

Online viewers' choices over advertisement number and duration

Viewers'
choices over
advertisement

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Abstract

Purpose – The purpose of this study is to investigate online viewers' preferences concerning the number and duration of video advertisements to watch during commercial breaks. The goal of the investigations was to assess whether online viewers preferred watching a fewer number of advertisements with longer durations or a greater number of advertisements with shorter durations.

Design/methodology/approach – Two studies used experimental research designs to assess viewers' preferences regarding advertisements. These designs used two independent variables and one dependent variable. The first independent variable manipulated the type of choice options given to online viewers (e.g. one 60 s or two 30 s advertisements). The second independent variable manipulated when the choice was given to online viewers (i.e. at the beginning of the viewing experience or in the middle of the experience). The dependent variable measured viewers' choices concerning their preferred advertisement option.

Findings – The results across both studies found that participants made choices that minimized total advertisement exposure time when possible. When minimizing total exposure time was not possible, participants made choices that minimized the number of exposures instead.

Originality/value – These investigations extend the literature on advertisement choice by examining online viewers' preferences about the format of their advertising experience rather than the content of the persuasive messages themselves. In addition, these investigations provide value by investigating viewers' responses to stimuli within realistic online simulations rather than abstract hypotheticals.

Keywords Advertisement choice, Customer-centric marketing, Co-creation marketing, Video advertising, Online advertising, YouTube, Video marketing

Paper type Research paper

Introduction

Video advertising is becoming a more common experience as many viewers transition from traditional television mediums to online (Pomirleanu *et al.*, 2013) and digital video-on-demand services (Stone and Woodcock, 2013). These on-demand services adopt subscription-based, transactional and ad-supported business models when providing video content to consumers online (Clum, 2019). Recent estimates project that over \$40bn will be spent on video advertising worldwide in 2021 alone (Statista, 2019b). According to Statista (2019b), total expenditure is projected to amount to \$8.48 per internet user. As one provider



of video-on-demand online, YouTube generated over \$3.5bn of advertising revenue in the fourth quarter of 2018 and over \$4.5bn of revenue in the fourth quarter of 2019 (Clement, 2020). Across the globe, the USA (over \$14.5m), China (over \$5.5m), Japan (over \$2.3m), Germany (over \$1.8m) and France (over \$1.3 m) are currently the largest providers of video advertising (Statista, 2019b). As the largest provider worldwide, the USA is expected to spend over \$15bn in 2021, which projects to \$52.82 per internet user (Statista, 2019a).

Digital advertising expenditures are increasing (Stewart *et al.*, 2018). Like most business practices, video advertising is a complex and multi-faceted enterprise where organizations develop various strategies and approaches to maximize return on investment for their expenditures. For example, YouTube uses several types of video advertisements to consumers who watch content through their mobile and non-mobile devices. These options include video discovery (suggested advertisements based on user behavior), in-stream (skippable advertisements that appear before selected video content plays), prerolls (non-skippable advertisements that appear before, in the middle of or after selected video content plays) and bumpers (short duration non-skippable advertisements; Oetting, 2019). While consumers' attitudes toward social media advertising (Boateng and Okoe, 2015), social media sites that provide advertising (Mukherjee and Banerjee, 2019) and the content of video advertisements are essential components of return on investment, other important factors include the number and timing of the advertisement exposures themselves. While online viewers have some control over their exposure to video advertisements through advertisement avoidance behaviors such as skipping (Bellman *et al.*, 2010), video-on-demand providers do not currently allow consumers the freedom to decide how many advertisements to watch or how long those messages should be.

The focus of these research investigations was to assess viewers' preferences concerning video advertisement exposure when they were given that autonomy. More specifically, the primary research questions in these studies asked whether online viewers preferred watching a fewer number of advertisements of longer durations or preferred watching a greater number of advertisements of shorter durations. In addition, these studies contained secondary research questions that asked whether viewers' preferences were moderated by when their choice was made (i.e. prior to video content or in the middle of video content). To answer these questions, we first reviewed macro-level research on customer-centricity and co-creationism and then transitioned to micro-level research concerning advertisement choice and advertisement number and duration effects.

Literature review

Customer-centric marketing

The shifts in transactional power between sellers and consumers are reflected in developmental processes occurring in organizations worldwide as they try to maximize their effectiveness within digital environments (Stone and Woodcock, 2014). One major distinction that emerges as organizations adapt to online contexts is between product-centered and customer-centered emphases (Bonacchi and Perego, 2011; Cheng and Dogan, 2008; Mathies and Gudergan, 2007; Sheth *et al.*, 2011; Sheth *et al.*, 2000). Bonacchi and Perego argue that the mechanisms of how decisions are made change away from top-down and toward bottom-up frameworks as more organizations shift to customer-centered approaches. To maximize engagement as customers encounter new products and services (Barger *et al.*, 2016; Kabadayi and Price, 2014; Vohra and Bhardwaj, 2019), customer-centered approaches involve prepurchase, purchase and postpurchase stages (Lemon and Verhoef, 2016). Across these stages, sellers focus on customer data collection, including customers in important product/service-related processes and prioritizing customer

experiences instead of product offerings to motivate customer collaboration (Lamberti, 2013).

In several ways, customer-centric marketing builds on principals of relationship marketing (Wang and Head, 2005) to increase customer power by generating ideal exchanges with sellers using interactive communication methods (Kaur and Sharma, 2008; Stone and Laughlin, 2016). Within these exchanges, Kumar and Petersen (2005) convey tactics that sellers can use when communicating with potential customers. After choosing the right customers to approach, two important tactics include contacting those customers and using the best message at the ideal point of contact. One essential component of customer contact involves determining the ideal method(s) and a number of communications. To that end, Wagner and Majchrzak (2007) articulate the need to facilitate collaboration with customers in a bi or multi-directional manner rather than a one-directional manner. By doing so, sellers actively interact and participate with potential customers who become more empowered to make product-related decisions for themselves (van den Hemel and Rademakers, 2016).

Co-creation marketing

One essential component of customer-centricity (i.e. service-centered approach) is the utilization of consumer co-creation within digital marketing (Busca and Bertrandias, 2020; Cova *et al.*, 2011; Hoyer *et al.*, 2010; Prahalad and Ramaswamy, 2004; Sharma and Sheth, 2004; van den Hemel and Rademakers, 2016; Vargo and Lusch, 2004). Through interactive technology such as the internet, various organizations can focus on and empower customers to make product-related decisions for themselves (Awa *et al.*, 2011). However, Fuchs and Schreier (2011) suggest that there are various types of customer empowerment based on who generates new ideas concerning products and who has the power to select which ideas will be implemented. These tasks of idea generation and idea selection occur across a developmental process that involves the detection, development and deployment of commodities as customers can act as passive users, active informers or bidirectional creators (Blazevic and Lievens, 2008). Across these roles, customers can demonstrate various levels of creativity when engaging in co-creation depending on the nature of the current task (Garcia-Haro *et al.*, 2015) while customer intrinsic factors such as perceived playfulness and social risk can influence future intentions of consuming co-created products (Son *et al.*, 2012).

Piller *et al.* (2010) provide several different types of co-creation that can exist depending on the stage of innovation, degree of collaboration and the degree of freedom experienced by the customer within the marketing process. This is largely supported by data from Franke *et al.* (2009), which showed that the benefits of co-creation are dependent on customers' product involvement, insight preferences and the ability to express those preferences. Using a uses and gratifications perspective, Dvorak (2013) found that customers' motivations to provide feedback during co-creation were influenced by intrinsic and extrinsic factors including satisfaction and enrichment, enjoyment, community networking and product implications. In addition, Elsharnouby and Mahrous (2015) found that customers' willingness to engage in co-creation processes within the telecommunication sector was dependent on their attitudes concerning efficiency, fulfillment, compensation and contact factors. Through structural equation modeling, Sahi *et al.* (2017) discovered that increased customer participation led to greater levels of co-creation value, which sequentially increased customer trust, satisfaction and recommendation actions.

Advertisement choice

Within digital media, one relatively recent example of cocreation marketing is a strategy known as advertisement choice. Within this strategy, some organizations that provide video content online (e.g. Hulu and YouTube) give viewers the opportunity to choose the type of advertising experience they prefer during commercial segments (usually before a video or during a commercial break). As a concept, advertisement choice can be defined in multiple ways depending on whether takes the perspective of a marketer or a consumer/viewer. While past research has described advertising choice as a marketing technique (Nettelhorst *et al.*, 2014; Nettelhorst *et al.*, 2017), a broader and more generalizable alternative is to refer to it as a marketing strategy or approach whereby different methods could be used to provide it within online video platforms. From the consumer perspective, advertisement choice is an opportunity or instance whereby viewers are given the autonomy to select the type of advertisement to be exposed to (Schlosser and Shavitt, 2009). Given these broad operational definitions, researchers have explored different forms of this strategy through manipulations of message choice (Schlosser and Shavitt, 2009) and product choice (Nettelhorst and Brannon, 2012a, 2012b; Nettelhorst *et al.*, 2014; Nettelhorst *et al.*, 2017). While message choice allows viewers to select the semantic focus of the advertisement for a product (quality, style or value), product choice allows viewers to select the type of product (MP3 player, digital camera or vacuum) to watch for an advertisement. The results of investigations on advertisement choice have found that choice increased advertisement expectations prior to exposure to the message (Nettelhorst *et al.*, 2014) and improved consumers' self-reported attitudes and attention levels post-exposure to the message (Nettelhorst and Brannon, 2012a, 2012b; Nettelhorst *et al.*, 2017; Schlosser and Shavitt, 2009).

Theoretical framework

One of the current limitations of research on advertisement choice is the theoretical understanding of why it produces various effects on online viewers. Original research involving consumer choice suggested that the main mechanism involved postdecisional cognitive dissonance (Brehm, 1956; Costanzo, 2013; Metin and Camgoz, 2011) based on principles from various cognitive dissonance theories and models (Festinger, 1957; Harmon-Jones and Harmon-Jones, 2002). However, Schlosser and Shavitt (2009) showed that their manipulation of message choice affected participants because of perceptions of increased connectedness to the organization providing the choice rather than dissonance reduction. Increased connectedness seems to be an appropriate explanation when the organization provides viewers' choice on digital platforms that they own and control. In contrast, Hulu and YouTube are examples of digital platforms that are external to organizations providing the advertising content, so the question becomes who do viewers attribute the connectedness to. Given that streaming platforms use their own branding when providing choice to viewers, it appears more likely that increased connectedness will be attributed to the streaming service rather than the organization providing the advertising content. Thus, the connectedness mechanism specifically expressed by Schlosser and Shavitt (2009) seems to lack some degree of external validity within the context of this study and some choice applications.

Beyond connectedness, other decision-making theories also seem limited when applying to advertisement choice. For example, expected utility theory (Caplin and Leahy, 1997; Hey and Orme, 1994; Mongin, 1997; Rabin, 2000) and prospect theory (Kahneman and Tversky, 2013; Tversky and Kahneman, 1979; Tversky and Kahneman, 1992) are applicable within contexts involving risk, but past investigations involving advertisement choice have always included used guaranteed options rather than probabilistic ones. The use of guaranteed

options also occurred in the present investigations as well. Again, the appropriateness of incorporating existing theoretical explanations to advertisement choice seems somewhat limited given the nature of how the advertisement is being manipulated within the research. From our perspective as the authors of the present research, we believe that theoretical investigation and understanding is a needed component of this literature; however, the literature needs to develop further before any concrete explanations can be made. Given that the literature on advertisement choice currently involves four to five published manuscripts, we felt that establishing a body of research involving this topic is the first step that leads to theoretical development afterward. In this sense, we tried to adopt an approach like dual-process models such as the elaboration likelihood model (Cacioppo and Petty, 1984; Petty and Cacioppo, 1986; Petty and Wegener, 1999) and the Heuristics-Systematic Model (Todorov and Chaiken, 2002; Trumbo, 2002; Zhang *et al.*, 2014) where theoretical models were developed once bodies of research were created through systematic investigations. The purpose of this research in our view was to explore the impact of advertisement choice in a new vein so that it could contribute to subsequent theory development in the future. This new vein involved providing viewers' choices concerning the number and duration of advertisements to be exposed to.

Advertisement number and duration

As advertisement choice is a broad phenomenon within video advertising, there are several other forms of choice that have not been explored to date. Examples involve viewers' choices concerning the number and duration of the advertisements themselves. As a form of personalization within the advertisement-length decision process (Oshiba *et al.*, 2002), allowing viewers to control the duration of advertisements gives them the same degree of autonomy as other forms of advertisement choice. Given the similarity between these choices from a functional perspective, decisions about advertisement duration is thought to have cognitive and attitudinal effects on viewers (e.g. wear-in and wear-out effects). Although television does not provide the same mechanisms regarding advertisement choice compared to digital video platforms, one of the major objectives for both advertisement mediums is to maximize reach to the consumer (Cannon and Riordan, 1994; Cheong *et al.*, 2010; Kreshel *et al.*, 1985; Romaniuk *et al.*, 2013). In addition, television has been undergoing similar shifts regarding advertisement duration compared to its digital counterparts.

Initial investigations of effectiveness concerning the number and duration of television advertisements within marketing literature broadly began toward the end of the 1960s and early 1970s. During this time, researchers and applied marketers were beginning to understand and investigate the longitudinal effects of advertising exposures on various consumers. To that end, Ostheimer (1970) argued that time was an essential factor to incorporate when assessing the effectiveness of advertisements to a consumer population watching multiple exposures of a message. Given the evidence that returns on advertising investments decrease rather than increase over time (Simon and Arndt, 1980), marketing researchers and practitioners such as Ehrenberg (1973) developed the belief that the emphasis of marketing was to retain existing customers through reinforcement rather than acquire new customers. In this sense, advertising is a necessary practice to maintain one's customer base rather than creating a new one. Through this understanding, the marketing community was beginning to investigate the underpinnings of advertising wear-in and wear-out effects.

In broad terms, wear-in and wear-out effects from television advertisements seem to be because of a combination of (i.e. interaction) consumer, advertisement and measurement factors (Greenberg and Suttoni, 1973; Pechmann and Stewart, 1988). For example, Craig

et al. (1976) found that consumers demonstrated wear-out effects toward advertisements and brands due to lack of attention and motivation to process the information contained in the messages. This was supported by [Batra and Ray \(1986\)](#), who showed that advertising repetition effects were moderated by consumers' abilities and motivations to think about the messages. While increasing consumers' attention toward advertisements does not eliminate the wear-out process ([Calder and Sternthal, 1980](#)), the initial performance of a given advertisement was shown to influence the rate at which the wear-out process occurred ([Appel, 1971](#); [Axelrod, 1980](#)). In addition, shorter advertisements (e.g. 30 s) tended to show wear-in effects concerning purchase intentions from one to five exposures while longer advertisements (e.g. 90 s) tended to wear-in effects from one to three exposures but wear-out effects from three to five exposures ([Rethans et al., 1986](#)) during a period of time when the marketing community was discussing the transition from 30-s spots to 15-s spots ([Claggett, 1986](#)). However, the impact of advertisement duration on consumers seems to be moderated by whether the message uses an emotional or informational appeal ([Singh and Cole, 1993](#)).

Beyond these initial studies, multiple investigations have found a curvilinear relationship between television exposure and various outcomes ([Blair, 2000](#)). [Chu et al. \(2012\)](#) found that six exposures were superior to one, two and four exposures on advertisement attitudes. [Schmidt and Eisend \(2015\)](#) used meta-analytic data to show that advertisement repetition formed an inverted U shape on brand attitude and recall measures. Schmidt and Eisend suggested that at least 10 exposures were ideal in real-world settings to maximize attitude and recall metrics. However, fewer exposures might be preferred in certain television contexts as viewers tend to demonstrate hedonic contamination effects ([Russell et al., 2017](#)). In addition, television has been delivering a greater number of advertisements that vary away from the 30 s standard to compete with increasing demands for digital video content ([Bond, 2017](#)). These 6 s, 10 s and 15 s alternatives (to name some examples) are used to better compete over consumers' attention as they multitask within their viewing environments. Despite the decrease in exposure time, [Newstead and Romaniuk \(2010\)](#) noted that brand identification or recall is the same between 15 s and 30 s advertisements. They also found that brand recall and likeability scores after exposure to 15 s advertisements were equivalent to 80% of the scores after exposure to a 30 s alternative. In addition, [Gaines \(2020\)](#) argued that 15 s television advertisements are more effective than their 30 s counterparts because of more focused and understandable messaging especially within targeted marketing approaches. However, several studies suggested that the impact of advertisement duration for television depends on the characteristics of adjacent messages that appear during a commercial break as they also impact characteristics of advertising blocks ([Pieters and Bijmolt, 1997](#); [Ward et al., 1989](#)).

In contrast to television, decreasing advertisement duration online seems to have more pronounced cognitive deficiencies. While [Southgate and Poole \(2020\)](#) noted that integrating a brand with a 6 s message is very difficult, [Ciccarelli \(2019\)](#) suggested that a 15 s advertisement is not enough to generate advertisement recall. In comparisons of 6 s, 30-60 s and 2:45-6 min advertisements, Southgate and Poole found that 60 s was the minimum amount of exposure time needed for viewers to enhance brand associations. This is largely supported by [Ahari \(2015\)](#) by showing that brand awareness and brand consideration increase curvilinearly (with diminishing returns) as advertisements increase in length. However, [Jones \(2016\)](#) showed that a 15 s advertisement led to the greatest levels of brand recall compared to 30 s and 2:17 min alternatives. For these reasons, multiple professionals advocate that the ideal advertisement duration depends on the specific goals or objectives of the source ([Bercovici, 2017](#); [Jones, 2016](#); [YuMe, 2016](#)). When the primary objectives are exposure-focused (i.e. click-through rates, conversation rates and video completions), then

short to medium length advertisements (especially 30s options) are more effective (Bercovici, 2017; Jones, 2016; Waber, 2017). On the other hand, when the primary objectives are more brand-focused (i.e. brand favorability) or persuasion-focused (i.e. purchase intention), then longer advertisements are more effective (Bercovici, 2017; Li and Lo, 2015; YuMe, 2016). Reaching the ideal duration can be challenging as Herhold (2017) reports that 46% of viewers react negatively to advertisements that are too long while Goodrich *et al.* (2015) suggest that shorter advertisements can be perceived as being intrusive by consumers.

Present investigations

The purpose of the current investigations was to assess online customers' (i.e. viewers') preferences of advertisement frequencies and durations using the advertisement choice paradigm. Beyond investigating the impact of advertisement number and duration, this study also incorporated the timing of the choice (before viewing video content or in the middle of the content) to explore any potential moderating effects. By doing so, the present investigations advance the aforementioned literature in a variety of ways.

First, these investigations assess customer preferences in an a priori fashion. Rather than understanding optimal presentation formats by measuring constructs (e.g. clickthrough rate, conversion rate, etc.) after exposure to advertisements as television and some online marketing does, these investigations assess customer preferences before exposure occurs. In this sense, the utilization of advertisement choice in these studies follows a bottom-up process compared to the more top-down processes used in more traditional television and online contexts. Second, these investigations expand on the knowledge and understanding of advertisement choice as a digital marketing strategy by using it in a new way. While previous investigations have explored this choice for message preferences (Schlosser and Shavitt, 2009) and product preferences (Nettelhorst and Brannon, 2012a, 2012b; Nettelhorst *et al.*, 2014; Nettelhorst *et al.*, 2017), this study investigates choice concerning the *formatting/structure of the messages* instead. For these reasons, seamlessly applying existing theories/models to these investigations is difficult. For example, applying a form of cognitive dissonance theory (Festinger, 1957; Harmon-Jones and Harmon-Jones, 2002) is challenging because the major premise of the theory suggests that people change their attitudes about a chosen and unchosen decisional options *after* the choice is made. Given that this study explores the choices *themselves*, making predictions based on these accounts seems more tenuous.

Third, the present studies adopt an outcome-focused approach to studying the formatting/structure of chosen advertisements rather than a process-focused approach. In other words, the focus in the current studies was to examine, *which* types of advertisements viewers chose rather than the *consequences* of their choices from cognitive and attitudinal perspectives. While the importance of eye-tracking measurement within advertising has helped better understand the role of attention within this field (Hernández-Méndez and Muñoz-Leiva, 2015; Hervet *et al.*, 2010; Resnick and Albert, 2013; Scott *et al.*, 2016; Wedel and Pieters, 2008), the emphasis of the present studies was to assess viewers' preferences rather than how they attended to the advertisements once they made their selections. Fourth, these investigations assess customers' preferences in a *realistic digital marketing simulation* rather than asking consumers to estimate their preferences in a hypothetical scenario (YuMe, 2016).

In view of the caveat above, YuMe (2016) asked participants to rate the importance of selecting an advertisement option with a specific number and duration (e.g. one 30s advertisement, two 15s, three 10s, etc.) within a hypothetical 30s advertisement break.

Participants' preferences decreased in a linear fashion as the number of messages increased. In addition, YuMe asked participants to explain why they would potentially watch a 60 s advertisement instead of a 30 s advertisement. YuMe found that the three most important reasons for this preference were to minimize the number of interruptions during the middle of viewing content, to watch one longer advertisement than multiple shorter advertisements and to have the ability to choose the advertisements to watch. The following effects were predicted based on this research and others found throughout the literature review:

- H1. Online viewers will prefer watching fewer advertisements with longer durations than a greater number of advertisements with shorter durations.
- H2. Viewers' preferences for fewer-longer advertisements will be greater for choices in the middle of video content rather than prior to video content.

Method

Participants

In total, 128 undergraduate students from two Midwestern universities participated in this study. In total, 66 participants (51.6%) were recruited from a large research institution while 62 (48.4%) were recruited from a large regional comprehensive institution. In total, 75 participants (58.6%) identified themselves as female while 53 identified themselves as male (41.4%). In total, 99 participants (77.3%) identified themselves as Caucasian, 11 (8.6%) as African-American, eight (6.3%) as Hispanic/Latinx, three (2.3%) as Asian-American, three (2.3%) as Mixed ethnicity and four (3.1%) as Other. The average age of the sample was 19.21 years ($SD = 2.18$). Students signed up to participate in the study through Sona Systems and they were compensated with course credit for their introductory psychology courses. All participants were treated ethically based on the APA ethical principles of psychologists and code of conduct ([American Psychological Association, 2010](#)).

Design

This study used a between-participant experimental design to investigate participants' choice over advertisement exposure. This experiment manipulated two independent variables and measured one dependent variable. The first independent variable was the type of choice options presented to participants. This categorical variable consisted of three levels where participants were exposed to a choice between two options. The first level was a choice between watching either one 60 s or two 30 s advertisements. The second level was between either one 60 s or four 15 s advertisements and the third level was between either two 30 s or four 15 s advertisements. The total exposure time across all choice options was held consistent in this study (60 s). The second independent variable was the timing of the choice itself. This variable focused on the point in which participants made their choice during the programing experience. This categorical variable had two levels where participants were asked to make their choice prior to watching the video programing (beginning prompt condition) or during the middle of their viewing experience (middle prompt condition). The dependent variable was a binary categorical variable that measured, which choice option participants selected amongst the two options they were exposed to. Given that each choice condition consisted of different combinations of options (one 60 s, two 30 s or four 15 s advertisements), the data for the dependent variable was coded where participants were identified as choosing the option with fewer-longer or more-shorter advertisements. This recoding provided consistency amongst the experimental conditions that were needed for statistical analysis.

Materials and procedure

An online survey was constructed on Qualtrics to investigate participants' behaviors toward the advertisement manipulations (Figure 1 for outlines of the procedure).

The survey started with a consent form and then asked demographic questions concerning gender, ethnicity and age. Following demographics, the participants in the *beginning prompt condition* were asked to choose the number of advertisements they preferred to watch. They were assigned a choice between two options (one 60 s vs two 30 s; one 60 s vs four 15 s; two 30 s vs four 15 s) depending on the choice option condition they belonged to. After making their choice, participants watched a YouTube video (Jimmy Kimmel Live, 2017). After the video, participants rated the content by responding to a variety of survey questions. Following their responses, participants watched the number of advertisements based on their selection at the beginning of the study. The 60 s option was an Amazon commercial for a Paperwhite Kindle (Shrey, 1997, 2012). The 30 s options consisted of an Amazon Kindle Fire HD (Summer, 2012) and an Amazon Fire Tablet (Amazon Fire TV, 2015c) commercial. The 15 s options consisted of three Amazon Fire Tablet commercials (Amazon Fire TV, 2015a, 2015b; ThinkMax Tube, 2017) and an Amazon Kindle Fire HD (The Phone Commercials HD, 2014) commercial. Once participants watched the commercials, they were exposed to another YouTube video (Jimmy Kimmel Live, 2013) and responded to the video using the same survey questions as the first one. Participants were debriefed about the purpose of the study once they completed these questions.

The materials and procedure for participants in the *middle prompt condition* were identical except for the placement of the choice option manipulation. Instead of giving participants the advertisement choice *prior* to the first Jimmy Kimmel Live video (as with the beginning prompt condition), these participants were given the choice *between* the two Jimmy Kimmel Live videos. Thus, these participants saw and responded to the first video and then were given the choice about advertisement exposure. After making their selection, participants were exposed to the same commercials and then they watched and responded to the second Jimmy Kimmel Live video (followed by debriefing).

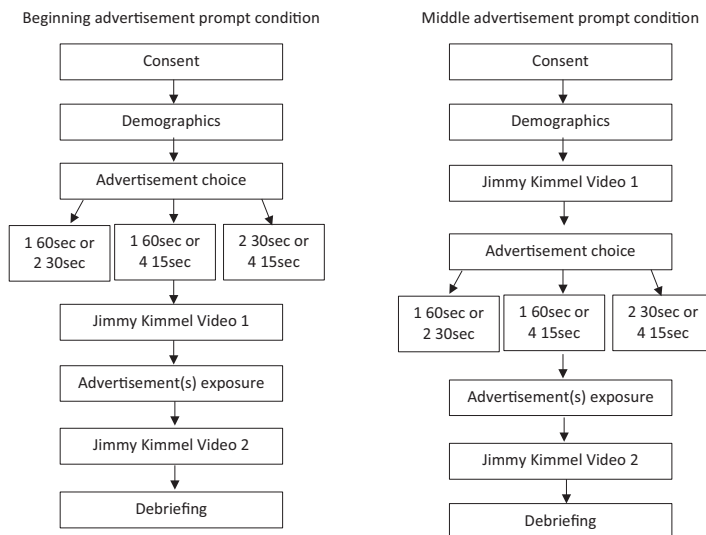


Figure 1.
An overview of
Study 1 procedure

Results

Overview

A 2×3 Pearson χ^2 test for independence was conducted to examine whether the advertisement choice options and the timing of those options influenced which advertisements participants chose to watch. This analysis was selected based on the nominal level of measurement for each variable in the study. Participant advertisement selection was a binary variable coded depending on whether participants selected the option with more shorter (e.g. four 15s) or the option with fewer longer advertisements (e.g. one 60s). The timing of the choice was also a binary variable with participants exposed to a choice at the beginning or middle of the video experience. Finally, the type of advertisement choice was a categorical variable with three levels (one 60 s vs two 30 s; one 60 s vs four 15 s; two 30 s vs four 15 s).

Data checking

Due to the categorical nature of the variables in this study, the data checking procedures do not explore typical statistical assumptions (e.g. normality, homogeneity, etc.). Instead, Field (2013) highlights two major assumptions for a Pearson χ^2 test. The first is the independence of observations and the second is the proportion of expected frequencies. The assumption of independence was met, as participants belonged to only a single cell within the χ^2 (i.e. contingency) table. The study used a between-participant design for all variables. The assumption regarding expected frequencies was also met in this sample. Given the 2×3 factorial design, the contingency table contained 36 cells (including marginal cells measuring total frequencies). All cells contained expected frequencies greater than one and four cells contained expected frequencies less than five. The proportion of cells with expected frequencies less than five ($n = 4$) divided by the total number of cells in the table ($n = 36$) constituted 11.1% of the cells in the table. Typically, the recommended ratio is less than 20% (Camilli and Hopkins, 1978; Howell, 2011; Michael, 2001; Yates *et al.*, 1999), so the data falls within that limit.

Effects

The results of the Pearson factorial χ^2 analysis showed no main effect of choice timing on participants' choices, $\chi^2(1) = 0.34, p = 0.561$. The number of participants who chose the shorter ($n = 11$) and longer ($n = 52$) advertisements at the beginning of the show was similar to the number who chose the shorter ($n = 14$) and longer ($n = 51$) options in the middle of the show. In contrast, there was a main effect of choice option on participants' advertisement selections, $\chi^2(2) = 8.34, p = 0.015$ (Table 1).

Further exploration of each separate choice option condition showed a significant difference between the two 30 s option and the four 15 s option, $\chi^2(1) = 18.00, p < 0.001$. A greater number of participants chose to watch the 30 s advertisements ($n = 40$) than the 15 s advertisements ($n = 10$). There was also a significant difference between the four 15 s option and the one 60 s option, $\chi^2(1) = 32.96, p < 0.001$. A greater number of participants chose to watch the 60 s advertisement ($n = 46$) than the 15 s advertisements ($n = 5$). However, there was no significant difference between the 30 s and 60 s options, $\chi^2(1) = 1.82, p = 0.178$. A similar number of participants chose to watch the 30 s advertisements ($n = 10$) compared to the 60 s advertisement ($n = 17$).

The main effect of the choice option appeared to be qualified by the two-way interaction. This interaction is due to the data showing an effect of the choice option at the beginning of the program, $\chi^2(2) = 13.23, p = 0.001$, but not during the middle of the show, $\chi^2(2) = 2.87, p = 0.238$. Further examination of the differences between options at the beginning of the

Decision timing	Choice options	Shorter option	Longer option
Before content	Four 15 s or two 30 s advertisements	2	22
	Four 15 s or one 60 s advertisement	2	23
	Two 30 s or one 60 s advertisement	7	7
During content	Four 15 s or two 30 s advertisements	8	18
	Four 15 s or one 60 s advertisement	3	23
	Two 30 s or one 60 s advertisement	3	10
Sum of timings	Four 15 s or two 30 s advertisements	10	40
	Four 15 s or one 60 s advertisement	5	46
	Two 30 s or one 60 s advertisement	10	17

Notes: The listed values represent the number of participants who selected one combination of advertisement(s) over another. The shorter option represents the choice option that includes advertisements with shorter durations and greater frequencies (longer option contained longer durations with shorter frequencies). In the four 15 s or two 30 s advertisements condition, participants included under shorter option preferred four 15 s advertisements while those under longer option preferred two 30 s advertisements

Table 1.
Advertisement choice selections

program showed that more participants selected the 30 s advertisements ($n = 22$) than the 15 s advertisements ($n = 2$), $\chi^2(1) = 16.67, p < 0.001$. More participants also selected the 60 s advertisement ($n = 23$) than the 15 s advertisements ($n = 2$), $\chi^2(1) = 17.64, p < 0.001$. However, the same number of participants chose the 30 s ($n = 7$) and 60 s ($n = 7$) advertisements, $\chi^2(1) = 0.00, p = 1.000$.

Discussion

The results from this investigation found strong support for *H1*. A significantly greater number of participants chose to watch either a single 60 s or two 30 s instead of four 15 s advertisements. However, there was no difference in preference between a single 60 s and two 30 s advertisements. In contrast, the results did not support *H2*. Viewers' preferences for fewer longer advertisements occurred prior to watching video programing but not during the middle of the exposure. One important aspect of this study was that the advertisement choice options (one 60 s, two 30 s and four 15 s) were equal in terms of total advertisement exposure time (60 s).

Given the strong differences between most options that were provided, an interesting question is whether viewers would still prefer fewer longer advertisements when the total exposure times were not equal. For example, would participants prefer a single longer (e.g. 30 s) instead of two shorter advertisements (e.g. 10 s) when the latter option has the lower total exposure time? According to YuMe (2016), 34% of participants indicated that they would watch a 60 s instead of a 30 s advertisement when it was embedded within an advertising block with less total duration time. This seems to align with most participants' focus on minimizing or eliminating advert interruptions of video content (YuMe, 2016). However, the preferences found in YuMe (2016) were assessed in a vacuum (i.e. hypothetical), so a follow-up study was conducted to assess this question using a nearly identical advertisement choice design compared to Study 1. Given the limitations of self-report data (Benítez-Silva *et al.*, 2004; Donaldson and Grant-Vallone, 2002) in part due to social desirability biases (Arnold and Feldman, 1981; Nederhof, 1985; Fisher and Katz, 2000) obtained from responses to hypothetical scenarios, this investigation and the following study extend previous work by investigating viewers' preferences in a more realistic viewing simulation.

While using the same advertisement choice paradigm as Study 1, Study 2 examined online viewers' preferences by changing the nature of the choice options themselves. Study 1 compared choice options that were equivalent in terms of their total duration time as a block of advertisements. Watching one 60s, two 30s ads and four 15s all total 60s of total advertisement exposure time for viewers. In contrast, the purpose of Study 2 was to examine viewers' preferences between options that had unequal duration times as blocks. Thus, the major research question of Study 2 was whether online viewers would be willing to watch a greater number of distinct advertisements when their combined duration time (as a block) was less than the combined time for a fewer number of advertisements. The following hypotheses were made given participants' preferences to minimize advertisement exposure in total terms (YuMe, 2016) and the results from Study 1.

- H3. Online viewers will prefer watching more advertisements with shorter durations than fewer advertisements with longer durations (when the former has lower total exposure time).
- H4. Viewers' preferences for more-shorter advertisements will be greater for choices prior to content rather than in the middle of content.

Study 2 method

Participants

In total, 129 undergraduate students from the same two institutions as Study 1 completed Study 2. In total, 93 students (72.1%) were recruited from the large regional comprehensive university while 34 students were recruited from the large research university (26.4%). In total, 69 participants (53.5%) identified themselves as female while 58 (45.0%) identified as male. In total, 94 participants (72.9%) identified themselves as Caucasian, 12 (9.3%) as African-American, five (3.9%) as Hispanic/Latinx, three (2.3%) as Asian-American, four (3.1%) as mixed ethnicity and nine (7.0%) as other ethnicities. Two participants did not disclose their institution, gender or ethnicity. The average age was 19.89 years ($SD = 3.04$), but seven participants did not disclose their ages.

Design

This study used the same between-participant experimental design as Study 1. The variables in this investigation were the same as Study 1, but the choice option variable consisted of two different levels. Study 1 assigned participants to three levels of choice with each choice consisting of two options. These levels included one 60s vs two 30s advertisements, one 60s vs four 15s advertisements and two 30s vs four 15s advertisements. All levels kept the total exposure time consistent across the choice options (60 s). In contrast, the two levels in this study provided options that were not consistent with total exposure time. These levels included one 40 s vs two 15 s advertisements and one 30 s vs two 10s advertisements. The total exposure time was 10s longer for the single advertisement option compared to the two-advertisement option. However, the 10s difference is *held consistent across the levels of the variable*, so no confound was developed in this manipulation.

Materials and procedure

This study used the same manipulations and resources compared to Study 1 with a couple of exceptions. The first exception is the different manipulation of choice options that was described in the previous paragraph. The second exception is the use of different

commercials within the online study, as the choice option manipulation was changed. After indicating their preference over advertisement exposure, participants watched different commercials compared to Study 1. The 40 s option was a 40 s Amazon Echo commercial (Amazon Echo, 2017) while the 30 s option was a 25 s Amazon Echo commercial (Amazon Echo India, 2018). The 15 s and 10 s options were also commercials for Amazon Echo (Rhine, 2017).

Results

Overview and data checking

A 2×2 Pearson χ^2 test for independence was conducted to examine whether participants' selections of advertisements were impacted by the type of choice options and the timing of those options. Identical to Study 1, participant advertisement selection was a binary variable coded depending on whether participants selected the option with more shorter or the one with fewer longer advertisements. The timing of the choice was also a binary variable with participants exposed to a choice at the beginning or middle of the video experience. In contrast to Study 1, the type of choice was also a binary variable with two advertisement choice options (one 40 s vs two 15 s; one 30 s vs two 10 s). Another major difference between these studies concerned the total amount of exposure time for the advertisements. In Study 1, all conditions matched the total exposure time between respective options. For example, one 60 s vs two 30 s advertisements are matched in total exposure (60 s). In this study, each condition had a 10 s difference that favored the option with more advertisements. The statistical assumptions for the Pearson χ^2 analysis were met in this sample. Independence of observations was met, as every participant belonged to only one cell in the contingency table because of the between-participant design of the study. The recommended proportion of expected frequencies within the table was also met, as all the cells in this analysis had expected frequencies greater than five.

Effects

First, the pattern of results from the sample showed a marginally significant main effect of choice timing on participants' selections, $\chi^2(1) = 3.26, p = 0.071$. Participants' selections of the shorter ($n = 34$) and longer ($n = 36$) advertisements at the beginning of the program were similar to the shorter ($n = 38$) and longer ($n = 21$) selections during the middle of the program. This pattern of results meant that participants showed somewhat similar patterns of advertisement preferences regardless of when the decision prompt was provided to them within the viewing simulation. Second, there was no main effect of the type of choice option on participants' selections, $\chi^2(1) = 0.48, p = 0.488$ (Table 2).

Participants' selections of two 10 s ($n = 36$) vs one 30 s advertisement ($n = 32$) was similar to their selections between two 15 s ($n = 36$) vs one 40 s advertisement ($n = 25$). Unlike the results from Study 1, participants in this investigation did not show meaningful differences between choice options of different frequencies and durations. Third, there was no significant interaction between the choice options and the timing of the choice prompt on participants' selections as the impact of a choice option was marginally significant at the beginning of the program, $\chi^2(1) = 3.62, p = 0.057$, but not significant during the middle of the program, $\chi^2(1) = 1.28, p = 0.268$. This meant that participants' preferences between the choice options were fairly similar regardless of whether they made their selection at the beginning of the viewing simulation or in the middle of their viewing experience.

Decision timing	Choice options	Shorter option	Longer option
Before content	Two 10 s or One 30 s advertisement	14	23
	Two 15 s or One 40 s advertisement	20	13
During content	Two 10 s or One 30 s advertisement	22	9
	Two 15 s or One 40 s advertisement	16	12
Sum of timings	Two 10 s or One 30 s advertisement	36	32
	Two 15 s or One 40 s advertisement	36	25

Table 2.
Study 2
advertisement choice
selections

Notes: The listed values represent the number of participants who selected one combination of advertisement(s) over another. The shorter option represents the choice option that includes advertisements with shorter durations and greater frequencies (longer option contained longer durations with shorter frequencies). In the two 10 s or one 30 s advertisement condition, participants included under shorter option preferred four 15 s advertisements while those under longer option preferred two 30 s advertisements

Discussion

The results from Study 2 did not support *H1*. Participants' preferences for fewer longer compared to more shorter advertisements were similar even though total exposure time favored the latter option. The results also did not support *H2* as the timing of the choice was not a moderating factor. Unlike Study 1, participants' preferences for the choice options were similar both prior to exposure to the video content and in the middle of watching the content.

General discussion

The findings in Study 1 somewhat align with the advertisement length preferences found in YuMe (2016). The preferences for fewer numbers of longer advertisements increased in a linear fashion when participants were given a hypothetical scenario. Similarly, participants demonstrated strong preferences for fewer longer advertisements in an actual choice setting for Study 1. The actual preferences occurred in a curvilinear rather than a linear pattern as Study 1 found no difference between one 60 s and two 30 s options. This lack of difference seems to contrast viewers' stated rationales for watching a 60 s instead of a 30 s advertisement (YuMe, 2016).

In contrast, the findings in Study 2 do not seem to align with the findings from YuMe (2016). One of the most important stated reasons for participants to watch a longer advertisement over a shorter one was to reduce the total amount of exposure time during a commercial break. However, Study 2 found that participants in an actual choice setting did not demonstrate strong preferences even when an option was associated with shorter total exposure duration. These findings are somewhat surprising when examined in isolation, but it may have some relevance when combined with the results from Study 1. Given the strong preferences found in Study 1 for fewer longer advertisements (amongst most choices), it is surprising and impressive to make those effects disappear in Study 2 by introducing a 10 s disparity in total exposure time for the options with more shorter advertisements. From a relative perspective, the findings from Study 2 may reflect a transition phase of advertisement choice whereby viewers' preferences for fewer longer advertisements disappear before getting flipped in favor of a greater number of shorter advertisements. In essence, viewers might select advertisement choice options with more shorter messages when they decrease more than 10 s of total exposure time.

Implications and future research

From an applied perspective, the pattern of results across both studies is mixed with prior recommendations. On one hand, while [Bercovici \(2017\)](#) suggested that clickthrough rates and video completion are typically higher for shorter advertisements, viewer preferences here favored the longer options when the total exposure time was held constant. On the other hand, viewer preferences seem to align with [Jones \(2016\)](#) showing that advertisements 30 s and longer may provide benefits compared to shorter alternatives. Thus, advertisement choice may be a potential mechanism or strategy that digital marketers can use in video campaigns to increase viewers' motivations to watch longer advertisements promoting one's brand, product or service ([Ahari, 2015; YuMe, 2016](#)).

As a video marketing strategy, advertisement choice concerning the number and duration of commercials can expand beyond the options provided in these investigations. While the options provided in both studies ranged from 10 s to 60 s, digital video advertising often uses messages less than 10 s ([Ahari, 2015; YuMe, 2016](#)) and can include messages longer than 60 s ([Bercovici, 2017; Jones, 2016](#)). Within this context, the advertisement choice options in studies one and two may reflect the lower to middle range of the exposure duration continuum. Exploring the more extreme duration options (e.g. 6 s, 90 s, 120 s, etc.) may provide more insight about online viewers' preferences about advertising exposure.

Beyond varying the number and durations of advertisements options themselves, there are other ways marketers can use advertisement choice to provide cocreated experiences with viewers. One avenue is to extend differences in total exposure time between options. While the options in Study 1 had the same amount of total exposure (60 s), Study 2 created differences where the options with fewer advertisements were 10 s longer than the options with more advertisements. If a marketer's priority is to maximize the number of different messages displayed to viewers, then advertisement choice can provide a way to maximize the number of exposures by accompanying them with less total exposure time. This would allow viewers to limit the total amount of time watching advertisements ([YuMe, 2016](#)). In contrast, if the priority is to maximize the impact of exposure in terms of brand attitudes and persuasion outcomes, then the options with fewer messages can be accompanied with less total exposure time. Accompanying fewer longer advertisement options with less total exposure time compared to more shorter options would probably magnify the effects found in Study 1. For example, most online viewers may choose to watch one 120 s instead of three 60 s advertisements.

Another extension of advertisement choice regarding exposure times adapts the delay of gratification paradigm ([Duckworth et al., 2013; Romer et al., 2010; Watts et al., 2018](#)). Instead of providing a choice task between a smaller immediate reward and a larger distal reward, advertisement choice can explore whether online viewers are more willing to choose a larger immediate unwanted stimulus (in terms of a longer advertisement) to prevent future unwanted stimuli later in the viewing process (i.e. while watching the video content itself). For example, viewers could be asked whether they prefer watching an 120 s *prior to* their selected video or two 60 s advertisements *during* their selected video as commercial breaks. While the studies in this investigation manipulated when participants were asked to make their advertisement choice, all advertisements were shown in the middle of their viewing experience. Exploring an immediate punishment paradigm would do the opposite by giving viewers the choice at the beginning of video and then adapting their preferences accordingly. If effective, this may be a way to convince online viewers to watch longer advertisements by focusing on their motivation to limit or eliminate advertisement interruptions while watching content ([YuMe, 2016](#)).

It is also important to note that advertisement choice can extend beyond options regarding exposure numbers and durations. While previous studies on this strategy have focused on the type of message (Schlosser and Shavitt, 2009) or the type of product (Nettelhorst and Brannon, 2012a, 2012b; Nettelhorst *et al.*, 2014, 2017), there are other dimensions that can be explored. One example involves choices concerning the types of brands to be exposed to rather than products themselves. Instead of manipulating products, marketers using advertisement choice can present different brands within specific product categories. Within electronics, a choice can be between Samsung, Sony and Bose options. With the transition of viewing brands as unique entities within marketing (Bratanova *et al.*, 2015; Fiske *et al.*, 2012; Keller, 2012; Kervyn *et al.*, 2012; MacInnis, 2012; Puzakova *et al.*, 2013), marketers can use advertisement choice to improve target outcomes for various brand types (Kervyn *et al.*, 2012). Other examples involve exploring the antecedents and consequences of various types of advertisement choice. Thus far, an antecedent includes need for cognition (Cacioppo and Petty, 1982; Cacioppo *et al.*, 1984; Nettelhorst and Brannon, 2012b) while measured consequences/outcomes include a priori advertisement expectations (Nettelhorst *et al.*, 2014), attention (Nettelhorst and Brannon, 2012a, 2012b), attitudes (Schlosser and Shavitt, 2009) and cognitive effort (Nettelhorst *et al.*, 2017). One important omission in research is exploring the relationship between advertisement choice and various advertisement avoidance behaviors (Jin and Villegas, 2006; Rejón-Guardia and Martínez-López, 2014; Seyedghorban *et al.*, 2016) including physical, cognitive and mechanical forms (Bellman *et al.*, 2010). Finally, research on advertisement choice can investigate the mechanisms of the strategy itself. While Brehm (1956) suggested that post-choice outcomes were due to cognitive dissonance experiences (Festinger, 1962), other researchers suggest that similar or identical findings can be explained by alternative perspectives including self-perception (Bem, 1967, 1972). Thus, entangling the reasons why advertisement choice impacts online viewers in certain circumstances would benefit both research and users of this digital marketing strategy.

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