Effect of Advertisement, Promotion, and Sponsorship on E-cigarette Consumption among the Young Adults in Bangladesh

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Abstract: *E-cigarettes have emerged as a new issue in recent times around the world. Bangladesh is also experiencing challenges, especially from the youth. This study aims to explore the association between the extent of exposure to Advertisement, Promotion, and Sponsorship (APS) of e-cigarettes and the pattern of e-cigarette consumption among youth. It also examines the difference between e-cigarette users and non-users depending on exposure to APS. To conduct this cross-sectional quantitative study, following a convenience sampling technique, 201 respondents were selected to collect data through a closed-ended survey. Descriptive and inferential analysis using SPSS software has been used to meet the objectives of this study. This study found that consumers of e-cigarette products saw significantly more APS than those who did not consume them. E-cigarette industries claim their products as tobacco cessation tools in the media, but in reality, these products are attracting customers to new forms of tobacco dependency. The influence of peers and digital marketing strategies of tobacco industries provoke young adults to start e-cigarettes in Bangladesh. For this reason, the government should implement comprehensive measures, including the prohibition of e-cigarette APS and the regulation of their market, in order to prevent their contribution to the growing tobacco burden and the onset of a new tobacco epidemic in the coming years.*

Keywords: *E-cigarette, Smoking, Advertisement, Promotion, Sponsorship, Young.*

Introduction

The global prevalence of e-cigarette consumers, commonly referred to as vapers, has been steadily rising. In 2018, globally, the number of e-cigarette consumers was 58.1 million, and the projection for 2020 was 68 million (Jerzyński et al., 2021; Tehrani et al., 2022)which requires mapping their prevalence. Collecting information on nicotine use is difficult for many countries due to cost. The objective of this study was to derive a global estimate of e-cigarette use (vaping. Another study found that between 2011 and 2013, teenage exposure to e-cigarette advertising surged by more than 250%, with e-cigarette marketing reaching more than 24 million youths around the world with 466 distinct brands and 7764 different flavours (CDC, 2020; Kmietowicz, 2014). The prevalence of e-cigarette use in low- and middle-income countries (LMICs) has experienced a significant increase, primarily linked

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to the dissemination of misleading information and marketing strategies by the tobacco industries (Azeem, 2022). To attract youth, e-cigarette industries have used a variety of paid advertising tactics, including substantial social media and promotional events using young influencers, celebrities, sports stars and musicians (American Lung Association, 2021).

E-cigarettes have captured the attention of a significant portion of the Bangladeshi population, particularly young people, who have developed a liking for and addiction to the product (Hasan, 2020). Although the GATS survey report 2017 showed that around 0.2% of people in Bangladesh use e-cigarettes, its hybrid marketing strategies have increased in popularity significantly over the past several years (Uddin et al., 2019). At the policy level in Bangladesh, the expansion of the e-cigarette market and the vulnerability of the youth to different addictions have created a critical concern. It is important to note that 66.2% of smokers in Bangladesh are considering giving up the habit, and e-cigarettes are being marketed as "a way to quit" the cigarette smoking habit, which makes the situation more complicated (Uddin et al., 2019).

Recently, studies have been conducted on the perception and attitude about e-cigarettes of certain groups, such as young or university-going students or professionals such as doctors (Hasan et al., 2020; Islam & Amin, 2021; Wipfli et al., 2020). The Tobacco Control Acts of 2005 and 2015 did not place any limitations on the import, manufacture, use, or distribution of e-cigarettes (NTCC, 2021). However, the government is preparing amendments to the existing Tobacco Products (Control) Act, banning e-cigarettes and some other related changes (The Business Standard, 2022). This study will contribute to the academic field by generating empirical data regarding the effect of APS on e-cigarette consumption in Bangladesh. The following objectives of the study are stated below-

- to identify the effect of advertisement, promotion, and sponsorship on e-cigarette consumption among young adults in Bangladesh.
- To explore the differences between e-cigarette consumer and non-consumer status depending on the exposure to advertisement, promotion, and sponsorship.

Literature Review

Electronic Nicotine Delivery Systems (ENDS) are becoming increasingly popular among the world's youth as a smoking cessation tool initially found in 2004 the world market (Hanewinkel & Isensee, 2015). The ENDS encompasses a variety of electronic cigarette instruments that are intended to be a safer alternative to tobacco consumption by utilizing battery-powered vaping devices and vape pens, as well as nicotine-containing flavour solutions (Jarmul et al., 2017). This liquid flavour solution comprises different chemicals, including glycerin, propylene glycol, acrolein, nicotine, and other chemicals that severely affect the lungs and other organs in the body (Ferkol et al., 2018). In addition, the World Health Organization (2019) published a report titled The Global Tobacco Epidemic 2019, which showed that e-cigarette ingredients

are harmful to health. On the other hand, many researchers and professionals stated that e-cigarettes are less harmful than regular cigarettes because they do not contain more than 60 per cent of well-known carcinogens (Drope et al., 2017; Pearson et al., 2012; Pepper & Brewer, 2014). However, Dutra and Glantz (2014) discovered that being a current cigarette smoker was a reliable predictor of intending to use e-cigarettes, which is consistent with previous studies that have found an association between youth cigarette consumption and e-cigarette consumption. Similar findings were found in the USDHHS (2016) report, and it was shown that e-cigarettes have surpassed traditional cigarettes as the most popular tobacco product among adolescents. The use of e-cigarettes is significantly linked to the use of other tobacco products among adolescents and young people.

In several Asian countries, selling an e-cigarette could be considered unlawful. Higher standards and better implementation of tobacco control activities were implied by more restrictive e-cigarette legislation. As one of the largest cigarette makers and market shareholders of e-cigarettes, China has yet to enact any comprehensive regulation on national-level e-cigarette marketing. Approximately 95% of all vaping hardware is made in a single China city (Jin & Jiang, 2017). Bangladesh has no explicit legal direction, especially about e-cigarettes and their advertisement, promotion, and sponsorship (APS) (Rahman et al., 2022). However, the government is preparing to amend the existing Tobacco Products (Control) Act, banning e-cigarettes and other related changes (The Business Standard, 2022).

Legal guidance is essential to govern the current circulation and consumption of e-cigarettes. The nature of the promotion of e-cigarettes is making its way faster. Therefore, a regulation that effectively controls tobacco use is required to regulate the advertising, promotion, and sponsors of e-cigarettes because elements such as advertising, promotion, and sponsorship exert a significant amount of influence over the actions of individuals (Batt et al., 2021). Advertisements shape consumer behaviour to a great extent (Rahmi et al., 2020; Zhao et al., 2022). Kim et al. (2017) found that e-cigarette advertisements can influence adolescents' opinions of smoking cigarettes, and the consequences vary depending on smoking exposure. They also explained that most e-cigarette advertisements present an alternative tool for smoking that helps to alleviate cigarette-related issues such as nasty smells, less attractiveness, and the need to step outdoors to smoke. Even anti-smoking advertising has been proven to boost non-users perceptions of e-cigarettes as being less dangerous and their probability of intention to use e-cigarettes (Hair, Kreslake, Rath, et al., 2023). The expansion of e-cigarettes, in general, is being considerably aided by Advertising, Promotion, and Sponsorship (APS). However, in the context of Bangladesh, where there is no clear regulation policy or law on this subject, it has been observed that direct and indirect advertisements, promotions, and sponsorships (APS) for e-cigarettes have been taking place. The use of social media has proven to be an efficient method for reaching the target demographic, which consists of young people. In these circumstances, this study tried to fill the gap in the existing literature and generate empirical evidence on the effect of advertisement, promotion, and sponsorship on

e-cigarette consumption among young adults in Bangladesh

Methodology

Study design

The study was conducted using a cross-sectional research design. The focus of this study has been quantitative. In similar studies, Duke et al. (2014) and Wulan et al. (2022) applied quantitative tools to ensure the objectivity and accuracy of the research data.

Variables and Measurement scale

This study established the dependent and independent variables by conducting a comprehensive review of existing literature and conceptualizing them in the following manner.

- **E-cigarette consumption**

Respondents were considered as current users if they consumed e-cigarette products once in the last six months. In addition to that, e-cigarette consumers who quit (former users) have also been considered e-cigarette users while drawing the inferences for this study. Though the success rate of more than six months of abstention from e-cigarettes is high, it does not ensure parament abstention (Gilpin et al., 1997). Only the respondents who had never consumed or tasted e-cigarettes were considered non-users in this study. The variable was measured on a three-point Likert scale (1= Never used, 2= Former users, 3= Current users). Later, current and former users were merged into a newly developed variable named User, and the previous non-user remained as a non-user.

- **Exposure to Advertisements of e-cigarette products**

This variable examines e-cigarette advertising experiences among the respondents in the last six months, which was considered in this variable, especially in online streaming sites, social media apps, communication apps, gaming apps, and random internet surfing. This variable was measured through a three-point Likert scale (1=Yes, 2=No, 3=Not Sure)

- **Exposure to Promotional events by the e-cigarette industry**

Any e-cigarette promotional events experienced by the respondents in the last six months were examined in this category, like buy-one-get-one offers, special discounts on different festivals, talent hunt events, OTT series, etc. This variable was measured using a three-point Likert scale (1=Yes, 2=No, 3=Not Sure).

- **Exposure to Sponsorship events by e-cigarette products**

This variable probes the extent to which the respondents were exposed to e-cigarette promotional events like concerts, social action projects, celebrity shows, T-shirt designs, lighter designs, and other fashion accessories. This variable was measured using a three-point

Likert scale (1=Yes, 2=No, 3=Not Sure).

The setting of the study

The study was conducted in Dhaka city, the capital city of Bangladesh, as the inhabitants of this area are relatively economically capable of and have more access to the supply of e-cigarettes. The timeframe of this study was between August 2021 and January 2022. All activities related to this study, namely problem framing, data collection, and report writing, have been conducted within this period.

Figure 1: Study Area map

Participants of the study

People who heard of or saw APS of e-cigarettes and current e-cigarette consumers aged 18-35 years are the population of this study. According to The GATS Survey 2017, people aged between 15 and 35 are the biggest tobacco-consuming group in Bangladesh (Bangladesh Bureau of Statistics, 2017).

Sample size

Among the study population, 201 respondents were selected as a sample for the study following nonprobability sampling. To arrive at this specific sample size, G*Power version 3.1.9.7 has been used with a two-tailed α level of 0.05. Using G*Power to come at sample sizes is practised in other studies (Hasan et al., 2022). Convenience sampling was used as a sampling technique in this research due to the sample's difficult-to-find nature (Kirchherr & Charles, 2018). Data for this study was collected by carefully selecting locations where the sample population primarily get together and the shops from where they purchase e-cigarette products.

Data collection tool

Data for this study was gathered from primary sources through structured survey questionnaires. The data was collected from the participants using closed-ended questions. The questionnaire was developed based on an extensive literature review with further contextualization. 20 responses were taken as pilot testing, and after getting the feedback from the responses, the final questionnaire was designed. Data was collected through a trained team consisting of 10 members on the finalized survey questionnaire with previous experience managing data. Participants were reached at their sites and sought consent before conducting the survey. The survey was conducted at a convenient place and time for the respondents. However, the non-response rate of the survey was 13%, which is caused by unwillingness to participate due to hurry or other engagement and non-familiarity with e-cigarettes. All first-hand data was gathered from within Dhaka, considering the socioeconomic status and the potential availability of the respondents of this study.

Data analysis method

The obtained data was progressively organized according to the inquiry framework to guarantee that the correct code for the appropriate parameter was input, cleaned, and computed. The gathered data was arranged in chronological order based on the questionnaire structure to ensure that the accurate code for each variable was entered, cleaned, and tabulated. Collected data were analyzed using statistical software, SPSS version 25. Descriptive analysis was conducted to describe the dataset, and inferential analysis (chi-square and independent sample t-test) was undertaken to draw inferences from the collected data. The questionnaire's internal consistency was assessed, and the Cronbach Alpha value was calculated to be 0.81, indicating

a robust and accurate design of the items for this study.

Descriptive statistics were performed to remove insights from the respondents' demographic data. Chi-square was used to assess the association between e-cigarette consumption status (dependent variable) and the other two categories of independent variables: demographic variables and status of experiencing advertisement, promotion, and sponsorship. In this analysis, with a 95% confidence level, p-value <0.05 was considered significant. A separate independent sample t-test was conducted to examine the differences in the e-cigarette consumption pattern among the respondents believing their exposure to advertisement, promotion, and sponsorship (exposed and non-exposed). A p-value < 0.05 was considered significant in this study with 95% confidence.

Findings

The e-cigarette consumption rate is relatively lower in Bangladesh, so finding suitable respondents for this study was challenging. The respondents, however, belong to a very similar socio-demographic background, which shows e-cigarettes as a product of a particular consumer group.

Table 1: Socio-demographic profile of the respondents

Demographic characteristics of the respondents						P-value
Variables		Frequency (n=201)	(Percent)	Mean	Standard error	
Age of the respondents				23.94	0.237	
Occupation of respondent	Student	144	71.6			.260
	Govt. Employee	2	1.0			
	Private Employee	19	9.5			
	Businessmen	24	11.9			
	Unemployment	12	6.0			
Individual expenditure of the respondents				9545.77	529.143	

Monthly family income				46278.61	2595.712	
The education level of the respondent	Illiterate	1	0.5			.007
	Primary Education	2	1.0			
	Secondary Education	15	7.5			
	Higher Secondary Education	49	24.4		-	
	Graduate, Masters, and Above	134	66.7			
Number of children in respondents' house				1.01	0.11	
Number of adults in respondents' house				4.64	0.192	
Duration of consuming e-e-cigarettes (Months)				22.82	2.078	

Table 1 illustrates that most respondents were students (71.6%) who spend approximately 9500 BDT monthly and come from middle-class families. Their parents possess a significant level of education and predominantly reside in a nuclear family structure. Respondents have mostly begun using e-cigarette products in the past two years. From the chi-square test result, respondents' level of education is found to have a significant relationship with their e-cigarette consumption behaviour. Because e-cigarette products are expensive and most of the APS are available mainly in English or other foreign language on the Internet, the target market for these products consists of financially stable people, have access to the internet, and are educated enough to understand English.

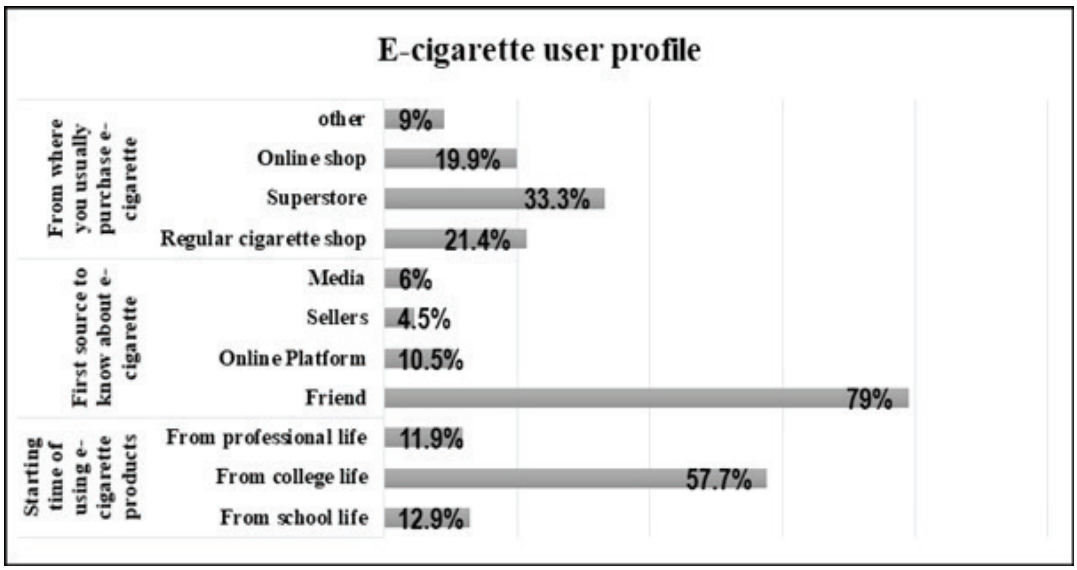

Figure 2: E-cigarette consumption pattern.

In Figure 2, coming to the usage trend of e-cigarettes, most of the e-cigarette smokers started the habit in college (57.7%), followed by the school life phase (12.9%) and then the professional life phase (11.9%). The first generation of e-cigarette consumers consists largely of respondents who are professionals, and these products hit the global market in 2014. (CDC, 2020). People who began using electronic cigarettes in college are considered to be part of the second generation. In contrast, those who began using them in school are considered to be part of the third generation.

People get to know about e-cigarettes first place mostly from individuals (78.1%), including friends and relatives that are followed by medium (13.5%), including the internet, drama, and advertisement, and the least influencing category as places (4.5%), such as shops or office space. However, e-cigarette consumers buy mostly from superstores (33.3%), followed by regular cigarette shops (21.4%) and from online shops and other shops 9% and 19.9%, respectively. This finding implies that people start consuming e-cigarettes mainly at a young age, influenced by individual people and buying from superstores.

Table 2: E-cigarette consumer and non-consumer comparison depending on APS exposure

Variables Frequency (n=35)		Non-consumer		Consumer	
		Per cent	Frequency (n=166)	Per cent	
Advertisement	Yes	10	28.6	73	44.0
	No	17	48.6	86	51.8
	Not sure	8	22.9	7	4.2
Promotional events	Yes	8	22.9	52	31.3
	No	21	60.0	108	65.1
	Not sure	6	17.1	6	3.6
Sponsorship events	Yes	1	2.9	26	15.7
	No	25	71.4	121	72.9
	Not sure	9	25.7	19	11.4

Table 2 demonstrates that people who use e-cigarettes are more exposed to advertisements compared to non-e-cigarette consumers or vice versa. Between non-users and users of e-cigarettes, 28.6% and 44.0% were exposed to advertisements for e-cigarettes, respectively. 22.9% of non-users and 31.3% of users were exposed to promotional events, while only 2.9% of non-users and 15.7% of users were exposed to sponsorship for e-cigarettes. However, many respondents did not notice any APS regardless of user status. In every case, e-cigarette consumers were more exposed to APS, while non-users were less exposed.

Table 3 Relationship between e-cigarette consumption and APS

Non-consumer		E-cigarette consumption status		P value
		Consumer		
Advertisement	Yes	10	73	.001
	No	17	86	
	Not sure	8	7	
Promotional events	Yes	8	52	.008
	No	21	108	
	Not sure	6	12	

Sponsorship	Yes	1	26	.021
	No	25	121	
	Not sure	9	19	

Table 3 presents the Chi-square test result with a 95% confidence level and demonstrates the relationship between APS and e-cigarette consumption. In all cases, the P value stands less than .05 (P value < 0.05), exposing advertisement (.000), promotional event (.021), and sponsorship events (.048) of e-cigarette products. The P-value indicates the existence of a relationship between APS and consumption of e-cigarettes.

Table 4: Difference between e-cigarette consumers and non-consumers in APS exposure

Independent Sample Test				
	Overall (Mean±SD)	**Non-consumer (n=35)**	**Consumer (n=166)**	**Sig. (2-tailed)**
Exposed to Advertisement (Mean±SD)	1.66±.612	1.94±.725	1.60±.571	.003
Exposed to Promotional events (Mean±SD)	1.76±.550	1.94±.639	1.72±.524	.031
Exposed to Sponsorship events (Mean±SD)	2.00±.524	2.23±.490	1.96±.521	.005

Independent sample t-test shows the pattern difference in terms of usage status of e-cigarettes depending on the APS exposure. Each of the marketing strategies, namely advertisement, promotion, and sponsorship, has been proven to vary significantly based on whether the respondent uses an e-cigarette. Two-tailed significance values for advertisement (0.003), promotion (0.031), and sponsorship (0.005) denote the significant difference between e-cigarette consumption status and APS exposure (Table 4).

Discussion

The expansion of the e-cigarette market and its growing popularity have posed a severe threat to the public health condition of the youth in Bangladesh, especially educated young adults who were found to have a growing interest in e-cigarette products (Lin et al., 2022). Studies found that they are more likely to watch foreign TV series and advertisements while

surfing the internet, where their favourite personalities using e-cigarette products attract them to these kinds of products (Hair, Kreslake, Tulsiani, et al., 2023). The unique design, flavour, and colourful packaging of e-cigarettes also attract the youth as fashion tools. Most young adults initiate e-cigarette consumption at an early age, mostly during their college years. At that point in their life, they enter puberty and enjoy privacy at their residence. They learn about e-cigarette products mainly from their peers or social media and start consuming them as a fashion tool. Nădăşan et al., (2016). Their study also found a similar trend that peers strongly influence the use of e-cigarettes among the youth.

The e-cigarette products are consumed mainly by those who belong to middle-class to upper-class families because the machines and flavours used here are quite expensive in Bangladesh. So, lower-income people need help to afford it or maintain their regular consumption. Brown et al. (2014) also found similar findings in their study conducted in Great Britain context. To target the population from a particular social class, they are primarily sold in supermarkets and popular cigarette shops in Bangladesh. Even in developed countries, online shops where vapes are available are the most observed purchasing sources of e-cigarettes (Braak et al., 2019). USDHHS (2016) also found a similar trend in the United States; young age is also a well-documented phase. However, online shopping for e-cigarette trends is yet to consolidate among the vapers in Bangladesh.

Findings also show that e-cigarette consumption and APS have a significant relationship. The independent sample t-test found a substantial difference between non-consumers and consumers related to exposure to APS of e-cigarette products. It has been found that people who are more exposed to APS of e-cigarettes are mainly using or have used e-cigarettes at a specific point in time. Specifically, in the case of e-cigarettes, where most advertisements promote the e-cigarette products as almost 'harmless' to health and use other tricky strategies of advertisement tools such as 'posh culture icon' or such, people tend to be more influenced by those sorts of promotion (Liu et al., 2022). According to Bolton et al. (2006), the advertisements of e-cigarettes promote appealing exposures of e-cigarette packets and propose that e-cigarettes can be a solution to decrease the perceived harmfulness of cigarettes. Varied ways of marketing e-cigarettes reportedly strongly influence the behaviour of people and consumers (Andrade et al., 2013; Lee et al., 2023). Therefore, the relationship between exposing APS to e-cigarettes and the use of e-cigarettes is well documented, as precisely this study shows. These APS are dragging smokers into e-cigarette products rather than promoting their intention to quit tobacco products, which ultimately harms the public health scenario in Bangladesh. That is why a complete ban could be a possible solution to stop such humbug promoted by the tobacco industries in Bangladesh.

Conclusion

The expanding nature of e-cigarettes among people of Bangladesh, especially for young and educated groups, as the findings indicate, is alarming. They mostly start consuming e-cigarette products during school or college life, in their youth, and in this process, get influenced by their peers and other close people. Along with that, several promotional content and marketing strategies produced by e-cigarette companies highly encourage them to buy and use e-cigarettes. As the study found, using e-cigarette products and exposure to APS of e-cigarette are closely associated with e-cigarette users being more exposed to e-cigarette APS. Similarly, detecting APS of e-cigarettes causes more likelihood of using e-cigarettes.

However, this study had limitations in terms of scope, which explored the effect of APS of e-cigarettes on youth while other age categories are yet to be studied. In addition, the time limit was also an issue while conducting this research.

According to the findings of this study, since there is a significant relationship between APS and e-cigarette use among the youth, it should be checked from a policy perspective in Bangladesh. A dedicated legal framework for e-cigarette products needs to be framed by the legislature, keeping into account the tricky nature of current e-cigarette APS, which should be implemented immediately by the Ministry of Health and Family Welfare with the help of the concerned administration. Implementation of such regulation at the production level and controlling media publicity where APS is disseminated can reduce the harmful marketing that eventually can reduce e-cigarette consumption in Bangladesh.

Declarations

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References

American Lung Association. (2021). Tobacco 21 is the Law of the Land. Retrieved from November 20, 2022. https://www.lung.org/policy-advocacy/tobacco/prevention/tobacco-21-laws

Andrade, M. de, Hastings, G., & Angus, K. (2013). Promotion of electronic cigarettes: Tobacco marketing reinvented? BMJ, 347, f7473. https://doi.org/10.1136/bmj.f7473

Azeem, N., Sarfraz, Z., Sarfraz, A., Hange, N., Sarfraz, M., & Cherrez-Ojeda, I. (2022). Vaping and smokeless tobacco control in South Asia: A policy review. Annals of Medicine and Surgery, 81, 104285.

Bangladesh Bureau of Statistics. (2017). Global Adult Tobacco Survey. https://extranet.who.int/ncdsmicrodata/index.php/catalog/870/related-materials

Batt, V., Holzer, M., Bruhn, M., & Tuzovic, S. (2021). Effects of sponsorship quality and quantity on employee brand behaviour. Journal of Brand Management, 28(5), 495–509. https://doi.org/10.1057/s41262-021-00242-w

Bolton, L. E., Cohen, J. B., & Bloom, P. N. (2006). Does Marketing Products as Remedies Create "Get Out of Jail Free Cards"? Journal of Consumer Research, 33(1), 71–81. https://doi.org/10.1086/504137

Braak, D. C., Cummings, K. M., Nahhas, G. J., Heckman, B. W., Borland, R., Fong, G. T., Hammond, D., Boudreau, C., McNeill, A., Levy, D. T., & Shang, C. (2019). Where Do Vapers Buy Their Vaping Supplies? Findings from the International Tobacco Control (ITC) 4 Country Smoking and Vaping Survey. International Journal of Environmental Research and Public Health, 16(3), 338. https://doi.org/10.3390/ijerph16030338

Brown, J., West, R., Beard, E., Michie, S., Shahab, L., & McNeill, A. (2014). Prevalence and characteristics of e-cigarette users in Great Britain: Findings from a general population survey of smokers. Addictive Behaviors, 39(6), 1120–1125. https://doi.org/10.1016/j.addbeh.2014.03.009

CDC. (2020). Tobacco Product Use among Middle and High School Students, United States, 2020. Retrieved from November 20, 2021 https://www.cdc.gov/tobacco/data_statistics/mmwrs/byyear/2020/index.html

CDC. (2021). About Electronic Cigarettes (E-Cigarettes). Retrieved from November 20, 2021. https://www.cdc.gov/tobacco/basic_information/e-cigarettes/about-e-cigarettes.html#more-information

Drope, J., Cahn, Z., Kennedy, R., Liber, A. C., Stoklosa, M., Henson, R., Douglas, C. E., & Drope, J. (2017). Key issues surrounding the health impacts of electronic nicotine delivery systems (ENDS) and other sources of nicotine. CA: A Cancer Journal for Clinicians, 67(6), 449–471. https://doi.org/10.3322/caac.21413

Duke, J. C., Lee, Y. O., Kim, A. E., Watson, K. A., Arnold, K. Y., Nonnemaker, J. M., & Porter, L. (2014). Exposure to electronic cigarette television advertisements among youth and young adults. Pediatrics, 134(1), e29-36. https://doi.org/10.1542/peds.2014-0269

Dutra, L. M., & Glantz, S. A. (2014). Electronic cigarettes and conventional cigarette use among US adolescents: A cross-sectional study. JAMA Pediatrics, 168(7), 610–617.

https://doi.org/10.1001/jamapediatrics.2013.5488

Ferkol, T. W., Farber, H. J., La Grutta, S., Leone, F. T., Marshall, H. M., Neptune, E., Pisinger, C., Vanker, A., Wisotzky, M., & Zabert, G. E. (2018). Electronic cigarette use in youths: A position statement of the Forum of International Respiratory Societies. European Respiratory Journal, 51(5).

Gilpin, E. A., Pierce, J. P., Farkas, A. J., & Farkas, A. J. (1997). Duration of Smoking Abstinence and Success in Quitting. JNCI: Journal of the National Cancer Institute, 89(8), 572. https://doi.org/10.1093/jnci/89.8.572

Hair, E. C., Kreslake, J. M., Rath, J. M., Pitzer, L., Bennett, M., & Vallone, D. (2023). Early evidence of the associations between an anti-e-cigarette mass media campaign and e-cigarette knowledge and attitudes: Results from a cross-sectional study of youth and young adults. Tobacco Control, 32(2), 179–187. https://doi.org/10.1136/tobaccocontrol-2020-056047

Hair, E. C., Kreslake, J. M., Tulsiani, S., McKay, T., & Vallone, D. (2023). Reducing e-cigarette use among youth and young adults: Evidence of the truth campaign's impact. Tobacco Control. https://doi.org/10.1136/tc-2023-057992

Hanewinkel, R., & Isensee, B. (2015). Risk factors for e-cigarette, conventional cigarette, and dual use in German adolescents: A cohort study. Preventive Medicine, 74, 59–62. https://www.sciencedirect.com/science/article/pii/S0091743515000778

Hasan, M. M., Sarker, M. S. A., Nazir, K. N. H., Rahman, M. B., Sarker, M. A., Hosen, M. I., Hasan, M. R., & Nasrin, T. (2020). Electronic Cigarettes (Vaping) preferences among University Students in Bangladesh.

Hasan, M. K., Moriom, M., Shuprio, S. I. M., Younos, T. B., & Chowdhury, Md. A. (2022). Exploring disaster preparedness of students at university in Bangladesh. Natural Hazards, 111(1), 817–849. https://doi.org/10.1007/s11069-021-05080-2

Hasan, M. M. (2020). Electronic Cigarettes (Vaping) preferences among University Students in Bangladesh. International Journal for Research in Applied Science and Engineering Technology, 8(9), 174–186. https://doi.org/10.22214/ijraset.2020.31357

Islam, M., & Amin, S. (2021). Physicians' Perception of E-Cigarettes as a Smoking Cessation Tool in Bangladesh. Current Research in Public Health, 1, 8–12.

Jarmul, S., Aherrera, A., Rule, A. M., Olmedo, P., Chen, R., & Navas-Acien, A. (2017). Lost in e-cigarette clouds: A culture on the rise. Am J Public Health, 107(2), 265–266.

Jerzyński, T., Stimson, G. V., Shapiro, H., & Król, G. (2021). Estimation of the global number of e-cigarette users in 2020. Harm Reduction Journal, 18(1), 109. https://doi.org/10.1186/s12954-021-00556-7

Jin, P., & Jiang, J. Y. (2017). E-cigarettes in ten Southeast Asian countries: A comparison of national regulations. Global Health Journal, 1(3), 1–10. https://doi.org/10.1016/S2414-6447(19)30097-1

Kim, A., Miano, T., Chew, R., Eggers, M., & Nonnemaker, J. (2017). Classification of Twitter Users Who Tweet About E-Cigarettes. JMIR Public Health and Surveillance, 3(3), e63. https://doi.org/10.2196/publichealth.8060

Kirchherr, J., & Charles, K. (2018). Enhancing the sample diversity of snowball samples: Recommendations from a research project on anti-dam movements in Southeast Asia. PLOS ONE, 13(8), e0201710. https://doi.org/10.1371/journal.pone.0201710

Lee, J., Suttiratana, S. C., Sen, I., & Kong, G. (2023). E-Cigarette Marketing on Social Media: A Scoping Review. Current Addiction Reports, 10(1), 29–37. https://doi.org/10.1007/s40429-022-00463-2

Lin, L.-Y., Chien, Y.-N., Chen, Y.-H., Shean, R., Wu, C.-Y., Huang, S.-C., & Chiou, H.-Y. (2022). E-cigarettes and smoking cessation among adolescent smokers. Scientific Reports, 12(1), Article 1. https://doi.org/10.1038/s41598-022-22344-4

Lippert, A. M., Corsi, D. J., & Venechuk, G. E. (2019). Schools Influence Adolescent E-Cigarette Use, but when? Examining the Interdependent Association between School Context and Teen Vaping over Time. Journal of Youth and Adolescence, 48(10), 1899–1911. https://doi.org/10.1007/s10964-019-01106-y

Liu, J., Wright, C., Elizarova, O., Dahne, J., Bian, J., Williams, P., Zulkiewicz, B., & Tan, A. S. (2022). Effects of brief exposure to misinformation about e-cigarette harms on Twitter on knowledge and perceptions of e-cigarettes. DIGITAL HEALTH, 8, 20552076221116780. https://doi.org/10.1177/20552076221116780

Nădăşan, V., Foley, K. L., Pénzes, M., Paulik, E., Mihăicuţă, Ş., Ábrám, Z., Bálint, J., & Urbán, R. (2016). Use of electronic cigarettes and alternative tobacco products among Romanian adolescents. International Journal of Public Health, 61(2), 199–207. https://doi.org/10.1007/s00038-015-0774-8

NTCC. (2021). National Tobacco Control Central. Retrieved from November 20, 2021. https://ntcc.gov.bd/

Pearson, J. L., Richardson, A., Niaura, R. S., Vallone, D. M., & Abrams, D. B. (2012). E-Cigarette awareness, use, and harm perceptions in US adults. American Journal of Public Health, 102(9), 1758–1766. https://doi.org/10.2105/AJPH.2011.300526

Pepper, J. K., & Brewer, N. T. (2014). Electronic nicotine delivery system (electronic cigarette) awareness, use, reactions, and beliefs: A systematic review. Tobacco Control, 23(5), 375–384. https://doi.org/10.1136/tobaccocontrol-2013-051122

Rahman, M. A., Joseph, B., & Nimmi, N. (2022). Electronic Cigarettes or Vaping: Are There Any Differences in the Profiles, Use, and Perceptions between a Developed and a Developing Country? International Journal of Environmental Research and Public Health, 19(3), 1673. https://doi.org/10.3390/ijerph19031673

Rahmi, A., Tayeb, B., & Amerkhail, S. (2020). The Impact of Advertising on Consumer Buying Behavior (SSRN Scholarly Paper 3763168). https://papers.ssrn.com/abstract=3763168

Tehrani, H., Rajabi, A., Ghelichi- Ghojogh, M., Nejatian, M., & Jafari, A. (2022). The prevalence of electronic cigarettes vaping globally: A systematic review and meta-analysis. Archives of Public Health, 80(1), 240. https://doi.org/10.1186/s13690-022-00998-w

The Business Standard. (2022, June 27). Law being amended to ban e-cigarettes. The Business Standard. https://www.tbsnews.net/bangladesh/law-being-amended-ban-e-cigarettes-448170

Uddin, M. M., Rahman, M. B., Patwary, S. H., & Kamal, M. A. H. M. (2019). E-cigarette: Threat of new dimension of tobacco - marketing, distribution, and availability in Dhaka city. Tobacco Induced Diseases, 17(1). https://doi.org/10.18332/tid/111428

USDHHS. (2016). E-Cigarette Use Among Youth and Young Adults: A Report of the Surgeon General. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. https://www.ncbi.nlm.nih.gov/books/NBK538684/

WHO. (2019). WHO report on the global tobacco epidemic, 2019: Offer help to quit tobacco use. World Health Organization. https://apps.who.int/iris/bitstream/handle/10665/326043/9789240029545-rus.pdf

Wipfli, H., Bhuiyan, M. R., Qin, X., Gainullina, Y., Palaganas, E., Jimba, M., Saito, J., Ernstrom, K., Raman, R., & Withers, M. (2020). Tobacco use and E-cigarette regulation: Perspectives of University Students in the Asia-Pacific. Addictive Behaviors, p. 107, 106420. https://doi.org/10.1016/j.addbeh.2020.106420

Wulan, W. R., Kusuma, D., Nurjanah, N., Aprianti, A., & Ahsan, A. (2022). Is Exposure to Social Media Advertising and Promotion Associated with E-cigarette Use? Evidence from Indonesia. Asian Pacific Journal of Cancer Prevention: APJCP, 23(4), 1257–1262. https://doi.org/10.31557/APJCP.2022.23.4.1257

Zhao, J., Butt, R. S., Murad, M., Mirza, F., & Saleh Al-Faryan, M. A. (2022). Untying the Influence of Advertisements on Consumers Buying Behavior and Brand Loyalty Through Brand Awareness: The Moderating Role of Perceived Quality. Frontiers in Psychology, 12. https://www.frontiersin.org/articles/10.3389/fpsyg.2021.803348

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