In-Article Ad Survey: 300x250 Revisited

Revisiting ad-blocking users' perceptions of a 300x250 ad placed in primary content

Date:	February 2024
Performed by:	Dynata and eyeo GmbH
Commissioned by:	The Acceptable Ads Committee

Table of Contents

List of Figures

List of Tables

About the Acceptable Ads Committee

Over 350 million online users worldwide are open to receiving Acceptable Ads. Established in 2017, the Acceptable Ads Committee ("AAC") is a non-profit organization whose objective is to protect the user experience, while simultaneously providing publishers and content creators with meaningful monetization opportunities. The AAC does so by conducting independent research into the acceptability of various ad formats and codifying the results in the [Standard](#) for what constitutes an Acceptable Ad. One of the few advertising bodies that provides a voice for internet users, the AAC aims to maintain a sustainable open internet by balancing the needs of its stakeholder representatives, including users, publishers, advertisers, ad tech companies, and digital rights organizations.

Abstract

In December 2021, the Acceptable Ads Committee (AAC) published a study to assess ad-blocking users' perceptions of in-content ad formats within articles and galleries. Initially, among the in-content ad formats tested, the medium rectangle (300x250) placed within the primary content of a website was found to be acceptable to users overall. However, younger adults (16-44 years) rated it significantly more disruptive than older adults (45+ years). Consequently, the AAC did not adopt the 300x250 in-content ad format at that time. Given its prominence in digital advertising, the AAC replicated the study with a larger sample to further investigate these age-related disparities.

The revised study aimed to emulate a realistic ad experience by incorporating a 300x250 in-content ad within a long-scroll article, alongside a 728x90 top banner and a 160x600 right rail ad. Participants, recruited from the US, Germany, and France via the marketing research company Dynata, rated the disruptiveness of both the 300x250 in-content and the overall ad experience. The results indicated that the 300x250 ad was not perceived as highly disruptive, annoying, or intrusive. Logistic regression analysis revealed that younger participants were still more likely to rate the ad as disruptive, but

not to a significant extent and all ratings remained below the 35%-threshold for acceptability.

This comprehensive study supports the inclusion of the 300x250 in-content ad in the Acceptable Ads Standard, demonstrating that, despite age-related differences in perceptions, the ad format is largely acceptable to ad-blocking users when integrated into a typical web experience. However, the study acknowledges limitations such as the artificial study environment and low ad recall rates, which may influence perceived disruptiveness.

1. Introduction

In December 2021, the AAC published a study into ad-blocking user perceptions of ads placed within the content of articles and galleries. At the time, the 300x250 in-content ad format placed within an article was found to be below the 35% disruptiveness threshold. However, further investigation revealed differences in disruptiveness ratings between younger (16-44 years) and older (45+ years) such that for younger adults the 300x250 was perceived to be significantly worse than for older adults.

The 300x250 ad format (known as medium rectangle) is one of the most pivotal static ad formats for publishers in the current digital advertising landscape. The Interactive Advertising Bureau (IAB) includes this format in its Standard ad portfolio, highlighting its importance and versatility, both on desktop and mobile, most commonly placed within the content. Publishers and advertisers highly seek the 300x250 format due to its ability to generate higher click-through rates compared to other ad sizes and because of its cross-device compatibility (IAB, 2017).

Despite its widespread use and popularity among digital publishers, the Acceptable Ads Committee (AAC) decided against including the 300x250 ad format in its Standard. This decision was primarily driven by the findings of the preliminary study which revealed varying perceptions of this ad format across different age groups. Specifically, younger

demographics appeared to respond less favorably to these ads compared to older cohorts, indicating a potential age-related divergence in user engagement and ad effectiveness.

To examine whether the age-related disparities in perception of the 300x250 ad format found in the 2021 in-content ads study were robust, the initial study was replicated with a significantly larger sample size and using a more realistic web experience that incorporated multiple Acceptable Ads (e.g., see the 2022 AAC ad-refresh study). This comprehensive study aimed to provide a more robust analysis by including a greater sample size focusing on perceptions of the 300x250 ad format, allowing for further exploration of potential differences across age groups.

2. Study methodology and survey design

2.1. Overview of revised study design

The present study aimed to test a realistic ad experience that was similar to the current Acceptable Ads web experience. As such, the web experience was designed to evaluate how the 300x250 in-content ad was rated within an ad experience currently allowed under the Acceptable Ads Standard. The long-scroll article created for the study included both a 728x90 top banner ad (above the fold) and a 160x600 right rail ad (below the fold). Accordingly, participants rated not only the disruptiveness of their experience of the 300x250 in-content ad ("How disruptive was the ad that appeared in the middle of the article to your experience?") but also their overall ad experience ("How disruptive were ALL the shown ads to your overall experience?"). The 300x250 ad unit should only be further considered for acceptability if it meets the 35% criteria for both disruptiveness ratings. While this methodology differed from the original in-content ad format study, it ensured a more realistic web experience for users and increased confidence in the validity of the results.

2.2 Participant Recruitment

The third-party provider 'Dynata' provided participants for the study via their online recruitment platform. Participants were recruited from the US, Germany, and France, as these are the three largest ad-blocking markets. Individuals aged 18 and older were invited to participate in an online study. An initial screening question was used to determine if they were using ad-blocking software; only those who did were invited to complete the study. Quota sampling was employed to ensure equal gender representation (1:1 male-to-female ratio) and age group proportions representative of typical ad blocker usage. Participants were required to complete the survey on desktop computers.

2.3. Study Design

A long-scroll article was designed to test the addition of the 300x250 in-content ad to a typical Acceptable Ads experience. As the study aimed to explore user perceptions of the disruptiveness of this single ad experience, no control group was used. Nevertheless, as the control ad experience would be markedly similar to one of the control group ad experiences in the recently published AAC in-view ad-refresh study, it is possible to compare the current in-content ad experience to this long-scroll ad experience.

2.3.1. Article Experience

The Article Experience was designed as a scrollable single-page article containing a combination of image and text content. Under the current Acceptable Ads Standard, a scrollable single-page article could contain multiple ad units as long as they occupy no more than 15% of the viewable area above the fold and 25% below the fold. Fitting within the Acceptable Ads size requirements, the top banner ad (728x90) was presented above the fold and a right rail ad (160x600) was presented below the fold, in addition to the tested 300x250 in-content ad.

Figure 1. Stylised screenshot of the long-scroll article with the ad highlighted with the red boxes.

2.3.2. Ad creatives

A set of ad creatives was developed for display within the article experience. The content for each ad creative was designed to be a gender-neutral product that would be equally appealing across genders. The brands used were mock brands, ensuring that the brands' effect could be isolated from any existing or known brands.

2.4. Study measures and procedure

The study questionnaire can be found in the Appendix. Prior to commencing the study, participants provided basic demographic information (age, gender). Participants were told that they would be presented with a typical article they might find on a website and that they should read the article carefully as they would be asked some questions about the content of the article. Participants were informed that they would need to engage with the article for a minimum of 45 seconds before being able to continue with the survey.

After viewing the article, participants answered three basic comprehension questions about the content of the article. They were then asked whether they recognized ads appearing in different locations on the webpage. Participants then rated the disruptiveness, enjoyableness, annoyance, and intrusiveness first of the 300x250 in-content ad and then over their overall ad experience (all ads on the webpage). A reduced-size screenshot of the webpage with the ads highlighted was provided to participants as a reminder while answering these questions. Participants then indicated the ad that they found to be most disruptive to their web experience, reported the ad blocker(s) they were currently using, and rated their overall attitudes towards online advertising (based on the questionnaire from Redondo & Aznar, 2018).

2.5. User testing and soft launch of the survey

Unmoderated user tests were performed with five participants. The results of these user tests were used to evaluate the comprehensibility of the survey questions and identify any issues with the survey flow or wording. Feedback from user tests was integrated into the survey. As a second step, the English survey was launched to a subset of 150 participants to check the implementation and programming of the survey.

2.6. Criteria for determining acceptability

Participants rated the disruptiveness of a) the 300x250 in-content ad unit itself ("How disruptive was the ad that appeared in the middle of the article to your experience?") as well as the disruptiveness of b) the 300x250 in-content ad unit as part of the overall ad experience ("How disruptive were ALL the shown ads to your overall experience?"). Both ratings are essential for evaluating the disruptiveness of the 300x250 in-content ad for the Acceptable Ads Standard, as this ad unit will rarely be implemented in isolation and needs to be evaluated in terms of how it affects the overall ad experience. As such, only if it meets the 35% acceptability criteria for <u>both</u> disruptiveness ratings should it be considered further for their acceptability.

3. Sample description

3.1. Demographics

The study included a total of 3,004 participants: USA (n=1,001), Germany (n=1,004) and France (n=999) after removing 283 participants due to quality checks. Demographic information for the sample is provided in Table 1.

Table 1. Socio-demographic characteristics of the sample relative for each country and in reference to the internet-using population.

	USA n (%)	Germany n (%)	France n (%)	Age distribution of the internet using population
Age category				
18-24	175 (17.5%)	171 (17.0%)	177 (17.7%)	18%
25-34	321 (32.1%)	316 (31.5%)	315 (31.5%)	32%
35-44	193 (19.3%)	197 (19.6%)	188 (18.8%)	19%
45-54	137 (13.7%)	145 (14.4%)	142 (14.2%)	14%
55-64	103 (10.3%)	102 (10.2%)	103 (10.3%)	10%
65+	72 (7.19%)	73 (7.27%)	74 (7.41%)	7%
Gender				**Male-to-Female ratio of one**
Female	487 (48.6%)	486 (48.4%)	496 (49.6%)	50%
Male	504 (50.4%)	515 (51.3%)	499 (50.0%)	50%
Other	8 (0.8%)	2 (0.2%)	3 (0.3%)	-
Prefer not to say	2 (0.2%)	1 (0.1%)	1 (0.1%)	-
Perception of online advertisement[a]	**Median** *[95% confidence interval]*	**Median** *[95% confidence interval]*	**Median** *[95% confidence interval]*	
18-44 years	0.93 [0.77, 1.11]	0.09 [-0.11, 0.26]	-0.147 [-0.29, 0.08]	
45 years +	0.50 [0.23, 0.77]	-0.32 [-0.72, -0.15]	-1.17 [-1.47, -0.86]	

Notes: [a]*Responses to 11 questions assessing participants' perceptions of online advertising on a 5-point scale with higher scores representing more positive attitudes. See Appendix 3.2 for further details.*

3.2. Ad-blocker usage

Participants were asked to indicate the main ad blocker they are currently using. The most common ad blocker was AdBlock. Differences between the countries are negligible. The distribution of ad blockers can be found in Table 2.

Table 2. Ad blocker usage by participants across countries

(Adblocker with less than 50 participants are put in the category "Other")

Ad blocker	USA	Germany	France
AdBlock	39.7%	42.1%	47.3%
Other	33.5%	34.5%	22.1%
Adblock Plus	12.1%	13.9%	18.2%
Ublock	8.03%	9.41%	5.79%
AdGuard	6.66%	-	-
Adblock Plus+Adblock	-	-	6.69%

4. Study Engagement

In general, participants spent 2 minutes and 30 seconds on the webpage and 50 percent answered 3 out of 3 of the comprehension questions correctly. Sixteen percent of participants did not recall seeing any ads and only 21.7 percent recalled seeing the 300x250 in-content ad.

5. Individual ad ratings

To evaluate the disruptiveness of the ad refreshing ad unit to a web experience, participants rated a) the 300x250 in-content unit itself and b) the 300x250 in-content ad

unit as part of the overall ad experience in terms of how disruptive, annoying, intrusive and enjoyable each experience was. Figure 2 and 3 present participant's ratings.

Figure 2 illustrates the ratings for the 300x250 in-content ad across four metrics. It is evident that most participants rated this ad format as either slightly or not at all annoying, disruptive, and intrusive. Additionally, the majority found the ad enjoyable. This pattern extends to the ratings of the overall ad experience (ratings of all ads on the webpage) shown in Figure 3. Overall, the results indicate that most participants did not rate the 300x350 in-content ad as annoying, disruptive or intrusive.

Figure 2: Ratings of the disruptiveness, annoyance, intrusiveness and enjoyment of the 300x250 in-content ad experience.
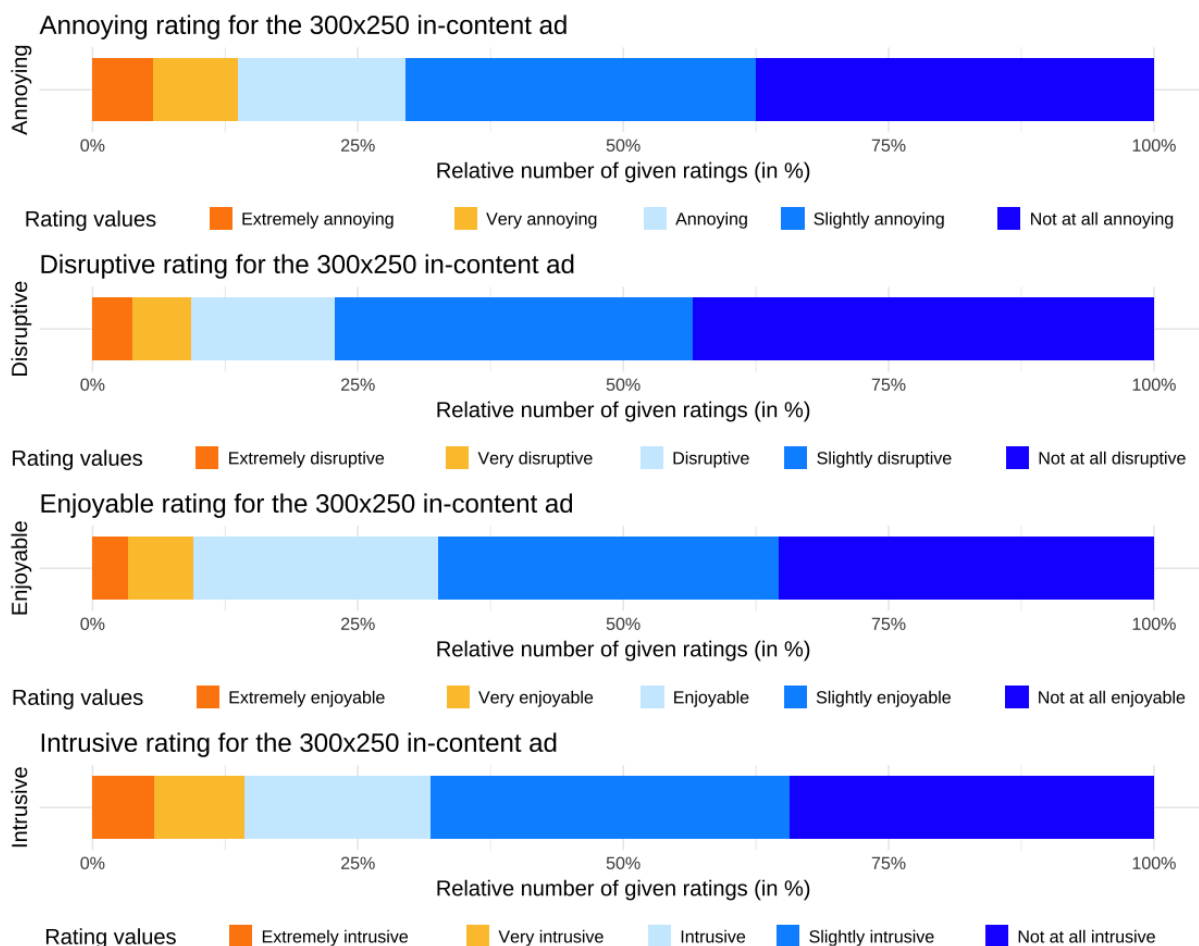
Note: Ratings for the 300x250 in-content ad refer to the question: "How disruptive was the ad that appeared in the middle of the article to your experience?".

Figure 3: Ratings of the disruptiveness, annoyance, intrusiveness and enjoyment of the overall ad experience
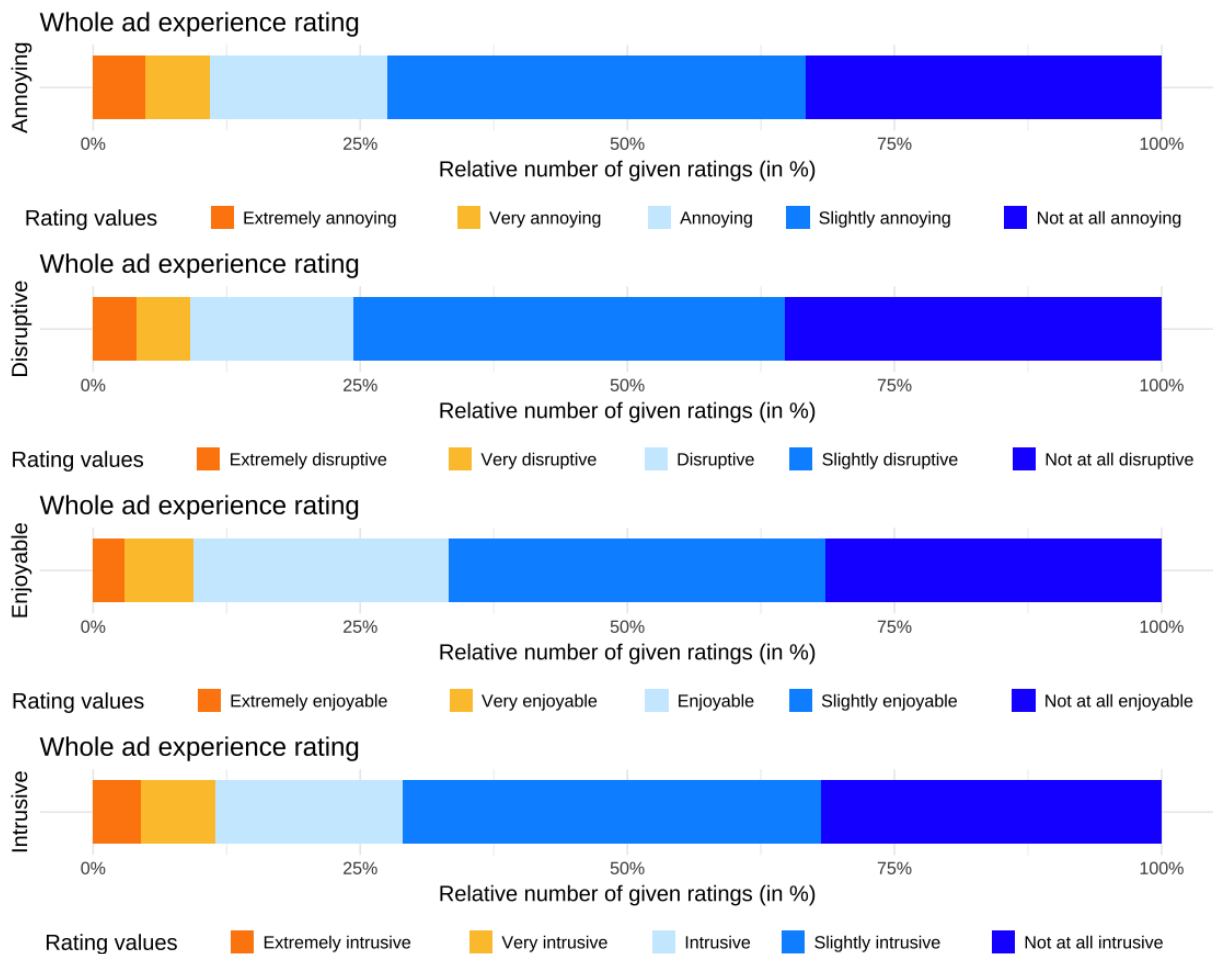
Note: Ratings for the overall ad experience refer to the question: "How disruptive were ALL the shown ads to your overall experience?".

6. Impact of demographics on the ad's ratings

To explore whether there were any factors associated with a higher probability of rating the ad experience as disruptive, logistic regression models were run on the 300x250 in-content ad and the overall ad experience disruptiveness ratings. In these models, socio-demographic factors (e.g., generation, gender, attitude towards online advertising) were included. Factors that reflected the participant's engagement with the web experience and the study (e.g., the number of correct answers of the comprehension

questions, or if the participant stated that they did not recall seeing any ads) were also included. Socio-demographic categories with few participants were removed from the data prior to the analysis i.e., gender categories "other" (n=13) and "prefer not to say" (n=4). The model's results can be found in Table 3.

Table 3 - Estimated odds-ratios from the logistic regression results for an ad being rated as disruptive (extremely, very or disruptive) vs. not disruptive (slightly or not at all disruptive) in the web experience.

The reference is a male US citizen aged 45 years or older who has recalled some ads. An odds ratio can be interpreted as follows: the odds that a young person rates a 300x250 ad experience as disruptive is 1.31 times as high as the odds for an older person – that is, the odds that a person would rate the ad experience as disruptive is 31% higher if that person is young opposed to an older person. A predictor is considered to have an effect if its confidence interval does not contain 1 (equal odds). This significance is marked with an asterisk based on a 95% confidence interval.

	Rating of 300x250 in-content ad	Rating of the overall ad experience
Predictors	*Odds Ratios*	*Odds Ratios*
Socio-demographic factors		
Generation: Younger	**1.31***	**1.43***
Gender: Female	0.99	1.01
Country: Germany	0.93	0.84
Country: France	**0.72***	**0.72***
Perception of online advertising	**0.86***	**0.77***
Engagement with web experience		
Number of correctly answer-ed comprehension questions	**0.73***	**0.74***
Participant did not see any ads	**0.51***	**0.58***

Note: [a]Higher scores = more positive attitude to online advertising in general.
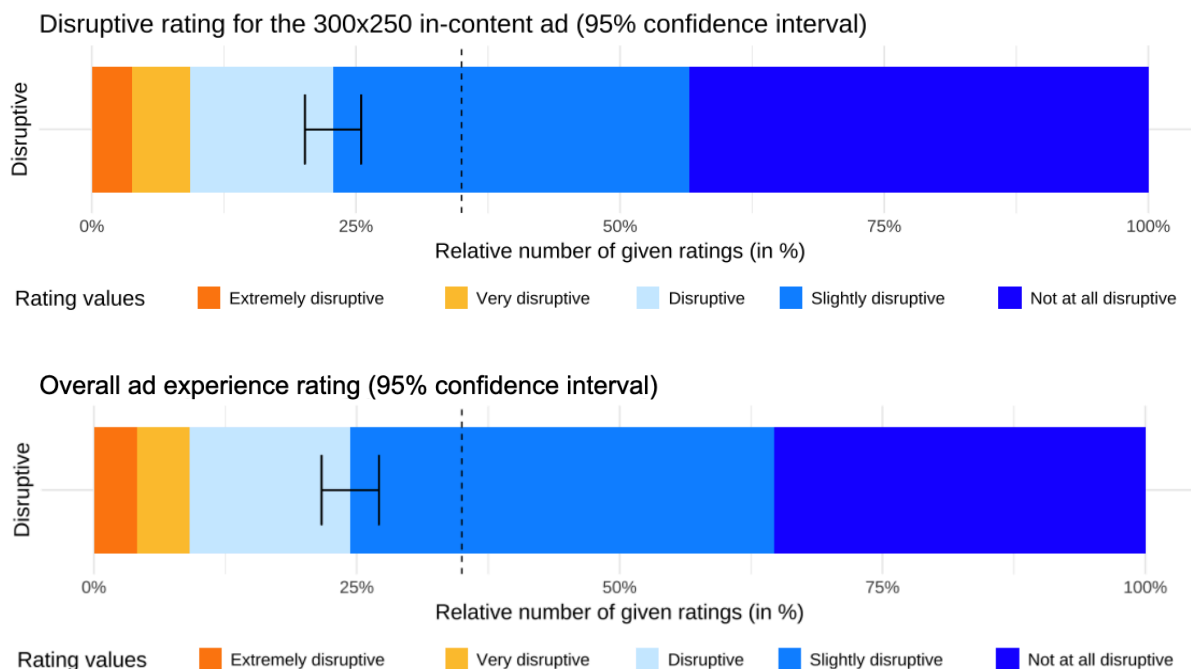
The odds in logistic regression represent how much more likely it is for the event to happen compared to not happening. Given the odds in Table 3, we can draw the following conclusions: In general, all predictors have the same effects on the odds of rating the 300x250 in-content ad and the overall ad experience as disruptive. Notably, it was more likely that a young person rated the ad or the overall ad experience as disruptive than an older person. The odds of rating the 300x250 in-content ad and the overall ad experience as disruptive was 27% lower if the person came from France as opposed to the USA. Not surprisingly, those participants with more positive attitudes towards online advertising were less likely to rate the 300x250 in-content ad or the overall ad experience as disruptive. Participants who reported not seeing any ads were likelier to rate the 300x250 in-content ad or the overall ad experience as disruptive.

7. Acceptability

To determine the acceptability of an ad format, the Acceptable Ads Committee is required to determine the annoyance level of the tested ad format. Only if an advertisement format fulfills the requirement of being "equivalent to 35 on the 'Level of Disruption' scale" can an ad type be taken into consideration for addition to the Acceptable Ads Standard. The level of disruption is demonstrated in Figure 4 along with the 95% confidence interval for the ad being disruptive or worse. The black dashed line indicates the 35%-threshold stated in the AAC bylaws. For both ratings (the individual ad rating as well as the overall ad experience rating) the share of ratings being disruptive or worse are below the 35%-threshold.

Figure 4: Disruptive ratings for 300x250 in-content ad, with the 95% confidence interval of the proportion of ads being disruptive, very disruptive, or extremely disruptive.

The black dashed line indicates the 35%-threshold stated in the AAC bylaws. Disruptiveness is measured for the overall ad experience and the 300x250 in-content ad itself.

Disruptive rating for the 300x250 in-content ad (95% confidence interval)

Rating values: Extremely disruptive · Very disruptive · Disruptive · Slightly disruptive · Not at all disruptive

Overall ad experience rating (95% confidence interval)

Rating values: Extremely disruptive · Very disruptive · Disruptive · Slightly disruptive · Not at all disruptive

Note: Ratings for the 300x250 in-content ad refer to the question: "How disruptive was the ad that appeared in the middle of the article to your experience?". Ratings for the overall ad experience refer to the question: "How disruptive were ALL the shown ads to your overall experience?" The results report ratings from all participants, irrespective of whether or not they recalled seeing the 300x250 in-content ad during their web experience. If the results of those participants who did not recall seeing the 300x250 ad are removed from the ratings, the disruptiveness ratings become slightly worse but are still within the acceptable range.

7.1. Comparison with previous survey results

Two additional analyses were conducted to check the consistency and robustness of results: (1) exploring whether some of the participant characteristics associated with disruptiveness ratings as identified in Chapter 6 suggest potential subgroup differences in acceptable formats and (2) exploring whether patterns were consistent when taking into account more data from the ratings of the ad experiences.

Consistent with the analysis informing the video ads, in-content ads and the ad-refresh studies, the ad experiences were compared to a theoretical "best ad" experience using a combination of the perceived disruptiveness, intrusiveness, annoyance, and enjoyment ratings. The theoretical best case would be an ad experience that receives the lowest possible negative (= not at all disruptive/intrusive/annoying) and highest possible positive ratings on each of the scales (= extremely enjoyable) for the overall ad experience and for the ad refresh effect itself. That is, the theoretical ad experience would be not at all disruptive, annoying, or intrusive, and extremely enjoyable.

The distribution of each total score forms an empirical cumulative density function (ECDF). To understand how different these ECDFs are, a Wasserstein metric is used to measure the distance between the distribution of ratings for a given ad experience and the distribution of ratings for the theoretical best case ad experience. Thus, the lesser the distance between the ad experience and the theoretical best ad, the better the ad experience's performance. This metric can be used to evaluate the distance between an ad experience and the theoretical best ad and compare it to the distance between the Acceptable Ads experience and the theoretical best ad. If the ad experience is within the bounds or below the distance for the Acceptable Ads experience – which is the ad experience users are currently experiencing online and that meets the acceptability criteria in the current study – one can be confident that such an ad experience is acceptable to users even when taking into account more comprehensive data from all disruptive, intrusive, annoying and enjoyment ratings.

The logistic regression model in Chapter 6 revealed that there is a significant effect of the participant's age on the ad's ratings. Therefore, Figure 5 shows the Wasserstein distances for both the old and the young generation. As all previous AAC surveys were designed to examine how disruptive, annoying, intrusive, and enjoyable different ad experiences were, the data from the present study could be combined with the data from the 2020 video advertisement survey, the 2021 in-content ad survey and the 2022

refreshing ad survey to create a comparison of the different ads and the generational effect on it. We included a selection of representative ads.

The age effect is demonstrated in Figure 5. It presents the Wasserstein distance for each ad experience relative to the theoretical best ad grouped by generation. The ratings are only based on the rating of the 300x250 ad (and not the overall ad experience) to be comparable to the previous in-content ads study. The young generation is grouped by the age range of 16 to 44, while the old generation encompasses all participants older than 44. Results demonstrate that younger users perceived the 300x250 in-content ad in the 2021 survey worse than the older generation. However, in the current study utilizing a more realistic website experience with multiple ads present (current survey) the age effect is statistically not present anymore. Thus, we can be more confident that a 300x250 in-content will be accepted by all Acceptable Ads users.

Figure 5: Wasserstein distance metric for the ECDF between ad types and the theoretical best ad split by generation
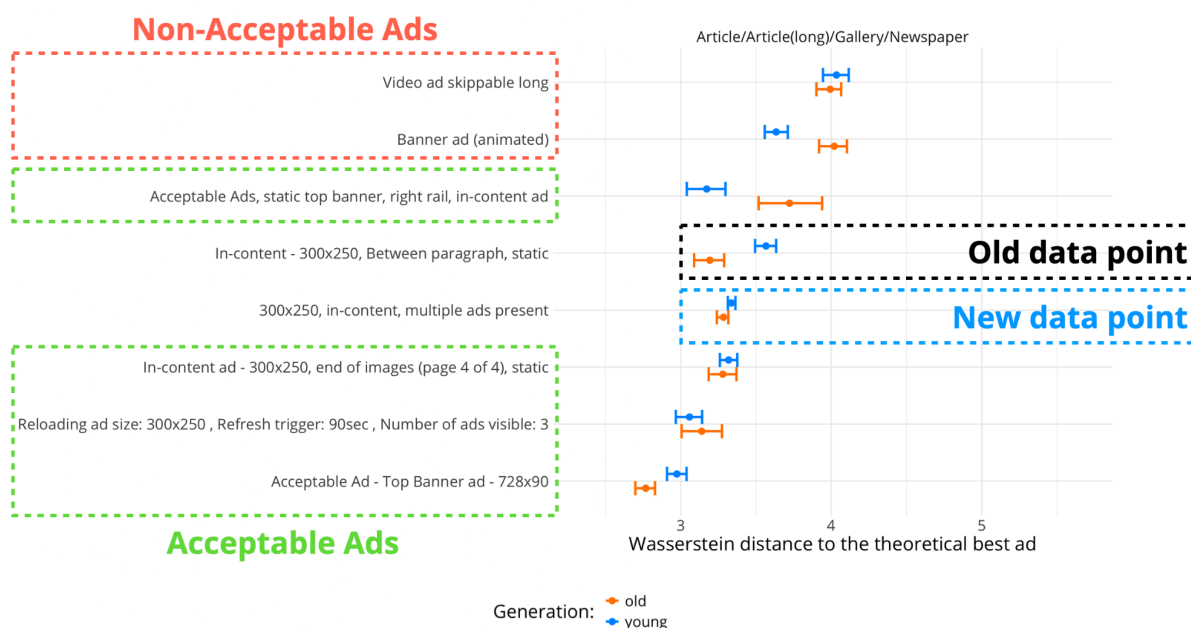

Note: The old data point refers to the ratings from the 2021 in-content ad survey, while the new data point is the Wasserstein distance based on the current survey. The green box presents ads that are currently allowed within the Acceptable Ads Standard, whereas the red box presents a selection of ad formats that are not currently allowed within the Standard.

In addition, we can compare all tested ad formats from all prior AAC surveys to get an overall ranking of these ad formats. Figure 6 presents these rankings. Although all AAC surveys used the same rating scale for rating a tested ad format (e.g.: "How disruptive was the ad to your experience?"), the current study also included ratings for the overall ad experience (e.g.: "How disruptive were ALL the shown ads to your overall experience?"). As such, the ratings used in the Wasserstein distance analysis reflect both ratings for ad experiences from the present study (this is also true for ad experiences in the 2022 ad-refresh study). The dashed lines mark the confidence intervals for the Acceptable Ads experience in an Article ad experience. Ad experiences to the right of the dashed lines are those that are rated worse (a greater distance to the theoretical best ad experience) than the Acceptable Ads experience. One can see that the Wasserstein distance for the 300x250 in-content ad with other ads present is left to the Wasserstein distance with multiple Acceptable Ads present, thus being now in the spectrum of acceptability. Thus, in the current, more realistic web experience with multiple ads present, the 300x250 in-content is now in the area of acceptability.

Figure 6: Wasserstein distance metric for the ECDF between ad types and the theoretical best ad

Comparison of ad experiences in the current study (long Article) to ad experiences tested in the 2020 AAC Video advertisement study (newspaper) and the 2021 AAC in-article and in-gallery ads survey (article and gallery). The dashed lines mark the confidence intervals for the Acceptable Ads experience in the (long) Article web experiences.
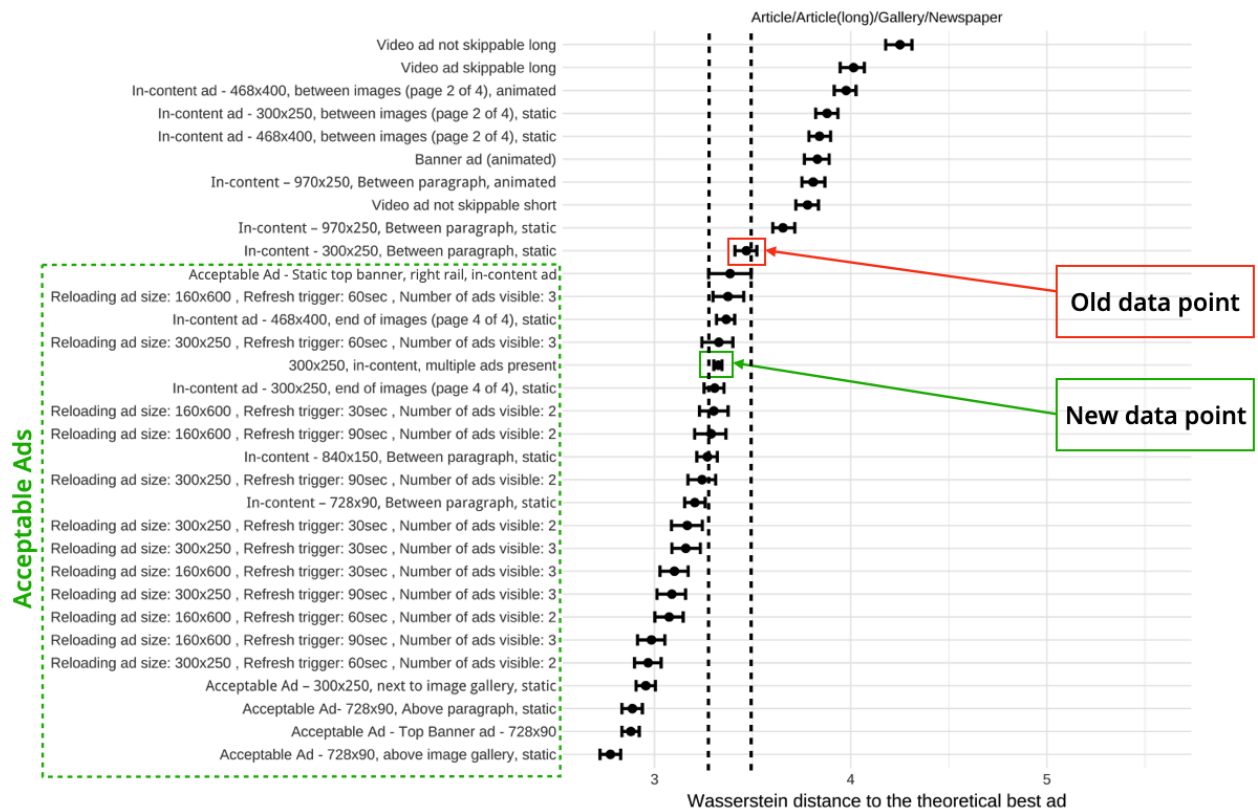
Note: In the 2020 and 2021 surveys, all ad experiences contained only a single ad, whereas in the current 2022 survey, all Article experiences and most of the Game experiences contained multiple ads (Acceptable Ads plus a refreshing ad). In the 2022 and 2024 surveys, participants not only rated the ad refreshing ad ("How disruptive/intrusive/ annoying/enjoyable was the reloading ad to your experience?") but also their overall ad experience ("How disruptive/intrusive/annoying/enjoyable were ALL the shown ads to your overall experience?").

8. Conclusion

In this study, we investigated how users who block ads perceive a 300x250 in-content ad when it is included as part of an Acceptable Ads experience on a single-page scrollable article. A strength of our study is that we focused on real web experiences, where the in-content ad appeared alongside other static Acceptable Ad formats, while encouraging

participants to interact with the web content. This approach enhances the reliability and confidence in our study results.

Moreover, our study builds on previous research from 2021, which showed significant differences in ratings for the 300x250 in-content ad among different generations. By adding more data points through this survey, we further bolster confidence in the acceptance of the 300x250 in-content ad by the majority of Acceptable Ads users.

9. Study limitations

The study has the following limitations. First, the study aimed to increase participant engagement with the web experience by informing participants that comprehension questions would be asked after viewing the article experience and setting a minimum time requirement for webpage interaction. While some signs suggest participants engaged with the content (most answered comprehension questions correctly and spent over two and a half minutes on average on the webpage), we cannot determine the actual level of engagement or its impact on ratings.

Further, despite efforts to simulate more realistic and engaging web experiences with the introduction of a 300x250 in-content ad, the study environment remains artificial and may not fully reflect users' actual internet browsing. It's possible that users may encounter more ads on webpages than presented here, and the disruptive nature of ad experiences may accumulate over browsing sessions.

Notably, the recall rate for the 300x250 in-content ad was relatively low. Only 36% of younger participants recalled seeing the 300x250 in-content ad and only 27% of older participants recalled seeing the ad. These rates are significantly lower compared to the 2021 survey, where recall rates were 86% for younger participants and 70% for older ones. Interestingly, participants who did not recall seeing the 300x250 in-content ad rated it as less disruptive, intrusive and annoying than those who did. This suggests that increased awareness of the ad correlates with higher perceived disruptiveness.

A potential explanation for the difference in recall rates for the in-content ad between studies is that the current study utilized a more realistic web experience that included multiple in-article images that were related to the content of the article and may have made the in-content ad less noticeable. In the 2021 in-content ads study, there were no in-article images, making the in-content ad more obvious to the reader. The impact of recall on the ratings of the 300x250 in-content ad is illustrated in Figure 7, where participants who recalled the ad tended to rate it more favorably than those who did not.

Figure 7: Effect of recalling the in-content ad on 300x250 in-content ad rating

Note: The figure also presents the 95% confidence interval of the proportion of ads being annoying/disruptive/intrusive, very annoying/disruptive/intrusive, or extremely annoying/ disruptive/intrusive.

Intrusive rating for the 300x250 in-content ad
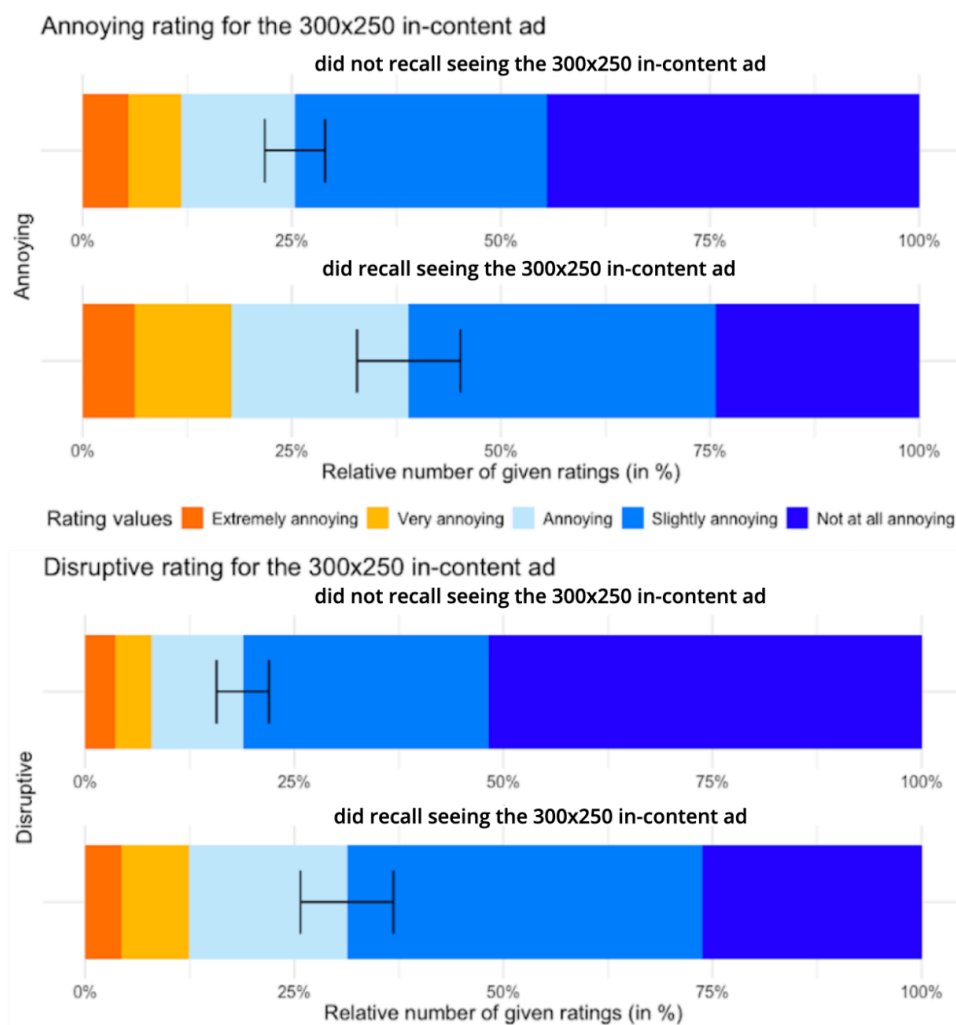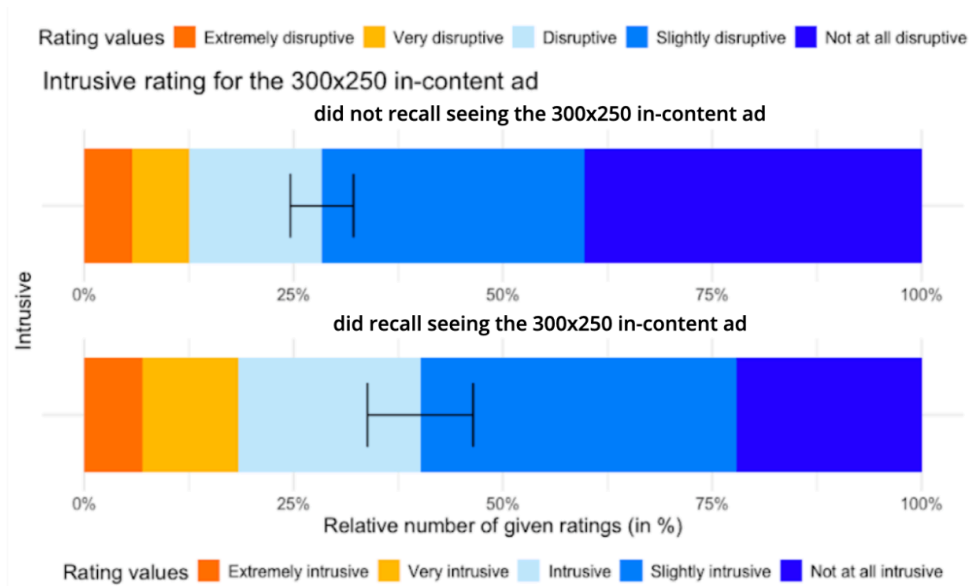
Further, as the study was only conducted with participants from three markets (United States of America, France and Germany), it is not possible to know whether the results would generalize to all other global markets where Acceptable Ads are used.

Glossary

Above the fold	The portion of the webpage that is visible without scrolling.
Acceptable Ads size requirements:	All ads that are visible in the browser window when the page first loads (i.e. above the Fold) must not collectively occupy more than 15% of the visible portion of the webpage. If placed lower on the page (i.e. below the Fold), ads must not collectively occupy more than 25% of the visible portion of the webpage.
Ad experience	The specific combination of ads shown on the web experience.
Below the fold	The part of a webpage that can't be seen without scrolling down.

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Appendix 1 - Ad creatives

Table A.1. Ad creatives developed for the web experiences

Ad unit	Ad dimensions	Mock ad brand	Advertised product	Ad image
Static top-banner ad	728x90	Gym-Beast	Workout/Gym center	
Static right rail ad	160x600	Stylophone	Phone cases	
Static in-content ad	300x250	Voxanon	Shoes	

Appendix 2 - Questionnaire

Q1 What is your gender?

1   Male
2   Female
3   Other
4   Prefer not to say

Q2 How old are you?

1   18-24
2   25-34
3   35-44
4   45-54
5   55-64
6   65+

Q3 What types of technologies do you currently own or use? Select all that apply:

(Multiple Choice, vertical alignment, randomize order of responses.)

SCREEN OUT *IF* "Ad-blocking software" is **NOT** selected OR if "AI powered political content blocker" has been selected.*)*

Answer options:
Home assistant (Google Home, Amazon echo, etc.)
Smart watch (Apple Watch, Pebble etc.)
Ad-blocking software (Adblock Plus, AdBlock, uBlock Origin, etc.)
VPN (virtual private network)
Streaming service (Netflix, Hulu, etc.)
AI-powered political content blocker
None of the above

In the next part of this survey, you will be presented with a typical article you might find on a website. Please read the article carefully, as we will ask you some questions about what you have read and seen on the following page. You will not be able to return to the article once you have left the page. It is important to us that you take the time to read the article and explore the webpage.
There will be a minimum time limit of 45 seconds before you can click ahead in the survey.

Display the article web experience "These Are Chefs' Biggest Grievances in the Kitchen".
Timer for web experience 45 seconds prior to allowing the panelist to continue the survey.

Q4 Please read the statements below regarding the content of the presented article. Select the correct answers to the below questions.

(Multiple Choice, answer options presented in vertical order.)
What was the presented article about?
- A. Ambitious hobby chefs & their challenges cooking at home [FALSE]
- B. Cooking recipes [FALSE]
- C. Professional chefs and their annoyances [TRUE]

One interviewee in the article said
- A. The customer is king and they'll always try to please them - no matter the customers' funny or late extra wishes [TRUE]
- B. They love creating surprise menus to serve their guests [FALSE]
- C. Creating blind dining experiences usually creates a positive eating atmosphere [FALSE]

One interviewee in the article said
- A. That she enjoys the most preparing catering for events [FALSE]
- B. Dislikes when restaurant guests invent non-existent allergies [TRUE]
- C. Salads are harder to prepare than the average person thinks [FALSE]

Next we would like to ask you about your experiences with ads that may have appeared in different locations on the web page.

Displayed on a page prior to Q6.

Q6 Please indicate if you recognized ads appearing in each of the following locations on the web page:

(Multiple Choice, vertical alignment, single selection for answer option "I can't remember",

Answer options:
I have seen an ad at the **top** of the webpage
I have seen an ad on the **right** side of the webpage
I have seen an ad placed in the **middle** of the article text
I have seen an ad placed at the **left** side of the webpage
I cannot remember seeing any ad(s)

Q7 You indicated that you saw an ad placed in the middle of the article text.

As a reminder, a stylized screenshot of the actual web experience you were presented with is shown.

(Only display this question if "I have seen an ad placed in the middle of the article text" (answer code c) was selected in Q6. Likert scale, horizontal alignment, scoring 1 - 5

Insert the stylized screenshot below the answer options; make the screenshot as large as possible at given space (optional: make it clickable to enlarge it to original size.)

Start with "Not at all x" on the left and end with "Extremely x" on the right

Q7.1: How disruptive was the ad that appeared in the middle of the article to your experience?

Answer options:
Extremely disruptive
Very disruptive
Disruptive
Slightly disruptive
Not at all disruptive

Q7.2: How enjoyable was the ad that appeared in the middle of the article to your experience?

Answer options:
Extremely enjoyable
Very enjoyable
Enjoyable
Slightly enjoyable
Not at all enjoyable

Q7.3: How annoying was the ad that appeared in the middle of the article to your experience?

Answer options:
Extremely annoying
Very annoying
Annoying
Slightly annoying
Not at all annoying

Q7.4: How intrusive was the ad that appeared in the middle of the article to your experience?

Answer options:
Extremely intrusive
Very intrusive
Intrusive
Slightly intrusive
Not at all intrusive

Ad experience ratings for overall ad experience

Now we would like to ask you to rate your experience with *all* the ads you have seen while visiting the web page. Please consider your <u>OVERALL</u> experience of the ads and their locations on the web page.
As a reminder, a stylized screenshot of the actual web experience you were presented with is shown.

Likert scale, horizontal alignment, scoring 1 - 5
Insert the stylized screenshot below the answer options; add a frame around the screenshot make the screenshot as large as possible at given space (Optional; make it clickable to enlarge it to original size.)
Start with "Not at all x" on the left and end with "Extremely x" on the right

Q8.1: How disruptive were ALL the shown ads to your <u>overall</u> experience?

Answer options:
Extremely disruptive
Very disruptive
Disruptive
Slightly disruptive
Not at all disruptive

Q8.2: How enjoyable were ALL the shown ads to your <u>overall</u> experience?

Answer options:
Extremely enjoyable
Very enjoyable
Enjoyable
Slightly enjoyable
Not at all enjoyable

Q8.3: How annoying did you find ALL the shown ads to your overall experience?

Answer options:

Extremely annoying
Very annoying
Annoying
Slightly annoying
Not at all annoying

Q8.4: How intrusive did you find ALL the shown ads to your <u>overall</u> experience?

Answer options:
Extremely intrusive
Very intrusive
Intrusive
Slightly intrusive
Not at all intrusive

Q9: Please choose the ad that was most disruptive to your web experience.
single selection, horizontal alignment, randomized order

Answer options:
ad at the top of the webpage
ad at the right hand side of the webpage
ad placed within the text of the webpage

**For the following statements, please indicate how much
you agree or disagree with each statement:**

**Q10.1: Generally, I consider Internet advertising to be a good thing.
Answer code**

Answer options:
Completely disagree

Disagree
Neither agree nor disagree
Agree
Completely agree

Q10.2 : I appreciate seeing advertising messages on the Internet.

Answer options:
Completely disagree
Disagree
Neither agree nor disagree
Agree
Completely agree

Q10.3: Internet advertising supports free access to content.

Answer options:
Completely disagree
Disagree
Neither agree nor disagree
Agree
Completely agree

Q.10.4: Online advertisements promote competition, which benefits consumers.

Answer options:
Completely disagree
Disagree
Neither agree nor disagree
Agree
Completely agree

Q10.5: Online advertisements support content creators.

Answer options:
Completely disagree
Disagree
Neither agree nor disagree
Agree
Completely agree

Q10.6: There are too many advertisements on the Internet.

Answer options:
Completely disagree
Disagree
Neither agree nor disagree
Agree
Completely agree

Q.10.7: Internet advertisements intrude on the content I am accessing.

Answer options:
Completely disagree
Disagree
Neither agree nor disagree
Agree
Completely agree

Q10.8: Online advertising disrupts my activity on the Internet.

Answer options:
Completely disagree

Disagree
Neither agree nor disagree
Agree
Completely agree

Q.10.9: Consumers may obtain reliable information through Internet advertising.

Answer options:
Completely disagree
Disagree
Neither agree nor disagree
Agree
Completely agree

Q10.10: Viewing online advertisements is a pleasant experience for me.

Answer options:
Completely disagree
Disagree
Neither agree nor disagree
Agree
Completely agree

Q10.11: Sometimes I take pleasure in thinking about what I saw or heard in online ads.

Answer options:
Completely disagree
Disagree
Neither agree nor disagree

Agree
Completely agree

Q11: What is the main ad blocker you are currently using? Please select all that apply:

(Multiple Choice, vertical alignment, single selection for answer option "None of the above (please specify):")

Answer options:
Ghostery
ublock Origin
Brave
Opera
AdBlock
AdGuard
Adblock Plus
NextDNS
Other

Appendix 3 - Additional data summaries and analyses

A3.1. Participants perceptions of the most disruptive ad

In addition to the questions about intrusiveness, disruptiveness, annoyance and enjoyability of the 300x250 in-content advertisement, the survey also asked the participants to choose the most disruptive ad in the presented web experience. As three ads have been present in the web experience this questions aim to find the most disruptive on.. Table A.1 presents the results.

Table A.1: Proportion of responses to the question: "Please choose the ad that was most disruptive to your web experience"

With 95% confidence interval (CI)

Ad type	Proportion	Lower CI	Upper CI
Ad at the top of the webpage	17.2%	15.9%	18.6%
Ad at the right hand side of the webpage	18.9%	17.6%	20.4%
Ad placed within the text of the webpage	63.9%	62.2%	65.6%

The data suggests that ads placed within the text of the webpage are perceived as the most disruptive by a majority of respondents (63.9%), followed by ads at the right-hand side (18.9%) and ads at the top of the webpage (17.2%).

A3.2 Perceptions of online advertising

Participants answered a set of 11 questions assessing their perceptions of online advertising on 5-point scales ranging from "completely disagree" to "completely agree"

(e.g., "Generally, I consider internet advertising to be a good thing"). Details for each item can be found in Appendix 2. An average across the responses to the 11 items was calculated representing participant's perception towards online advertising with higher values representing more positive attitudes. Table A2 shows that in all three countries, the younger generation tends to have a more positive attitude towards online advertising (however in Germany and France there were no statistically significant differences between the generations). Participants in the US show the most positive attitudes.

Table A.2: Median general attitude towards online advertisement by country and generation

With 95% confidence interval in brackets

| Country | Generation | |
	18-44 years	**45 years or older**
US	1.02 [0.79 - 1.21]	0.67 [0.49 - 0.86]
DE	0.08 [-0.22 - 0.38]	-0.13 [-0.28 - -0.01]
FR	-0.15 [-0.34 - 0.15]	-0.54 [-0.71 - -0.31]

Note: Scores on a 5-point scale with higher scores represent more positive attitudes towards online advertising.