

Brand Categorization and Hedonic Transfer: Negative Evaluations of a Beverage Transfer to a Novel Beverage from the Same Brand

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Many studies have shown that brand cues affect not only qualitative product evaluation, but also hedonic evaluation of food and beverage products. Although most research has focused on familiar brands associated with cultural or affective values (e.g., Coke, McDonalds, and Starbucks), only a few studies have examined the categorical aspects of brands that lead consumers to associate one product with other products from the same brand. In the present study, we hypothesized that if palatability evaluations of a beverage transfer to those of a novel beverage from the same brand, *hedonic transfer* will occur. We designed two experiments to test this hypothesis. In Experiment 1, each participant tasted and evaluated two beverages sequentially. The first was a context (hedonically negative) beverage and the second was a target (hedonically neutral) beverage, with or without information indicating these two beverages were from the same brand. In Experiment 2, each participant tasted and evaluated a context (hedonically neutral) beverage and target (hedonically negative) beverage, with or without the information. The results from Experiment 1 showed that participants who were informed that the two beverages were the same brand evaluated the target beverage as less palatable than did those without brand information; in other words, negative hedonic transfer occurred. In contrast, Experiment 2 did not show any indication of positive hedonic transfer. The results indicate that even if the brand does not have cultural value or familiarity, brand cues affect the palatability of a beverage, based on brand categorization and hedonic transfer.

Key words: hedonic transfer, palatability, brand, brand-categorization

Introduction

Consumers often prefer products of a specific brand to products of other brands, even if the quality between the two does not differ; for example, people often prefer Coke products to Pepsi products (McClure, Li, Tomlin, Cypert, Montague, & Montague; 2004). A better way for marketers to appeal to the rationality and sensitivity of consumers is to improve the quality of their products and then promote the products by emphasizing their high quality. However, as the example indicates, consumers appear to be less sensitive to the quality of products itself. This begs the questions: How do consumers make product evaluations? What factors affect such evaluative processes? The current study sought to examine the processes underlying

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palatability evaluations of beverages and how brand cues affect such evaluative processes.

When we talk about a certain food, we are often talking about the palatability as the objective attributes of that food (e.g., “McDonald’s is very palatable”). Thus, marketers often focus on the quality which defined as chemical structure of food and beverage products. However, several psychological experiments have shown that perceived palatability of foods and beverages depends not only on their quality but also on contextual factors such as physiological state (Cabanac, 1979), order of tasting (Kamenetzky, 1959; Sakai, Kataoka, & Imada, 2001), cultural beliefs (Zellner, Stewart, Rozin, & Brown, 1988), expectations of the products’ qualities (Cardello & Sawyer, 1992; Deliza & MacFie, 1996; Lee, Frederick, & Ariely, 2006), prices (Plassmann, O’Doherty, Shiv, & Rangel, 2008), and brands (Allison & Uhl, 1964; McClure et al., 2004). These findings consistently indicate the importance in defining perceived palatability to include these contextual factors. In other words, perceived palatability refers to the subjective hedonic experience rather than referring solely to the objective attributes of food and beverages (Sakai et al., 2001; McClure et al., 2004; Plassmann et al., 2008).

In this context, many researchers have indicated that brand cues affect hedonic evaluation of food and beverages (McClure et al., 2004; Robinson, Borzekowski, Matheson, & Kraemer, 2007). For example, McClure et al. (2004) demonstrated that knowledge of a familiar brand such as Coke affected preferences and brain activity as measured with fMRI. More specifically, the authors found an increase in activity in participants’ hippocampus, the dorsolateral prefrontal cortex, and the thalamus after viewing the Coke brands. They interpreted this activity as evidence of retrieval of brand information during the tasting and suggested that culturally familiar brands can actually affect the hedonic experience of food and beverages. In addition, Robinson et al. (2007) demonstrated that brand cues might affect the food preference of preschool children: children preferred food and beverages when they thought the food and beverages were from McDonalds. These studies suggest that brand cues affect consumers’ evaluation of products, especially when the brands are very familiar and associated with cultural values. However, if the brand is not associated with cultural values or is unfamiliar, do brand cues affect palatability evaluations?

The present study sought to determine whether brand cues affect perception of branded products, even when the brand is unfamiliar. Because categorical information (e.g., race, group association, generation, sex) is very informative and is the basis of our perception and cognition of the external world (Allport, 1954), we often utilize this type of information not only in social cognition but also in product evaluation (Gilbert & Hixon, 1991; Friese, Wanke, & Plessner, 2006; Shook, Fazio, & Eiser, 2007; Ranganath & Nosek, 2008; Ratliff & Nosek, 2011; Ratliff, Swinkels, Klerx, & Nosek, 2012). Thus, this study used brand categorization as the schema by which consumers evaluate a novel product according to memories or evaluations of other products from the same brand.

Ratliff et al. (2012) showed that implicit attitude towards one product automatically transfers to other novel products from the same brand. The authors described the phenomenon as *implicit attitude transfer*. Their results also influenced brand studies because they presented

fictional brands to the participants. Participants in their study evaluated products using brand categorization. The current study defines *hedonic transfer* as the transfer of hedonic value from one food product to other food products of the same brand, a definition similar to attitude transfer described in other studies (Ranganath & Nosek, 2008; Ratliff et al., 2012)

Participants in Ratliff's study did not actually use or taste the products, only evaluated them by questionnaires; thus, it remains unclear whether brand categorization actually leads to generalization of the hedonic experience of food and beverage tastings. Therefore, our participants were asked to actually taste and evaluate unfamiliar beverages. The first hypothesis was that people with brand knowledge about an unpalatable beverage would also evaluate other beverages from the same brand as unpalatable; in other words, negative hedonic transfer will occur. The second hypothesis was that people with brand knowledge about a palatable beverage would also evaluate other beverages from the same brand as palatable; in other words, positive hedonic transfer will occur.

An assimilation-contrast effect may also be involved in the hedonic evaluation process (e.g., Cardello & Sawyer, 1992; Kamenetzky, 1959; Sakai et al., 2001). It is often reported that a "good" food preceded by a "poor" food might be evaluated as more palatable (i.e., contrast effect) or as less palatable (i.e., assimilation effect) than if there was no preceding food. Thus, hypotheses may stem not only from the hedonic transfer effect but also from the assimilation-contrast effect. To control for this effect, we introduced three experimental conditions: same brand (SB), different brand (DB), and non-brand (NB). In the SB condition, participants evaluated the beverages knowing that they were from the same brand, and in the DB condition, participants knew the beverages were from different brands. In the NB condition, participants evaluated the beverages without any brand information. According to assimilation-contrast theory, evaluative generalization (i.e., the assimilation effect) would occur regardless of experimental condition because only the hedonics of the beverages is important. However, we expected such generalization only in the SB condition because those participants knew they were tasting the same brand; therefore, their evaluation would generalize from the context beverage to the target beverage via brand categorization. If there were no differences between the conditions, that is, evaluative generalization occurred in every condition, assimilation-contrast theory might explain the results. In contrast, if evaluative generalization occurred only in the SB condition, hedonic transfer may be the explanation.

Experiment 1

We hypothesized that if prior knowledge about an unpalatable beverage causes people to evaluate other beverages from the same brand as unpalatable, then negative hedonic transfer occurs. To test this hypothesis, participants in this experiment were asked to sequentially taste and evaluate two beverages; the first one was a context (hedonically negative) beverage and the second a target (hedonically neutral) beverage. Participants were assigned to the SB, DB, or NB condition (Figure 1A). Under this design, only participants in the SB condition could

generalize negative evaluations from context (negative) beverage to target (neutral) beverage. Therefore, we expected participants in the SB condition to evaluate the target beverage as less palatable than would those in DB and NB conditions.

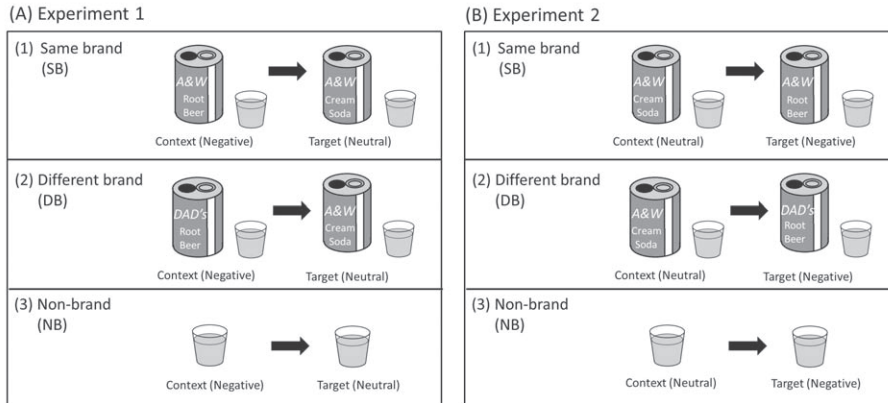


Figure 1. Experimental designs of (A) Experiment 1 and (B) Experiment 2. (A) In the SB condition, participants were presented with real cans of *A&W Root Beer* (context) and *A&W Cream Soda* (target) as visual stimuli of the same brand. In the DB condition, participants were presented with the real cans of *DAD's Root Beer* (context) and *A&W Cream Soda* (target) as visual stimuli of different brands. In the NB condition, participants were not provided with any information about the beverages. Brand information provided before tasting differed between conditions, but the order of evaluation (context to target) and the variety of beverages (*A&W Root Beer* and *A&W Cream Soda*) were the same across all conditions. (B) In Experiment 2, the order of stimuli was reversed, thus participants sequentially tasted *A&W Cream Soda* as the context beverage and *A&W Root Beer* as the target beverage.

Method

Participants

Eighty-one students at Tohoku University (36 women, $M_{\text{age}} = 20.9$ years, $SD = 1.2$ years) participated in the experiment. All participants were uninformed as to the true purpose of the study. Participants were randomly assigned to one of three conditions: SB, DB, or NB. After the experiment, participants were informed the true purpose of the study, and gave informed consent by themselves.

Materials

A&W Root Beer was used as the context (negative) beverage and *A&W Cream Soda* was used as the target (neutral) beverage. These beverages were selected from the results of a pre-test. The palatability score on a 100-mm visual analog scale (VAS) indicated that participants in pre-test evaluated *A&W Cream Soda* as neutral ($M = 56.3$, $SD = 24.0$) and *A&W Root Beer*

as less palatable ($M = 26.8$, $SD = 27.0$). There was a significant difference in the palatability score for these two stimuli ($t(12) = 2.894$, $p < .01$). Furthermore, only one from 12 participants in the pre-test knew the *A&W* brand. Thus, *A&W Root Beer* was selected as the context (negative) beverage and *A&W Cream Soda* was selected as the target (neutral) beverage. The stimuli were stored in a refrigerator and prepared just before tasting. At the time of tasting, the stimuli were poured into clear plastic cups (which can contain up to 90 ml) and immediately presented to the participants. Each cup contained 60 ml of the stimuli.

Cans of *A&W Root Beer*, *A&W Cream Soda*, and *DAD's Root Beer* were used as visual stimuli. These visual stimuli served as brand information in the SB and DB conditions. More specifically, cans of *A&W Root Beer* and *A&W Cream Soda* were introduced to the participants in the SB condition and cans of *DAD's Root Beer* and *A&W Cream Soda* were introduced to the participants in the DB condition. These visual stimuli were not introduced to the participants in the NB condition.

Procedure

Figure 2 presents a flow chart of the procedure. In this experiment, the order of evaluation (context to target) and the variety of beverages (*A&W Root Beer* and *A&W Cream Soda*) were identical between the conditions, while the brand information provided before tasting differed between conditions.

In the SB condition, participants were presented with real cans of *A&W Root Beer* (context) and *A&W Cream Soda* (target) as visual stimuli of the same brand. Participants were then asked whether they were familiar with the brand. If participants had indicated prior knowledge about the brand or about its cultural values, they would have been excluded from the analysis, because such knowledge could have affected their evaluations (McClure et al., 2004). However, none of the participants was excluded. After the familiarity check, the visual target stimulus (*A&W Cream Soda*) was temporarily removed and only the visual context stimulus (*A&W Root Beer*) remained on the table. Participants were told to expect the palatability (negative or positive) of the beverage and to evaluate its “expected” palatability. After the evaluations, participants were presented with a cup of the context (negative) beverage (i.e., *A&W Root Beer*), which was prepared behind a partition during the expectative evaluation phase. Then, participants were asked to taste the beverage at their own pace and evaluate the “experienced palatability” of the beverage, as well as how much they liked it (“liking”). After the evaluations, participants were asked to rinse their mouths thoroughly with mineral water, and then the visual context stimulus was replaced with the visual target stimulus (*A&W Cream Soda*). Participants were again asked to expect the palatability of the beverage and evaluate its “expected palatability” in the same way as the context beverage. After the evaluations, participants were presented with a cup of the target (neutral) beverage (i.e., *A&W Cream Soda*), again prepared behind a partition during the expectative evaluation phase. Then, participants were asked to taste the beverage and evaluate the experienced palatability of the beverage and how much they liked it, in the same way as for the context beverage.

In the DB condition, participants were presented with real cans of *DAD's Root Beer* (context) and *A&W Cream Soda* (target) as visual stimuli of different brands. However, the visual context stimulus (*DAD's Root Beer*) was ostensible, thus participants in the DB condition also tasted *A&W Root Beer* as a context beverage along with those in SB condition. Except for this point, the other experimental procedures were identical to those in the SB condition.

In the NB condition, participants were not provided with any information about the beverages. Thus, participants tasted and evaluated the beverages sequentially without any visual stimuli. As in the SB and DB conditions, *A&W Root Beer* was the context beverage and *A&W Cream Soda* was the target beverage. Participants in the NB condition were unable to expect the palatability of the beverages before tasting, so they were asked only to taste and evaluate experienced palatability and how much they liked it.

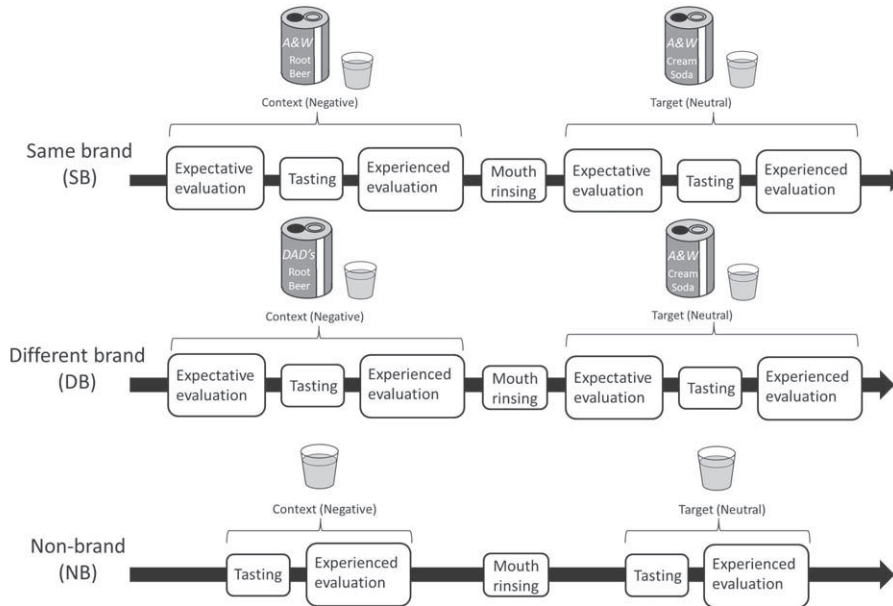


Figure 2. Flow chart of the experimental procedures in Experiment 1. In this study, visual stimuli (real cans of the beverages) were provided before each tasting in both the SB and DB conditions, but not in the NB condition. Participants in the SB and DB conditions were asked to evaluate expected palatability before tasting and experienced palatability and liking after tasting. Participants in the NB condition were not able to expect the palatability of the beverages before tasting, so they were asked only to taste and evaluate experienced palatability and liking.

Participants made their evaluations on a 100-mm visual analog scale (VAS) for each dimension: expected palatability, experienced palatability, and liking. For the expected palatability evaluations (before tasting in the SB and DB conditions), the scale ranged from

“The beverage may be absolutely unpalatable for me” to “The beverage may be extremely palatable for me,” without any anchors. For the experienced palatability evaluations (during the tasting in all conditions), the scale ranged from “The beverage is absolutely unpalatable for me” to “The beverage is extremely palatable for me.” For the liking evaluations (during the tasting in all conditions), the scale ranged from “I do absolutely not like the beverage” to “I like the beverage very much.” All instructions were described in Japanese.

Palatability and liking were separated because these two indices may reflect different aspects of evaluation. According to Sakai et al. (2001), “palatability” reflects the participants’ evaluation of the hedonics on the sensory aspects of a food or beverage, while the “liking” reflects the participants’ cognitive judgments (e.g., “The taste of chocolate is palatable for me, but it makes me fat so I do not like it so much”). Therefore, we defined palatability as the hedonic evaluation for the stimuli and liking as the cognitive evaluation. We hypothesized that these two indices would be independent of each other.

Analysis

The length from the left edge of the scale to the mark participants had made was measured for each evaluation and used as ratings. The ratings had a theoretical range from 0 to 100, 0 means “seemed to be absolutely unpalatable” / “absolutely unpalatable” / “absolutely do not like,” and 100 means “seemed to be extremely palatable” / “extremely palatable” / “like very much.” These ratings were averaged separately in each condition (i.e., SB, DB, and NB). A one-way analysis of variance (ANOVA) was used to analyze the data, using Ryan’s method as a post-hoc analysis.

Results and discussion

Palatability evaluations

None of the participants in this experiment was familiar with *A&W* and *DAD*’s brands. If participants evaluated the context (negative) beverage as not so bad, this meant that the negative context manipulation did not work for those participants. Therefore, when the ratings of experienced palatability or liking for the context beverage were over 50 (halfway on the VAS lines), the data were excluded from the analysis ($n = 11$, 14% of the data). Participants who originally had strong preferences for the target beverage (e.g., “I like this kind of beverage very much” or “I dislike this kind of beverage”) could have had outlier ratings. Therefore, participants whose experienced palatability or liking ratings for the target beverage deviated from the mean by more than 2 *SD* in each condition were also excluded from the analysis (5% of the data in the palatability analysis and 1% of the data in the liking analysis).

Figure 3 shows the palatability ratings of the target beverage. A one-way ANOVA for the participants’ expected palatability ratings failed to reveal a significant main effect for condition ($F(1, 42) = 1.797$, $p = .188$). However, for the participants’ experienced palatability ratings, there was a significant main effect of condition ($F(2, 63) = 4.235$, $p < .05$). Post-

hoc analysis using Ryan's method showed that participants in the SB condition evaluated the target beverage as less palatable ($M = 49.0$, $SD = 18.8$) than participants in the DB ($M = 62.8$, $SD = 15.0$) and in the NB conditions ($M = 60.6$, $SD = 15.8$; $p_s < .05$). This result supported our hypothesis: Prior knowledge about a brand of one unpalatable beverage caused participants to evaluate another beverage from the same brand as unpalatable. This indicates that negative hedonic transfer occurred.

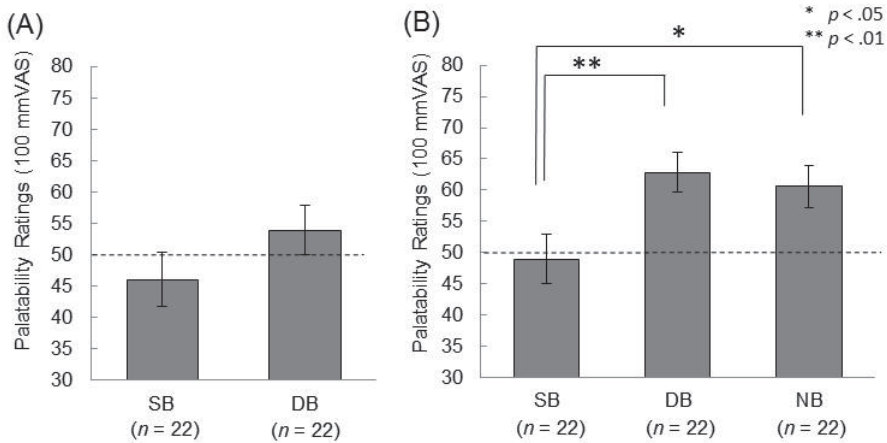


Figure 3. Averaged palatability ratings (mean \pm standard error) of the target (neutral) beverage in Experiment 1. (A) Expected palatability before tasting. (B) Experienced palatability during tasting.

Liking evaluations

Figure 4 shows the liking ratings of the target beverage. A one-way ANOVA for the participants' liking ratings revealed no significant main effect of condition ($F(2, 66) = 2.316$, $p = .107$). This result did not support our hypothesis: Prior knowledge about a brand of one disliked beverage did not cause participants to dislike another beverage from the same brand.

In this experiment, the effect of prior knowledge of the brand on evaluation ratings was found only in experienced palatability evaluation, but not in liking evaluation. According to Sakai et al. (2001), as mentioned before, palatability and liking have similar meanings but qualitatively different aspects of evaluation for foods in some points. Thus, the results in this experiment supported Sakai and colleagues' notion.

Experiment 2

For Experiment 2, we hypothesized that prior knowledge with a palatable beverage causes people to evaluate other beverages from the same brand more palatable—in other words, positive hedonic transfer occurs. To test this hypothesis, participants in this experiment

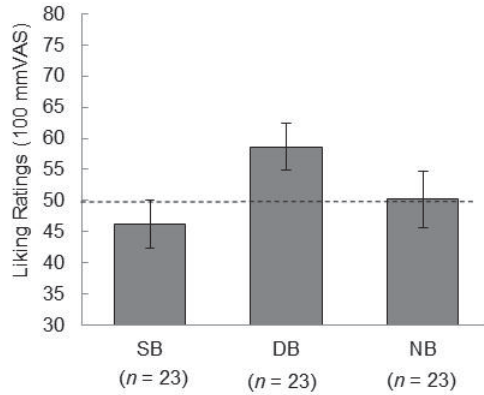


Figure 4. Averaged liking ratings (mean \pm standard error) of the target (neutral) beverage during the tasting in Experiment 1.

were asked to sequentially taste and evaluate a context beverage first and then a target (negative) beverage sequentially. Participants were grouped into one of three conditions, as in Experiment 1: SB, DB, and NB condition (Figure 1B). In this experiment, only participants in the SB condition were expected to generalize relatively positive evaluations for context beverage to the target (negative) beverage; in other words, participants in the SB condition would evaluate the target beverage as more palatable than would participants in the DB and NB conditions.

Method

Participants

Fifty-nine students at Tohoku University (30 women, $M_{\text{age}} = 20.9$ years, $SD = 1.4$ years) participated in this study. All participants were uninformed as to the real purpose of the study. Participants were randomly assigned to one of three conditions. After the experiment, participants were briefed on the true purpose of the study and signed informed consent forms.

Materials

Beverage stimuli were identical to those in Experiment 1, although the order of presentation differed. In this experiment, *A&W Cream Soda* was used as the context beverage and *A&W Root Beer* was the target (negative) beverage. The stimuli were stored in a refrigerator and prepared just before tasting. At the time of tasting, the stimuli were presented in clear plastic cups. Each cup contained 60ml of the stimuli.

Cans of *A&W Cream Soda*, *A&W Root Beer*, and *DAD's Root Beer* were used as visual stimuli. These stimuli served as brand information in the SB and the DB conditions. More specifically, cans of *A&W Cream Soda* and *A&W Root Beer* were introduced to the participants

in the SB condition and cans of *A&W Cream Soda* and *DAD's Root Beer* were introduced to participants in the DB condition. These visual stimuli were not used in the NB condition.

Procedure

In this experiment, although the order of evaluation (context to target) and the variety of beverages (*A&W Cream Soda* and *A&W Root Beer*) were identical between conditions, brand information provided before tasting differed.

In the SB condition, participants were presented with real cans of *A&W Cream Soda* (context) and *A&W Root Beer* (target) as visual stimuli of the same brand. In the DB condition, participants were presented with real cans of *A&W Cream Soda* (context) and *DAD's Root Beer* (target) as visual stimuli of different brands. Moreover, in the NB condition, participants were not provided with any visual stimuli.

All participants in this experiment tasted and evaluated *A&W Cream Soda* as the context beverage and *A&W Root Beer* as the target beverage. All other experimental procedures were identical to those in Experiment 1. Participants made their evaluations, in the same way as Experiment 1, on a 100-mm visual analog scale (VAS) for each dimension: expected palatability, experienced palatability, and liking.

Analysis

The scores were measured and calculated in the same way as in Experiment 1. These scores were averaged separately for each condition (i.e., SB, DB, and NB). A one-way ANOVA with *post hoc* analysis using Ryan's method was used to analyze the data.

Results and discussion

Palatability evaluation

One participant was familiar with the *A&W* brands, so this participant's data was excluded from the analysis. In addition, the data of participants whose ratings of experienced palatability or liking for the target beverage deviated from the mean by more than 2 *SD* in each condition were also excluded from each analysis (5% of the data in the palatability analysis and 3% of the data in the liking analysis).

Figure 5 shows the palatability ratings of the target beverage. A one-way ANOVA for the participants' expected palatability ratings revealed no significant main effect of condition ($F(1, 34) = 2.008, p = .166$). A one-way ANOVA for experienced palatability also revealed no significant main effect of condition ($F(2, 53) = .599, p = .553$). Thus, the results of this experiment did not support our hypothesis that prior knowledge about a brand of one palatable beverage will make people evaluate other beverages from the same brand as palatable; in other words, positive hedonic transfer did not occur.

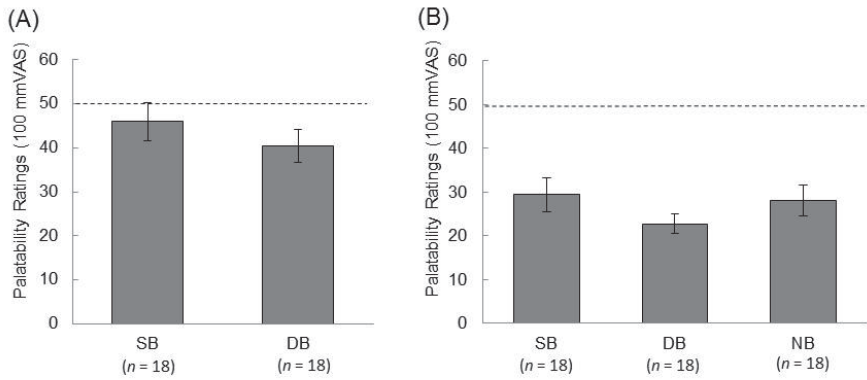


Figure 5. Averaged palatability ratings (mean \pm standard error) of the target (negative) beverage in Experiment 2. (A) Expected palatability before tasting. (B) Experienced palatability during tasting.

Liking evaluation

Figure 6 shows the liking ratings of the target beverage. A one-way ANOVA for the participants' liking ratings revealed no significant main effect of condition ($F(2, 53) = .537$, $p = .588$). This result did not support our hypothesis that prior knowledge about a brand of one liked beverage will make people like other beverages from the same brand. Thus, both in the palatability ratings and in the liking ratings, we could not show the effect of prior knowledge of the brands on the evaluation in positive direction.

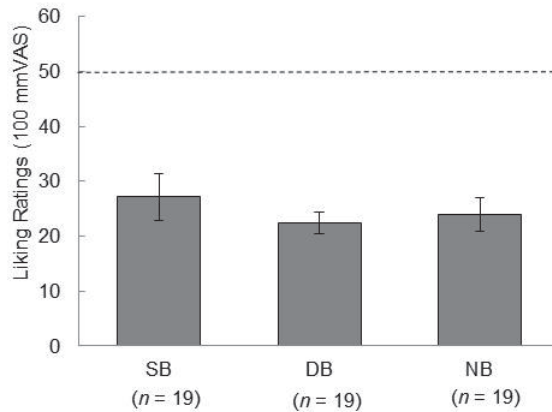


Figure 6. Averaged liking ratings (mean \pm standard error) of the target (negative) beverage during tasting in Experiment 2.

General Discussion

The results of the current study showed that negative hedonic transfer of the brand. The presence of negative hedonic transfer is further supported by the fact that the brands held no cultural value or familiarity for the evaluators, suggesting that brand categorization did in fact affect the palatability evaluation of the beverage.

The results from Experiment 1 might be explained by other phenomena, such as the mood congruency effect (e.g., Schwarz & Clore, 1983), rather than by brand categorization and hedonic transfer. The mood congruency effect suggests that people pay more attention to information that is congruent with their affective state. In applying this theory to the current study, the context (negative) beverage could have made participants feel bad, and thus they would have evaluated the target beverage as relatively unpalatable. However, this theory could not explain why participants in the DB and the NB conditions did not evaluate the target beverage as unpalatable. All participants in the experiment tasted the context (negative) beverage before tasting the target beverage, and thus, according to mood congruency effect, all participants should have evaluated the target as relatively unpalatable. In fact, this congruency effect was found only in the SB condition. Therefore, our results support a negative hedonic transfer.

Assimilation-contrast theory suggests that hedonic evaluations of foods and beverages are affected by those of preceding foods and beverages (Kamenetzky, 1959; Sakai et al., 2001) or by participants' expectations (Cardello & Sawyer, 1992). More specifically, this theory suggests that a "good" food preceded by a "poor" food might be evaluated as either more palatable (i.e., contrast effect) or as less palatable (i.e., assimilation effect) than when there is no preceding food. According to assimilation-contrast theory, the finding that participants in the SB condition evaluated the target beverage as less palatable than did participants in other conditions seems to be due to a negative assimilation effect between the context (negative) beverage and the target (neutral) beverage. Simultaneously, the finding also seems to be due to a positive contrast effect in the DB condition and NB condition. In the present study, unfortunately we cannot be sure that assimilation-contrast effect actually occurred because we did not include an experimental condition where only the target beverage was evaluated. To speculate whether assimilation-contrast effect has occurred or not, we compared palatability ratings for the target beverage in Experiment 1 and those for the context beverage in Experiment 2 (see Figure 7). More specifically, experienced palatability ratings for the target beverage in the SB condition and those in the DB condition in Experiment 1 (i.e., target *A&W Cream Soda* labeled *A&W*) were compared with averaged ratings of ratings for the context beverage in the SB condition and those in the DB condition in Experiment 2 (i.e., context *A&W Cream Soda* labeled *A&W*). A one-way ANOVA revealed a significant main effect of condition ($F(2, 77) = 3.479, p < .05$). Post-hoc analysis using Ryan's method showed that participants in the SB condition evaluated the beverage as less palatable ($M = 49.0, SD = 18.8$) than in the DB condition ($M = 62.8, SD = 15.0$) and in Experiment 2 (M

= 60.8, $SD = 21.4$) ($ps < .05$). There was no significant difference between ratings in the DB condition and the averaged ratings in Experiment 2 ($p = .705$). Also we compared experienced palatability ratings for the target beverage in NB condition in Experiment 1 (i.e., target *A&W Cream Soda* labeled nothing) with those in NB condition in Experiment 2 (i.e., context *A&W Cream Soda* labeled nothing). The result indicated that there was no difference in palatability ratings between the NB condition in Experiment 1 ($M = 60.6$, $SD = 15.8$) and in Experiment 2 ($M = 57.5$, $SD = 24.9$) ($t(39) = -.489$, $p = .628$). These results indicated that the context beverage affected palatability evaluation for the subsequent-presented target beverage only in SB condition. In our study, because all participants tasted the context (negative) beverage and then the target (neutral) beverage, assimilation-contrast theory predicts that the negative assimilation effect should have been found in all conditions. However, this effect was found only in the SB condition in our results. Therefore, assimilation-contrast theory cannot be used to explain our results. Nonetheless, to elucidate this concern, further research should examine not only SB, DB, and NB conditions but also the target-only condition in parallel.

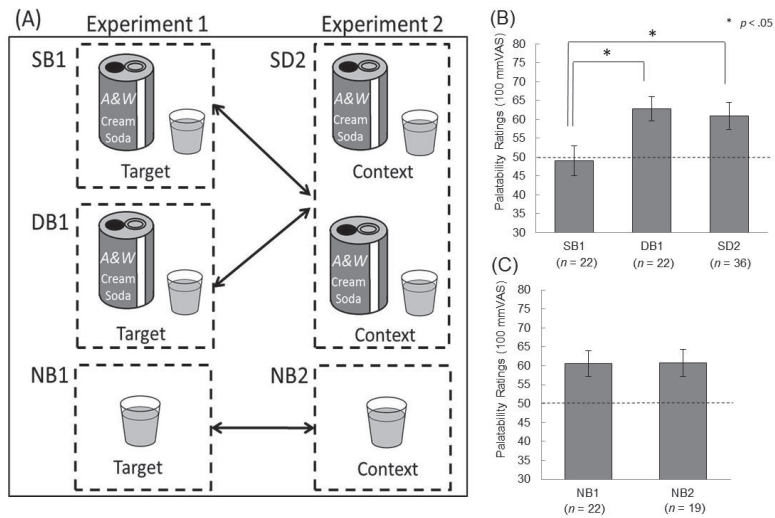


Figure 7. (A) Design of the inter-experiment comparison. Experienced palatability ratings for the target beverage in the SB and the DB condition of Experiment 1 (i.e., SB1 and DB1) were compared with averaged ratings of ratings for the context beverage in the SB condition and those in the DB condition of Experiment 2 (i.e., SD2). Also experienced palatability ratings for the target beverage in the NB condition of Experiment 1 (i.e., NB1) were compared with those for the context beverage in the NB condition of Experiment 2 (i.e., NB2). (B) Averaged experienced palatability ratings (mean \pm standard error) for the target beverage in the SB1 and DB1 conditions and those for the context beverage in the SD2 condition. (C) Averaged experienced palatability ratings (mean \pm standard error) for the target beverage in the NB1 condition and those for the context beverage in the NB2 condition.

There are some other procedural problems about the brand label used in this study. As mentioned before, there is a fairly large literature on the effect of label itself on evaluation of foods (e.g., McClure et al. 2004). In Experiment 1, we used the labels of *A&W* in the SB and *DAD's* in the DB conditions, respectively. This labeling could result in different effects on the subsequently-presented target beverage. And also in Experiment 2, we used the labels of *A&W* in the SB and *DAD's* in the DB conditions, respectively. The target beverage not only varies on whether participants think it is the same brand as the context, but it also varies on what it is labeled (i.e., *A&W*, *DAD's*, or non-labeled). Since labeling itself is suggested to affect hedonic evaluation of foods, these effects of labeling are considerable problems. To speculate whether the label itself affects participants' evaluation, we conducted additional comparison with the data in Experiment 1. We compared participants' palatability ratings for the context beverage in the SB condition (i.e., labeled *A&W*) and those in the DB condition (i.e., labeled *DAD's*) (Figure 8). The result indicated that experienced palatability ratings for the context beverage labeled *A&W* ($M = 25.9$, $SD = 12.9$) and those for labeled *DAD's* ($M = 23.4$, $SD = 11.3$) were not significantly different ($t(42) = 0.853$, $p = .400$). This result indicated that, at least in the present study, the labeling itself did not strongly affect on our findings. However, further research should clear these problems.

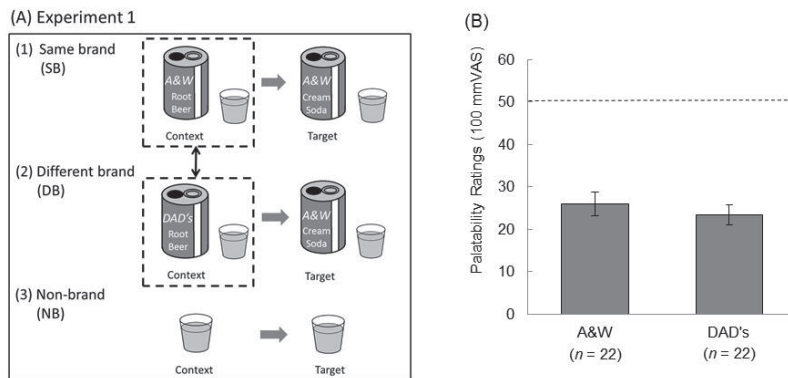


Figure 8. (A) Design of comparison between two labeled context beverages in Experiment 1. (B) Averaged experienced palatability ratings (mean \pm standard error) for the context beverage labeled *A&W* (i.e., in the SB condition) and *DAD's* (i.e., in the DB condition) in Experiment 1.

Aaker and Keller (1990) suggested that the negative evaluations of a given brand could be neutralized by elaborating on the attributes of a brand extension (i.e., a new product). If this prediction was the case in Experiment 1, participants in both the SB and DB conditions would have evaluated the target beverage equally. However, contrary to Aaker and Keller's prediction, participants in the SB condition evaluated the target beverage as less palatable

than did those in the DB condition. Thus, the current findings support Ratliff and colleagues' research, which suggested that once a negative attitude is made for a product of one brand, other products from the same brand are also negatively evaluated because of brand categorization.

Intriguingly, the experienced palatability evaluation and the liking evaluation differed; the effect of prior knowledge about the brand of the context beverage was found only in the experienced palatability, but not the liking. This difference between palatability and liking supported the notion of the previous study (Sakai et al. 2001). According to Sakai and colleagues, palatability reflects participants' hedonic evaluations for the sensory aspects of a food or beverage, whereas liking reflects their cognitive judgments on it. In other words, whereas palatability ratings reflect individuals' intuitive evaluation for their hedonic experiences, liking ratings reflect individuals' deliberative evaluation for the foods. Ratliff et al. (2012) showed that attitude to a product implicitly transfers to other novel products of the same brand, but not explicitly. Ratliff and colleagues interpreted that participants explicitly (and deliberatively) evaluate the products based on the product's quality itself, but implicitly (and of course intuitively) evaluate the products based on prior knowledge about the brand. Taken together, in the present study, it is speculated that when participants evaluated their liking, participants deliberatively made their evaluation based on the beverage's quality itself ("This soda seems to affect my weight, because of its sweetness, so I don't like it.") without using the prior knowledge about the brand (i.e., brand categorization). On the other hand, it is also speculated that when participants evaluated palatability, participants intuitively made their evaluation based on some other context factors, such as brand categorization. Therefore, the effect of brand categorization might be found only in the experienced palatability ratings. This difference between palatability and liking evaluation should be addressed more thoroughly in further studies.

In the present study, negative hedonic transfer was found (Experiment 1), but positive hedonic transfer was not (Experiment 2). Ratliff et al. (2012) found implicit attitude transfer not only in the negative direction but also in the positive direction. If this is true, once marketers successfully make their brand positive to consumers, the brand extension may also become desirable. On the other hand, especially in the domain of food consumption, there is considerable evidence of the negativity bias where the negative information is more influential in evaluation than positive information (e.g., Rozin & Royzman, 2001). This may explain the asymmetric results in this study: prior knowledge of context beverage (Experiment 1) was more influential than context beverage (Experiment 2) because the former was negative and the latter was positive (or neutral). However, there are some methodological problems in the design of Experiment 2. In Experiment 2, participants tasted two beverages sequentially in a relatively positive direction (i.e., from the positive (or neutral) context stimuli to the negative target stimuli), but this was perhaps an insufficient positive; in other words, participants had not tasted a context *positive* beverage followed by a target *neutral* beverage. Further research is needed to determine whether positive hedonic transfer can occur as well as the negative

hedonic transfer demonstrated in the present study.

In conclusion, our findings support the existence of hedonic transfer in palatability evaluations of a context beverage (hedonically negative) to those of a novel beverage (hedonically neutral) of the same brand. The results indicate that brand cues actually affect the palatability of food or beverage products, even if the brand has no cultural value or familiarity. This phenomenon likely reflects consumers' evaluative processes based on brand categorization during hedonic evaluation.

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