# The power of creative advertising: Creative ads impair recall and attitudes toward other ads

Hyun Seung Jin, Ph.D.*, Associate Professor, QUT Business School, Queensland University of Technology, 2 George St, Brisbane, QLD, Australia; Ph: +61 7 3138 2645; hsjin@qut.edu.au ORCID: 0000-0002-8300-102x

Gayle Kerr, Ph.D., Professor, QUT Business School, Queensland University of Technology, 2 George St, Brisbane, QLD, Australia; Ph: +61 7 3138 1243; gf.kerr@qut.edu.au

Jaebeom Suh, Ph.D., Associate Professor, Department of Marketing, College of Business Administration, Kansas State University, 1301 Lovers Lane, Manhattan, KS; Ph: +1 785 532 6142; jsuh@ksu.edu

Hyoje Jay Kim, Ph.D., Lecturer, Department of Marketing, University of Strathclyde, 199 Cathedral Street, Glasgow, UK. hyoje.kim@strath.ac.uk

Ben Sheehan, Ph.D. candidate, QUT Business School, Queensland University of Technology, 2 George St, Brisbane, QLD, Australia; b2.sheehan@qut.edu.au

*: Corresponding author

The authors received no funding for this project. The authors have no conflicts of interest to report.

This is a peer-reviewed, accepted author manuscript of the following article: Jin, H. S., Kerr, G., Suh, J., Kim, H. J., & Sheehan, B. (2022). The power of creative advertising: creative ads impair recall and attitudes toward other ads. International Journal of Advertising. https://doi.org/10.1080/02650487.2022.2045817

# The power of creative advertising: Creative ads impair recall and attitudes toward other ads

## Abstract

The purpose of the current research is to examine the effect of repetition upon recall and attitudes when a list of ads includes (vs. does not include) creative ads. We found significant context effects, as the presence of creative ads in a list decreased recall of, and attitudes towards, regular ads. The effects of repetition upon recall for regular ads decreased by 30% when those ads were shown alongside creative ads. When creative (vs. regular) ads were repeated, recall for non-repeated regular ads dropped by 70%. Furthermore, the current research found that regular ads were judged less favorably when a list of ads included creative ads. Overall, ad attitudes for the same regular ads were 10% lower when shown in the presence of creative ads. In order to avoid such impairment effects, the current research demonstrates why advertisers need to develop creative advertising.

Keywords: creative advertising, brand recall, attitude toward the ad, interference, contrast effect

## Introduction

There is ample evidence to suggest that our perceptions and judgments are influenced by context. For example, life satisfaction is affected by the weather (Schwarz and Clore 1983). Judgements of one's own physical attractiveness are influenced by media content consumption (Kenrick and Gutierres 1980) and social context (Walker and Vul 2013). Research suggests that context effects occur in advertising as well. In a meta-analysis, Kwon et al. (2021) examined the impact of context effects on advertising attitudes. They conclude that there are various types of contexts, and that attitudinal outcomes differ, for the same ads, depending on those contexts. A recent study shows a context effect of creativity in advertising. Investigating the effect of creative ads on recall for other regular ads, Jin, Kerr and Suh (2019) found that recall for the same regular target ad is significantly suppressed when it is shown alongside creative, as opposed to regular (less creative) ads. They call this context effect the *creativity-based impairment effect*.

The current research extends the work of Jin et al. (2019) in two ways. First, it builds upon our understanding of the creativity-based impairment effect in recall, by investigating how ad repetition plays a role. More specifically, we examine whether the creativity-based impairment effect holds even when regular target ads are repeated. Further, the magnitude of the impairment effect is examined when creative ads are repeated. Second, the current research examines whether the creativity-based impairment effect also occurs in attitudinal judgements of ads. If such an effect is observed, attitudes toward the same regular target ad would be lower when the ad is shown alongside creative ads.

The current research makes several contributions to our understanding of advertising creativity. Although advertising repetition is one of the most commonly used strategies to make brands memorable, studies examining context effects of creative advertising and repetition are scant (Lehnert, Till and Carlson 2013; Rosengren et al. 2020; Schmidt and

Eisend 2015). Filling important gaps in the literature, the current research provides empirical evidence to suggest that the effect of repetition upon recall for regular target ads differs, depending on ad list contexts i.e., whether an ad list includes vs. does not include creative ads. In addition, we examine whether attitudes toward the same regular target ads are affected by the presence (vs. absence) of creative ads in an ad list. Using adaptation level theory (Helson 1964) as a theoretical framework, we explain why changes in attitude occur. Thus, the current research extends the creativity-based impairment effect to attitudinal judgments.

The current study offers managerial implications. Prior research suggests investing in creative advertising for a number of reasons (see Rosengren et al. 2020 for a meta-analysis). However, the current research offers another novel and compelling reason to invest in creative advertising; that is, to avoid unwanted impairment effects. Furthermore, this research presents a framework to help advertising practitioners make informed and strategic decisions regarding advertising budgets (e.g., production costs) and media planning. For example, this research may justify the extra costs associated with the development of creative ads. Furthermore, when a firm's ad is creative, this research suggests an emphasis of reach over frequency.

## Impairment effects of creative ads and repetition in recall

Advertising creativity is one of the most important components of advertising strategy (Rosengren et al. 2020). Although creativity means different things to different stakeholders, there is consensus that creativity is defined by two constructs – originality and relevance, that are essential for advertising effectiveness (Ang and Low 2000; Ang et al. 2007; Chen et al. 2016; Koslow 2015; Koslow et al. 2003; Pieters et al. 2002; Smith and Yang 2004; Yang and Smith 2009). The first, originality also known as distinctiveness or divergence, is about making advertising unique, surprising, and different from the norm. The second construct of

relevance ensures that advertising has commercial meaning for its target market, differentiating it from art.

Creativity in advertising is well documented in terms of its facilitation effect. A recent meta-analysis of creative advertising found robust positive effects (Rosengren et al. 2020). Creative ads increase consumer attention and motivation to process the ad as well as the depth of processing (Pieters et al. 2002; Smith and Yang 2004; Smith et al. 2007). Creative ads are more positively associated with recall than less creative ads (Ang et al. 2007; Baack et al. 2008; Jin et al. 2019; Pieters and Bijmolt 1997; Till and Baack 2005). Repetition of creative ads (vs. regular ads) produces faster wear-in and longer wear-out (Chen et al. 2016; Lehnert, Till and Carlson 2013). Creative ads are more likable (Ang and Low 2000; Chen et al. 2016; Smith et al. 2007; Smith et al. 2008) and creativity can drive the online viral viewing of TV ads (Southgate, Westoby and Page 2010). In financial terms, creative ads have a positive impact on sales (Reinartz and Saffert 2013).

While prior research provides compelling empirical evidence of the facilitating effects of creative ads, a recent study has uncovered additional effects of creative ads on other ads. Jin et al. (2019) found that creative ads have an impairment effect on memory of other regular ads, calling this the *creativity-based impairment effect*. Recall for identical regular target ads was significantly decreased when a list included creative ads, compared to a list that did not include creative ads. The impairment effect is explained by strength-based interference models in memory (Alba and Chattopadhyay 1985; Anderson et al. 1994; Ratcliff et al. 1990).

These models postulate that strengthened (enhanced) memory of some items in a list, impairs memory of the remaining non-strengthened items. These memory models suggest that the degree to which a person remembers a target item, depends upon the degree to which they remember other items in a list. A theoretical account for such impairment is known as

sampling-with-replacement (Rundus 1973). When consumers are asked to recall items that they have previously seen, they engage in a memory search, reviewing their memory for images of items. Images are sampled in line with their relative strength, so that strengthened items are likely to be recalled with ease. When a strengthened item is recalled, its representation is reinforced. Thus, the already-recalled-item is more likely to be sampled again. Since the remaining, not-yet-recalled, non-strengthened items are less likely to be sampled, recall for these items is diminished.

Building upon the impairment effect of creative ads, we examined repetition effects. In particular, we consider two different repetition contexts. The first context is where regular target ads are repeated while creative ads are not repeated. This context is useful to examine whether a creativity-based impairment is observed when the regular target ads' memory is strengthened via repetition. The second context involves a situation where regular target ads are not repeated, but other creative ads are repeated. In this context, we investigate whether the magnitude of a creativity-based impairment effect is intensified because repetition makes the already memorable creative ads more memorable.

To facilitate our discussion, consider two different ad lists in which two identical target ads ($T_1$ and $T_2$) are embedded. The target ads are regular in terms of creativity and the ads are repeated twice ($2T_1$ and $2T_2$). In the first ad list (control list), the target ads are presented alongside other regular ads ($R_1$ and $R_2$). In the second ad list (mixed list), the same target ads are shown with creative ads ($C_1$ and $C_2$).

Ad list 1 (control list): $2T_1, 2T_2, R_1, R_2$

Ad list 2 (mixed list): $2T_1, 2T_2, C_1, C_2$

For an impairment effect to occur, some items in a list should be strengthened, in order to suppress one's memory of other items (Alba and Chattopadhyay 1985; Anderson et al. 1994; Ratcliff et al. 1990). For example, in order to find the creativity-based impairment effect,

creative ads in the mixed condition should be more memorable than regular ads in the control condition. Otherwise, no creativity-based impairment effect is expected. Thus, it is necessary that recall for creative ads ($C_1$ and $C_2$) should be greater than recall for regular ads ($R_1$, $R_2$) in the first place. This facilitation effect of creative ads is well established in the literature.

We expect that the positive effects associated with repetition differ depending upon ad list contexts. If the strength of one's memory for the repeated target ads is irrelevant to the ad list context, the absence vs. presence of creative ads in a list should not affect the retrieval probability of the identical target ads ($T_1$ and $T_2$). However, because of the creativity-based impairment effect, creative ads ($C_1$, $C_2$) in the mixed list should hinder the effect of repetition upon recall for the target regular ads. It is therefore hypothesized:

> **H1:** Creative-based impairment will be observed when regular target ads are repeated. Thus, recall of repeated regular target ads will be weaker, when a list of ads includes creative ads vs. does not include creative ads.

Consider a different repetition scenario, where the target regular ads are not repeated and the other ads (either regular or creative) in the lists are repeated. The critical comparison is recall for the same non-repeated target ads ($T_1$ and $T_2$) across the two list conditions.

Ad list 3 (control list): $T_1$, $T_2$, $2R_1$, $2R_2$

Ad list 4 (mixed list): $T_1$, $T_2$, $2C_1$, $2C_2$

Research suggests that there is repetition-based impairment effect in recall (Ratcliff et al. 1990; Tulving and Hastie 1972); that is, recall of non-repeated target items is impaired when other items are repeated. For example, Tulving and Hastie (1972) report a classic example of such an effect with the so-called A+2B paradigm. In the A+2B list condition, some of the items in the list were repeated (2 × Set B) whereas the target items (Set A) were presented

only once. In the A+B list condition, all items were shown only once. The paradigm is similar to the example of the two ad list conditions. They found that Set B items were recalled more in the A+2B list condition than the A+B condition due to repetition. If recall of Set B did not differ in the two conditions, there would be no impairment effect in the target Set A. However, the researchers did find an impairment effect. Although participants in both list conditions saw the identical Set A items once, participants in the A+2B list condition recalled the target items (Set A) less than those in the A+B list condition. The findings suggest that facilitation of recall for repeated (strengthened) items was accompanied by suppression of recall for the remaining, non-repeated items.

It is important to note that strength-based interference models suggest that the magnitude of an impairment effect is positively associated with the memory strength for some items in a list (Ratcliff et al. 1990). For example, an impairment effect in recall (the target Set A items) would be stronger in an A+3B list condition (Set B items are repeated three times) than in an A+2B list condition. This is because one's Set B memory strength is expected to be greater in the first condition than in the second condition. In a similar vein, a creativity-based impairment effect would increase, as the creativity gap between creative and regular ads increases.

Furthermore, research shows that the repetition effect of creative vs. regular ads on recall differs. Lehnert et al. (2013) found that recall was significantly higher for creative ads (award-wining ads) than regular ads when the ads were repeated. Chen et al. (2016) reported similar findings. They argue that additional exposure to regular ads generates boredom and satiation, such that attention paid to the repeated regular ads decreases. Due to their distinct characteristics, creative ads are more likely to maintain consumers' attention, even with repeated exposure. In sum, when repeating creative ads vs. regular ads, memory strength for the creative ads will be intensified because (1) the boredom/satiation effect is decreased or

delayed, and (2) repetition makes an already memorable, creative ad more memorable. Thus, recall of the non-repeated target ads ($T_1$ and $T_2$) in the mixed list condition will be very challenging, because both the repetition-based and creativity-based impairment effects are in action simultaneously. We hypothesize:

> **H2:** Creativity-based impairment will be intensified when creative ads are repeated. Thus, recall of non-repeated regular target ads will be substantially weaker (approaching zero), when a list of ads includes repeated creative ads vs. repeated regular ads.

**Impairment effects of creative ads on attitudes toward regular ads**

Prior research consistently demonstrates that creative ads are more positively perceived than regular ads (Ang and Low 2000; Chen et al. 2016; Smith et al. 2007; Smith et al. 2008). The literature to date has focused on the facilitative effects of creative ads. No prior research has demonstrated an impairment effect of creative ads upon attitudes towards regular ads. Filling this void, we propose that one's attitude toward the same regular target ad is adversely affected by the presence (vs. absence) of creative ads.

Research has shown that perceptions and judgements of an object are not solely based on the target object's characteristics or features. Perceptions are also influenced by the context in which an object is observed (Ariely 2008; Kenrick and Gutierres 1980; Richins 1991; Walker and Vul 2013). Creativity-based impairment effects on ad attitudes may be predicted and explained by adaptation level theory (Helson 1964). This theory describes how judgement of a stimulus is determined by a reference point, created by an immediate or recent stimulus context and aggregated past experiences. Exposure to an ad list that includes creative ads, as opposed to all regular ads, makes the creative ads more salient and changes

the comparison level against which other ads are attitudinally evaluated. We suggest that creative ads encourage the adoption of a relatively high reference point, relegating the same regular target ad lower in attitude judgments. This occurs because the regular ad is perceived as being further removed from its more creative reference point. Thus, it is hypothesized:

**H3**: When no ads are repeated, attitudes toward regular target ads will be lower, when a list of ads includes creative ads vs. does not include creative ads.

The above hypothesis is based on a situation where no ads are repeated: Control list ($T_1$, $T_2$, $R_1$, $R_2$) vs. mixed list ($T_1$, $T_2$, $C_1$, $C_2$). Beyond H3, we believe that one's reference point for attitudinal judgments, can be affected by repetition in the mixed condition because the proportion of regular vs. creative ads would change. When no ads are repeated, the proportion of regular vs. creative ads in the mixed condition is 50% vs. 50% respectively ($T_1$, $T_2$, $C_1$, $C_2$). When the target regular ads are repeated, the mixed list condition has four regular ads and two creative ads ($2T_1$, $2T_2$, $C_1$, $C_2$). The proportion of regular ads vs. creative ads is 67% ($4 \div 6 \times 100$) vs. 33% ($2 \div 6 \times 100$). Thus, participants encounter more regular ads than creative ads. This may lower the average attitude towards the stimuli, decreasing the reference point, which in turn reduces the contrast effect. Consequently, a creativity-based impairment effect in attitudinal judgements of the target regular ads would be weaker. In the case of repeated creative ads ($T_1$, $T_2$, $2C_1$, $2C_2$), the proportion of regular vs. creative ads is 33% vs. 67%. Since participants are exposed to more creative ads, the reference point would be enhanced, increasing the likelihood of an impairment effect in attitudes. Thus, the following hypotheses are proposed:

**H4**: Attitudes toward the same repeated regular target ads will not differ, when a list of ads includes creative ads vs. does not include creative ads.

**H5**: Attitudes toward non-repeated regular target ads will be lower, when a list of ads includes repeated creative ads vs. repeated regular ads.

**Overview of studies**

Three studies were conducted. Each study reflects a different repetition context. Table 1 presents the design of each study. All studies have two list conditions: control list (six regular target ads + six other regular ads) and mixed list (identical six regular target ads from the control list + creative ads). The dependent measures across all three studies are recall and attitudes toward the identical regular target ads in the two list conditions. In study 1, no ads are repeated. The purpose of study 1 is to replicate the findings of Jin et al (2019), extending the creativity-based impairment effect to account for changes in consumer attitudes. In study 2, regular target ads were repeated, but other ads (either creative ads or regular ads) were not repeated. We test whether creative-based impairment holds when one's memory of regular target ads is strengthened via repetition. If the impairment does not occur, this would limit the predictive and explanatory power of the creativity-based impairment effect. In study 3, regular target ads were not repeated while other ads (either creative or regular ads) were repeated. The focus of study 3 is to examine the magnitude of impairment. We expect that the magnitude of a creativity-based impairment effect is intensified because repetition makes already memorable creative ads more memorable.

**Table 1**. Study design

| | Study 1 | | Study 2 | | Study 3 | |
|---|---|---|---|---|---|---|
| | Control list | Mixed list | Control list | Mixed list | Control list | Mixed list |
| Target (regular) advertisements | T1-T6 Regular | T1-T6 Regular | 2 × (T1-T6) Regular | 2 × (T1-T6) Regular | T1-T6 Regular | T1-T6 Regular |
| Other advertisements | R1-R6 Regular | C1-C6 Creative | R1-R6 Regular | C1-C6 Creative | 2 × (R1-R6) Regular | 2 × (C1-C6) Creative |

Note: T1-T6 refers to six target (regular) ads. These ads were identical across the control and mixed list conditions. Other ads are different in the two conditions. R1-R6 are six regular ads whereas C1-C6 are six creative ads.

## Study 1

### *Method*

A two-cell (control list vs. mixed list) between-group design was used in Study 1. The design is similar to the examples described in the previous section. The only difference is that there were 12 ads in each list, as shown below:

*Control list condition*: 6 target ads [$T_1$ - $T_6$] and 6 regular-other ads [$R_1$ - $R_6$]

*Mixed list condition*: 6 target ads [T1 - $T_6$] and 6 creative-other ads [$C_1$ - $C_6$]

As noted, the 6 target ads are identical in the two list conditions. They are regular in creativity. Full details of the stimuli development are provided in the following section. A critical difference is that in the control condition, the 6 other ads are regular in terms of creativity, while the 6 other ads in the mixed condition are creative. Although the regular ads ($R_1$-$R_6$) in the control condition and the creative ads ($C_1$-$C_6$) in the mixed condition differed in creativity, they featured the same brands. This experimental design seeks to replicate Jin et al.'s (2019) findings regarding recall, while extending the creativity-based impairment effect

to account for the impact of creativity on ad attitudes. The participants in all three studies were undergraduate business students from a major Midwestern university in the U.S. They volunteered for the study in exchange for extra course credit. Seventy-nine college students (58% female) volunteered for Study 1.

***Stimuli***

Three sets of ads were prepared for the study: (1) 6 regular-target ads [$T_1 – T_6$], (2) 6 regular-other ads for the control list [$R_1 – R_6$], and (3) 6 creative-other ads for the mixed list condition [$C_1 – C_6$]. The regular-target ads were to be of similar creativity to the regular-other ads with both sets substantially less creative than the creative ads. Meanwhile, the creative-other ads and the regular-other ads needed to feature the same brands.

Regarding the creative ads, we used award-winning ads. Previous studies have operationalized creative ads as those which have won industry awards for creativity. This is common practice, given the award competitions are judged by advertising professionals, increasing external validity (Chen et al. 2016; Lehnert et al. 2013; Till and Baack 2005; Yang and Smith 2009). However, award-winning ads may not capture both dimensions of creativity. They often focus on originality at the expense of relevance (Rosengren et al. 2000). West et al. (2019, p. 109) notes that "advertising creativity cannot be "art for art's sake," as it still must meet a commercial objective. Hence, ideas must be both original and appropriate." Thus, we carefully considered our selection of the creative ads. First, we considered which products and services would be relevant to college students, given our participant sample. Through an initial search, 15 award winning ads (as judged by The One Show, Clio and the Effie Awards) were pre-selected. For their regular ad counterparts (control condition), 15 non-award-winning ads from the same brands were chosen from the internet.

Next, since the award-winning ads were judged by advertising professionals, we wanted to ensure that college students also perceived the award-winning ads "creative" compared to the regular ads. As a pre-test, we presented these 15 pairs of ads to 30 college students and invited them to rate the ads in terms of creativity, using an ad creativity scale (Smith et al. 2007; original, unique, creative, relevant, and meaningful). Based on these pre-test results, six pairs of ads were selected. The reliability of the five creativity items was .84. The average creativity rating for the creative ads was significantly higher than for the regular ads ($M_{creative} = 5.07$ vs. $M_{regular} = 3.71$, $p < .001$). Finally, for the regular-target ads, we selected six additional ads with similar creativity ratings to the regular-other ads. The final 18 ads (6 ads x 3 sets) were all 30 seconds long and authentic television commercials. Product categories included a breakfast cereal, pain reliever, hotel, airline, automobile, mobile service provider etc.

Twelve ads (6 target ads + either 6 regular or 6 creative ads) were embedded into four ad breaks within a 20-minute program. Three of the target ads were placed in the second ad break, the other three in the fourth ad break. Then, depending upon the condition, three creative or three regular ads were placed in both the first and third ad breaks. Each of the brands were presented in an identical order between conditions. Finally, two filler ads were placed at both the start and end of the program to avoid any primacy or recency effects.

***Procedure***

Participants were randomly assigned to one of the two list conditions. They were asked to watch a video clip and respond to questions related to the program at its conclusion. The purpose of the study (i.e., memory and attitude measures) was disguised to increase validity, enabling participants to focus on the program, as opposed to the ads. The program and ads were projected onto a wall within a dedicated lab. After viewing the program, the participants

logged on to a website, and responded to open-ended questions about the program. This was a filler task. Participants then proceeded to the brand recall test. It was a free recall test in which no aids were provided. They were asked to write down as many brand names as they could remember from the ads shown during the commercial breaks. Three minutes were given.

Immediately following the recall test, participants were provided with four still images taken from each ad to assist them when they assessed attitudes toward the ads ($A_{ad}$) and perceived ad creativity. The order of the ads (four still shots per ad) was randomized. Ad attitude was assessed with three items ($\alpha = .96$): unfavorable/favorable, not likable/likable, and negative/positive. Ad creativity ($\alpha = .89$) was measured with the following five items (e.g., Smith et al. 2007): not original/original, ordinary/unique, not creative/creative, not relevant/relevant to me, and not useful/useful to me. All items used a seven-point scale.

### *Study 1 results*

*Manipulation check*

Results showed that the perceived creativity of the creative ads was significantly higher than the regular ads, indicating the manipulation was successful ($M_{\text{creative-other}} = 5.17$ vs. $M_{\text{regular-other}} = 4.02$, $t\,(77) = 7.29$, $p < .001$, Cohen's $d = .49$). In addition, a paired samples $t$-test showed that creativity ratings for the regular-other ads did not differ from the regular-target ads in the control list condition ($M_{\text{regular-other}} = 4.02$ vs. $M_{\text{regular-target}} = 3.89$, $t\,(38) = 1.19$, $p = .24$, Cohen's $d = .19$). Thus, the two sets of non-creative ads were well balanced in terms of creativity.

*Impairment effect in recall*

In order to assess recall, correctly identified brands from each category (regular-target, regular-other and creative-other ads) were summated, allowing for misspellings. The brands

represented in the filler ads were excluded from this process. For the creativity-based impairment effect in recall, we compared recall of the target ads between the control and mixed list conditions. Results are presented in Table 2. Although participants in both conditions were exposed to identical target ads, brand recall for the target ads in the mixed list condition was significantly lower than the control list condition ($M_{\text{target-control}}$ = 1.65 vs. $M_{\text{target-mixed}}$ = .64, $t$ (77) = 4.29, $p$ <.001, Cohen's $d$ = .97). These results replicate the findings of Jin et al. (2019).

**Table 2.** Results of study 1

| | Control list condition (n = 40) | | Mixed list condition (n = 39) | | | |
|---|---|---|---|---|---|---|
| | Mean | *SD* | Mean | *SD* | *t* | *p* |
| Target ads | Regular-target ads | | Regular-target ads | | | |
| Brand recall | 1.65*** | 1.25 | .64*** | .78 | 4.29 | < .001 |
| $A_{ad}$ | 4.25* | .72 | 3.79* | 1.00 | 2.32 | .023 |
| Other ads | Regular-other ads | | Creative-other ads | | | |
| Brand recall | 1.60* | .74 | 2.05* | 1.05 | -2.21 | .032 |
| $A_{ad}$ | 4.18*** | .76 | 5.07*** | .77 | -5.21 | < .001 |

Note: In study 1, no ads were repeated. $A_{ad}$ refers to attitudes toward the ads. * $p < .05$ ** $p < .01$ *** $p < .001$

Using Vincentized analysis (Brainerd and Reyna 2005), we examined recall sequences in the recall protocol. The analysis shows whether creative ads were recalled earlier than regular ads. We followed Jin et al.'s (2019) procedure. First, each participant's recall protocol was divided into two segments: first half and second half. Brands recalled in the first half of the segments received a value of 1 (one) whereas brands recalled in the second half of the segment had a value of 2 (two). Second, when the total number of brands recalled was odd (e.g., five), the brand in the middle position (the third one) was not included. Finally, we removed the cases in which participants recalled only one brand.

Consider that a participant in the mixed condition recalled brands in the following order: $C_1$, $C_2$, $T_1$, $T_2$. As noted earlier, Cs refer to brands depicted in creative ads, while Ts indicate brands shown in the regular target ads. The average recall output positions of C (or T) brands were calculated by adding C (T) brands' segment position, divided by the total number of C (T) brands. Regarding C brands' output position, $C_1$ is in the first half segment so that it receives a value of 1 and $C_2$ gets the same value of 1 because it is also in the first half segment. The total number of C brands recalled in this example is 2. Using this procedure, the mean recall output value of creative ads would be 1 ([1 + 1] ÷2) and the value of target ads would be 2 ([2+2] ÷ 2). Following this procedure, each participant's recall output positions for T (target-regular), R (other-regular), and C (other-creative) were calculated.

The results of the Vincentized analysis show that creative ads in the mixed condition were recalled earlier, compared to other regular ads in the control condition ($M_{\text{creative-mixed}}$ = 1.28 vs. $M_{\text{regular-control}}$ = 1.48, $t$ (66) = -2.75, $p$ = .008, Cohen's $d$ = .67). In addition, a paired sample $t$-test shows that participants in the mixed condition recalled creative ads earlier than regular target ads ($M_{\text{creative-mixed}}$ = 1.28 vs. $M_{\text{regular-mixed}}$ = 1.66, $t$ (29) = -4.75, $p < .001$, Cohen's $d$ = 1.09). An impairment effect on recall is evident. The results of the recall sequence also replicated Jin et al.'s findings (2019).

*Impairment effect in attitudes*

The pattern for attitudinal judgments was similar to the pattern for recall. If attitudes towards ads are independent of the list context, then attitude ratings for the same target ads should not differ across the two list conditions. The data indicates that this was not the case. The same regular ads were evaluated less favorably, when participants viewed them alongside creative ads ($M_{\text{target-control}}$ = 4.25 vs. $M_{\text{target-mixed}}$ = 3.79, $t$ (77) = 2.32, $p$ =.023, Cohen's $d$ = .52). Thus,

we found evidence of a creativity-based impairment in ad attitudes. Hypothesis 3 was supported.

*Facilitation effect in recall and attitudes*

We examined whether creative ads were more memorable and likable than regular ads. The results indicate that recall was greater when ads were creative than when ads were regular ($M_{\text{creative-mixed}} = 2.05$ vs. $M_{\text{regular-control}} = 1.60$, $t\ (77) = 2.21$, $p = .03$, Cohen's $d = .49$). The results support previous research, showing that creativity in advertising increases recall (Ang et al. 2007; Baack et al. 2008; Jin et al. 2019; Till and Baack 2005; Smith et al. 2008). In addition, we found that the creative ads generated more positive attitudes than the regular ads ($M_{\text{creative-mixed}} = 5.07$ vs. $M_{\text{regular-control}} = 4.18$, $t\ (77) = 5.21$, $p < .001$, Cohen's $d = 1.17$), replicating previous research (Ang and Low 2000; Chen et al. 2016; Smith et al. 2007; Smith et al. 2008).

***Study 1 discussion***

We found a significant creativity-based impairment effect in recall. Although participants were exposed to identical regular target ads, brand recall was significantly lower when a list of ads included creative ads. We replicated Jin et al. (2019). Such impairment effect was also observed in attitudes. The same regular target ads were evaluated less favorably when a list of ads included creative ads. The data suggests that the presence vs. absence of creative ads, impacts recall of and attitudes toward other regular target ads. In this experiment we controlled for ad repetition, with all ads shown only once. The next two studies introduce repetition.

## Study 2

### *Method*

Study 2 was identical to study 1, except that the regular-target ads were repeated, whereas the regular-other and creative-other ads were not repeated (see Table 1). This meant participants were exposed to 18 ads (2 × 6 target ads + 6 regular or 6 creative ads), in three ad breaks of six ads each. For the repeated ads, the same ads were not shown in the same commercial break. The sequence of the ads was consistent across the two conditions. The procedure was identical as in study 1. A total of 69 (55% female) college students from the same population participated in this study. No student participated in more than one study.

### ***Study 2 results***

*Manipulation check*

The creativity manipulation was successfully executed. The creative-other ads were rated as more creative than the regular-other ads ($M_{creative}$ = 5.03 vs. $M_{regular}$ = 4.23, $t$ (66) = 3.88, $p$ < .001, Cohen's $d$ = .94). No difference in creativity ratings was found between the regular-target ads and the regular-other ads in the control list condition ($M_{target}$ = 4.25 vs. $M_{other}$ = 4.20, $t$ (32) = .35, $p$ = .73, Cohen's $d$ < .1).

*Impairment effect in recall*

As the focal analysis, evidence of an impairment effect was examined. Results are presented in Table 3. Although identical target ads were repeated in the two list conditions, recall was significantly lower in the mixed list than the control list ($M_{target\text{-}control}$ = 2.41 vs. $M_{target\text{-}mixed}$ = 1.71, $t$ (67) = -2.54, $p$ = .014, Cohen's $d$ = .61). Thus, hypothesis 1 was supported. The results indicate that repetition was less effective when the ad list included creative ads.

**Table 3**. Results of study 2

| | Control list condition (n = 34) | | Mixed list condition (n = 35) | | | |
|---|---|---|---|---|---|---|
| | Mean | *SD* | Mean | *SD* | *t* | *p* |
| Target ads | Regular-target ads | | Regular-target ads | | | |
| Brand recall | 2.41* | 1.13 | 1.71* | 1.15 | 2.54 | .014 |
| $A_{ad}$ | 4.36 | .89 | 4.07 | .66 | 1.53 | .131 |
| Other ads | Regular-other ads | | Creative-other ads | | | |
| Brand recall | 1.12* | .77 | 1.57* | .85 | -2.32 | .023 |
| $A_{ad}$ | 4.36* | .92 | 4.95* | 1.07 | -2.44 | .017 |

Note: In study 2, target ads were repeated (shown twice) while regular-other and creative-other ads were shown once. * $p < .05$ ** $p < .01$ *** $p < .001$

The results of a Vincentized analysis show that repeated ads were recalled earlier than non-repeated ads in both conditions. In the control condition, the mean recall output value of repeated target ads was significantly lower than that of the non-repeated other regular ads ($M_{\text{repeated-target}} = 1.29$ vs. $M_{\text{nonrepeated-regular}} = 1.65$, $t$ (24) = -3.39, $p = .002$, Cohen's $d = .68$). In the mixed condition, the pattern was consistent. Repeated target ads were recalled earlier than non-repeated creative ads ($M_{\text{repeated-target}} = 1.27$ vs. $M_{\text{nonrepeated-creative}} = 1.54$, $t$ (22) = -2.35, $p = .028$, Cohen's $d = .49$). The mean recall output of creative ads in the mixed condition was lower than other regular ads in the control condition. The difference was marginally significant ($M_{\text{creative-mixed}} = 1.43$ vs. $M_{\text{regular-other-control}} = 1.63$, $t$ (54) = -1.92, $p = .06$, Cohen's $d = .51$). As seen in study one, an impairment effect upon recall is evident.

*Impairment effect in attitudes*

Although attitudes toward the same target ads in the mixed list condition were lower than in the control condition ($M_{\text{target-control}} = 4.36$ vs. $M_{\text{target-exp}} = 4.07$, $t$ (67) = 1.53, $p = .13$, Cohen's $d$

= .36), the mean difference was not statistically significant. The results of Study 2 were different from the results of Study 1. Hypotheses 4 was supported.

*Facilitation effects in recall and attitudes*

The facilitation effects of creativity on recall and attitudes were consistent. Creative ads in the mixed list generated higher brand recall than the regular ads in the control list condition ($M_{\text{creative-mixed}}$ = 1.57 vs. $M_{\text{regular-control}}$ = 1.12, $t$ (67) = 2.32, $p$ =.023, Cohen's $d$ = .55). Attitudinal measures showed that attitudes toward creative ads were higher than regular ads ($M_{\text{creative-mixed}}$ = 4.95 vs. $M_{\text{regular-control}}$ = 4.36, $t$ (67) = 2.44, $p$ =.017, Cohen's $d$ = .59). Creative ads were more likable than regular ads.

***Study 2 discussion***

In study 2, regular target ads were repeated whereas all other ads were not repeated. We found a significant impairment in recall. Although identical regular target ads were repeated, recall of the regular target ads was significantly lower in a list where creative ads were included. The results suggest repeated exposure to regular target ads did not override the creativity-based impairment However, we did not find an impairment effect in attitudes. As expected, when participants encountered more regular ads than creative ads, the reference point (average attitudes toward the overall ad stimuli) used as a benchmark to evaluate the regular target ads were likely lower. This in turn would decrease the impact of the creativity-based impairment effect upon attitudinal judgments of regular target ads. In the next study, we employed a different ad list context where creative ads were repeated.

## Study 3

### *Method*

Study 3 was similar to study 2. The only difference was that the other ads (regular vs. creative ads) in each list were repeated, while the target ads were not repeated (see Table 1). Since the regular-other and creative-other ads were repeated, participants were exposed to 18 ads (2 × 6 regular or creative ads + 6 target ads), in three ad breaks of six ads each. For the repeated ads, the same ads were not shown in the same commercial break. The sequence of the ads was consistent across the conditions. A total of 92 (42% female) college students from a major Midwestern university participated in this study in exchange for extra course credit.

### *Study 3 results*

*Manipulation check*

The manipulation worked as anticipated. Participants rated the creative ads as being more creative than the regular ads ($M_{\text{creative-mixed}}$ = 5.09 vs. $M_{\text{regular-control}}$ = 4.12, $t$ (89) = 6.39, $p$ < .001, Cohen's $d$ = 1.34). No difference in creativity ratings was found between the regular-target ads and the regular-other ads in the control list condition ($M_{\text{target}}$ = 3.93 vs. $M_{\text{regular-other}}$ = 4.18, $t$ (43) = -1.79, $p$ = .08, Cohen's $d$ = .27).

*Impairment effect in recall*

Results are presented in Table 4. Recall for the same non-repeated target ads was significantly lower when creative ads were repeated than when regular ads were repeated ($M_{\text{target-control}}$ = .83 vs. $M_{\text{target-mixed}}$ = .26, $t$ (90) = 3.90, $p$ < .001, Cohen's $d$ = .81). Hypothesis 2 was supported. The findings indicate that repeated exposure to creative ads generates a strong impairment effect, resulting in recall for the target ads approaching zero.

**Table 4**. Results of study 3

| | Control list condition (n = 46) | | Mixed list condition (n = 46) | | | |
|---|---|---|---|---|---|---|
| | Mean | *SD* | Mean | *SD* | *t* | *p* |
| Target ads | Regular-target ads | | Regular-target ads | | | |
| Brand recall | .83*** | .88 | .26*** | .44 | 3.90 | < .001 |
| $A_{ad}$ | 4.20** | .60 | 3.78** | .84 | 2.78 | .007 |
| Other ads | Regular-other ads | | Creative-other ads | | | |
| Brand recall | 2.85* | 1.01 | 3.33* | 1.27 | -2.00 | .048 |
| $A_{ad}$ | 4.37** | .69 | 4.85** | .81 | -3.10 | .003 |

Note: In study 3, target ads were shown once whereas regular-other and creative-other ads were shown twice. * $p < .05$ ** $p < .01$ *** $p < .001$

The results of Vincentized analysis show that creative ads in the mixed condition were recalled earlier, compared to other regular ads in the control condition ($M_{\text{creative-mixed}}$ = 1.23 vs. $M_{\text{regular-control}}$ = 1.38, $t$ (87) = -2.83, $p$ = .006, Cohen's $d$ = .60). We note that a paired sample $t$-test, shows that participants in the mixed condition did not recall creative ads earlier than regular target ads ($M_{\text{creative-mixed}}$ = 1.41 vs. $M_{\text{regular-target-mixed}}$ = 1.50, $t$ (18) = -.79, $p$ = .44, Cohen's $d$ = .18). However, the results of this paired sample $t$-test are not valid. For a proper Vincentized analysis, a recall protocol is assumed to have both creative and target ads. We found that many participants in the mixed condition (54%), recalled creative ads only. They did not recall a single target ad, so that the recall output position for the target ads could not be calculated in the mixed condition. This resulted in very low degrees of freedom for the analysis (df = 18). Since data with many missing values gives biased estimates, the results are not appropriate for the determination of recall output positions.

*Impairment effect in attitudes*

The creativity-based impairment effect in attitudes was found. Attitudes towards the same target ads were significantly lower in the mixed list ($M$ = 3.78) than in the control list ($M$ = 4.20, $t$ (89) = 3.78, $p$ = .007, Cohen's $d$ = .58). Thus, hypothesis 5 was supported.

*Facilitation effects in recall and attitudes*

We found a consistent creativity-based facilitative effect in recall, with repeated creative ads generating a higher brand recall than repeated regular ads ($M_{\text{creative-mixed}}$ = 3.33 vs. $M_{\text{regular-control}}$ = 2.85, $t$ (90) = 2.00, $p$ = .048, Cohen's $d$ = .42). Regarding attitude, the creative ads had higher attitude scores than the regular ads (4.85 vs. 4.37, $t$ (90) = 3.10, $p$ = .003, Cohen's $d$ = .65).

***Study 3 discussion***

Repeated exposure to creative ads generated a very strong impairment effect in recall and attitudes. We found that recall for the non-repeated regular target ads was close to zero. More than half of the participants in the mixed condition (where creative ads were included) did not recall a single target brand.

**General discussion**

The purpose of the current research was to examine whether ad list contexts (creativity and repetition) have an impact upon recall and ad attitudes. We found that the presence of creative ads in an ad list, in general, decreases recall of and attitudes toward target regular ads. Figure 1 presents a summary of the findings from all three studies.

[Insert Figure 1 about here]

The current research provides several contributions to the advertising literature and practice. A considerable amount of research has examined the boundary conditions of repetition effects in recall such as message spacing (Janiszewski, Noel, and Sawyer 2003), same vs. varied ad repetition (Singh, Linville, and Sukhdial 1995; Unnava and Burnkrant 1991), and presence vs. absence of competitive advertising (Burke and Srull 1988; Guitart et al. 2020; Keller 1987; Kent and Allen 1993). The current research, by incorporating creativity-based impairment effects in recall (Jin et al. 2019), presents an additional boundary condition of repetition effects; that is, the presence or absence of creative ads. We show how the creativity-based impairment effect (Jin et al. 2019) interacts with strength (repetition)-based impairment effect (e.g., Ratcliff et al. 1990; Tulving and Hastie 1972). When the two types of impairment effects were jointly reinforced, the magnitude of impairment was so large that recall of non-repeated regular target ads approached zero (study 3). Also, repetition of target ads was less effective when the target ads were shown alongside creative ads, as opposed to regular ads (study 2).

The magnitude of impairment in recall was not negligible. In study 1, we observed a 60% drop in recall for the regular target ads (1.65 vs. .64). Other studies showed a 30% (2.41 vs. 1.71; study 2) and 70% decrease (.83 vs. .26; study 3). This observed impairment effect in recall has a managerial consequence. Research shows that recall of an advertised brand increases the probability of the brand being included in a consideration set for choice (Nedungadi 1990). The creativity-based impairment effect suggests that regular target brands, due to creative ads, are less likely to be in the consideration set, resulting in a negative effect on brand choice.

The application of adaption-level theory in the advertising literature has been limited to social comparison and self-images. For example, Richins (1991, p.71) argues that "advertising causes dissatisfaction with the self" because advertising alters one's reference

point on ideal images of physical attractiveness. The current research extends adaption-level theory (Helson 1964) to account for the creativity-based impairment effect in ad attitudes ($A_{ad}$). This is another unique contribution of the current research. When consumers are exposed to regular target ads alongside creative ads, they adopt a higher internal reference point (an adaption level). Thus, the same regular target ads were rated lower in attitude judgment. Further, we show that one's internal reference point appears to be affected by ad repetition. The creativity-based impairment effects in attitudes may have negative downstream consequences. Researchers show that attitudes toward an ad exert strong positive influence on attitudes towards a brand (MacKenzie et al. 1986; Rosengren et al. 2020). Lower ad attitudes, due to the presence of genuinely creative ads, may result in reduced brand attitudes. This is considered another potential loss for regular target ads.

Recent meta-analysis by Rosengren et al. (2020) offers insights into how, when, and why to invest in advertising creativity. With regards to 'why', they offered three theoretical mechanisms such as affect transfer (e.g., creative ads are more likable), ad processing (e.g., greater attention is given to creative ads), and perceived sender effort (e.g., creative ads signal product quality). Their focus is to explain why the facilitative effects of creativity occur. However, they are silent on impairment effects. The current research offers further convincing evidence as to why advertisers need to invest in creativity: To avoid unwanted impairment effects. It appears that the processing mechanisms of facilitation effects are not completely irrelevant to predict impairment effects since facilitation breeds impairment. For an impairment effect to occur, facilitation is a necessary condition (i.e., creative ads should be more memorable and likable). The three processing variables may suggest impairment hypotheses such that the presence of creative ads in a list, as opposed to the absence of creative ads, makes a regular target ad (1) less likable and (2) pay less attention and (3) signals the target brand has a lower quality product. We have examined and answered the

first hypothesis with adaption-level theory (Helson 1964) as a theoretical framework. The second attention hypothesis is relevant to our current research. We theorized that impairment occurs at the retrieval stage (Rundus 1973) rather than the encoding stage. Thus, an alternative explanation of our findings from the encoding perspective is that participants paid less attention to regular target ads when they saw other creative ads. This lower level of attention could have led to decreased recall for regular target ads. To examine this issue, future research is needed, perhaps measuring attention using an eye-tracking device or other methods. The third hypothesis is an interesting issue that we did not look at. We leave it for future research.

As practical implications, the current study suggests that the worst-case scenario for a regular target ad is when creative ads are repeated while the target ad is not repeated within an advertising media vehicle. Advertisers may want to monitor other brands' ads for creativity, repetition level, and media vehicles (Jin et al. 2019). Programmatic television advertising technologies would be useful to assess them in real-time (Guitart et al. 2020). This assessment may provide a guide of where "not to schedule" advertising, especially when the focal ad is regular. Our research suggests that purchasing a Superbowl advertising spot, to run an ad with mediocre creativity may not be an effective strategy, given the Super Bowl is considered an advertising creativity contest and some creative ads are repeated. A commercial that costs more than $5 million may not even be remembered and may be less likable. It is interesting to note that recall for the repeated regular target ads was about the same as the non-repeated creative ads (study 2). The results suggest that valuable advertising expenditure may be wasted on regular target ads, delivered in the presence of creative ads. On the other hand, when an advertiser's ad is creative, emphasizing reach over frequency may be a more cost-effective media planning strategy. This research presents advertising practitioners with a rationale with which to justify the extra costs associated with creativity.

Advertising practitioners may believe that the only advertising they compete against is that of rival brands. The current research suggests that marketers should work from the premise that competition extends to any creative ads - for any product or service on any media platform.

### *Limitations*

Using an ad list set, constructed to include 50% regular ads and 50% creative ads reduces external validity. Future research may want to look at creativity-based impairment effects with a smaller number of creative ads. It would be interesting to examine whether even a single creative ad creates impairment effects on other regular ads. Interested parties should note that the results obtained with free recall, as per the current research - may not necessarily be identical to results obtained with other memory tests, such as cued recall or recognition (e.g., Jin et al. 2008; Ratcliff et al. 1990). This could be explored in future research. Since we measured recall first and then attitudes, we could not isolate a measure order effect. It is possible that attitude measures could have been affected by recall.

Further limitations of this research include the use of a student sample, award-wining ads, and a small sample size. We selected products that were relevant to our sample so that overall product involvement was considered and controlled. Nonetheless, other variables (e.g., brands, different execution styles, etc.) could be confounding factors. However, we expect the impact of those factors to be negligible because they affected participants in both conditions due to random assignment. Lastly, the execution of repetition involved a distributed presentation in which repeated ads were evenly spread in ad breaks. A different repetition schedule (e.g., a massed presentation) and order (e.g., a serial position) may affect impairment effects. For example, the massed presentation of creative ads early on or at the end of an ad break may have a stronger impairment because primacy and recency effects are intensified. We leave this issue for future research.

## *Conclusion*

Creativity is a cornerstone of advertising theory and practice. This research has documented the effect of repetition upon recall and attitudes when a list of ads includes (vs. does not include) creative ads. We found significant context effects, as the presence of creative ads in a list decreased recall of, and attitudes towards, regular ads.

**References**

Alba, J. W., and A. Chattopadhyay. 1985. Effects of context and part-category cues on recall of competing brands. *Journal of Marketing Research*, 22, no.3: 340-349.

Anderson, M. C., R. A. Bjork, and E. L. Bjork. 1994. Remembering can cause forgetting: Retrieval dynamics in long-term memory. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 20, no. 5: 1063-1087.

Ang, S. H., Y. H. Lee, and S. M. Leong. 2007. The ad creativity cube: Conceptualization and initial validation. *Journal of the Academy of Marketing Science,* 35, no 2: 220-232.

Ang, S. H., and S. Y. M Low. 2000. Exploring the dimensions of ad creativity. *Psychology and Marketing,* 17, no. 10: 835-854.

Ariely, D. 2009. *Predictably irrational*. New York, NY: Harper Audio.

Baack, D. W., R. T. Wilson, and B. D. Till. 2008. Creativity and memory effects: Recall, recognition, and an exploration of nontraditional media. *Journal of Advertising,* 37, no. 4: 85-94.

Brainerd, C. J., and V. F. Reyna. 2005. The science of false memory. Oxford, UK: Oxford University Press.

Burke, R. R., and T. K. Srull, T. K. 1988. Competitive interference and consumer memory for advertising. *Journal of Consumer Research*, 15, no. 1: 55-68.

Chen, J., X. Yang, and R. E. Smith. 2016. The effect of creativity on advertising wear-in and wear-out. *Journal of the Academy of Marketing Science*, 44, no. 3: 334-349.

Helson, H. 1964. *Adaption Level Theory*. Harper & Row.

Guitart, I. A., G. Hervet, and S. Gelper. 2020. Competitive advertising strategies for programmatic television. *Journal of the Academy of Marketing Science,* 48: 753-775.

Janiszewski, C., H. Noel, and A. G. Sawyer. 2003. A meta-analysis of the spacing effect in

verbal learning: Implications for research on advertising repetition and consumer memory. *Journal of Consumer Research*, 30, no. 1: 138-149.

Jin, H. S., J. Suh, and D. T. Donavan. 2008. Salient effects of publicity in advertised brand recall and recognition: The list-strength paradigm. *Journal of Advertising,* 37, no. 1: 45-57.

Jin, H. S., G. Kerr, and J. Suh. 2019. Impairment effects of creative ads on brand recall for other ads. *European Journal of Marketing,* 53, no. 7: 1466-1483.

Keller, K. L. 1987. Memory factors in advertising: The effect of advertising retrieval cues on brand evaluations. *Journal of Consumer Research,* 14, no. 3: 316-333.

Kenrick, D. T., and S. E. Gutierres. 1980. Contrast effects and judgments of physical attractiveness: When beauty becomes a social problem. *Journal of Personality and Social Psychology*, 38, no. 1: 131-140.

Kent, R. J. 1993. Competitive versus non-competitive clutter in television advertising. *Journal of Advertising Research*, 33, no. 2: 40-46.

Kent, R. J. and C. T. Allen. 1994. Competitive interference effects in consumer memory for advertising: The role of brand familiarity. *Journal of Marketing,* 58, no.3: 97-105.

Koslow, S. 2015. I love creative advertising: What it is, when to call for it and how to achieve it. *Journal of Advertising Research*, 55, no. 1: 1-4.

Koslow, S., S. L. Sasser, and E. A. Riordan. 2003. What is creative to whom and why? Perceptions in advertising agencies. *Journal of Advertising Research,* 43, no. 1: 96-110.

Kwon, E. S., G. Nyilasy, K. W. King, and L. N. Reid. 2021. Putting things into context: A meta-analysis of media context effects on attitudinal outcomes. *Journal of Advertising*, 50, no. 3: 1-26.

Lehnert, K., D. T. Brian, and B. D. Carlson. 2013. Advertising creativity and repetition:

Recall, wearout and wearin effects. *International Journal of Advertising*, 32, no. 2: 211-231.

MacKenzie, S. B., R. J Lutz, and G. E. Belch. 1986. The role of attitude toward the ad as a mediator of advertising effectiveness: A test of competing explanations. *Journal of Marketing Research*, 23, no. 2: 130-143.

Nedungadi, P., 1990. Recall and consumer consideration sets: Influencing choice without altering brand evaluations. Journal of Consumer Research, 17, no. 3: 263-276.

Pieters, R. G. M., and T. H. A. Bijmolt. 1997. Consumer memory for television advertising: A field study of duration, serial position, and competition effects. *Journal of Consumer Research,* 23, no. 4: 362-372.

Pieters, R., L. Warlop, and M. Wedel. 2002. Breaking through the clutter: Benefits of advertisement originality and familiarity for brand attention and memory. *Management Science,* 48, no. 6: 765-781.

Ratcliff, R., S. E. Clark, and R. M. Shiffrin. 1990. List-strength effects: I. Data and discussion. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 16, no. 2: 163-178.

Reinartz, W., and P. Saffert. 2013. Creativity in advertising: When it works and when it doesn't. *Harvard Business Review*, 91, no. 6: 106-111.

Richins, M. L. 1991. Social comparison and the idealized images of advertising. *Journal of Consumer Research*, 18, no. 1: 71-83.

Rosengren, S., M. Eisend, S. Koslow, and M. Dahlen. 2020. A meta-analysis of when and how advertising creativity works. *Journal of Marketing*, 84, no. 6: 39-56.

Rundus, D. 1973. Negative effects of using list items as recall cues. *Journal of Verbal Learning and Verbal Behavior*, 12, no. 1: 43-50.

Schmidt, S., and M. Eisend. 2015. Advertising repetition: A meta-analysis on effective

frequency in advertising. *Journal of Advertising*, 44, no. 4: 415-428.

Schwarz, N., and G. L. Clore. 1983. Mood, misattribution, and judgments of well-being: informative and directive functions of affective states. *Journal of personality and social psychology*, 45, no. 3: 513-523.

Singh, S. N., D. Linville, and A. Sukhdial. 1995. Enhancing the efficacy of split thirty-second television commercials: An encoding variability Application. *Journal of Advertising,* 24, no. 3: 13-23.

Smith, R. E., J. Chen, and X. Yang. 2008. The impact of advertising creativity on the hierarchy of effects. *Journal of Advertising,* 37, no. 4: 47-61.

Smith, R. E., S. B. MacKenzie, X. Yang, L. M. Buchholz, and W. K. Darley. 2007. Modeling the determinants and effects of creative advertising. *Marking Science,* 26, no. 6: 819-833.

Smith, R. E., and X. Yang. 2004. Toward a general theory of creativity in advertising: Examining the role of divergence. *Marketing Theory*, 49, no. 1/2: 31-58.

Southgate, D., N. Westoby, and P. Graham. 2010. Creative determinants of viral video viewing, *International Journal of Advertising*, 29, no. 3: 349-368.

Till, B. D., and D. W. Baack. 2005. Recall and persuasion: Does creative advertising matter? *Journal of Advertising,* 34, no. 3: 47-57.

Tulving, E., and R. Hastie. 1972. Inhibition effects of intralist repetition in free recall. *Journal of Experimental Psychology*, 92, no. 3: 297-304.

Unnava H. R. and R. E. Burnkrant. 1991. Effects of repeating varied ad executions on brand name memory. *Journal of Marketing Research,* 28, no. 4: 406-416.

Walker, D., and E. Vul. 2013. Hierarchical encoding makes individuals in a group seem more attractive. *Psychological Science*, 25, no. 1: 230-235.

West, D., S. Koslow, and M. Kilgour. 2019. Future directions for advertising creativity research. *Journal of Advertising*, 48, no. 1: 102-114.

Yang, X., and R. E. Smith. 2009. Beyond attention effects: Modeling the persuasive and emotional effects of advertising creativity. *Marketing Science,* 28, no. 5: 935-949.

**Figure 1.** Summary findings of studies