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Music as an Unconditioned Stimulus: Positive and Negative Effects of Country Music on Implicit Attitudes, Explicit Attitudes, and Brand Choice

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Abstract

An experiment ($N = 68$) explored how background music in a realistic web advertisement could condition implicit and explicit attitudes toward a novel brand. Conditioning effects were apparent in both traditional explicit attitude measures and also in the Implicit Association Test (IAT). Further, brand choice was predicted by explicit attitudes, but prediction improved significantly when implicit attitudes were considered. Mood congruent judgment, demand effects, and conditioning are considered as potential explanations for our results, and we argue that conditioning provides the most parsimonious explanation. Finally, results are discussed within the context of the APE model (Gawaronski & Bodenhausen, 2006). This model provides a framework for the integration of the implicit attitude construct into the study of consumer behavior.

Music as an Unconditioned Stimulus: Positive and Negative Effects of Country Music on Implicit Attitudes, Explicit Attitudes, and Brand Choice

Music is commonly viewed as having the potential to impact a wide variety of psychological outcomes. For example, taking music lessons at an early age has been shown to have small but relatively long lasting cognitive benefits (Schellenberg, 2005). On a more negative note, music with aggressive or suicidal lyrics can increase aggressive (Fischer & Greitemeyer, 2006) and suicidal (Rustad, Small, Jobes, Safer, & Peterson, 2003) thoughts. Music has also been shown to alter mood and arousal (Knobloch & Zillmann, 2002). This change in mood can then mediate subsequent effects on a variety of outcomes including helping (North, Tarrant, & Hargreaves, 2004), work performance (Lesiuk, 2005), and spatial ability (Husain, Thompson, & Schellenberg, 2002). Given the broad impact of music on human behavior, it is not surprising that researchers have explored how music impacts consumer behavior.

One approach to studying the effects of music on consumer behavior has been to examine how ambient music can change buying behavior. North and Hargreaves (1998) found that different musical styles gave rise to differences in consumer purchase intentions. Music has also been shown to influence actual purchasing behavior. Areni and Kim (1993) for example, found that classical music increased wine sales when compared to top-forty music. Similarly, classical music increased spending of restaurant customers compared to when pop music or no music was playing in the background (North, Shilcock, & Hargreaves, 2003).

These studies suggest that music can influence behavior in a marketing context when products are available for immediate purchase. It seems likely that mood is mediating these effects (see Alpert & Alpert, 1990; Bruner, 1990). Music alters mood, which in turn alters

purchasing behavior. These results, however, do not suggest any long term alteration in consumer attitudes and actions. The change in behavior is thought to arise from the altered mood induced by the music. When mood returns to baseline levels, the effects of the music are lost. It is possible, however, that music could play a role in altering brand related attitudes in a more enduring fashion.

How might music lead to a longer lasting change in brand related attitudes? The influence of music on brand attitudes has typically been viewed from an evaluative conditioning perspective. A number of studies have demonstrated the applicability of evaluative conditioning concepts to marketing situations (e.g., Allen & Madden, 1985; Allen & Shimp, 1990; Gibson, in press; Shimp, Stuart, & Engle, 1991; Stuart, Shimp, & Engle, 1987). Studies examining the role of music in this conditioning process suggest that it works by tagging the affective properties of the music to the brand, leading to lasting attitude change. Gorn (1982) carried out the first study examining this process. Participants were exposed to either pleasant or unpleasant pieces of music which served as positive and negative unconditioned stimuli. The participants heard the music as they were simultaneously presented slides of products (pens) along with product information. Product attitude was measured by participants' product choice at the end of the study. The results suggested that the music was more important than the product information in creating product attitudes. Thus, unlike the studies examining the effects of background music, product choice was influenced by the music that was previously paired with a product. The music, however, was not playing when the product choice was considered and carried out.

Since this initial demonstration of a music conditioning effect, other studies have provided further evidence that music can condition positive or negative attitudes toward products. For example, Groenland and Schoormans (1994) selected positively and negatively

evaluated pieces of music that then served as unconditioned stimuli. Following the pairing of a pen with one or the other pieces of music, evaluations of the pen shifted in accordance with the valence of the music. Similarly, Blair and Shimp (1992) demonstrated that music can affect product attitudes through second order conditioning. Participants first heard a piece of music while completing a lengthy and onerous task. Later, when this music was paired with a product, the product was evaluated more negatively. These studies support the idea that the pairing of music with a product, as is done in a commercial advertisement, leads to evaluative conditioning of views toward that product.

The conditioning studies reviewed to this point have all used participants' self-reports about a product or product choice as their measure of evaluative conditioning. In other words, after exposure to the conditioning procedure, participants express their attitude toward the brand either via Likert type scales, or behaviorally via product choice. Until recently, these types of explicit measures represented the standard for measuring attitudes. Recent dual process theories, however, posit that both automatic and controlled thought play roles in a variety of psychological and behavioral outcomes (see Chaiken & Trope, 1999). Applied to attitudes, these dual process notions have led to the development of theories emphasizing the importance of both explicit and implicit attitudes (see Greenwald, et al., 2002). Importantly, these theories propose that implicit and explicit attitudes can be congruent or incongruent, can be altered independently from one another, and can impact behavior in different ways. An important task for consumer researchers is to develop an understanding of how implicit brand attitudes might contribute to our understanding of consumer thought and behavior.

Recently, Gawronski and Bodenhausen (2006) have proposed a model distinguishing between the fundamentally associative nature of implicit attitudes, and the fundamentally

propositional nature of explicit attitudes (the Associative-Propositional Evaluation model, or APE model). Implicit attitudes, they argue, are essentially automatic affective associations elicited by an attitude object. Explicit attitudes, in contrast, are evaluative judgments based on propositional reasoning. They argue that because of their fundamentally associative nature, implicit attitudes are likely to be directly changed by conditioning procedures. Any effect of conditioning on explicit attitudes, they argue, is indirect, resulting from the use of the implicit attitude as a piece of data informing the explicit judgment. Thus, the implicit attitude can be the basis of the propositional process leading to the explicit attitude. This leads to the hypothesis that evaluative conditioning should be effective in changing both implicit and explicit attitudes, particularly for novel attitude objects (which would not have a wealth of additional propositional information that would impact the explicit attitude). Indeed, other research has shown that for novel attitude objects, conditioning procedures do affect both implicit and explicit attitudes (Olson & Fazio, 2001). Even when attitudes are being conditioned for novel attitude objects, however, the relationship between implicit and explicit attitudes remains moderate in size (e.g., $r(48) = .39$, in the Olson & Fazio research). The APE model would suggest that one reason for this relatively small correlation is that implicit attitudes are but one piece of information to be considered when reporting an explicit attitude. A recent meta-analysis examining the strength of the implicit-explicit relationship found an average r of just .24 (Hoffman, Gawronski, Gschwendner, Le, & Schmitt, 2005). Based on the current theoretical and empirical evidence, we hypothesized that implicit and explicit attitudes in our study would be correlated, but only moderately so.

Finally, a more practical consideration is how implicit and explicit attitudes contribute to the prediction of behavior. From the perspective of a marketer attempting to market a brand, the

question of whether prediction of brand choice can be improved by a consideration of implicit measures is likely to be of primary concern. Although this is a relatively new area of research, an initial review of the literature suggests that both implicit and explicit attitudes can predict behavior (see Fazio & Olson, 2003). Further, within the consumer domain, early findings indicate that implicit measures can contribute to the prediction of consumer behavior (see Maison, Greenwald, & Bruin, 2004). In the Maison, et al. research, however, participants' attitudes were measured, but there was no attempt to alter them in any way. Thus, they were able to demonstrate that existing implicit attitudes contributed to consumer behavior, but did not show that altered implicit attitudes may predict behavior. A final goal of the current research was to examine whether implicit attitudes altered through conditioning could then contribute to the prediction of brand choice. Because initial research has suggested that both explicit and implicit attitudes can predict behavior, we hypothesized that both implicit and explicit attitudes would provide independent contributions to the prediction of brand choice.

Hypotheses

Hypothesis 1: Both implicit and explicit attitudes will be conditioned, and significantly related.

Hypothesis 2: Explicit attitudes will predict brand choice, however, prediction of brand choice will improve significantly when implicit attitudes are also considered.

Method

Participants

Participants for this study were 68 undergraduate psychology students who received extra course credit, as well as a complimentary soft drink, for their participation.

Pilot Study

A pilot study was carried out in order to select a piece of country music for use in the main study. Criteria for selection included the following: 1) the clip was unknown to most participants; 2) the clip was instrumental only (to enhance the chance that it wouldn't be recognizable to most participants); 3) people who reported liking country music reported liking the particular clip; and 4) people who reported disliking country music reported disliking the particular clip. We selected five pieces of country music that we thought had the potential to fulfill these criteria.

A group of 30 participants in an introductory psychology class evaluated 5 different 30-second pieces of country music. Note that none of those participating in the pilot study participated in the main study. The participants first responded on 7 point Likert type scales to 3 general statements regarding country music: "I listen to country music" (rated from (1) never to (7) very often); "I like country music" (rated from (1) disagree very much to (7) agree very much); and "I listen to country more than any other type of music" (rated from (1) disagree very much to (7) agree very much). For the evaluation of the individual pieces, participants responded to 3 general statements: "I have heard this piece of music" (rated from (1) never to (7) many times); "Overall, I think this music piece is" (rated from (1) very bad to (7) very good); and "If this piece is familiar to you, can you name the artist and song?" (rated from (1) very unfamiliar to (7) very familiar, and a space was provided for the participants to name the song and artist if they knew who it was).

This pretest led to the selection of a 30-second instrumental portion of a song ("I Feel Like I'm Forgetting Something" Wommack, 2000, track 9). This piece was ranked high by those preferring country music (n = 8, M = 5.60), those who listen to country a great deal (n = 8, M =

5.00), and those who listen to country more than any other music (n = 4, M = 5.67). This piece was also ranked low by those strongly disliking country music (n = 10, M = 1.80), those who do not listen to country much (n = 10, M = 1.75), and those who do not listen to country more than other music (n = 19, M = 2.25). The familiarity of this piece was also found to be low overall (M = 1.93); and for those preferring country music (M = 1.92).

Product Brands Selected for Conditioning

We also hoped to select brands that were unfamiliar to the participants. Research has indicated that conditioning of evaluative judgments works best for novel attitude objects, as compared to well known attitude objects (Cacioppo, Marshall-Goodell, Tassinary, & Petty, 1992; Shimp, Stuart, and Engle, 1991). The attitude objects used in this study were two brands of root beer, Sparky's and Fitz's. These brands were selected because they are not sold locally in the market in which the study took place, and were therefore likely to be unfamiliar to our participants. These root beer brands were purchased via an internet website specializing in uncommon soda beverages.

Design and Procedure

The design of the main study was a 2 (music preference) x 2 (brand viewed) factorial design. The "brand viewed" variable was manipulated as a between-subjects factor.
Pretests were provided to prospective participants in various psychology courses. Potential participants completed a measure of preference for country music. The completion of the pretest measure occurred in a classroom setting over 2 weeks prior to recruitment into the main study. In addition, the questions regarding country music were included in a larger questionnaire that included measures being used by other researchers for pretesting (i.e., questions on video game playing experience, personality inventories, etc.). Participants with strong preferences for or

against country music were recruited by phone to participate in the main study. The preference scale could range from 3 to 21, with lower numbers indicating a stronger dislike for country music and higher numbers indicating a stronger liking for country music. No one with a preference above 6 on the combined scale was selected for the dislike country group, and no one with a preference score below 18 was selected for the like country group. Potential participants who fit these criteria were then recruited by phone. Experimenters were unaware which participants liked or disliked country music.

Upon arrival to the experiment, the experimenter explained that the study focused on participant's evaluations of various forms of advertisements. First, through the use of the Medialab computer program (Jarvis, 2002) participants watched the presentations of several commercials featuring various products, and one of the two root beer brands. Participants were randomly assigned to see either Fitz's or Sparky's. In these commercials (which were created specifically for this research), text scrolled across the screen ("Are you thirsty"; "Ready for something different?"; "Something really unique?"; "Then try this"). After the text appeared, a bottle of either Fitz's or Sparky's Root Beer gradually increased in size on the screen. This image was then gradually replaced by the logo for that root beer. While the text and root beer images were presented, the selected country music clip was playing in the background. This music clip was played only during the root beer commercial. This commercial was imbedded among a variety of other web based commercials used as distracters. These commercials focused on other products, including potatoes, a hotel and resort, and a movie, among others. After each advertisement was presented, the participants rated their preference for the product on 4 Likert-type scales. These items measured how much they liked the brand, their general interest in the brand, the attractiveness of the brand, and their overall evaluation of the brand. In order to

reduce any potential demand effects or hypothesis guessing, participants completed these measures for all products for which they saw advertisements.

Participants then completed an implicit measure of their brand attitudes. To measure implicit attitudes, we used a modified version of the Implicit Association Test (IAT, Greenwald, et al., 2002). The IAT measures the reaction time of responses in which the participants have two choices. These choices are either pressing a key on the left side of the keyboard (e) which corresponds with one brand and one word category (e.g., Brand A and pleasant words) or pressing a key on the right side (i) which corresponds with the other brand and the other word category (e.g., Brand B and unpleasant words). The more closely related the two concepts are to the participant, the easier it should be to respond to them in the association task. So, for example, if Brand A and the word "good" are strongly associated, it should be easier to respond when using the same response key. If Brand B and "good" are not as strongly associated, it should be harder to respond as quickly when using the same response key. The IAT has been modified to measure a wide variety of attitude objects, and in our research we created an IAT designed to measure preference for the two root beer brands. This IAT featured the attitude object (i.e., the root beer brand featured in the advertisement) and the comparison object (i.e., the root beer brand not presented). As suggested by the APE Model, the IAT has been shown to be a useful way to test for affective conditioning (Olson & Fazio, 2001).

In the final stage of the experiment, participants were presented a choice task in which they selected one of the two root beer brands as an additional reward for their participation. A photo of Fitz's and Sparky's root beer was shown on the screen, one brand on the right and the other on the left. The side of the screen on which each brand was presented was counterbalanced across participants. Participants made their selection by hitting predetermined keys (i or e) to

select one brand or the other. The participants were then debriefed, given the root beer of their choice, and excused.

Results

Conditioning of Explicit Brand Attitudes

The four Likert scale items combined to create the explicit measure had good reliability (Cronbach's $\alpha = 0.97$). A 2 (brand seen) x 2 (music preference) ANOVA was performed on the explicit attitude measure. There was a significant main effect for music preference (i.e., liked or disliked music) on explicit attitudes toward the featured brand, $F(1,64) = 11.46$, $p < .001$. Those having favorable attitudes toward the music rated the featured brand more favorably ($M = 19.09$) than those having unfavorable attitudes toward the music ($M = 13.88$). Neither product brand, $F(1,64) < 1.0$, *ns*., nor the interaction of brand and music preference, $F(1,64) < 1.0$, *ns*., affected explicit attitudes.

Conditioning of Implicit Brand Attitudes

A similar 2 x 2 ANOVA was conducted on the brand IAT measure. The revised scoring procedure for the IAT was used to compute *D* (Greenwald, et al., 2003), and scores were computed so that positive values would indicate preference for the brand viewed and negative values would indicate preference for the brand not viewed. There was no significant main effect for the brand viewed $F(1,64) = 1.88$; and no significant interaction between music preference and brand viewed, $F(1,64) < 1.0$. The main effect for music preference, however, was significant, $F(1,64) = 9.71$, $p < .005$. Those who liked country music showed an implicit preference for the brand they saw, while those who didn't like country music showed an implicit preference for the alternate brand (see Table 1).

Implicit-Explicit Correlation

A Pearson's correlation was then carried out to examine the relationship between the explicit and implicit attitude measures. Results indicated that, as predicted, there was a significant relationship between the explicit measure and the brand IAT, $r(67) = .22$, $p < .05$ (one-tailed test).

Brand Choice

A series of logistic regression analyses were carried out to explore whether the implicit and explicit measures were predictive of brand choice. Separate regressions were initially conducted for the explicit measure and implicit measure. The explicit measure significantly predicted brand choice, $\chi^2(1, N = 68) = 8.00$, $p < .01$, Cox and Snell $R^2 = .11$. Overall, 69% of participant's brand selections were accurately predicted by this model. The implicit attitude also significantly predicted brand choice on its own, $\chi^2(1, N = 68) = 6.33$, $p < .02$, Cox and Snell $R^2 = .09$. Overall, 64% of participant's brand selections were accurately predicted by this model. More pertinent to our hypothesis, however, was whether the implicit measure significantly improved prediction of brand choice beyond that provided by the explicit measure. In order to test this hypothesis, the explicit measure was entered in the first step of the logistic regression, and the implicit measure was entered on the second step. After the second step the Cox and Snell $R^2 = .16$, indicating a significant increase in R^2, $\Delta R^2 = .05$, $\chi^2(1, N = 68) = 4.05$, $p < .05$. Thus, prediction of brand choice improved significantly with the addition of the implicit measure. After the second step, 75% of participant's brand choices were correctly predicted by the model. Another way to express this is that implicit attitudes accounted for unique variance in the prediction of brand choice.

Discussion

The role of music as an unconditioned stimulus in conditioning brand attitudes has been explored in a number of prior studies (Gorn, 1982; Blair & Shimp, 1992; Groenland & Schoormans, 1994; Kellaris & Cox, 1989). The current research provides a variety of novel contributions to this literature. First, the current research adds to the growing literature suggesting that implicit attitudes will be important to consider in the consumer domain. There have been recent calls for consumer researchers to more carefully consider automatic components of consumer attitudes and behaviors (see Bargh, 2002; Chartrand, 2005; Dijksterhuis et al., 2005). Examination of implicit attitudes would be one way to follow through on these suggestions, and some research has already begun to consider implicit attitudes in consumer settings (see Brunel, Tietje, & Greenwald, 2004; Friese, Wanke, & Plessner, 2006; Gibson, in press; Maison, Greenwald, & Bruin, 2004). The results of the current study suggest that the music in the commercial successfully conditioned both implicit and explicit attitudes.[1] Further, implicit and explicit attitudes were significantly related, but as in other research on implicit attitudes, this relationship was relatively modest in size. One reason for this modest relationship could be that the explicit measure we used was a direct measure of preference for one brand, while the implicit measure was a relative measure of one brand compared to another. This difference has been shown to reduce implicit-explicit correlations (see Hofmann, et al., 2005). However, the modest size of this relationship emphasizes the importance of considering implicit attitudes in consumer research. The fact that the relationship is small suggests that there may be utility in examining each type of measure separately. Further, the addition of the implicit measure significantly improved our ability to predict brand choice. Thus, the inclusion of the implicit measure allowed for a better understanding of consumer behavior.

Should we always expect, then, that implicit and explicit attitudes will vary in similar ways in consumer research? From a theoretical perspective there is reason to expect that implicit and explicit measures need not operate in lock step. Consider evaluative conditioning as a general attitude change mechanism. Gawronski and Bodenhausen (2006) suggest that evaluative conditioning directly affects implicit attitudes because of their underlying associative nature. Explicit attitudes, in contrast, are based on a larger variety of propositions which may or may not be congruent with the basic associations laid down in an evaluative conditioning procedure. In the current study, the use of novel brands ensured that there was not a large base of propositional knowledge that could affect participant's explicit attitudes toward the brands. Thus, implicit and explicit measures were affected similarly by the conditioning procedure (see also, Olson & Fazio, 2001). In contrast, attempts to condition attitudes for highly familiar brands may fail to affect explicit attitudes because of a long history of propositional thought regarding the attitude object (e.g., Cacioppo, et al., 1992; Shimp, et al., 1991). It is possible that in some conditions, however, implicit attitudes for familiar constructs could be altered by the conditioning procedure while explicit attitudes remain unchanged (see Dijksterhuis, 2004; Gibson, in press; Olson & Fazio, 2006). This line of reasoning suggests that implicit and explicit attitudes can be expected to vary together in some cases (as in the current study) but may vary independently in other cases.

Another benefit of our method was that it utilized a more realistic pairing of music to brand. Past studies have typically shown slides of a product (often, pens) with music playing in the background (e.g., Gorn, 1982; Groenland & Schoormans, 1994; Kellaris & Cox, 1989). In contrast, we created an ad typical of what might be presented in a web environment, in which the logo and name of the brand were presented, along with other text, with the music integrated into

the ad itself. We would argue that because of this approach our research has excellent ecological validity.

We also demonstrate that a single piece of music can have different effects on a listener depending on their musical tastes. Those liking the music adopted more positive attitudes toward the brand, while those disliking the music adopted more negative attitudes toward the brand. These attitudes, in turn, were predictive of brand choice. This has implications for marketers. For example, it may be wise to create different commercial presentations with different music, and target these different commercials to audiences likely to prefer that type of music. Country music is strongly liked by some and strongly disliked by others. Allowing those who dislike that music to create an association between it and your brand would be undesirable. Other genres of music, however, may be less polarizing. If targeted marketing strategies aren't practical, then selecting less polarizing music to associate with your brand would make sense. Since extreme groups were used in our sample, however, it remains unclear how music might influence more neutral listeners. Future research could address this question.

It is also important to consider potential alternative explanations for our findings. One possible concern is that our findings could be the result of changes in mood induced by the music, rather than being the result of classical conditioning (Allen & Madden, 1985; Groenland & Schoormans, 1994). There are at least three reasons to consider this explanation less compelling than the conditioning explanation. First, our 30 second exposure to the country music clip is significantly shorter than the 7 minute exposure typically used to create the desired mood effects (see Clark, 1983; Clark & Teasdale, 1985; Groenland & Schoormans, 1994; Teasdale & Spencer, 1984). Second, music has been found to be one of the weaker techniques for experimentally inducing mood (Westerman, Spies, Stahl, & Hesse, 1996). Finally, mood is thought to affect

attitude formation by serving as a source of information about the attitude object (Pham, 1998; Schwartz, 1997). Because this is a type of propositional process, it seems likely that mood congruent judgment would primarily affect explicit attitudes rather than implicit attitudes. There is some evidence, however, that propositional reasoning can affect implicit measures (De Houwer, 2006). And certainly, this reasoning does not rule out a mood congruent judgment explanation for our explicit attitude results. Considering all of these lines of reasoning together, however, conditioning seems to be a more parsimonious explanation for our data than mood congruent judgment.

A second alternative explanation to consider is experimental demand. A number of authors have argued that Gorn's (1982) initial findings could be driven entirely by demand effects, and the issue of demand in evaluative conditioning research is seen as a significant concern (Allen, 2004; Allen & Janiszewski, 1989). After considering the entire procedural context of the study, however, we believe demand is a highly unlikely explanation for the results. This context includes a delay of over 2 weeks between pretest and recruitment; a variety of distracter ratings made during the pretest; and a variety of distracter advertisements rated during the experiment itself. Given this context, it seems unlikely that participants would have guessed that the root beer ad was the focal point of the research, or that they would have connected it with the pretest that occurred weeks before.

The current study also suggests a variety of relevant directions for future research. One question relates to the relative stability or malleability of the implicit and explicit measures after attitudes are formed. Recent research indicates that implicit attitudes can be harder to change than to acquire, and therefore are more difficult to shift than are explicit attitudes (see Gregg, et al., 2006). Other studies have shown that implicit attitudes are more easily shifted than explicit

attitudes (Olson & Fazio, 2006; Gibson, in press; Dal Cin, Gibson, Zanna, Shumate, & Fong, 2007). An exploration of this apparent discrepancy would help marketers understand the methods and processes that could be used to change implicit and explicit brand attitudes respectively. Future research could also examine how variables other than music could serve as unconditioned stimuli. For example, whether an individual likes or dislikes a celebrity endorser could lead the endorser to be a positive or negative unconditioned stimulus. Studies examining the effects of celebrity endorsers on implicit attitudes are relatively sparse (but see Forehand & Perkins, 2005, for an exception). Examining the role of celebrity endorsers in changing both implicit and explicit attitudes would be an important step to take. Future research could also focus on the conditions under which implicit and explicit attitudes are better predictors of brand choice. In the current research, both implicit and explicit attitudes were significant predictors of choice. It could be, however, that implicit attitudes are better predictors of choice under cognitive load, when individuals may be forced to rely more on affective associations and rely less on propositional reasoning. On the other hand, explicit attitudes may be better predictors when individuals can think more about the choice (see Friese, Hofmann, & Wanke, in press; Friese, Wanke, & Plessner, 2006; Gibson, in press; Hofmann, Rauch, & Gawronski, 2007). Finally, slight modifications to our procedure could help clarify some issues. For example, although we think that mood congruent judgment is unlikely to be the cause of our results, directly measuring participant mood after viewing the 30 second ad could help to rule out the mood explanation. Also, there is some evidence that differential salience of the stimuli used in the IAT is a source of method variance in IAT results (Rothermund & Wentura, 2004). By presenting only one of the root beer brands to participants, we may have made that brand more salient, and therefore altered the IAT results. Presenting both brands in future research would

address this issue, and perhaps lead to a stronger relationship between the IAT and explicit measures. This could increase the possibility of identifying the predicted mediation of explicit attitudes by implicit attitudes.

In summary, the current study supports the notion that conditioning procedures using music as a US work in the context of web based commercial advertising. It also suggests that a piece of music embedded into a commercial can function as a positive or negative US, depending upon the listener's pre-existing musical tastes. Further, the inclusion of implicit measures led to greater success in predicting brand choice. This suggests that consumer research could benefit greatly by attempting to understand implicit as well as explicit brand attitudes.

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Footnote

[1]Note that, based on the APE model, we had speculated that the conditioning procedure would have a direct effect on implicit attitudes, but that explicit attitudes would be altered primarily through the change in implicit attitudes. A path model failed to confirm this prediction, with the music liking variable having a direct effect on both implicit and explicit attitudes. Future research will be needed to explore this concept more fully.

Table 1

The Effects of Music Preference and Brand Viewed on Implicit Brand Attitudes

	Music Preference		
Brand Viewed	Dislike Country	Like Country	Total
Fitz's	-.147 *sd* = .43 *n* = 19	.148 *sd* = .38 *n* = 17	-.001 *sd* = .43 *n* = 36
Sparky's	-.024 *sd* = .44 *n* = 15	.296 *sd* = .36 *n* = 17	.146 *sd* = .42 *n* = 32
Total	-.085 $_a$ *sd* = .44 *n* = 34	.222 $_b$ *sd* = .43 *n* = 34	.068 *SD* = .43 *N* = 68

Note. Negative scores indicate an implicit dislike for the brand viewed, positive scores indicate an implicit preference for the brand viewed. Different subscripts represent means different at the .01 level.