, modern piece of technology. The advertisements shift the attention away from the substance itself and toward the product's technological attributes.

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