Should Advertisers Avoid Negative News?

Advertising effects of negative affect, news site credibility, and applicability between article and ad

E. Häglund and J. Björklund

Dept. Computing Science, Umeå University, Sweden

Abstract

This article contributes to research on media-context effects by studying how ads are assessed when positioned alongside news articles that evoke negative emotions in readers. We find that in general, negative emotion does not influence advertising evaluation. Contrary to industry claims, the perceived source credibility of the news site is not found to moderate the effects of negative content. However, on its own, the credibility of the news site improves ad evaluations. Furthermore, high applicability between article and ad can enhance ad recognition and produce a weak negative effect on attitudes towards ads and brands. Our results provide evidence against the industry practice of avoiding negative news due to concerns over spill-over effects. Marketers should focus advertising to credible news sites and, when appropriate, avoid negative articles with high applicability to the advertised product and brand.

Introduction

During the onset of the covid pandemic, there was a surge in online news readership as people sought to follow the unravelling events (Molay & Essling 2020). Paradoxically, news publishers were at the same time predicting falling ad revenues, because advertisers did not want their brands to be seen in the context of covid-related articles (Nick 2020). There was a belief that the consumers' perception of a brand would suffer from negative affective tone, and that higher degrees of applicablity between article and ad would worsen the problem. In an effort to disperse such fears, news organizations and advertising authorities conducted a series of studies on brand safety. They concluded that advertising on well-known news sites is safe from a brand perspective, regardless of the negativity of the accompanying content (IAB 2020*a*, Reach Solutions 2021). However, no academic research has substantiated this claim.

To identify negative contexts, advertisers use extensive lists of keywords known as 'blocklists'. If a keyword from a blocklist is found on a webpage, then this disqualifies the page as a target for advertising. While it is reasonable that airlines avoid advertising next to articles about plane crashes, blocklists tend to balloon into thousands of words that have no connection to the advertised brand. Some frequently included terms are, e.g., 'shooting', 'suicide', and 'covid-19' (Vranica 2019). Blocklists have a direct negative impact on ad revenues for news sites. Beyond this, they influence news journalism as an industry by creating incentives to produce a larger proportion of lifestyle-oriented articles, which avoid negative or offensive topics. At the same time, advertisers may be passing up valuable advertising opportunities, which would place their brand and message in a trusted environment with engaged readers.

In general, the online context of an ad influences how it is perceived (Jørgensen & Knudsen 2022). However, that hard news produces negative effects on adjacent ads is far from a foregone conclusion. Research implies that the impact of negative or offensive content is dependent on the media domain: On YouTube, violent, sexual, or extremist content appear not to impact the perception of pre-roll ads (Bellman et al. 2018), while on social media, offensive content can be hazardous for advertisers (Lee et al. 2021). We contend that online news presents its own unique considerations regarding brand safety — an industry term describing measures for protecting the image and reputation of brands from damaging content. Readers turn to news sites to update themselves on consequential events from around the world, many of which are expected to be negative. Furthermore, the source credibility that many major news publishers possess could provide favourable advertising opportunities (Aaker & Brown 1972, Freiden 1982, Malthouse et al. 2007). The high trust placed by readers in news outlets is used by industry actors as an argument, for why hard news can cover negative topics and still be brand safe (IAB 2020*a*, Disney Advertising 2022, Reach Solutions 2021). A study conducted by a British publisher behind news sites such as the Daily Mirror (Reach Solutions 2021) report that advertising evaluations on a credible news site are not influenced by negative articles, whereas there is a negative effect on low credibility sites.

In this article, we study the effects of advertising alongside negative news. Specifically, the news articles used as experimental stimuli relate to violence and death, themes that often feature in the news, but are avoided by advertisers (IAB 2020*b*). We report on two related studies. In Study 1, we conduct an experiment where subjects are exposed to online news articles with accompanying ads. We record attitudes towards the ad and brand, purchase intention, and ad recognition. Furthermore, we evaluate source credibility as a potential moderating factor on the influence of negative emotional responses to news articles on advertising evaluations by varying the source credibility of news sites used in stimuli. In Study 2, we explore the effect of advertising alongside a negative news story that has a clear association to the advertised brand, such as a petstore ad next to an article about animal abuse. The combined results from the studies allow us to compare two brand-saftey strategies, namely, to avoid all negative contexts through lengthy blocklists, or to avoid only highly associated content. Our results show no to weak effects of negative news on advertising evaluations and demonstrate the importance of the consumer's perception of the credibility of the news site. These findings can help inform marketers brand safety considerations, so as not to needlessly forego advertising opportunities or defund quality journalism.

Theoretical Development

The influence of context on advertising

There is extensive literature on the influence of the media context on consumers' cognitive and behavioural response to advertising (Jørgensen & Knudsen 2022). Several factors influence the appropriateness of a media context for an ad. Some of the most widely studied are (1) the applicability of the content to the ad, (2) the affective tone of the content, and (3) the involvement of the consumer. Applicability concerns the state of mind induced by the context, and whether this is congruent with the ad topic, or primes for helpful associations (Yi 1990). Affective tone concerns the feelings induced by the context, which can impact satisfaction, customers' loyalty, and decision making (Kwortnik & William 2007). Finally, involvement describes how captivated the viewer is by the context. A high degree of immersion can lead to a more favourable attitude towards accompanying ads (Tavassoli et al. 1995), but if its too high, the viewer may fail to notice the ad (Norris & Colman 1992). For Study 1, we draw upon previous research on the influence of the affective tone of the

context to form our hypothesis on how negative news articles influence advertising evaluations and processing. Furthermore, we control for consumer involvement, by including the readers interest in the article as a potential confounding variable in the analysis. For Study 2, which explores the effect of applicability to negative content, we base the theoretical foundation for our hypothesis on studies on the impact of ad-article applicability.

The influence of the affect induced by context

The affective tone, that is, the emotions associated with the content, induces feelings that impact satisfaction, customer loyalty, and decision making (Kwortnik & William 2007). As a rule, advertisers want their brand and messages to be seen in positive contexts. The idea that positivity improves attitudes and purchase intention is supported by several studies, and appears to hold for both print media and television (Goldberg & Gorn 1987, Kamins et al. 1991, LaTour & Latour 2009, Yegiyan 2015). However, the relationship between the emotions induced by the content and the advertising effect is complicated: It is not clear that positive contexts always result in better advertising performance compared to negative contexts. Congruity between the emotions induced by an ad and its context (for example, a serious ad in a serious context) also has a positive advertising effect (Pelsmacker et al. 2002). Furthermore, for television programmes, favourable content liking supplants the effect of negative program-induced affect on attitude towards the ad (Pelsmacker et al. 2002, Coulter 1998, Murry Jr & Dacin 1996, Chang 2011). Loyalty over time towards TV-series has similar effects (Banerski et al. 2021). A film thriller that elicits fear or sadness can be a favourable advertising context if it is liked by its viewers. Thus, advertisers should consider whether consumers appreciate content, rather than the emotions induced by the content. While content-induced affect is characterized in advertising literature as a temporary emotional state (Coulter 1998, Gardner 1985), content liking is a more conscious evaluation of content (Coulter 1998, Schumann 1986).

It is necessary to factor in the media channel when studying the effects of context in advertising. For example, content liking has been shown to improve ad recall in television, whereas a similar effect has not been observed in print media (Pelsmacker et al. 2002, Tavassoli et al. 1995, Norris & Colman 1992). Norris & Colman (1992) and later Pelsmacker et al. (2002) suggested medium characteristics as a possible explanation for the discrepancy, such as the ease with which ads can be disregarded and the cognitive capacity re-

quired for consuming the content, both of which impact ad processing. This indicates that online news should be investigated as a distinct channel in its own right.

Many news articles cover stories that are negative or controversial in nature, including topics of crime, catastrophic events, war, political strife and polarizing societal issues. These have been shown to elicit negative emotions such as anxiety and sadness (Johnston & Davey 1997). However, we contend that the credibility of news sites will moderate the effect of article-induced affect on attitude towards the ad, similar to the effects of content-liking in tv-programmes. In a trusted news environment, we hypothesize that negative news will not elicit unfavourable attitudes towards adjacent ads. To reduce the potential effect of news content-liking on attitude towards the ad, we have in the selection of stimuli articles sought to reduce the entertainment value by using short-form articles, a terse reporting manner, and avoiding ongoing news stories (Knobloch-Westerwick & Keplinger 2007). We do not rule out that content-liking could have a moderating effect in more entertaining news forms, such as story-telling journalism or ongoing news stories that capture the interest of the public. However, the objective of our study is to examine the advertising effect of negative news and isolate the potential influence of news site credibility.

The influence of source credibility

Source credibility describes communicator characteristics that heightens the receiver's acceptance of a message (Ohanian 1990). Several dimensions of source credibility have been examined. Most prominent are expertise and trustworthiness (Kalbfleisch 2003, Ohanian 1990), where highly credible sources have been shown to increase the persuasiveness of a message (Pornpitakpan 2004). Most of this research has focused on product endorsers, to demonstrate that credibility improves brand attitude and purchase intention (Kamins et al. 1991, Wang et al. 2017, Chu & Kamal 2008). Research on source characteristics has also established that the same ad can be processed differently, depending on the consumers' assessment of the media vehicle (Aaker & Brown 1972, Freiden 1982). In the these studies, different types of magazines were used as stimuli. For example, informative magazines that readers perceive as "making them smarter" lead to positive evaluations of included ads (Malthouse et al. 2007).

A media vehicle effect has also been demonstrated between websites. Reputable websites induce favourable ad attitudes (Shamdasani et al. 2001), and ads placed on credible websites are seen as more be-lievable, which positively influences ad attitudes and purchase intentions (Choi & Rifon 2002). Source effects of news sites have been been studied for native advertising (Zhou & Xue 2019), though effects on the more common banner ads remain unexplored. We hypothesise that:

Hypothesis 1. *The source credibility of news websites positively influences advertising evaluations, as measured by ad attitude, brand attitude and purchase intention. High source credibility of the website leads to more favourable advertising evaluations.*

Recent research suggests that source credibility is especially important in turbulent times: During the 2020 coronavirus pandemic, trustworthy news outlets saw the largest increase in traffic (Altay et al. 2022). We conjecture that the credibility of established news sites dampens the influence of negative content on ad attitude. This hypothesis is based on the previously described research, which suggests that source credibility has positive advertising effects, and that content induced negative emotions do not spill-over to advertising evaluations in the presence of moderating factors. A diagram of the conceptual model for H1 and H2, which are examined in Study 1, can be seen in the left segment of Fig. 1.

Hypothesis 2. *Source credibility moderates the effect of negative affect induced by news articles on ad and brand attitudes, as well as on purchase intention. On a low-credibility news site, negative news articles impair advertising evaluations while evaluations on a credible news site are unaffected.*

The influence of high applicability

Yi (1990) describes two priming effects: affective and cognitive priming. Up to this point, we have focused on affective priming; the emotions induced by media content which influence the processing of ads. Cognitive priming refers to how media content can temporarily heighten the accessibility of thoughts and ideas. The phenomenon can lead to both positive and negative associations. An ad for a large car placed next to an article about safety in air travel caused readers to associate the car with safety, while an article about oil entrepreneurs instead related the large size of the car with poor fuel economy (Yi 1990). The degree to which content and ad overlap or fit, referred to as applicability, has been shown to moderate the strength of cognitive priming (Shen & Chen 2007). As part of this study, we ask whether the placement of ads next to highly applicable but negative articles spoils the desired advertising effect. The media context has been shown to influence consumers

perception of offensiveness in advertising (Christy & Haley 2008). Furthermore, ad associations that generate negative emotions, such as anger or disgust, lead to worsened ad evaluations and purchase intention (Shimp & Stuart 2004). To exemplify, an experiment by Gao & Li (2013) demonstrated how an American news article criticizing China sparked animosity towards the U.S. among Chinese readers. This in turn negatively impacted the readers' opinions of well-known American brands. On social media, Lee et al. (2021) identified applicability as the primary trigger for a spill-over effect between negative content and ad evaluations. As stimuli, their study placed an ad next to highly applicable but disturbing content: a pet-food ad alongside an animal-abuse post with cruel and derogatory user comments. We contend that highly applicable negative news articles will damage consumers' advertising evaluations. A diagram of the conceptual model for H3, which is explored in Study 2, can be seen in the right segment of Fig. 1.

Hypothesis 3. *Ad-article applicability moderates the effect of negative affect induced by news articles on advertising evaluation, as measured by ad attitude, brand attitudes and purchase intention. A high degree of applicability between the ad and a negative article impairs advertising evaluations.*
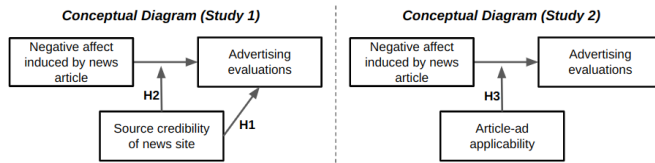
Figure 1: Hypothesized conceptual diagram of the effect of advertising alongside news articles that induce negative affect. Study 1 explores the direct and moderating effects of news site source credibility. Study 2 focuses on the moderating effect of applicability.

The mediating effects of ad and brand attitudes

In this work, we use the traditional metrics of ad attitude, brand attitude and purchase intention to capture advertising evaluations. A casual mediation chain that has been repeatedly demonstrated is that consumers' ad attitudes mediate effects on brand attitudes and purchase intention (MacKenzie et al. 1986, Ganesan et al. 2016, Kaushal & Kumar 2016). The main concern for advertisers who avoid negative contexts is typically not that the negative context will hurt conversion rates, but that it has a lasting damage on the brand image. Therefore, understanding to what extent and how brand attitudes are influenced is especially important in our study.

Mediation analysis helps us understand if dependent variables arise independently or in conjunction through a chain reaction. An interesting result from the study of contextual priming by Yi (1990) was that cognitive priming effects occurred primarily through attitude toward the brand, while affective priming effects operated mainly through attitude toward the ad. Although our focus is on affective priming effects, the high applicability between the ad and a negative context in Study 2 can be characterized as cognitive priming. We will perform mediation analyses between advertising evaluation metrics in both Study 1 and Study 2 and if results are significant, relate the findings to those of Yi (1990). A conceptual model used to study mediation is depicted in Fig. 2, and it serves as the basis of the moderation-mediation used in both studies. In Study 1, the model is assessed with regard to high versus low news site source credibility to evaluate H2 (Fig. 3 in Appendix D) while in Study 2, it is assessed in the context of high versus low article-ad applicability to evaluate H3 (Fig. 4 in Appendix D).
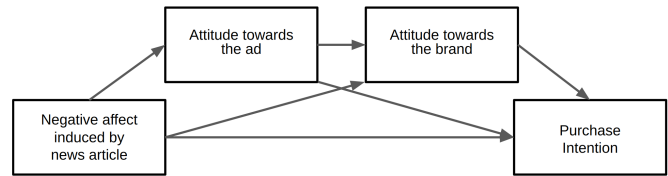

Figure 2: A conceptual diagram of the model used to explore direct and mediating effects between *negative affect induced by news article* and the metrics of advertising evaluation used in the study: *ad attitude*, *brand attitude* and *purchase intention*.

The impact on brand recall and recognition

The mere appearance of an ad alongside a news article does not mean that the reader notices it and commits it to memory. Successful advertising raises brand awareness, so that if a consumer is in need of a product the brand provides, they will think of the brand spontaneously or recognize it at points of purchase. Brand recognition measures a consumers ability to identify the advertised brand from a set of choices and as such quantifies advertising's effect on brand memory. Intense and emotionally charged media contexts have been shown to reduce consumer's brand recall. A study on advertising alongside television coverage of the wars in Iraq and Afghanistan, showed that viewers' likelihood to remember ads decreased as the content became more intense and emotional (Aiken & Malkewitz 2010). Reduced ad recall has also been established in research on content described as controversial, e.g., programming related to sex, violence, or death (Banerski et al. 2021, Lull

& Bushman 2015). Media consumers have limited capacity for cognitive processing of information, which impacts attention and memory (Lang 2000). It is theorized that controversial content requires more cognitive resources than neutral content. This draws attention towards the content itself, at the expense of adjacent ads (Banerski et al. 2021). We therefore conjecture that advertising alongside negative news decreases brand recognition. This hypothesis is tested in Study 1.

Hypothesis 4. *Advertising alongside negative news articles decreases brand recognition.*

Applicability between content and ad has been studied and understood to have an impact on consumers' brand memory. However, research has yielded conflicting results, with some studies pointing to increased memory, while others have seen the opposite effect (Lull & Bushman 2015, Pelsmacker et al. 2002, Gunter et al. 2005, Furnham et al. 2002). Various theories have been put forth as explanation. The cognitive interference hypothesis proposes that congruent stimuli blend together in the mind of the reader, inhibiting the ability to remember brands. The congruity priming hypothesis, on the other hand, suggests that the consumption of content on a particular theme increases the accessibility of similar themes in ads, resulting in improved recall (Lull & Bushman 2015). Beyond the classical effects of congruity, we contend that the combinations of content and ads that readers view as distasteful or offensive will cause elaboration and promote recall. Readers might elaborate on whether the placement is intentional and the negative emotion induced by the applicability could leave a lasting impression. We test the effect of applicability on brand recognition in Study 2. We hypothesize:

Hypothesis 5. *High applicability between negative news articles and ads increases brand recognition.*

Study 1. The effects of advertising next to negative news

Study 1 considers the effects of advertising alongside negative news articles, and the moderating influence of source credibility. Hypotheses 1, 2 and 4 were tested in a 2×2 between-subjects experiment with online participants. The between-subjects variables were article-induced affect (non-negative versus negative article) and source credibility (low versus high). More specifically, the participants were asked to read either an article chosen to induce negative emotion, or an article that was not intended to do so. The article was presented on a news site with either high or low credibility. We recorded the effect on adjacent ads in terms of ad attitude, brand attitude, purchase intention, and brand recognition.

Method

Stimulus development We conducted a pre-study ($n = 39$) to test manipulations of news site credibility, and to select articles that induced negative emotion and one that does not. Articles were designed to look like an article from one of two different news sites. The first, *Dagens Nyheter*, is a well-known Swedish newspaper with a high credibility ranking (MedieAkademin 2022). The second was a fictitious news site that we named *Nyheter365* (*News365*, in English). In the pre-study, subjects perceived *Dagens Nyheter* as more credible ($M = 5.22, n = 20$) than *Nyheter365* ($M = 2.65, n = 19$), indicating a successful manipulation. Articles were taken from the online archive of the Swedish news paper *Dagens Nyheter*. The articles selected as candidates for negative articles included words and themes that are found amongst the most blocklisted by advertisers, including 'death', 'killing', 'suicide' and 'addiction' (Vranica 2019). To reduce the potential confounding effects of content liking, we selected short articles written in a terse style and avoided ongoing news stories (Knobloch-Westerwick & Keplinger 2007). Guided by the results from the pre-study, one non-negative and two negative articles were selected as stimuli for the main study. The negative articles were titled *Many deaths among women with eating disorders* (negative affect: $M = 4.24, n = 15$) and *Man jailed for killing dog* (negative affect: $M = 5.21, n = 15$). The non-negative article was titled *Unusual Harry Potter book up for auction* (negative affect: $M = 1.79, n = 16$). This article, while it does not elicit negative emotions, also does not necessarily evoke positive affect. This deliberate choice aligns with our objective, which is not to compare the impact of positive and negative emotions, but rather to investigate the potential adverse effects of negative news on advertising evaluations. The stimuli used in Study 1 is provided in Appendix A and B.

Procedure A sample of 1095 subjects were recruited from Norstat, a provider of consumer panels, to participate in the study (50% females; 50% males; median age 45 years). This gives an cell size for each experiment group, a combination of article and news site, of approx. $N = 180$. Exact cell sizes for experiment groups are provided in Table 1.

Two different ads were distributed evenly to the different experiment groups. Both the ads and brands used in the study were fictitious. The first ad was for a car dealership; the second for vacations in the sun. The ads were selected to have low applicability to the news

articles. In the exposure, an ad was placed to the right of an article with a size and positioning occuring on Dagens Nyheter's online site (www.dn.se). Subjects were randomly assigned to a combination of article and ad. They were informed that they would be be taking part in a study about news reading and instructed to read an article in the same manner that they usually would on a news site. After a minimum of 20 seconds reading the article, the subjects could proceed to first answered questions on ad recognition, followed by questions on advertising evaluations and manipulations checks. To control for confounding variables, there were also questions about how interesting the article was and frequency of online news consumption. After completing the study, subjects were debriefed about the purpose of the study.

Measures   Advertising evaluations (H1 & H2) were assessed using multi-item seven point scales.

Ad attitude was measured using a four-item, seven-point scale anchored by: good vs bad, interesting vs uninteresting, like vs dislike, and irritating vs not irritating. The index produced from averaging the responses to the items had Cronbach's $\alpha = .80$.

Brand attitude was measured using three items on a seven-point scale anchored by: good vs bad, negative vs positive, and like vs dislike (Cronbach's $\alpha = .96$). The same measures of ad and brand attitude were previously used by (Yi 1990) and (Brown & Stayman 1992).

Purchase intention was measured through the question: "How likely is it that you will buy Brand X the next time you are considering Product Y?". The question was adapted to the relevant brand name and product type. The subjects provided their answer on a scale from 1 (highly unlikely) to 7 (highly likely). The question and measure was taken from (Dahlén & Lange 2005).

Brand recognition (H4) was measured by asking: "What was the name of the brand in the ad you saw earlier alongside the article?". The subjects made their selection from a list of 10 dissimilar brands. We registered whether responses were correct or incorrect (1 = 'yes', 0 = 'no').

The manipulated variables were measured on seven-point scales. These were:

Negative affect induced by news article: The degree to which the news article induced negative emotion was assessed through a four-item scale ('sad', 'upset', 'disgusted', and 'angry') (Coulter 1998, Edell & Burke 1987). The averaged index had Cronbach's $\alpha = .97$.

Source credibility was given on a six-item scale anchored by believable vs unbelievable, credible vs not credible, trustworthy vs not trustworthy, dependable vs not dependable, reliable vs unreliable, and reputable vs disreputable (Cronbach's $\alpha = .98$) (Chu & Kamal 2008).

Finally, we measured article interest as a potential confounding variable through a seven-point scale anchored by 'uninteresting' vs 'interesting'. All measures used in the study were translated to Swedish.

Results

Manipulation checks   Tests for the manipulated variables; negative affect induced by news articles and news site source credibility show successful manipulations. A one-way ANOVA ($F = 288.75, p < .001$) and a subsequent post hoc Tukey test showed that the three articles induced significantly different degrees ($p < .001$) of negative emotion among respondents. Negative article 1: *Man jailed for killing dog* ($M = 5.20$) produced the most negative response followed by Negative article 2: *Many deaths among women with eating disorders* ($M = 3.71$). The non-negative article titled *Unusual Harry Potter book up for auction* ($M = 2.31$) produced a less negative response than both negative articles. The news site *Nyheter365* ($M = 3.39$) was viewed as considerably less credible than *Dagens Nyheter* ($M = 4.29$) ($t = 10.28, p < .001$).

Hypothesis testing   Comparison of means tests (ANOVA) show no significant differences in evaluations of ads placed alongside the different news articles. This holds both on the news site with low credibility (*Nyheter365*) and the site with high credibility (*Dagens Nyheter*). The tests were performed separately for the three dependent variables for advertising evaluation, i.e., ad attitude, brand attitude and purchase intention. Mean and standard deviation values for experiment groups and p-values for ANOVA tests are provided in Table 1.

Table 3 shows the result of regressing the manipulated variables, i.e., negative affect and source credibility, on the metrics of advertising evaluation. The respondents' perception of source credibility had a significant positive influence on ad attitude, brand attitude, and purchase intention. Plots of source credibility regressed on advertising evaluations are displayed in Fig. **??**. In contrast, the degree to which the news article induced a negative affect did not make any significant difference.

As part of the analysis, we included a number of confounding variables in the regression models. These were article interest, frequency of news site reading, gender and age. These variables were not found to be significant regressors of any of the evaluation metrics ($p > .05$), nor did they impact the significance of other

Table 1: Result of Study 1 on advertising evaluation. The abbreviation n.s. denotes "not significant". Cell values for attitudes and purchase intention are mean and standard deviation for scores on seven-point scales.

	Non-negative article	Negative article 1	Negative article 2	ANOVA test
Low source credibility	$N = 181$	$N = 193$	$N = 187$	
Ad attitude	3.40 (1.39)	3.28 (1.35)	3.47 (1.31)	n.s. (p=0.21)
Brand attitude	3.41 (1.25)	3.34 (1.26)	3.45 (1.21)	n.s. (p=0.49)
Purchase intention	1.92 (1.35)	2.08 (1.43)	2.10 (1.55)	n.s. (p=0.28)
High source credibility	$N = 177$	$N = 183$	N=174	
Ad attitude	3.41 (1.43)	3.42 (1.29)	3.53 (1.38)	n.s. (p=0.89)
Brand attitude	3.41 (1.26)	3.47 (1.25)	3.49 (1.21)	n.s. (p=0.90)
Purchase intention	2.11 (1.43)	2.10 (1.39)	2.15 (1.38)	n.s. (p=0.99)

Table 2: Results of Study 1 on advertising processing. We write n.s. for "not significant".

	Non-negative article		Negative article 1		Negative article 2		χ^2 test
	No	Yes	No	Yes	No	Yes	
Recognition	140	218	157	219	168	193	n.s. (p=0.12)

independent variables.

In H2, we stated that the source credibility of the news site would moderate the effect of a negative context on advertising evaluations. We further conjectured that articles that induce a negative affect would only influence advertising evaluations when readers' perceptions of source credibility was low. In addition to the direct influence of negative emotion on responses to the ads, we are interested in whether effects on ad attitude, brand attitude and purchase intention occur independently or as a chain reaction as modelled in Fig. 2. The results for the moderation mediation analysis is displayed in Fig. 3 in Appendix D. For the presented moderation analysis we split the respondents into two groups: those who rated the news site at low (-1SD from mean) versus high (+1SD) levels of credibility. In addition to the presented results, we also divided the respondents by stimuli manipulations (DN.se versus Nyheter365), however all regression coefficients were found to be non-significant. For the presented results, the influence of negative news on advertising evaluations in both the low and high credibility condition is marginal or not significant. Negative emotion was shown to have a small positive effect on ad and brand attitude for respondents who perceived the news site as non-credible. For respondents who rated the news site as highly credible, negative affect had a slight positive influence on purchase intention. Mediating effects between ad metrics as modelled in Fig. 2 were found to be largely not significant. This is likely explained by that the initial influence of negative affect was non-significant or marginal to begin with.

Finally, a chi-square test was performed to decide whether ad recognition was influenced by a negative context (Table 2). No significant difference was found, so the results do not support Hypothesis 5 that advertising alongside negative news decreases ad recognition.

Discussion

Our experiment does not support the idea that news articles that induce negative affect damage evaluations of adjacent ads. Comparison of means tests found no significant differences in ad evaluations, nor in recognition between groups of respondents exposed to negative versus non-negative news articles. Furthermore, the rating of negative emotion that respondents reported was found not to regress upon any of the metrics used to evaluate effectiveness. In our moderation analyses we compared respondents who viewed the news site at low and high levels of credibility. In both cases, the only significant relationships between negative affect and advertising evaluations was a marginal positive effect. We thus find no support for H2 and the industry concept of a *news trust halo* — that the credibility of a news site is what makes it safe for advertising (Reach Solutions 2021, IAB 2020*a*). However, our results still advise marketers on the importance of the credibility of news sites when advertising. We demonstrate a clear positive relationship between how credible the respondents perceived the news site and their advertising evaluations, thus supporting H1. This effect was unrelated to the negative emotion induced by the articles.

It is possible that that the respondents' recognition of the stimuli as a news site, regardless of its credibility, mitigates adverse affects of negative content. This could explain why Lee et al. (Lee et al. 2021) found that reactions to negative content on social media spillover to ad evaluations, while we see no such effect.

Table 3: Coefficients of linear regression analysis between contextual factors and advertising evaluation. We write n.s. for "not significant". Here, $^*p =< .05.$ $^{**}p =< .01.$ $^{***}p =< .001.$

Dependent variables	Independent variables	Beta	t	p	LLCI	UCLI
Ad attitude	Negative affect	.01	.63	.52 n.s	-.03	.05
	Source credibility	.33	17.89	.00***	.28	.38
Brand attitude	Negative affect	-.01	.47	.64 n.s	-.04	.03
	Source credibility	.32	13.74	.00***	.27	.36
Purchase intention	Negative affect	.04	1.92	.06 n.s	.00	.08
	Source credibility	.19	6.86	.00***	.14	.25

Finally, the results do not support H4, i.e., that advertising along negative news decreases ad recognition. One interpretation is that the impact of negative content in terms of immersion and distraction varies across different media types. Previous research primarily concentrated on television as the main subject of study.

Study 2. The influence of high applicability to negative content

In Study 2, we explore the effect of a high and low levels of applicability between an ad and a negative article. The article-ad combination in the high applicability case has been designed to be perceived as troubling or even offensive by some. We record the effect on adjacent ads in terms of ad and brand attitude, purchase intention, and brand recognition. Study 2 tests hypotheses 3 and 5 in a single-factor between-subjects experimental design (low versus high article-ad applicability) with online participants.

Method

Stimulus development As stimuli, we used the 2 negative articles from Study 1. The articles were made to resemble articles from the Swedish news site *Dagens Nyheter* — the high credibility news site used in Study 1. Two fictitious ads were designed to each have a high applicability to one of the negative articles and a pretest (n=24) was conducted to evaluate the manipulations. The high applicability combinations were: (1) an ad for weight-loss supplements alongside the article titled *Many deaths among women with eating disorders* ($M = 5.79, n = 12$) and (2) an ad for a petshop featuring a happy dog next to the article titled *Man jailed for killing dog* ($M = 5.39, n = 12$). For the treatment groups with low applicability, we inverted the combinations of article and ad. The pretest implied a lower applicability between the inverted combinations: (3) the pet shop ad with the article titled *Many deaths among women with eating disorders* ($M = 2.61, n = 12$), and (4) the ad for weight-loss supplements with the article

titled *Man jailed for killing dog* ($M = 2.28, n = 12$). The stimuli used in Study 2 is presented in Appendix A and C.

Measures The same measures as in Study 1 were used to evaluate the advertising effects on ad and brand attitude, purchase intention and brand recognition. The scale for measuring articles induced negative affect, was also the same as in Study 1. New for this study is the measure of applicability used to validate experiment manipulations. It was measured through a three-item, seven-point scale taken from (Lee et al. 2021) where the question read: "How much is the ad: (1) associated with, (2) linked with, and (3) tied to the news article?". The averaged index had Cronbach's $\alpha = .99$.

Procedure A sample of 373 subjects were recruited from the same panel as in Study 1, (47% females; 53% males; median age 48 years). This gives a cell size for the two experiment groups, low versus high article-ad association of ca. $N = 180$. Cell sizes and results on an individual ad basis are found in Table 4.

Similar to Study 1, the participants were asked to take part in a study regarding news reading. Subjects were randomly assigned to either an article-ad combination with high or low applicability. After having finished reading the article, questions on ad recognition, advertising evaluations and manipulation checks followed. The experiment concluded with a debrief about the purpose of the study.

Results

In Study 2, results differed between ads in a manner which was not seen in Study 1. We therefore present results on the effect of low versus high article-ad applicability (displayed in Table 4) for both ads separately as well as combined.

Manipulation checks Tests for article-ad applicability yielded results in line with intended manipulations. Respondents rated the petshop ad as more associated with the article *Man jailed for killing dog* ($M = 3.67$)

than alongside the article *Many deaths among women with eating disorders* ($M = 2.07$, $t = 6.44$, $p < .001$). Conversely and as intended, the ad for the weight-loss supplements was rated more associated with the article about eating disorders ($M = 3.87$) than the article describing dog abuse ($M = 1.83$, $t = 8.07$, $p < .001$).

Hypothesis testing   To evaluate H3, We perform t-tests comparing measures of advertising effectiveness when there is a low versus high applicability between the ad and the negative article. The results show that for the pet product ad: ad attitude ($t = 2.16$, $p < .05$) and brand attitude ($t = 2.08$, $p < .05$) were negatively influenced when the ad was placed alongside an article with high applicability titled *Many deaths among women with eating disorder*. However, a significant difference ($p < .05$) between low and high article-ad applicability was not found for the other ad used in the experiment — an ad for a weight-loss supplements. In Table 4 we present ad attitude, brand attitude and purchase attention in low and high article applicability conditions for both ads.

Also displayed in Table 4 are results for brand recognition in low and high applicability conditions. The brand advertised in the ad for the weight-loss product was significantly more recalled when placed alongside its applicable article — recognition increased from 38% to 64% ($\chi^2 = 12.65$, $p < .001$). A similar improvement was not seen for the pet product brand. Although brand recognition was not improved for both ads when placed alongside an applicable article, the considerable increase in recognition for the weight-loss brand indicates support for H5, that is, that high applicability between negative news and ads increases brand recognition.

We perform a confounding variable test through a multiple linear regression where we include variables for (i) frequency of news consumption, (ii) gender, and (iii) age. The effect of these variables was not statistically significant for any of our dependent variables quantifying advertising evaluation ($p < .05$).

We use moderation-mediation analysis to test the conjecture in H3 that high article-ad applicability amplifies the effect that negative emotion from reading a news article has on advertising evaluations. We use the same model as in Study 1 but instead of varying source credibility, we study the dependency between variables when respondents rate the ad-article applicability at low (-1SD from mean) versus at high (+1SD from mean) levels. We find no significant relation between negative affect and advertising evaluation metrics in either the low or high applicability condition (see Table 4).

Discussion

Study 2 served to test Hypotheses 3 and 5. The results only provide the weakest support for H2, i.e., that a high degree of applicability between the ad and a negative context impairs advertising evaluations: There is a weak but statistically significant link in the case of ad attitude that can be traced back to the ad for pet products (see Table 4), but in most cases considered, the results are not significant. Furthermore, the moderation analysis found no support for the supposition described in H3, that applicability would serve to amplify the negative effect of emotion induced by negative articles on advertising evaluations. Overall, our results suggest that placing an ad in a very closely related negative context does not impair how the average consumer perceives the ad, nor from the average consumer's brand appreciation or purchase intention.

The study employs a traditional quantitative marketing experiment methodology, comparing the effects and means within experiment groups. However, this methodology is not suited for capturing rare but intense reactions among individual consumers. Although our results point to that the average consumer's ad evaluations are unaffected by an ad's applicability to a negative context, an individual consumer could find the ad-context combination distasteful or offensive. In the age of social media, this one consumer can raise the issue and garner widespread negative attention for the brand. While these reactions might not be frequent, they are still a strong argument for why marketers should consider avoiding specific contexts which could lead to controversy.

The results support H5 i.e.e that a high applicability between negative news articles and ads increases brand recognition. Here, the chi-square result is not significant for the pet-shop ad, but strong for the weight-loss ad. Our interpretation is that the ad for pet products is quite noticeable in its own right and hence easier to remember, whereas the ad for the weight-loss product is more nondescript and is more recalled when the context the ad is placed in primes themes present in the ad. In a similar, future, study it would be useful to also test the ads for how easy they are to remember as part of the pre-study.

General Discussion

The presented studies clarify the effects of advertising alongside negative news articles. We find that advertising evaluations and recognition are not influenced by articles that induce negative affect among readers. This

Table 4: Result of Study 2 on advertising evaluation and recognition. Cell values for attitudes and purchase intention are mean and standard deviation for scores on seven-point scales. (n.s. means "not significant")

	Low applicability		High applicability		Planned comparisons
Advertising evaluation					
Both ads combined	$N = 184$		$N = 189$		
Ad attitude	3.34 (1.41)		3.05 (1.46)		$t(372) = 1.96, p < .05$
Brand attitude	3.39 (1.37)		3.14 (1.43)		n.s. $p = .09$
Purchase intention	2.15 (1.53)		2.16 (1.52)		n.s. $p = .91$
Ad: Pet products	$N = 92$		$N = 92$		
Ad attitude	3.74 (1.32)		3.30 (1.45)		$t(182) = 2.16, p < .05$
Brand attitude	3.87 (1.24)		3.47 (1.33)		$t(182) = 2.08, p < .05$
Purchase intention	2.54 (1.67)		2.66 (1.61)		n.s. $p = .62$
Ad: Weight loss product	$N = 92$		$N = 97$		
Ad attitude	2.94 (1.38)		2.81 (1.44)		n.s. $p = .53$
Brand attitude	2.90 (1.33)		2.82 (1.46)		n.s. $p = .68$
Purchase intention	1.75 (1.26)		1.69 (1.26)		n.s. $p = .75$
Advertising recognition	No	Yes	No	Yes	χ^2-test
Both ads combined	86	98	69	120	$\chi^2(1) = 4.02, p < .05$
Ad: Pet products	29	63	34	58	n.s. $p = .44$
Ad: Weight loss product	57	35	35	62	$\chi^2(1) = 12.65, p < .001$

was true, both in a low and high credibility news condition. As such, the results do not support the notion that the news site's credibility serves as a protective halo mitigating adverse effects of negative emotion, which was hypothesised in H2 and has been floated by industry parts (Reach Solutions 2021, IAB 2020a). Although it contradicts our hypotheses, the result that negative articles had no influence on advertising recognition and evaluation was not entirely unexpected. Previous research on contextual effects on ad recall has yielded conflicting results (Pelsmacker et al. 2002). Regarding advertising evaluation, the influence of negative contexts is seemingly media vehicle dependent. (Lee et al. 2021) report that advertising evaluations are impaired by negative content on social media, whereas (Bellman et al. 2018) found no such effects on YouTube. The reasoning behind H2 was that differences in the source credibility of the news site would generate differing media vehicle effects. Perhaps, the reader's identification of the media vehicle as a news site is sufficient to protect against unfavourable advertising effects. Finally, the results of Study 1 did support H1 — that the perceived source credibility of the news site positively influences ad evaluations.

The results from the second study indicate that placing ads alongside a negative article with high applicability to the ad can have a small negative influence on evaluations of the ad. However, this effect was only found for one of the two ads used in the experiment. Furthermore, contrary to our hypothesis (H3), the degree of applicability between article and ad was not found to moderate effects between readers' negative emotional response to an article and advertising evaluations. A possible explanation for the marginal effects is the concept of "banner blindness", the tendency among web browsers to not pay intention to display ads (Drèze & Hussherr 2003). Even if the ad is remembered, it is possible that the average consumer is not elaborating on the potentially problematic combination of article and ad. This does not mean that individual consumers can not take offence and generate negative publicity for the brand. In our study we have sought ecological validity - results that simulate the real behaviours of online news readers. As such, we have not instructed the readers to look at the ad. Providing direct instructions and thus increasing respondents' level of ad processing could lead to different results.

Finally, the results of Study 2 support H5, that ads placed alongside a highly applicable negative context can considerably improve brand recognition. This is an interesting result from a marketing research perspective and adds further knowledge to the study of how recall is affected by applicable contexts which previously has yielded conflicting results. Our results for the case of negative applicability correspond with the congruity priming hypothesis — that a contextual theme increases the accessibility of similar themes in ads (Lull & Bushman 2015). In the absence of high-article ad applicability, there was no difference in brand recognition between ads placed alongside negative and non-negative articles, thus not supporting H4. A summary of the results and hypothesis validation from both studies is presented in Table 5 in Appendix E.

Limitations and Further Research

For many marketing professionals the outcomes from our studies might seem counter-intuitive, not least the finding that negative news topics do not impair advertising evaluations. This result negates the beliefs that motivate practices such as blocklisting. It is important to reproduce the experiments for different types of media channels, ad designs, content types, etc. to understand how well the results generalise, and to provide satisfactory evidence that can change current marketing practices. Factors not explored in our study that could influence the effect of negative content include: congruence and in-congruence in terms of the mood of ad and content, as well as consumers' familiarity with advertised brands. We used fairly positive ads and fictitious brands to avoid effects of pre-existing brand attitudes. Moreover, a fictitious news website served as our low-credibility news source. This choice aligns with the high-impact industry study by (Reach Solutions 2021) whose results on the halo effect of source credibility we sought to validate. As intended, the fictitious site received lower credibility ratings. However, it is important to note that familiarity likely plays a role in credibility, a factor not accounted for in this study.

Our methodology of comparing the average response of experimental groups does not account particularly well for individual consumers with strong aversion to, e.g., a distasteful article-ad combination. Further studies, focusing more on qualitative discussion with interview subjects, could capture more marked reactions to ads and the motivations behind.

Repeating experiments without ecological validity and instructing respondents to view both the article and ad might yield different advertising effects. A comparison with our results could help determine if the advertising impact on negative articles remains weak even when respondents scrutinize ads more intensively..

Recent in advances in Artificial Intelligence (AI) enable targeting or avoidance of content based on niche topics or the emotions associated with the content. Other emerging applications of context data include the classification of misinformation in news (Lu et al. 2022) and detection of harmful video content (Edstedt et al. 2022). The rapid technological progress puts pressure on both the marketing research field and the industry to understand how these tools can be applied without needlessly foregoing advertising opportunities or damaging content publishers. For instance, exploring how AI can automatically assess the interplay between article narratives and ads, determining whether the advertised product alleviates or exacerbates issues raised in the article, would be an intriguing area of study.

Implications for Advertisers

The results reported here and in previous industrial publications (IAB 2020*a*, Reach Solutions 2021) suggest that the credibility of the news site is decisive for how ads are received by consumers. Furthermore, our results indicate that on news sites, advertising evaluations are not impaired by negative articles. For advertisers, this implies that extensive blocklists needlessly disqualify a large portion of the available advertising opportunities, which strangles revenue streams for serious journalism. We therefore recommend advertisers to not avoid negative content in general, and aim efforts towards working with quality publishers.

When advertising on a more diverse range of sites, treading with caution and avoiding particular contexts is still recommended. Particularly on sites with less publishing oversight such as social media, negative content may have adverse advertising effects (Lee et al. 2021). Our results second this, suggesting that high applicability on a news site has a small but measurable negative effect at a statistical level. Moreover, it seems plausible that there will be individuals that take offence from unfortunate ad placements, and may share their views widely. For these reasons, we recommend that closely-applicable negative contexts continue to be avoided.

Traditionally, advertisers have used blocklists to avoid brand unsafe contexts. Emerging AI technologies provide a more human-like understanding of content which could allow for precise classification of contexts to avoid in advertising. Instead of keywords, advertisers could provide names of topics or even examples of content deemed unsafe to guide the AI model in its decisions. The future of brand safety will likely involve a combination of AI-based content classification and human oversight. It is up to advertisers to leverage the specificity that the technology provides, and not cast an overly wide net that avoids all negative topics and thus rejects valuable advertising opportunities.

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Appendix A: English translations of articles used in Study 1 and 2

Non-negative article

Unusual Harry Potter book sold at auction

A signed copy of the first edition of J K Rowling's 'Harry Potter and the Philosopher's Stone' is to be auctioned in London and auctioneers Christie's are expecting a record price, CNN reports. The book is one of the first 500 printed in 1997, 300 of which were sent to British libraries. This particular copy has an asking price of £200,000, just over £2.3 million.

In 2020, a copy of the book without Rowling's autograph was sold for £68,000. The first edition was printed by the publisher Bloomsbury in 1997, before two typos were discovered and corrected in later editions.

More recently, the 500 copies have skyrocketed in value.

Negative article 1

Many deaths among women with eating disorders

The excess mortality rate is eleven times higher than normal among women with severe eating disorders. A study at Uppsala University Hospital, which will be presented at the medical meeting in Gothenburg on Wednesday, also shows that suicide is one of the most common causes of death alongside extreme emaciation.

- 'I think it's easy to underestimate the risks of eating disorders because so many women lose weight. It's an ideal of beauty,' says consultant physician Agneta Rosling.

The death certificates show that suicide is the cause in 30 percent of cases. Starvation accounts for 25 percent and addiction for 10 percent. The rest have other causes.

Negative article 2

Man gets jail time for killing dog

He hung his dog on a hook, beat it and choked it to death. On Wednesday, the 22-year-old man was sentenced to one year and three months in prison - a record sentence. - "As far as we know, such a long prison sentence for animal cruelty has never been handed down before in Sweden," says prosecutor Jakob Holmberg.

The man bought the approximately nine-week-old dog when he moved to Stockholm because he wanted company, but he neglected its care. The animal died after the man put a bag over its head and kept a blanket around the dog. Södertörn District Court stated in its judgement that the dog died under "very painful conditions".

Appendix B: Stimuli examples from Study 1

In Study 1 we use three different articles as stimuli; one non-negative and two negative articles. The articles are titled *Many deaths among women with eating disorders* (Swedish: *Många dödsfall bland kvinnor med ätstörningar*), *Man jailed for killing dog* (Swedish: *Man får fängelse för att ha dödat hund*) and *Unusual Harry Potter book up for auction* (Swedish: *Ovanlig Harry Potter-bok säljs på auktion*). The articles were placed on either a news site with high credibility (*Dagens Nyheter*), or a site with low credibility (*Nyheter365*). Two different ads were used. The first ad was for a car dealership; the second for vacations in the sun.

Example stimuli 1: The vacation ad placed alongside the non-negative article titled *Unusual Harry Potter book up for auction*. The stimuli is designed to look like the news site *Nyheter365* with low source credibility.

Example stimuli 2: The vacation ad placed alongside the non-negative article titled *Unusual Harry Potter book up for auction*. The stimuli is designed to look like the news site *Dagens Nyheter* with high source credibility.

Example stimuli 3: The ad for the car dealership placed alongside the negative article titled *Many deaths among women with eating disorders*. The stimuli is designed to look like the news site *Nyheter365* with low source credibility.

Example stimuli 4: The ad for the car dealership placed alongside the negative article titled *Man jailed for killing dog* describing graphic violence and animal abuse. The stimuli is designed to look like the news site *Dagens Nyheter* with high source credibility.

Appendix C: Stimuli used in Study 2

In Study 2 we use the same two negative articles as in Study 1. The articles are titled *Many deaths among women with eating disorders* (Swedish: *Många dödsfall bland kvinnor med ätstörningar*) and *Man jailed for killing dog* (Swedish: *Man får fängelse för att ha dödat hund*). Two different ads are used: one ad for weight-loss supplements and one ad for a petshop featuring a happy dog. The ads were designed to each have low and high applicability to one of the negative articles. The articles were designed to resemble articles from the Swedish news site *Dagens Nyheter*.

Example stimuli 5: The ad for weight-loss supplements placed alongside the negative article titled *Man jailed for killing dog*. This is an article-ad combination with low applicability.

Example stimuli 6: The ad for a petstore placed alongside the negative article titled *Man jailed for killing dog*. This is an article-ad combination with high applicability.

Example stimuli 7: The ad for a petstore placed alongside the negative article titled *Many deaths among women with eating disorders*. This is an article-ad combination with low applicability.

Example stimuli 8: The ad for weight-loss supplements placed alongside the negative article titled *Many deaths among women with eating disorders*. This is an article-ad combination with high applicability.

Appendix D: Diagrams for moderation analysis results

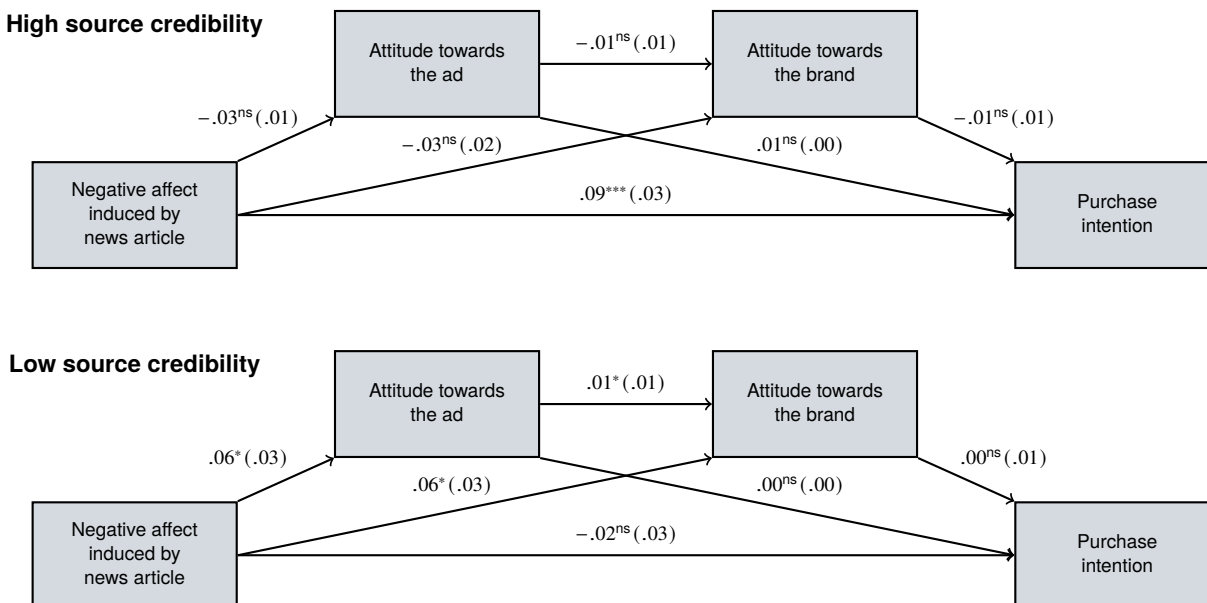## Study 1: Influence of negative affect induced by news article under low versus high source credibility

Figure 3: Moderated serial mediator models for high and news site source credbility (Study 1). Note that the path coefficients have not been standardized..

Study 2: Influence of negative affect induced by news article under low versus high article-ad applicability
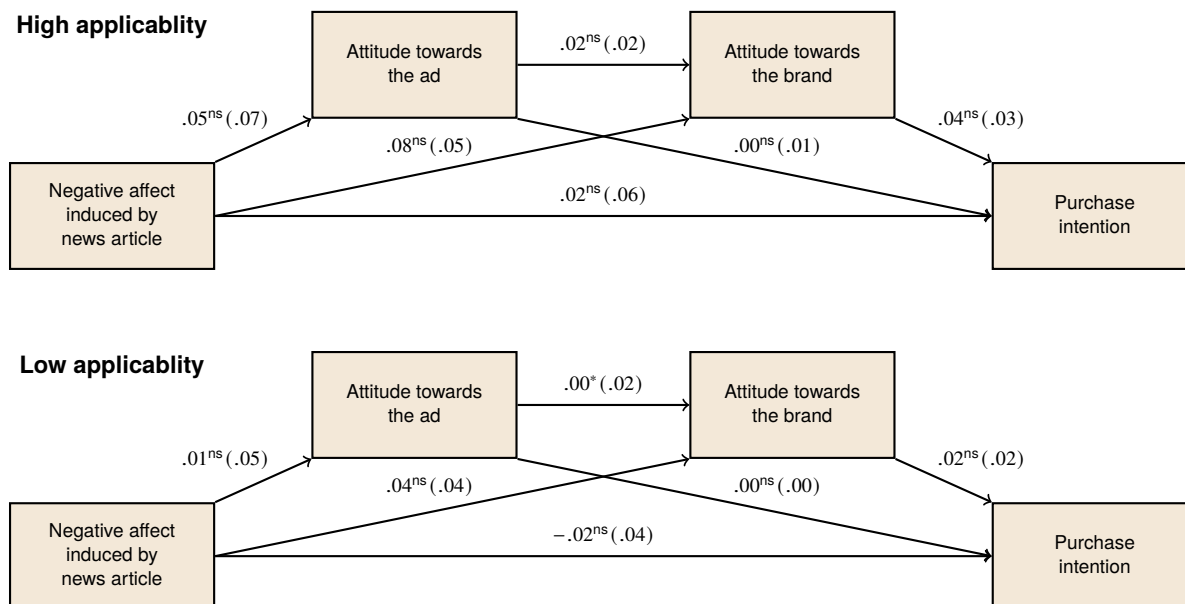

Figure 4: Moderated serial mediator models for high and low article-ad applicability (Study 2). Note that the path coefficients have not been standardized.

Appendix E: Summary of hypothesis validation

Hypothesis	Hypothesis description	Study	Hypothesis validation	Comments
H1	News site source credibility positively influences advertising evaluation.	Study 1	Support	Regression analysis found sig. effects.
H2	Source credibility moderates the effect of negative affect induced by news articles on advertising evaluation.	Study 1	No support	ANOVA and moderation analysis found no sig. effects.
H3	Ad-article applicability moderates the effect of negative affect induced by news articles on advertising evaluation.	Study 2	No support.	ANOVA and moderation analysis found no sig. effects.
H4	Advertising alongside negative news articles decreases brand recognition.	Study 1	No support	χ^2-test found no sig. differences.
H5	High applicability between negative articles and ads increases brand recognition.	Study 2	Support	χ^2-test found sig. differences. However, only for one of the two article-ad combinations.

Table 5: Summary of findings from Study 1 and 2, indicating which hypotheses were supported and which ones were not.