

Effects of Popular Music in Advertising on Attention and Memory

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This study examines the effects of popular music in advertising to determine both the theoretical (the effect of popular music on the processing of advertising messages) and practical (the design of more effective advertisements using popular music) implications. An experiment is reported that tested the effects of three integrations of popular music in advertising: original lyrics, altered lyrics, and instrumentals (plus a control treatment with no music) on attention and memory. The results indicated that song vocals, either original or altered, are more effective stimuli of advertising effects than instrumentals or no popular music.

INTRODUCTION

Whether it is The Rolling Stones' "Start Me Up" or The Vines' "Ride," popular music in advertising is, well, popular. "The syncing of both classic and new songs into advertising campaigns has kept up its torrid pace and shows no sign of abating," said Mark Fried, president of Spirit Music Group (Bessman, 2003). And although the integration of popular music and advertising has been called everything from "selling out" (Burns, 1996; Lubrano, 2004; Michaels, 2002) to the "perfect marriage of commerce and art" (*Billboard*, 2003), the trend continues. "In the past five years advertisers have been unrelenting in their appropriation of popular music to get the attention of youth, and there's no sign of the trend abating" (Shea, 2004, p. 16).

Advertisers use popular music in various ways to involve, engage, and ultimately persuade the potential consumer to purchase their product or service. Whether as foreground or background, music is integrated into commercials in one of several ways. Music is sometimes written, scored, and recorded for advertising certain products or services. In other cases, the less-expensive "needledrop" ("music that is prefabricated, multi-purpose, highly conventional and used as an inexpensive substitute for original music" [Scott,

1990, p. 223]) or stock music ("prerecorded music that can be rented or bought" [Russell and Lane, 1999, p. 549]) is used. In still other instances, advertisers alter and adapt already or once-popular songs to their specific products or services (e.g., an eBay commercial in which the words of the Frank Sinatra hit "My Way" are changed to "eBay"). Finally, through direct licensing, advertisers place popular music, in its original vocal or instrumental form, right into the commercials to create an association between the product or service and the song.

This study attempts to extend the little research on the integration of popular music in advertising by testing the role of personal significance on the effects of attention and memory. It will experimentally compare three advertising treatments, each using popular music in one of three different conditions: advertising using an original popular music vocal (a commercial that uses popular song vocals integrated with some type of sponsor identification, slogan, and/or attributes); advertising using an altered popular music vocal (a commercial that replaces original popular song vocals with altered vocals containing sponsor identification, slogans, and/or attributes); and advertising using an original popular music instrumental (a commercial that uses the instrumental of an original

popular song integrated with some type of sponsor identification, slogan, and/or attributes); plus a control treatment of advertising not using any music (a commercial without any music or jingle). More specifically, by comparing the observations of individuals exposed to each of these experimental conditions, this research attempts to determine which technique facilitates the highest level of attention to the brand and the strongest memory for the brand.

POPULAR MUSIC AND ADVERTISING EFFECTS

Popular music is arguably one of the most polarizing forms of mass communication. In this research "popular music" is defined as "well-liked and well-favoured" (Middleton, 1990) music for "ordinary people" (Shuker, 1994) that has wide mass media exposure, but usually only for a fixed period of time. Its impact is either overstated or understated. Yet, it is an important part of both a thriving cultural and entertainment environment. To some it is a business and to others it is a way of life. While many would argue its cultural contribution to society (Adorno, 1941; Horkheimer and Adorno, 1944; Peatman, 1944), few would argue its potential to impact and to influence individuals.

Advertising inspires ambivalence equal to that of popular music. Advertising is defined as "the paid, nonpersonal communication of information about products or ideas by an identified sponsor through the mass media in an effort to persuade or influence behavior" (Bovee, Thill, Dovel, and Wood, 1995, p. 4). Ironically, communication theorist Marshall McLuhan called it "the greatest art form of the twentieth century" (Andrews, 1987, p. 5). But advertising pioneer David Ogilvy said he did not regard it as an art form but as "a medium of information" (Ogilvy, 1983, p. 7). Both McLuhan and Ogilvy

would agree that advertising is everywhere throughout society. Whether you agree it cultivates or contaminates, mirrors or manipulates that society, you cannot avoid it.

While there is a considerable amount of disagreement on the societal implications of the practice of using popular music in advertising, most agree on its potential. Hecker (1984), in a limited research study, concluded that "music may well be the single most stimulating component of advertising" (p. 3) and "when used appropriately, is the catalyst of advertising. It augments pictures and colors words, and often adds a form of energy available through no other source" (p. 7). Dunbar (1990) agreed that music is the perfect vehicle to be integrated with advertising to deliver a message. The potential of popular music to be "a stimulating component" and "the perfect vehicle" is a direct reflection on the ability of popular music to get people more involved in advertising. The key is involvement (defined as "the number of conscious bridging experiences, connections, or personal references per minute that a viewer makes between his or her own life and a stimulus" [Krugman, 1965, p. 356]) because it "seems to mediate both the acquisition and processing of information through activating a heightened state of arousal and/or greater cognitive activity in an interaction between an individual and a stimulus" (Salmon, 1986, p. 264). Involvement as it generally relates to advertising has been well documented (Zaichkowsky, 1994). And although involvement as a result of relevance has also been researched (Petty and Cacioppo, 1986), relevance may be too unemotional to adequately describe the reaction to popular music in advertising. Something can be relevant and not meaningful or significant. This study will observe the effect of personal significance defined as the de-

gree of emotional meaning the song or the artist has for the individual. The effect of personal significance will be observed in particular with attention to and memory of advertising and popular music.

Attention

The first in the hierarchy of advertising effects is attention. Anderson (1991, p. 4) defined attention as "a set of overt and covert perceptual and orienting processes by means of which information becomes available to central information-processing activities. Attention thus serves to channel some information to be processed by central cognitive functions, whereas other information is excluded." If the advertising does not get attention then the likelihood that it will be remembered greatly diminishes. Kahneman (1973) argued that "the main function of the term 'attention' is to provide a label for some of the internal mechanisms that determine the significance [not just the relevance] of stimuli and thereby make it impossible to predict behavior by stimulus considerations alone" (p. 2). This suggests that popular music in an advertisement must not just be relevant to the individual but to also have some type of significance. Kahneman also stressed that attention enables a person to categorize and recognize stimuli. Thus, attention to an advertisement caused by the presence of significant popular music could result in successful categorization and recognition of the information facilitating the other advertising effects. Geiger and Newhagen (1993, p. 44) said that this process was either a kind of controlled effort dictated by the individual processor or an automatic effort dictated by the information.

Memory

After an advertisement gets the attention of the consumer, memory is the next important step in the "sequential causal chain" (Thorson, Chi, and Leavitt, 1992).

Hering, in a lecture to the Vienna Academy of Sciences in 1870, defined memory as “the collection of the countless phenomena of our existence into a single whole” (Hering, 1920, p. 75). While this definition may appear to be a bit dated, it lends itself well to this study. For the purposes of this study, an information-processing theory of memory as a system of inter-related components developed by Atkinson and Shiffrin (1968) is used. Research suggests that music stimulates memories for significant life events (Baumgartner, 1992). This type of memory, called episodic memories, stores information about temporally dated episodes or events, and temporal spatial relations among these events seem most applicable (Tulving, 1972). It is the episodic memories that may affect the degree of personal significance for popular music because these memories are “autobiographical, personal, and sensitive to the effects of context” (Best, 1989, p. 217).

Effects of music on attention and memory.

The idea that attention and memory can be enhanced by music has been researched (Adorno, 1941, 1976; Rubin, 1977; Wallace, 1994). Adorno (1941) was one of the first to analyze popular music and recognition. While it was very apparent that Adorno did not respect popular music, he did acknowledge its ability to get attention and be remembered. Rubin (1977) found that recall of information is improved when cued with a well-known song (“The Star-Spangled Banner”). Wallace (1994) determined that the melody of a song can facilitate recall by providing a framework for encoding and retrieving a text.

It has been observed that music can enhance attention and recall (Rubin, 1977; Wallace, 1994), but can it enhance the attention and recall of advertising? Kellaris, Cox, and Cox (1993) suggested that music

can exert an interactive influence on advertising processing: music’s “attention-gaining value” (p. 115). Other studies of popular music in advertising suggested that a series of potential effects on attention and memory can result from popular music integrated in advertising (Olsen, 1995; Park and Young, 1986; Roehm, 2001). Furthermore, past research suggests that some integrations may be more effective than others, specifically instrumentals more than vocals (Roehm, 2001), silence more than instrumentals (Olsen, 1995), and original lyrics more than altered lyrics (Crowder, Serafine, and Repp, 1990; Serafine, Crowder, and Repp, 1984; Serafine, Davidson, Crowder, and Repp, 1986). These studies of popular music integrated in advertising provide the starting point for this study. By testing, extending, and expanding the advertising research that has been completed with respect to the use of popular music versus silence (Olsen, 1995), the use of popular music instrumentals versus vocals (Roehm, 2001; Wallace, 1991, 1994), and the use of adapted or altered lyrics with original melodies (Crowder, Serafine, and Repp, 1990; Serafine, Crowder, and Repp, 1984; Serafine, Davidson, Crowder, and Repp, 1986), this study will observe the potential of popular music when personally significant (Fiske, 1992) and involving (Krugman, 1965) to affect attention and memory. To do this, the responses of individuals to three different treatments of popular music in commercials (original vocals, altered vocals, and instrumentals) and one without any popular music are analyzed.

Hypotheses and research questions

Kellaris, Cox, and Cox (1993) said that popular music has “attention-gaining value” (p. 115). Petty and Cacioppo (1986) said that information with high personal relevance would get a high degree of attention resulting in higher involvement

and follow a central route to persuasion (more controlled), and information with low personal relevance would follow a peripheral route to persuasion (more automatic). But Kahneman (1973) said that attention describes some internal mechanisms that determine the significance not the relevance of stimuli. This suggests that popular music with high or low personal significance will lead to greater or lesser attention to the integrated advertising messages; popular music vocals will be more attention-getting than other treatments; and original popular vocals with high personal significance will be the most effective at getting the attention of the individual. This leads to the following two hypotheses and one research question:

- H1A: Advertising with popular music that has high personal significance for the listener will lead to greater *attention to the advertisement* than advertising with popular music that has low personal significance.
- H1B: Advertising with original popular music vocals will lead to greater *attention to the advertisement (brand)* than advertising using altered popular music vocals, original popular music instrumentals, or not using popular music.
- RQ1: How will popular music, personal significance, and advertising treatment interact to affect *attention to the advertisement*?

Rubin (1977) and Wallace (1994) found that music stimulated not only attention but recall. The question then is does popular music in advertising also stimulate memory for advertising messages? What type of treatment of popular music (original vocal, instrumental, or altered vocal)

is most effective at stimulating memory? What is the effect of personal significance, if any? And do treatment and personal significance interact? These questions lead to the following two hypotheses and one research question:

H2A: Advertising with popular music that has high personal significance for the listener will lead to greater *memory for the brand* than advertising with popular music that has low personal significance.

H2B: Advertising with original popular music vocals will lead to greater *memory for the brand* than advertising using altered popular music vocals, original popular music instrumentals, or not using popular music.

RQ2: How will popular music, personal significance, and advertising treatment interact to affect *memory for the brand*?

METHOD

A pilot test was conducted (Philadelphia) to select the popular music and brands to be used in this experiment similar to those pilot tests conducted in past research projects (Alpert and Alpert, 1990; Brooker and Wheatley, 1994; Gorn, 1982; Kellaris and Cox, 1989; Macinnis and Park, 1991). In two parts of the pilot test, a group of individuals in the target demographic for Top 40 radio (18–24), which represents the most frequent listeners to this radio format (Arbitron, 2002), evaluated music and brands. In the first part of the pilot test, the participants were asked to listen to 7–10 second “hooks” from 100 different popular hit songs from *Billboard* magazine’s Top 100 most-played Top 40 (radio) songs of 2002. In the second part of the pilot test, the individuals were given the

Top 100 brands randomized from *Business-Week* magazine (Ueland, 2002) and asked to rank them for likeability of the brand. In both tests the participants were asked to rate the music and the brands on a 10-point semantic differential scale. The scale measured for likeability ranging from 1 = “dislike a lot” to 10 = “like a lot.” The testing was done by a professional radio research company using electronic, hand-held meters used by many radio stations to gather responses to music, marketing, and morning shows.

Stimulus materials

Four of the top 10 pilot-tested songs were chosen and included the most popular artists from a variety of genres of music (i.e., pop, rock, hip hop, etc.). Each of these songs was matched with one of the top four pilot-tested brands. Sixteen different 30-second radio advertisements were written and created by industry professionals integrating the matched songs and brands into treatments embedded in the radio advertisements (Kellaris and Mantel, 1996). The copy was controlled across advertisements. The same male and female announcers were used for all of the commercials to avoid a spokesperson bias (Wheatley and Brooker, 1994). The use of professional radio, production, and advertising agencies in addition to being appropriate is consistent with past research (Brooker and Wheatley, 1994; Macinnis and Park, 1991; Roehm, 2001). Each audiotape had one of each of the four different treatments (advertising using original popular music vocal, altered popular music vocal, original popular music instrumental, and no music) with four different brands (Kodak, Ikea, Heinz, and Sony) and four different popular songs (Jimmy Eat World’s “The Middle,” No Doubt’s “Hey Baby,” Nelly’s “Hot in Herre,” and Eminem’s “Without Me”) randomly ordered to control for primacy and

recency effects. These advertisements were each 30 seconds in length with four advertisements included on each tape. Each of the four commercial sets was then placed like a normal radio commercial break in between two segments of a Top 40 station (Nashville). Radio was chosen as the medium because “it is a commercially important and emotionally evocative medium” (Wheatley and Brooker, 1994, p. 190). It has been suggested that radio also has “the ability to connect with people emotionally” and that radio advertisements are more “personally relevant” (RAEL, 2004, p. 6). Top 40 programming has been found to be more “interesting and involving” (Bickart, 1984). In 1990, Sullivan added that “the more involving music formats [like Top 40] produce more strongly positive advertising effects than do less highly involving music formats” (Sullivan, 1990, p. 107).

Participants

One hundred and eleven participants in the target demo for Top 40 radio (18–24) volunteered to participate in the study (Philadelphia). This resulted in approximately equal numbers for each experimental condition. Subsequent analysis indicated no major differences existed among treatment groups in terms of demographic characteristics. Fifty-two percent of the subjects were female and 48 percent were male. Fifty-eight percent of the subjects were white, 27 percent were African-American, 6 percent were Asian, and 7 percent defined themselves as other.

Procedure

Participants were randomly assigned to hear one of the four tapes. After listening to the tape each group was asked to complete a questionnaire that began with standard radio research questions regarding likeability and intent to listen to the radio station they heard on the tape. Then they

were asked to recall (unaided) and list both the brands and the songs they could recall from the commercials on the tape. Finally, with the aid of knowing each of the four brands individually they were asked to answer questions related to attention and memory.

Design and measures

This was a true experimental mixed design with a 2 (high/low personal significance) $\times$ 4 (advertising using original popular song vocal, altered popular song vocal, original popular song instrumental, no popular music) $\times$ 2 (male/female) factorial design. The design had two between-subjects factors (personal significance and gender) and one within-subject factor with four levels (advertising using original popular song vocals, advertising using altered popular song vocals, advertising using original popular song instrumental, and advertising using no music).

Variables. The primary independent variables were personal significance (high/low) of popular music and advertising treatment (advertising using original popular song vocals, advertising using altered popular song vocals, advertising using original popular song instrumental, and advertising using no music). Personal significance was measured by asking "How would you rate the music in this commercial?" using a 7-point semantic differential scale (1 = "not significant" to 7 = "very significant"). Gender (male/female) analyses were also performed. The dependent variables were *attention to the advertisement* and *memory for the brand*. *Attention to the advertisement* was measured by asking "Did the (brand) commercial get your attention?" dichotomously ("yes" or "no"). *Memory for the brand* was measured by asking "Please write down all the brands in the commercials" dichotomously ("yes" or "no").

PRELIMINARY ANALYSES

Analyses were performed to determine the familiarity of the radio station, music, artists, and brands. The participants were asked if the radio station was familiar ("yes" or "no") with 95 percent scoring it unfamiliar, a condition that was predetermined to be important to not create a bias due to prior experience. The artists, songs, and brands were tested for familiarity using a 7-point (1 = "not familiar" to 7 = "very familiar") semantic differential scale. The results indicated that all were highly familiar.

The songs and artists were checked for personal significance using a 7-point semantic differential scale (1 = "not significant" to 7 = "very significant"). The distribution of the significance scores for song and artist for each subject was then split into low and high personal significance at the mean (Table 1). Attention to the advertisement was measured by asking "Did the (brand) commercial get your attention?" dichotomously ("yes" or "no"). The results of those that answered yes were: Kodak, 29 percent ($n = 106$); Ikea, 46 percent ($n = 110$); Heinz, 42 percent ($n = 111$); and Sony, 40 percent ($n = 106$).

Memory for the brand was measured by requesting "Please write down all the brands in the commercials" dichotomously ("yes" or "no"). The results of those that recalled the brand ($n = 111$) were: Kodak, 41 percent; Ikea, 46 percent; Heinz, 60 percent; and Sony, 52 percent.

Hypothesis testing

The hypothesis testing was conducted using an analysis of variance (ANOVA) to determine the main and interaction effects of popular music (song/artist), personal significance (high/low), and the four advertising treatments (original popular music vocal, original popular music instrumental, altered popular music vocal, and without popular music) on the dependent variables of *attention to the advertisement (brand)* and *memory for the brand*. In addition, gender was added as an additional independent variable (IV). Finally, because brand was not a theoretically interesting variable, additional repeated measures analyses were concluded using the Huynh-Feldt method with the data collapsed across brands to compare advertising treatments, including gender. The data could not be collapsed across brands

TABLE 1

Personal Significance of Songs and Artists
(1 = "not significant" to 7 = "very significant")

Song	Artist	M	n	SD
"The Middle"		3.57	51	1.65
	Jimmy Eat World	3.79	43	1.73
"Hey Baby"		3.09	65	1.77
	No Doubt	3.64	53	1.73
"Hot In Herre"		3.83	65	1.94
	Nelly	4.11	56	1.99
"Without Me"		3.75	51	1.90
	Eminem	4.35	46	1.98

to compare levels of personal significance because each brand was combined with each song and its corresponding personal significance levels.

Attention to the advertisement. Hypothesis H1A predicted that advertising with popular music that has high personal significance would lead to greater attention to the advertisement (brand) than advertising with popular music that has low significance. This was supported when the song had high personal significance for the treatments of Kodak with “The Middle” ($M_{\text{high}} = 1.70$, $M_{\text{low}} = 1.39$; $F(1, 49) = 5.05$, $p < .03$) and Ikea with “Hey Baby” ($M_{\text{high}} = 1.56$, $M_{\text{low}} = 1.21$; $F(1, 63) = 9.01$, $p < .004$), but not supported for the others, although the result for Heinz with “Hot in Herre” approached statistical significance ($M_{\text{high}} = 1.48$, $M_{\text{low}} = 1.26$; $F(1, 63) = 3.36$, $p < .07$). This was also supported when the artist was high in personal significance for No Doubt ($M_{\text{high}} = 1.52$, $M_{\text{low}} = 1.20$; $F(1, 51) = 6.52$, $p < .01$), Nelly ($M_{\text{high}} = 1.44$, $M_{\text{low}} = 1.15$; $F(1, 54) = 5.26$, $p < .026$), and Eminem ($M_{\text{high}} = 1.74$, $M_{\text{low}} = 1.13$; $F(1, 44) = 26.62$, $p < .001$) but not for Jimmy Eat World ($F(1, 41) = 0.850$, $p < .362$).

In separate analyses for gender, there was a significant interaction for “Without Me” ($F(1, 47) = 3.92$, $p < .05$), with females reporting greater attention to the brand than males when the song was high in personal significance and males having greater attention to the brand when low in personal significance; and Jimmy Eat World ($F(1, 39) = 7.39$, $p < .01$), with males having greater attention to the brand when the artist was high in personal significance and females having greater attention to the brand when low in personal significance.

Hypothesis H1B predicted that advertising with original popular music vocals

would lead to greater attention to the advertisement than advertising with altered vocals, instrumentals, or no popular music. Main effects were observed for advertising treatment with three of the four brands, Kodak ($F(3, 102) = 6.03$, $p < .001$), Ikea ($F(3, 106) = 6.52$, $p < .001$), and Heinz ($F(3, 107) = 11.86$, $p < .001$) showing significant effects, and results for Sony approaching statistical significance ($F(3, 102) = 2.426$, $p < .07$). The Bonferroni method for paired comparisons showed that the original vocal and altered vocal versions resulted in significantly greater attention to the advertisement than the no music and instrumental versions (Table 2). In the separate analyses for gender, no significant differences were observed. In the repeated measures analysis of the attention to the advertisement across brands, a significant main effect was observed for advertising treatment ($F(3, 288) = 17.02$, $p < .001$). The Bonferroni method for paired comparisons indicated that the original vocal treatment resulted in significantly greater attention to the advertisement than the

instrumental advertising treatment ($M_s = 1.45 > 1.19$, $p < .001$); and the altered vocal treatment resulted in significantly greater attention to the advertisement than the instrumental advertising treatment ($M_s = 1.65 > 1.19$, $p < .001$) and the advertising treatment with no music ($M_s = 1.65 > 1.28$, $p < .001$). There were no gender interaction effects.

In answer to Research Question RQ1 concerning how popular music, personal significance, and advertising treatment will interact to affect attention to the advertisement, there was a significant interaction between artist personal significance and advertising treatment, but only for Jimmy Eat World ($F(3, 35) = 3.36$, $p < .03$), with the original vocal version testing better when the artist was highly significant, and the altered vocal version testing better when the artist was low in significance.

Memory for the brand. Hypothesis H2A predicted that advertising with popular music that has high personal significance would lead to greater memory for the brand than advertising with popular

TABLE 2
Paired Comparisons of Advertising Treatment on Attention to the Advertisement

Brand	Advertising Treatment	<i>M_s</i>	<i>p</i>
Kodak	Altered vocal > No music	1.52 > 1.20	.05
	Altered vocal > Instrumental	1.52 > 1.04	.001
Ikea	Altered vocal > No music	1.79 > 1.36	.005
	Altered vocal > Original vocal	1.79 > 1.44	.05
	Altered vocal > Instrumental	1.79 > 1.28	.001
Heinz	Original vocal > No music	1.57 > 1.21	.01
	Original vocal > Instrumental	1.57 > 1.21	.01
	Altered vocal > No music	1.77 > 1.21	.001
	Altered vocal > Instrumental	1.77 > 1.18	.001

music that has low personal significance. This was supported for song ($M_{\text{high}} = 0.83$, $M_{\text{low}} = 0.50$; $F(1, 49) = 6.83$, $p < .012$) and artist ($M_{\text{high}} = 0.87$, $M_{\text{low}} = 0.43$; $F(1, 44) = 11.58$, $p < .001$) for Sony but not for the other three brands. In the separate analyses conducted for gender, an interaction was observed for "Hot in Herre" for Heinz ($F(1, 61) = 3.88$, $p < .053$) for Heinz with males showing greater memory for the brand than females when the song was highly significant and females showing greater memory for the brand when the song was low in significance. An interaction was also observed for both song ($F(1, 47) = 4.18$, $p < .046$) and artist ($F(1, 39) = 4.53$, $p < .04$) for Kodak ("The Middle" by Jimmy Eat World) again with males showing greater memory for the brand than females when highly significant and females showing greater memory for the brand when low in significance.

Hypothesis H2B predicted that advertising with original popular music vocals would lead to greater memory for the brand than advertising with altered vocals, instrumentals, or no popular music. Main effects for advertising treatment were observed for Kodak ($F(3, 107) = 5.81$, $p < .001$), Ikea ($F(3, 107) = 6.50$, $p < .001$), and Heinz ($F(3, 107) = 10.20$, $p < .001$). The Bonferroni method for paired comparisons indicated that the original vocal and especially the altered vocal treatments resulted in significantly greater memory for the brand than the other advertising treatments (Table 3). Separate analyses were conducted for gender with no interactions observed.

In the repeated measures analysis of the memory for the brand across brands, a significant main effect was observed for advertising treatment ($F(3, 273) = 10.09$, $p < .001$). The Bonferroni method for paired comparisons indicated that the altered vocal treatment resulted in signifi-

TABLE 3
Paired Comparisons of Advertising Treatment on Memory for the Brand

Brand	Advertising Treatment	<i>Ms</i>	<i>p</i>
Kodak	Original vocal > Instrumental	0.61 > 0.14	.002
	Altered vocal > Instrumental	0.55 > 0.14	.007
Ikea	Altered vocal > No music	0.82 > 0.29	.001
	Altered vocal > Original vocal	0.82 > 0.46	.033
Heinz	Altered vocal > No music	0.81 > 0.34	.001
	Altered vocal > Original vocal	0.81 > 0.32	.001
	Altered vocal > Instrumental	0.81 > 0.18	.001

cantly greater memory for the brand than the advertising treatment with no music ($Ms = 0.663 > 0.362$, $p < .001$) and the instrumental advertising treatment ($Ms = 0.663 > 0.312$, $p < .001$). No significant interaction effects were observed for gender. In answer to Research Question RQ2, no interaction was observed.

DISCUSSION

This research provided valuable insight into popular music in general, and advertising with popular music in particular. Popular music was observed to be a "blending of personal, social, and cultural significance" as Lull (1992, p. 1) described. The personal significance and meaning that popular music had for the participants appeared to originate from both the original lyrics and the artists as the cultural studies of Fiske (1992) and Grossberg (1992) suggested it would. Each song and artist used in this study was shown to have higher personal significance to some and lower personal significance to others contrary to Adorno's (1941) theory that popular music undermines autonomy and individual judgment.

Advertising with popular music was observed to be a more effective stimulus

of attention and memory than advertising without popular music, not only for its attention-gaining value but also for its stimulation of memory. Popular music with vocals was a more effective stimulus of attention and memory than popular music without vocals (instrumentals). Popular music with original vocals was a more effective stimulus of attention and memory when high in personal significance and popular music with altered vocals was a more effective stimulus of attention and memory when low in personal significance. From the results, it appeared that popular music "may well be the single most stimulating component of advertising" (Hecker, 1984, p. 3), or at the very least it "makes you watch or listen in a different way" (Dunbar, 1990, p. 198).

Attention

Popular music clearly has "attention-gaining value" (Kellaris, Cox, and Cox, 1993) for a brand name associated with it. The study of advertisement (brand) and song attention effects indicated that personal significance of the music and the artist does influence the effect of popular music as a stimulus. The individuals in this experiment processed songs and artists

they considered high in personal significance differently from those that were low in significance. The results of the paired comparison tests showed that the participants were also more attentive to advertisements with songs with vocals (original or altered) than songs without vocals (instrumental or without music), suggesting that vocals are important (but not necessarily just the original ones). A vocal (not simply a voice because all of the advertising versions contained the same announcer voice-over with the same advertising message), either original or altered, appears to be a key consideration in processing. Finally, because interactions between significant popular music or artists and advertising treatments for this dependent variable were only shown in one of the experimental treatments (Kodak with Jimmy Eat World's "The Middle"), it is impossible to conclude anything definitive about the relationship between the personal significance of popular music and the advertising treatment. It is interesting, however, and extremely relevant to note the results and implications of this interaction. In this case, when the artist was significant, the original vocal led to greater brand attention, but when the artist was not significant, the altered vocal led to greater brand attention. This suggests that if a song is important to people they pay more attention if it has the original lyrics. If the song is not important, the altered lyrics attract attention. It also suggests that the level of significance of the music

The individuals in this experiment processed songs and artists they considered high in personal significance differently from those that were low in significance. . . . When the artist was significant, the original vocal led to greater brand attention but when the artist was not significant, the altered vocal led to greater brand attention. . . . It suggests that the level of significance of the music and/or the artist can affect involvement possibly resulting in different processing of the advertising messages.

and/or the artist can affect involvement possibly resulting in different processing of the advertising messages.

While high personal significance can be a possible explanation for the attention-gaining value of original vocals, low personal significance cannot adequately explain the attention-gaining value of altered vocals. Three possible explanations include the novelty of hearing a popular song with altered lyrics (especially the first time); irritation caused by the changed lyrics; and/or the lack of fit of the song or the artist with the brand. All of these could have been attention-gaining stimuli

causing greater attention to the brand and the song. It is clear, however, that lyrics (either original or altered) are important and that even though an interaction was observed for just one song and artist ("The Middle" by Jimmy Eat World) based on the lyrics, the results are of practical importance to advertisers for two primary reasons. First, the use of no music or an instrumental version of a popular song should be avoided. Second, if the advertiser is able to use a popular song that is personally significant to the target market of the brand, then the original vocal version should be used, but if not, an altered vocal version should be considered.

Memory

Although personal significance appeared to play a greater role for attention than memory, popular music's ability when personally significant to enhance memory for the brand was also observed. The results, however, were not as consistent. The effects of significant songs and artists on

While high personal significance can be a possible explanation for the attention-gaining value of original vocals, low personal significance cannot adequately explain the attention-gaining value of altered vocals.

The use of no music or an instrumental version of a popular song should be avoided. Second, if the advertiser is able to use a popular song that is personally significant to the target market of the brand, then the original vocal version should be used, but if not, an altered vocal version should be considered.

brand memory were observed for one of the brands (Sony) for both the song ("Without Me") and the artist (Eminem), with some apparent significant effects for genders. It is interesting to note that for the Kodak brand, males were observed to have greater memory for the brand than females when the song and the artist ("The Middle" by Jimmy Eat World) were highly significant but that females had greater memory for the brand when the song and the artist were low in personal significance. This could suggest that males are more sensitive to the level of personal significance they have for advertising messages integrated in popular music than females, but this would need future research.

As with attention, it was observed in the paired comparison tests that the advertising treatment did affect brand recall with original and altered vocals leading to greater memory for the brand than either instrumentals or silence, contrary

to earlier findings (Olsen, 1995; Roehm, 2001). It does appear that popular music provides some type of "framework for retrieving a text" (Wallace, 1994, p. 1482). Unfortunately, the lack of observation of an interaction between significance of popular songs or artists and advertising treatment does not provide any additional support for those conclusions previously suggested with attention.

CONCLUSION

While this study certainly will not end the debate about the potential of popular music, it does provide some additional theoretical attention to two cultural products that are so saturated in our society: popular music and advertising. While there may be an extensive amount of practical research into the ever-increasing use of popular music in advertising available to those using it, this study provides some much needed theoretical foundation for its use. The results of this study clearly

indicate that popular music can be personally significant to some individuals, and when used in advertising can affect attention and memory. And finally, original vocals appear to be more effective when an individual finds personal significance in the popular music used in advertising, while altered vocals appear to be more effective when the opposite is true. Either way, personal significance plays a role in the effectiveness of popular music in advertising on attention and memory. **JAR**

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