

DICE Pre-Test

How Much Is Enough? Exploring Frequency Capping in Social Media Advertising

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The identifiable victim effect is the tendency show more empathy to an identifiable individual over a group of unidentified victims who are described using numerical statistics (see, e.g., Jenni and Loewenstein 1997; Small and Loewenstein 2003; Maier, Wong, and Feldman 2023). One significant study in this domain is by Small, Loewenstein, and Slovic (2007) demonstrates that donors are more likely to contribute to charitable causes when presented with specific stories about individuals, or “*identified victims*”, rather than abstract statistics about large groups. They found that personal stories evoke stronger emotional connections.

We use DICE to create social media feeds where organic posts and advertisements compete for the participant’s attention to study whether identified victims (compared to abstract statistics) cause social media advertisements to more effectively “*cut through the content clutter*” (Ordenes et al. 2019) and drive ad recall for the charities posting these ads.

A key managerial question for any organization, but particularly for organizations with limited budgets and resources, like charities, is to understand how frequently they need to show their advertising to effectively cut through the clutter and generate positive outcomes from the digital ads. Particularly effective ads will likely need less exposure to users to produce positive outcomes like brand recall while avoiding negative reactions such as ad fatigue.

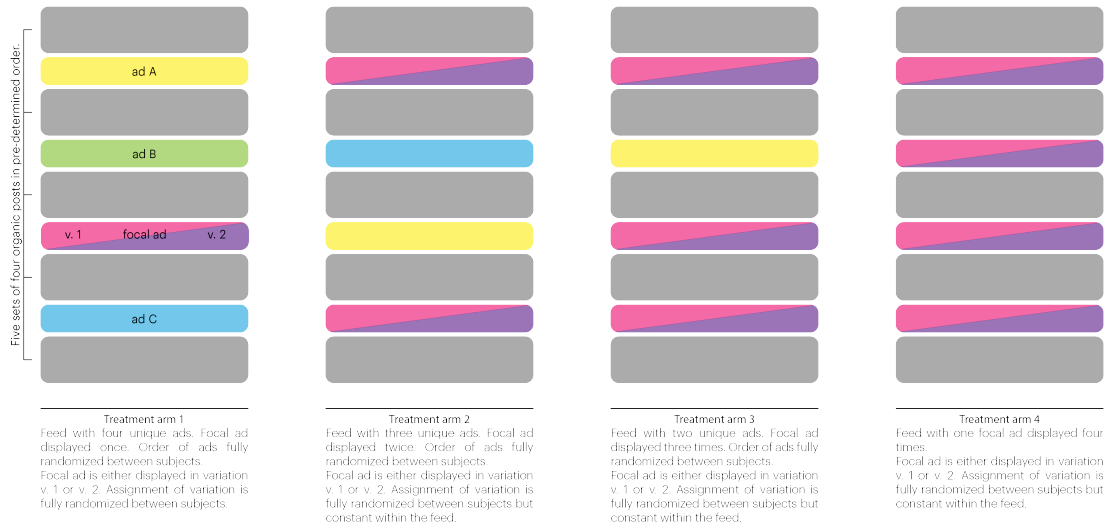
A key lever in online advertising is Frequency Capping (FC), which limits how often a specific advertisement is shown to the same user within a set period. It is essential for preventing ad fatigue (see, e.g., Braun and Moe 2013; Silberstein, Shoham, and Klein 2023), where users become desensitized to an ad due to excessive exposure, which can lead to diminished engagement rates and a negative user experience. In addition to these indirect costs, high caps also have direct costs as the marginal effect of ad exposure can be assumed to be diminishing. By setting an optimal cap, marketers aim to balance both direct and indirect costs as well as benefits associated to an ad’s visibility.

Integrating these concepts, this study employs a 2 (identified victim vs. abstract numbers) by 4 (number of ad impressions) between-subjects design to investigate whether and how the identified victim effect drives ad recall over the course of varying degrees of ad penetration

Experimental Design

On a high level, we create different feeds that contain both organic and sponsored posts as illustrated in Figure 1, where the first column on the left illustrates a feed that contains five sets of organic posts (grey boxes), three filler ads (yellow, green, and blue boxes) as well as one focal ad, which is either v.1 (showing an identified victim) or v.2 (showing abstract numbers). Moving from left to the right, the figure shows how the filler ads are successively replaced by the focal ad, essentially manipulating the amount of (focal-) ad impressions per feed.

Figure 1: 2 (identified victim vs. abstract numbers) by 4 (number of focal ad impressions) between-subjects design



Given a frequency cap $\{1, 2, 3, 4\}$, we do neither vary the organic posts nor the filler ads between conditions. However, we do manipulate the focal ad (identified victim vs. abstract numbers). In addition, the order in which the ads are displayed is randomized between subjects too. Hence, some participants may encounter the ads in a sequence like Ad A > Ad C > Ad B > Focal Ad, whereas other see a sequence like Focal Ad > Ad A > Ad C > Ad B or any other variation. The “slots” in which an ad can be displayed remain constant.¹

¹We expose participants to ads in 6th, 21st, 36st, and 51st position of the feed.

Stimuli

The two variations of the focal ad are displayed in Figure 2. You can find a feed displaying the abstract ads [here](#).

Figure 2: Variations of Focal Ad



Pre-Test

We run a 2-cell (identified victim vs. abstract numbers) between-subjects design with two ad exposures as a pre-test (i.e., only the second column of Figure 1). We pre-test the experiment as we implemented new features in the DICE software, that measure the height in which each post is resolved on a participant's device, for instance. In addition, we measure whether ads are clicked. Most importantly, we also changed the mechanisms randomizing the conditions as well as potential randomizations of the order in which posts of a feed are displayed.

Primary Analysis

After participants browse the social media feed, they are redirected to a Qualtrics survey that starts with basic demographic questions. Subsequently, they answer unaided and aided recall questions to indicate whether they remember seeing a *unicef* ad.

Our primary interest lies in the identified victim effect on these recall measures. We expect higher recall on ads with identifiable victims, which is why we consider a one sided test.

Population

We will recruit participants from Prolific who meet the following criteria:

- Approval Rate $\geq 99\%$
- First Language == 'English'
- Location == 'USA'

Sample Size

We recruit 100 participants in a first pilot. To this end, we create a database containing 200 rows.

Exclusion Criteria

We will only consider complete observations, that is, data from participants who browsed through the feed, answered the qualtrics survey and who were redirected to Prolific with a functional completion code.

Because we gather process data, such as dwell time, we have tools to assess the data quality (Cuskley and Sulik) – at least during the exposure to the social media feed. If these data reveal inattentive participants, for instance, we may exclude them too but label the resulting analyses as exploratory.

Prior Data Collection

We did not collect any data before.

References

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