



Abstract

We investigated reactions to an ad that interrupted an online task, using four versions of a coffee ad: attractive or average models with product, attractive or average product only. Ads popped up once, four or eight times. Participants rated annoyance, ad attractiveness, liking for coffee, and probability of purchase. Results showed that ad frequency, perceived ad attractiveness, and liking for coffee all related to annoyance and reported probability of product purchase.

Background

Have you ever gotten annoyed when ads inconveniently appear online while you are trying to get something done? Do they annoy you as much when the models are attractive?

Previous research has shown that people have a more positive attitude when a product is promoted by an attractive model rather than by a less attractive model (Buunk & Dijkstra, 2011; Stanley, Clow, & James, 2011). In a series of studies, we have examined reactions to pop-up ads as a function of both appearance frequency and the attractiveness of the ad.

In Study 1, an ad for a camera (an undesirable type) focused on the models in the ad; there was a version with an attractive couple and one with an unattractive couple. The ad popped-up once or four times during an online task. Result: the attractiveness of the ad and the frequency with which it popped up both affected reactions to the ad. Ads became more annoying as frequency increase, especially if they were unattractive ads.

In Study 2, the focus of the ad was on the product, which was a desirable product to some of the participants (beer). Result: there were no effects of manipulated ad attractiveness, or frequency of the ads. However, personal liking for the product and personal perception of ad attractiveness were positively related to reactions to the ad and reported likelihood of purchase.

The Current Study

In the current study, both product-focused and model-focused ads were used for a product that was desirable to some (coffee). Both attractive and unattractive versions of each type of ad were included.

Hypotheses

H1) People are more likely to report that they will buy a product if it is promoted by an attractive ad.

H2) People have better reactions to pop-up ads that contain attractive models or attractive products.

H3) People have better reactions to one pop-up ad rather than multiple ads, but recall products better with multiple exposures.

H4) How much people like a product affects their reactions to ads.

Method

Participants

384 adults - mturk and college students, 57.6% female

mean age was 29.09 ($SD = 11.01$), age range from 18 to 81

The most common racial identities were White (71.1%) and Asian (15.6%).

Materials and Procedure

An online survey that measured the following:

respondent characteristics such as gender, age, etc., personal preferences, including color, musical artists and genres, cars, food and drinks, leisure activities, form of gambling, and willingness to take risks (closed-ended)

Periodically (1, 4, or 8 times) during the survey, a page with a fictional coffee ad would appear.

There were **four versions of the ad**: attractive couple and setting, average couple and setting, attractive cup of coffee, or an average cup of coffee. (Ads were pretested)

Independent Measures (2 x 2 x 3 Design):

Attractiveness of Ad,

Ad Focus on Models or Product,

Frequency of Ad

Dependent Measures:

7-point rating of **reaction to the ad** - annoyed or entertained (1= Very Entertained; 7=Very Annoyed)

4-point rating of **inconvenience** (4=Very Inconvenient)

memory for the product.

likelihood to buy the product (yes/no);

likelihood to look for the product (yes/no)

Moderating Variables Measured:

7-point rating of ad attractiveness (7=Very Attractive)

5-point rating of interest in ad (5= Very Interesting)

6-point scale of liking for coffee (6=Love Coffee)

Significant Results

There was a significant difference in ratings of attractiveness between the four ads, $F(3,374) = 3.98, p = .008$. However, only the two model-focused ads were actually significantly different. The product-focused ads were rated comparably. (Table 1)

The more a participant liked coffee, the more attractive he or she found the ad, $r(376) = .18, p < .001$. Also, the more the participants liked coffee, the less annoyed they were with the ads, $r(375) = -.44, p < .0001$, and the less inconvenient the ads were, $r(373) = -.23, p < .001$.

Participants found the ads that appeared 8 times to be significantly more annoying ($M = 4.42, SD = 1.25$) than the ads appearing 4 times ($M = 4.10, SD = 1.14$), or once ($M = 3.87, SD = .88$), $F(2,370) = 7.20, p = .001$. All comparisons were significant, $p < .05$. (Figure 1)

Memory for the product brand increased with greater exposure to the ad, $\chi^2(2, N=384) = 34.63, p < .001$. However, this memory effect was not true for the ad rated as least attractive by participants (average models), $p = .31$. Thus, memory was affected by frequency for relatively attractive ads. (Table 2)

Reported likelihood of buying the product was not affected by ad frequency, attractiveness, or the focus of the ad.

No main effects for ad focus (model or product) or manipulated ad attractiveness were found for reactions to the ads.

Table 1

Mean Attractiveness Ratings for Each of the Ads

Ad Type as Pretested	Mean	SD	N
Attractive Models and Setting	4.47	1.42	99
Average Models and Setting	3.82	1.44	84
Attractive Product and Setting	3.94	1.55	102
Average Product, Plain Setting	3.99	1.44	84

Table 2.

Percent of Participants Correctly Recalling Product Brand Name

Type of Ad	Frequency of Ad Appearance			p
	Once	Four Times	Eight Time	
Model-Focused				
Attractive	20.00 %	51.28%	66.67%	.0007
Average	44.00%	45.45%	61.11%	.3057
Product-Focused				
Attractive	25.81%	66.67%	73.08%	.0002
Average	33.33%	59.26%	65.22%	.0293
Overall %	29.92%	56.25%	66.07%	<.0001
N	127	144	112	

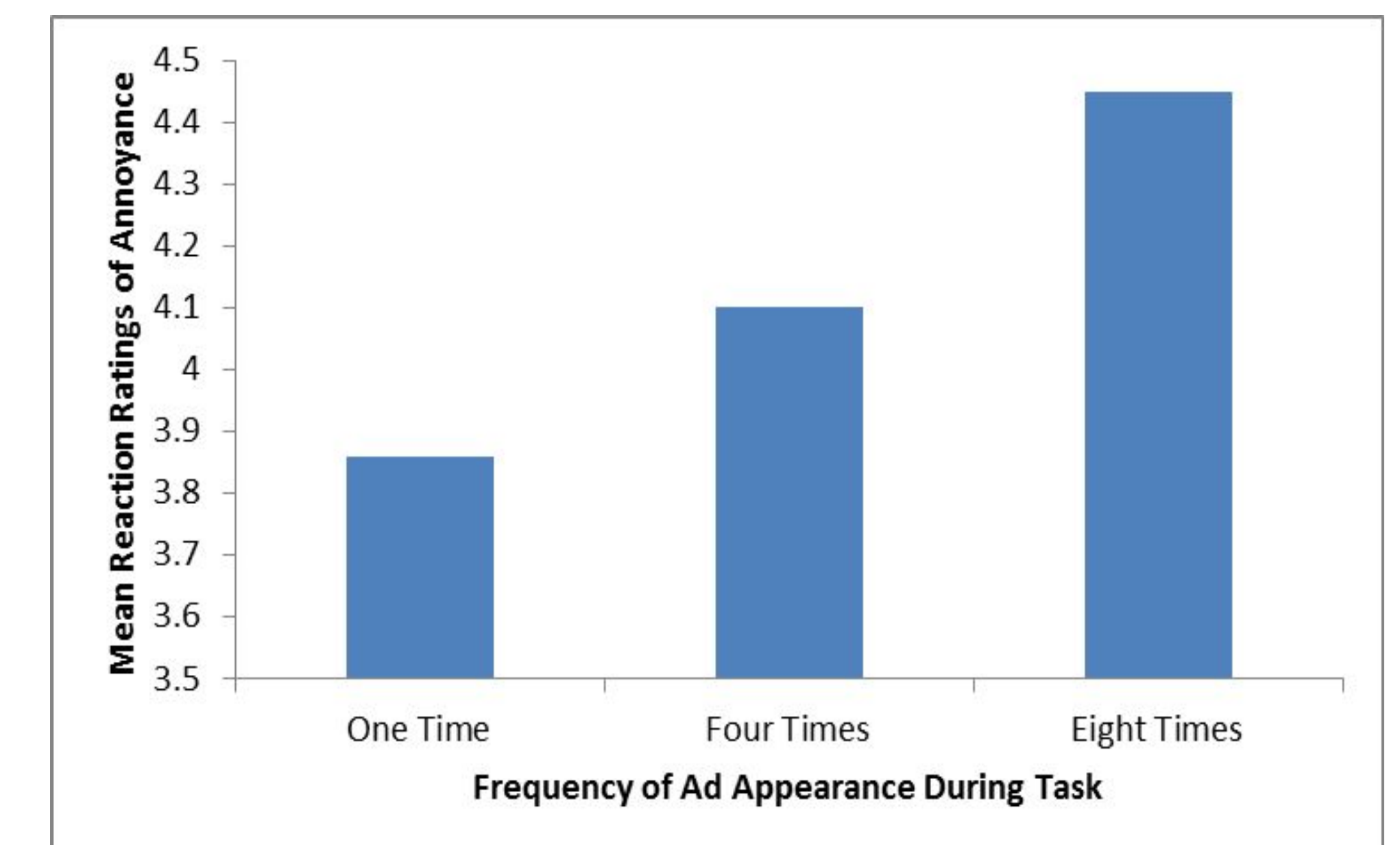


Figure 1. Mean ratings of annoyance or entertainment at the ad as a function of the frequency of ad appearance. (Below a 4 indicates entertainment, above a 4 annoyance.)

Discussion

The ads in this study became more annoying to participants as the frequency increased, although memory for the brand name also increased with greater exposure. The key question is this: Given both ad annoyance and memory increase with ad frequency, will people be more likely to buy a product with repeated pop-up ads?

According to the self-reported data in this study, no, they are not more likely to buy the product the more they see the ad. However, whether a sleeper effect occurs, and the annoyance of the ad is forgotten, is an open question. Behaviorally, the memory advantage to repeated ads may ultimately lead to greater sales. However, it is also possible that annoyance with multiple ads may decrease the impression of product desirability.