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Research article

The role of source characteristics and style in the perception of public service announcement (PSA) messages: Experimental study of anti-vaping social advertising for student population

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Abstract

Introduction. Currently, smoking electronic cigarettes (vaping) is considered one of the most widespread and prominent health concerns among young people, with e-cigarette use among young adults surging annually. So, the development of effective public service advertisements (PSAs) is essential to both inform young adults about the actual consequences of vaping and prevent them from engaging in this behaviour. However, there is still a lack of research on how different aspects of anti-vaping PSAs can influence attitudes and intentions, especially regarding the interaction between these factors. To address this issue, this study examines the effectiveness of PSAs among young adults in Russia by focusing on the impact of various message sources (expert vs. peer) and styles (narrative vs. non-narrative) as well as their interactions based on the match-up hypothesis.

Materials and Methods. The study employed a 2x2 factorial between-subjects experimental design to compare the impact of different message sources and styles on behaviour and attitudes, utilising a four-group posttest randomised design and involving vaping bachelor university students (N = 112).

Results. Expert message sources were more effective in developing a positive attitude towards PSA than peer sources. Exposure to narratively styled messages was associated with a more negative attitude towards vaping compared to non-narrative ones. Nevertheless, no significant differences were observed in the effect of message sources or message styles on the vaping intention. No significant interaction effect between the message sources and styles was found in terms of their influence on the attitude towards PSA, attitude towards vaping and vaping intention.

Conclusion. The findings contribute to the development of more effective anti-vaping advertisements, with implications for public health campaigns. Limitations and directions for future research are discussed.

Keywords: public service announcement, vaping, persuasive communication, author, narrative, university students

Научная статья

Роль источника информации и стиля информационного сообщения в восприятии сообщений о здоровье: экспериментальное исследование антивейпинговой социальной рекламы среди студенческой молодежи

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Аннотация

Введение. На сегодняшний день, курение электронных сигарет (вейпинг) можно считать одной из наиболее распространенных и важных проблем, связанных со здоровьем молодежи, учитывая резкий рост потребления электронных сигарет, наблюдаемый ежегодно. Поэтому разработка эффективной социальной рекламы крайне необходима для того, чтобы регулярно информировать аудиторию о реальных последствиях вейпинга и предотвращать это поведение. Тем не менее, не так много исследований изучили влияние разных аспектов социальной рекламы на отношение к вейпингу и намерение курить электронные сигареты, особенно рассматривая их совместное воздействие. В этом исследовании мы рассматриваем факторы восприятия антивейпинговых информационных сообщений, ориентированных на молодежную аудиторию. В частности, оценивается роль автора сообщений (эксперта или сверстника со схожим опытом) и стиля повествования (нарративного и ненарративного), а также их эффект взаимодействия.

Материалы и методы. В исследовании использовался факторный экспериментальный 2x2 анализ для сравнения влияния различных источников сообщений и стилей на установки и поведение участников, представленных курящими электронные сигареты студентами бакалавриата (N = 112).

Результаты. Исследование показало, что использование эксперта в качестве автора информационного сообщения было более эффективной стратегией в контексте отношения к социальной рекламе, так как такие сообщения воспринимались более позитивно. Прочтение сообщения, выполненного в нарративном стиле, было связано с выражением респондентами более негативного отношения к вейпингу по сравнению с ненарративной подачей информации. Однако ни манипуляция авторством, ни стилем информации не была связана с более выраженным намерением сократить использование вейпинга. Вопреки выдвинутой гипотезе, не наблюдается взаимодействия между типом автора и типом повествования, так как разные комбинации этих характеристик сообщения не имеют статистически значимого влияния на зависимые переменные.

Заключение. Полученные результаты могут быть использованы для разработки более эффективной антивейпинговой социальной рекламы. Обсуждаются ограничения и направления будущих исследований.

Ключевые слова: Социальная реклама, вейпинг, убеждающая коммуникация, автор, нарратив, студенческая молодежь

Introduction

In recent years, the popularity of electronic cigarettes (e-cigarettes), commonly known as vapes, has grown enormously worldwide, especially among young people and adolescents (Dai, Leventhal 2019). Like in other countries, in Russia vaping market is rapidly growing. By the end of 2023, the share of vape users who are nicotine addicts increased almost threefold compared to 2019 (RBK 2023). Every third e-cigarette user in the country is a young person aged between 18 and 29, and compared

to other countries, Russian youth are more likely to use electronic devices to smoke (Tret' potrebitelej elektronnykh sigaret… 2017).

While vaping is often touted as a safer alternative to traditional tobacco smoking (Pisinger, Døssing 2014), many studies have proven that e-cigarette consumption causes numerous health problems in young adults, such as erectile dysfunction in young males (Raheem et al. 2022), development of the 'vaping product use-associated lung injury' (EVALI) (Love, Gierer 2022), severe lung damage and even death (Outbreak of lung injury associated… 2021). Often youth consider vapes not to be very harmful or worsen their well-being; however, there are a lot of facts showing how life-threatening smoking e-cigarettes is.

The clear issue of problematic consequences of vaping is almost ignored by health campaigns, especially in Russia. Therefore, it is vital to design scientifically grounded and persuasive media wellness campaigns aimed at reducing the prevalence of vape smoking, one of which could be public service announcements or public service advertisements (PSA), which have proven effective in promoting health behaviours (Grier, Bryant 2005).

In general, PSAs are informative messages created in order to change people's attitude towards an issue of social significance and their behaviour related to it. A modern PSA has a lot in common with traditional advertising and uses various media channels to persuade the target audience to adopt a healthy behaviour (Nan 2008). However, the effectiveness of PSAs in influencing behaviour and attitudes is a matter of scientific debate. Some studies suggest that PSAs have persuasive power in promoting health behaviours (e. g. blood donation, smoking cessation and drug avoidance) (Stephenson 2003), while other research indicates that while PSAs can change attitudes and increase awareness, their impact on behaviour may be limited (Hill 2004).

Enhancing the effectiveness of health messages poses a complicated yet crucial task. There are various message design choices which could vary in their persuasiveness depending on various features. One of them is the choice of message sources demonstrating a message's 'speaker', where the source expertise and source similarity are highlighted as the ones of their most important dimensions in terms of high credibility rates and persuasiveness (Perloff 2007). Building on previous research, this study aims to examine PSAs presented by an expert source and a peer source. The expert source refers to a reliable information source with necessary skills and knowledge (Ahn et al. 2019), while source similarity (peer) refers to a 'layperson' with common characteristics that allow the receiver to relate to them. However, despite numerous studies, there is no definitive conclusion on the comparison of these sources' effects on beliefs and behavioural intentions. Some studies provide evidence that compared to a similarity source, sources with high expertise may entail more positive attitudes to a message (Reinhard, Sporer 2010) and higher health-related behavioural intentions (Jones et al. 2003). Additionally, they prove that people usually proceed with recommendations of experts as they find them having higher proficiency and skills in a certain subject, especially in the sphere of well-being (Gilly et al. 1998), while expertise in the form of scientific status and formal characteristics can be a marker of competence (Ivanov 2021). In turn, other studies showed the primacy of similarity sources in that sphere: they found that receivers consider peers and other laypersons more credible and trustworthy, and therefore these sources, more than others, encourage receivers to behave in accordance with the observed health message and share that information (Hu, Shyam Sundar 2010), which is explained by their shared features with the target audience. This is also described as 'source homophily'. To add, peer sources were found to be more influential among college students than authority sources (Ahn et al. 2019).

Moreover, much consideration in terms of health-message effectiveness has been given to the style of messages, and in particular to the narrative and non-narrative styles, characterising the 'language' of presenting information (Zebregs et al. 2015). Message style, also called the evidence format, has been the focus of numerous studies, which have made a comparison of narrative and non-narrative styles. Narrative style was defined as a form of storytelling, which includes personal experience and recommendations from a first- or third-person perspective (Hinyard, Kreuter 2007), whereas non-narrative messages present information in factual format, providing evidence and explanation. In other terms, narratively styled messages are those that tell a story, offering some plot with details and characters, whereas non-narratively styled ones are more informational and data-driven. As previous research has proven the style of a message to be an effective education and persuasion tool in advertising campaigns, these message characteristics have been adopted for the current study. Nevertheless, it is debatable which of the styles is considered to be the most effective. Accordingly, there is evidence that narratively structured messages influence cognitive and emotional aspects, leading to better memorisation of the observed information (Schank, Berman 2003), enhanced mental visualisation

of events and powerful positive emotional reactions to characters and stories (Nabi, Green 2015). It is argued that narratives are less likely to be resisted in persuasion (Igartua, Vega Casanova 2016) due to their inclusion of actual experiences that are cognitively challenging to dispute. Yet, other findings state that non-narratives have great persuasive power (Allen, Preiss 1997), higher effectiveness in affecting knowledge and perceptions, as well as the rise of intentions, and are more persuasive in terms of attitude change (Zebregs et al. 2015) compared to narratives.

Addressing the mixed results of the previous studies on message sources and styles, the relative successful impact of their dimensions on the target audience and lack of findings related to vaping, we will assess the effectiveness of messenger sources and message styles in the PSA as significant persuasive components within the context of a prominent health concern — vaping among university students:

Research Question 1: Which source characteristic — expertise or similarity — will (a) cause more favourable evaluation of the anti-vaping PSA; (b) be more persuasive in changing attitudes toward vaping; (c) be more effective in changing vaping intentions?

Research Question 2: Which message style — narrative or non-narrative — will (a) cause more favourable evaluation of the anti-vaping PSA; (b) be more persuasive in changing attitudes toward vaping; (c) be more effective in changing vaping intentions?

Furthermore, despite the numerous studies investigating message sources and message styles, there is a severe shortage of research examining the interaction between the types of sources and types of styles in terms of persuasiveness of a PSA. It is evident that the influence of information is stronger when the target audience perceives a match between the messenger and message content, which is explained by the match-up hypothesis (Kamins 1990). Applying this framework, the anti-vaping PSA is expected to be the most effective when there is a successful match between the message source and style. Though the existing research cannot help us to hypothesise the interaction effect of the message features, we have directed hypotheses regarding this. As it was indicated (Bekalu et al. 2018), the perceived importance of a message is higher when individuals associate themselves with the storyteller in narratively styled messages due to perceived similarity and 'wishful identification'; it is suggested that narratives will have a better fit and persuasive effect with a peer message source, while a message source showing expertise may be more effective when combined with a non-narrative style:

Hypothesis 1: PSA featuring a peer messenger in narrative style will be more effective than a PSA featuring a peer messenger in non-narrative style.

Hypothesis 2: PSA featuring an expert messenger in non-narrative style will be more effective than a PSA featuring an expert messenger in narrative style.

Methodology

Study design

A 2x2 factorial between-subjects experimental design was used to compare the impact of different message sources (peer vs. expert) and styles (narrative vs. non-narrative) on behaviour and attitudes. The online experiment followed a four-group posttest randomised design to assess changes in the dependent variable within the groups (the procedure of posttest manipulation check is provided in the Appendices section). The dependent variables were the attitude toward the anti-vaping PSA, attitude toward vaping and vaping intention.

Four anti-vaping PSA transcripts were created for the study with different combinations of message sources and styles. Text advertising was chosen over video or voice to prevent bias, and gender-neutral names were used for the message sources to avoid any influence based on the spokesperson's sex, personal characteristics or age.

Previous studies (Han, Fink 2012) have highlighted confounding features in messages that could affect information perception, such as message length and the number of facts or evidence captured. To address this, the stimuli were carefully designed to have identical message length and include the same arguments across all four PSAs, addressing ten short- and long-term consequences of vaping (Fig. 1).

Sample

The study involved bachelor university students aged 18–24 from Saint Petersburg and Moscow recruited via academic programme chats. The inclusion criteria were the self-reported experience of vaping during the last 6 months. Initially the minimum sample size was set to 108 participants for obtaining a medium effect size ($f^2 = 0.15$), providing 96 % power to detect difference at the 0.05 significance level, adjusted for degrees of freedom to include three covariates. Participants who completed the survey in under 2 minutes were excluded prior to the analysis, and the sample conditions were met. The final sample (N = 112) was predominantly female (76.8 %) with an average age of 20 years.

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Fig. 1. Study stimuli

Procedure

After providing an online informed consent, the study participants completed a short questionnaire about themselves (sex, age, socio-economic background, vaping experience). After that they were randomly assigned to read one of the four anti-vaping PSA materials with manipulated variables and then answered several questions about them. Those questions measured the attitude toward the anti-vaping PSA, changes in attitudes toward vaping and vaping intentions after being exposed to the PSA and perceived PSA quality (wording of all the items and their scoring are presented in the Appendices section). The study has been preregistered at AsPredicted (#134037).

Data analysis

Data was analyzed in R using Generalised Linear Models (GLMs) to address research questions and hypotheses. Assumptions for Linear Regression were tested and met before conducting the analysis. The relationships between three dependent variables (attitude toward the anti-vaping PSA, attitude toward vaping and vaping intention) and four independent manipulated features (peer source, expert source, narrative style, non-narrative style) were estimated with p-values using a 0.05 threshold and adjusted

R2 values for model evaluation. T-tests assessed the statistical significance of differences in the dependent variables across different dimensions.

Each linear model included several features as covariates: vaping frequency, perceived PSA quality and age. Perceived PSA quality was included to avoid the confounding effects of public service advertisements, while vaping frequency aimed to account for its potential influence on attitudes and decision-making regarding vaping intentions. Lastly, age was included to address potential differences in ratings for dependent variables between younger and older individuals. All variables, except age, were measured by multiple Likert scale questions, which were averaged after demonstrating acceptable reliability through Cronbach's alpha.

Results

To answer the first research question, it was found that there is a statistically significant effect of the message source only for the attitude towards PSA (Table 1). Compared with the peer (student) one, the expert source (medical doctor) proved to lead to a more positive attitude towards PSA, adjusting for the level of vaping frequency, perceived PSA quality and age. However, there were no significant differences between two message sources in users' attitudes toward vaping and vaping intention after reading the PSA.

Investigation of the second research question revealed that there is a significant difference between the means of attitudes towards vaping across two types of message styles, and the presentation of narratively styled messages was associated with more negative attitudes towards vaping than non-narratives, controlling for the level of readers' vaping frequency, perceived PSA quality and age (Table 1). Nevertheless, no significant differences in message styles were observed for the attitude towards PSA and for the vaping intention, and thus, none will be reported.

In terms of the research hypotheses, no significant relationship of interaction between the response features and dependent variables was found as all the interaction effect's p-values appeared to be out of the stated threshold (Table 1), which does not allow rejecting the null hypothesis, meaning that obtained estimates in the model took place purely by chance. Hence, we could not proceed with the analysis of the hypotheses further and will conclude that they are not possible to be verified with our study data.

Table 1. Linear regression coefficients

Variables	*Dependent variables*		
	Attitude towards PSA	**Attitude towards vaping**	**Vaping intention**
Independent variables			
Message source (peer)	**–0.440**** (0.196)	0.143 (0.120)	0.019 (0.293)
Message style (non-narrative)	–0.156 (0.188)	**0.266**** (0.115)	–0.145 (0.280)
Covariates			
Vape addiction	–0.022 (0.083)	0.047 (0.051)	**0.763***** (0.124)
Perceived PSA quality	**0.786***** (0.080)	**–0.093*** (0.049)	**–0.405***** (0.119)
Age	**0.209**** (0.097)	–0.087 (0.059)	0.075 (0.144)
Interaction			
Message source (peer) * Message style (non-narrative)	0.308 (0.096)	–0.096 (0.229)	–0.613 (0.558)
Observations	112	112	112
R^2	0.491	0.096	0.307
Adjusted R^2	0.467	0.053	0.274
Residual Std. Error (df = 106)	0.980	0.599	1.463
F Statistic (df = 5; 106)	20.453***	2.244*	9.388***

Note: *p < 0.05, **p < 0.01, ***p < 0.001.

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We have also gathered secondary findings, including the results for the associations between covariates such as the level of vaping frequency, perceived PSA quality and age on attitudes and intentions (Table 1). Firstly, self-reported PSA quality is associated with a more positive attitude towards PSA and a more negative attitude towards vaping and vaping intention. Secondly, vaping frequency was found to be positively associated with vaping intention, showing that the more often a person uses vapes, the more vaping intention he/she has. And, lastly, age appeared to be positively related to the attitude towards PSA: older students perceive PSA better than younger ones.

Discussion

Both advertising and public health fields have explored the impact of message sources and styles on audiences, yet there remains a scarcity of studies on their comparative effectiveness for PSAs and the persuasive power of their interaction, particularly in the context of vaping. Therefore, our research aimed to contribute to existing findings by analyzing the direct and united effectiveness of message style (narrative and non-narrative) and sources (peer and expert) on the attitudes and intentions of university students exposed to anti-vaping PSAs.

The study found that a better attitude towards PSA is much more likely if the message contains an expert source rather than the peer one. These findings correspond with the previous findings demonstrating that sources presented with sources' expertise may entail more positive attitudes to a message than the ones represented by a layperson (Reinhard, Sporer 2010). Explaining the result, we can rely on a different study, showing that people usually find experts as having higher proficiency and skills in a certain subject, especially in the sphere of well-being, rather than peers (Gilly et al. 1998). Therefore, Research Question 1 can be answered only in terms of the attitude towards PSA (a), providing strong support to the idea that expert message sources cause more favourable evaluation of the anti-vaping PSA among university students than the peer ones, suggesting that expertise can make a PSA more trustworthy and valuable.

It was also observed that the presentation of narratively styled messages was associated with more negative attitudes towards vaping than non-narratives. This result is consistent with previous research stating that as narratively structured messages influence cognitive and emotional aspects of the audience (Schank, Berman 2003), they are more persuasive in changing attitudes about some health-related issue than non-narratives (Zebregs et al. 2015). Nevertheless, no significant differences in message styles were found for the attitude towards PSA and for the vaping intention, thus making conclusions possible only for Research Question 2(b). Therefore, it can be inferred that narrative styles of a message for PSA induce more change in the attitudes towards vaping, making perception of vaping more negative, which could be due to the more relevant experience and values of this type of source to university students.

With respect to the fit between message sources and message styles observed under the framework of the match-up hypothesis, it was found that any of the identified matches (peer messenger & narrative style; expert messenger & non-narrative style) have no significant difference in their effectiveness in terms of attitude towards PSA, attitude towards vaping and vaping intention. As no previous scientific studies have already examined these relationships, they are required to be tested further in the context of anti-vaping messages and other health-related issues.

Though providing valuable insights into anti-vaping PSAs, our study is not free from limitations. The results may not be generalisable beyond the specific student population in Russia or for all Russian students due to the convenience sampling method and the limited representation of students from different universities and regions. Additionally, reliance on self-reported measures may introduce social desirability bias. Future research should consider diverse populations, employ different sampling strategies and study designs, as well as utilising longitudinal designs to capture the duration of the PSA effect and presence or absence of more prolonged outcomes. Furthermore, cultural differences and exposure to other vaping-related information should be accounted for in future studies to enhance the effectiveness of public service ads promoting health messages.

Conclusions

Within our study, we have developed an experimental procedure to answer the stated research questions and hypotheses. Let us observe them closer:

1. Which source characteristic — expertise or similarity — will (a) cause more favourable evaluation of the anti-vaping PSA; (b) be more persuasive in changing attitudes toward vaping; (c) be more effective in changing vaping intentions?

The evidence for this research question states that expert sources in the PSAs led to a more favourable PSA evaluation and higher trustworthiness towards it among university students compared to peer sources. However, the source characteristics only affected the attitude towards the PSA, not attitudes towards vaping or vaping intentions.

2. Which message style — narrative or non-narrative — will (a) cause more favourable evaluation of the anti-vaping PSA; (b) be more persuasive in changing attitudes toward vaping; (c) be more effective in changing vaping intentions?

While investigating the second research question, we proved that narrative message styles in PSAs are more persuasive in changing attitudes towards vaping, resulting in more negative attitudes than non-narratives, potentially due to their influence on cognitive and emotional aspects. However, the style characteristics did not affect the attitude towards the PSA or vaping intentions.

3. Hypothesis 1: PSA featuring a peer messenger in narrative style will be more effective than a PSA featuring a peer messenger in non-narrative style. Hypothesis 2: PSA featuring an expert messenger in non-narrative style will be more effective than a PSA featuring an expert messenger in narrative style.

No significant differences were found in the effectiveness of matched message sources and styles in terms of attitudes towards PSA, vaping and vaping intentions. Further research is needed in this area.

Appendices

1. Posttest manipulation check

To analyse the consistency between the features of the proposed PSA messages in the survey and the perceived message source and message style, after answering variables-related questions, participants were asked to directly evaluate it. The questions were: 'Who was the author of the social advertisement you read?' (response options: 'student'/ 'professor'/ 'medical doctor'/ 'salesperson') and 'What did the author of the social advertisement you read talk about?' (response options: 'About personal experience and the experience of friends or patients'/ 'About the results of scientific research'). This way, we could see how attentive and conscientious participants were when reading the materials of the survey.

Among the students presented with the peer message source, 58 respondents (96.6 %) identified it correctly. Only 2 respondents answered that the storyteller was a professor, and 0 of them answered 'medical doctor'. In turn, among the respondents presented with the expert source of message, 27 people answered that the narrator was a doctor and 24 identified a professor. As both of these source categories are suitable for expertise definition, we will consider that 51 respondents (98 %) correctly identified the expert message source. And only 1 person here answered 'student'.

Among the people who saw PSA with narrative style, 42 (76.4 %) correctly answered that they observed a message about personal experience and experience of friends or patients. Another part of the respondents (13 people, 23.6 %) gave answers identifying non-narrative style. Besides, among the participants exposed to the PSA with non-narrative style, 53 respondents (93 %) answered that the person in that PSA was telling them about the results of scientific studies, thus giving the correct answer. And only 4 of them (7 %) identified the message style incorrectly.

Therefore, as both the message sources and message styles were correctly reported in most of the cases (more than in ¾), we will consider the posttest manipulation check successful.

2. Wording of all the items and their scoring

Variables	Questions for measurement
1. Attitude toward the anti-vaping PSA (dependent).	Measured using the four questions that were similar to the ones used in studies analysing PSAs (Ahn et al. 2019), but adjusted to match the context of our research. They represented 7-point Likert scales with –3 meaning 'not at all' and 3 meaning 'extreme amount': 1) Evaluate the emotions that the message of the social advertisement you read evoked in you (Very negative/ Very positive) [Оцените, какие эмоции у вас вызвало сообщение прочитанной Вами социальной рекламы (Очень негативные/ Очень положительные)]. 2) Rate how interesting the message of the social advertisement that you read was (Not at all interesting/ Very interesting)? [Оцените, насколько интересным было сообщение прочитанной Вами социальной рекламы (Совсем не интересным/ Очень интересным)]. 3) Rate how valuable the message of the social advertisement that you read was (Not at all valuable/ Very valuable)? [Оцените, насколько полезным было сообщение прочитанной Вами социальной рекламы (Совсем не полезным/ Очень полезным)]. 4) Rate how understandable the message of the social advertisement that you read was (Completely not understandable/ Very understandable)? [Оцените, насколько понятным было сообщение прочитанной Вами социальной рекламы (Совсем не понятным/ Очень понятным)]. 5) Rate how much you were influenced by the message of the social advertisement that you read (Not at all influenced/ Very influenced)? [Оцените, как сильно на Вас повлияло сообщение прочитанной Вами социальной рекламы (Совсем не повлияла/ Очень повлияла)].

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Variables	Questions for measurement
2. Attitude toward vaping (dependent).	Measured via 4 questions with 7-item Likert scales: 1) After reading the anti-vaping PSA, I think that vaping is (Very harmful/ Not harmful at all) [Прочитав социальную рекламу против вейпинга, я думаю, что вейпить — это (Очень вредно/ Совсем не вредно)]. 2) After reading the anti-vaping PSA, I think that vaping is (Very unpleasant/ Very pleasant) [Прочитав социальную рекламу против вейпинга, я думаю, что вейпить — это (Совсем неприятно/ Очень приятно)]. 3) After reading the anti-vaping PSA, I think that vaping is (Very bad/ Very good) [Прочитав социальную рекламу против вейпинга, я думаю, что вейпить — это (Очень плохо/ Очень хорошо)]. 4) After reading the anti-vaping PSA, I think that vaping is (Absolutely not prestigious/ Very prestigious) [Прочитав социальную рекламу против вейпинга, я думаю, что вейпить — это (Совершенно не престижно/ Очень престижно)].
3. Vaping intention (dependent).	Estimated with the following four questions, assessed by 7-point Likert scale (–3 = 'not at all', 3 = 'extreme amount'): 1) After reading the anti-vaping PSA, I think that I intend to vape in the forthcoming month [После прочтения текста социальной рекламы против вейпинга, я думаю, что буду курить вейп в ближайшем месяце]. 2) After reading the anti-vaping PSA, I will try not to vape in the forthcoming month [После прочтения текста социальной рекламы против вейпинга, я постараюсь не вейпить в ближайшем месяце]. 3) After reading the anti-vaping PSA, I plan to vape in the forthcoming month [После прочтения текста социальной рекламы против вейпинга, я планирую вейпить в ближайшем месяце]. 4) After reading the anti-vaping PSA, I plan to vape less frequently than before in the coming month [После прочтения текста социальной рекламы против вейпинга, я планирую курить электронные сигареты в ближайшем месяце реже, чем раньше].
4. Vaping frequency (covariate).	Measured by the two questions: 1) Rate how often you have smoked electronic cigarettes (vapes) over the past six months (1–3 times in six months, 4–6 times in six months, 2–4 times a month, 2–3 times a week, 4 or more times a week) [Оцените, как часто вы курили электронные сигареты (вейпы) за последние полгода: (Не курил(а); 1-3 раза за полгода; Каждый месяц или реже (4–6 раз за полгода); 2–4 раза в месяц; 2–3 раза в неделю 4 или более раз в неделю)]. 2) Please rate your dependence on smoking electronic cigarettes (vapes) on a scale from 1 to 5 (Very low/ Very high) [Оцените свою зависимость от курения электронных сигарет (вейпов) по шкале от 1 до 5 (Очень низкая/ Очень высокая)].
5. Perceived PSA quality (covariate).	Measured by a question with a 7-point scale ranging from 'very bad' (–2) to 'very good' (2): 1) After reading the anti-vaping PSA, how would you rate its quality? [Прочитав эту социальную рекламу против вейпинга, как Вы оценили бы ее качество?].
6. Age (covariate).	Self-reported measure: 1) How old are you? [Сколько вам полных лет?].

All of the variables included multiple questions represented as scales, which were later averaged to construct each dependent variable during the coding procedure, as Cronbach's alpha for each set was in the range between 0.7 and 0.88, which is considered acceptable to prove reliability of the data.

Конфликт интересов

Авторы заявляют об отсутствии потенциального или явного конфликта интересов.

Conflict of Interest

The authors declare that there is no conflict of interest, either existing or potential.

Соответствие принципам этики

Авторы сообщают, что при проведении исследования соблюдены этические принципы, предусмотренные для исследований с участием людей или животных.

Ethics Approval

The authors declare that the study complies with all ethical principles applicable to human and animal research.

Вклад авторов

Юлия Бенидовская: Концептуализация, Методология, Формальный анализ, Проведение исследования, Администрирование данных, Создание черновика рукописи, Создание рукописи и ее редактирование, Администрирование проекта.

Ксения Ерицян: Концептуализация, Методология, Ресурсы, Руководство исследованием, Администрирование проекта.

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Ksenia Eritsyan: conceptualisation, methodology, resources, supervision, project administration.

Заявление о доступности данных

Данные доступны по запросу, адресованному первому автору.

Data Availability Statement

The data are available upon request submitted to the first author.

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