Title: If it Tastes Bad it Must Be Good: Consumer Naïve Theories and the Marketing Placebo Effect

Abstract: The original marketing placebo effect study shows that high price increases consumers’ expectations and enhances behavioral performance (Shiv et al., 2005). We find that several non-price variables (set size, scarcity, packaging, and taste) conceptually replicate this effect. Consumers hold naïve theories about the possible influence of many marketing variables, and these theories influence subjective beliefs and objective behavior.
If it Tastes Bad it Must Be Good: Consumer Naïve Theories and the Marketing Placebo Effect

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ABSTRACT

The original marketing placebo effect study shows that high price increases consumers’ expectations and enhances behavioral performance (Shiv et al., 2005). We find that several non-price variables (set size, scarcity, packaging, and taste) conceptually replicate this effect. Consumers hold naïve theories about the possible influence of many marketing variables, and these theories influence subjective beliefs and objective behavior.

Keywords: Marketing Placebo Effect; Scarcity; Pricing; Replication; Packaging; Naïve Theories
The marketing placebo effect refers to “the influence of consumers’ beliefs and expectations, shaped by experiences in their daily lives, on product judgments and services” (Shiv, Carmon, & Ariely, 2005). In three studies, participants consumed an energy drink purported to increase mental acuity followed by a series of word-jumble puzzles. Participants were told either they would be charged $1.89 for the energy drink (i.e., the regular priced condition) or 89 cents (i.e., the discounted priced condition). Not only did participants anticipate that the full priced (vs. discounted priced) energy drink would be more (vs. less) effective, but they also completed more (vs. fewer) puzzles after consuming the drink.

Naïve theories are informal, everyday, cause-effect explanations that may or may not conform to reality (Schwarz, 2004; Wyer, 2004). Consumers possess naïve theories about the possible influences of many marketing variables – including price (Rao & Monroe, 1989), set size (Chaiken, Liberman, & Eagly, 1989), scarcity (Parker & Lehmann, 2011), packaging (Campbell & Goodstein, 2001), and product taste (Eccles, 2006).

1. **Study 1: The Replication.** In Study 1, we manipulated the price (R$ 5,50 vs. R$ 1,00) of a fictitious, Brazilian drink (Pharmaton Power) that purportedly enhanced mental acuity and asked 58 Brazilians from the Universidade de São Paulo to consume the beverage before completing a puzzle where participants generated as many words as possible from a matrix of letters (adapted from Shiv et al., 2005).

Task performance. We compared performance (i.e., the number of words generated) on the word puzzle across price conditions. Consistent with Shiv et al. (2005), participants randomly assigned to the high priced ($M = 22.3$) condition outperformed participants assigned to the low priced ($M$
= 16.9) condition ($t(56) = 3.2, p < 0.01$), even though a different puzzle, sample, and price points were used.

2. **Study 2: Set Size.** Persuasion increases as the number of arguments supporting a conclusion increases (i.e., the length-implies-strength heuristic; Chaiken, Liberman, & Eagly, 1989). Hence, expectations should increase as the number of favorable attributes presented increases (H1). We manipulated the number of ingredients (two vs. six) featured in the beverage used in Study 1 and asked 59 Brazilians from the Universidade de São Paulo to consume the beverage before completing the same word puzzle.

*Task performance.* To test our hypothesis we compared performance (i.e., the number of words generated) on the word puzzle across ingredient conditions. In support of H1, we found that participants randomly assigned to the six ingredient ($M = 24.4$) condition outperformed participants assigned to the two ingredient ($M = 20.0$) condition ($t(57) = 2.5, p < 0.05$).

3. **Study 3: Scarcity.** Study 3 investigated the impact of product availability on product expectations. When consumers encounter a scarce product, they often attribute its limited availability to demand, which implies high quality (Parker & Lehmann, 2011). Hence, expectations should increase as product availability decreases (H2). We manipulated the shelf availability (equal to that of competitors vs. half) of a fictitious, American energy drink (Stamina) and asked 109 Americans from the University of Cincinnati to consume the beverage before completing a word puzzle similar to the one used in Study 1.
Task performance. To test our hypothesis we compared performance (i.e., the number of words generated) on the word puzzle across availability conditions. In support of H2, we found that participants randomly assigned to the scarce ($M = 16.6$) condition outperformed participants assigned to the abundant ($M = 13.6$) condition ($t(107) = 2.04, p < 0.05$).

4. Study 4: Taste and Packaging. Study 4 investigated the impact of taste and packaging on expectations. Eccles (2006) suggested that the taste of a cough syrup is likely to influence the occurrence or magnitude of a placebo effect. Consistent with this line of research, we hypothesized that expectations would increase as a beverage’s tastiness decreases (H3). This hypothesis is also consistent with classical conditioning theory. Since the flavor of most medicines is unpleasant (Sharma & Chopra, 2010), the repeated association of medicines with unpleasant flavors pairs substandard taste with efficacy expectations.

Compared to congruent designs, product designs incongruent with consumer expectations are perceived as more risky (Campbell & Goodstein, 2001) and evaluated more negatively (Mandler, 1982). We hypothesized that expectations would increase as a product’s packaging typicality increases (H4). We manipulated the taste and packaging typicality of a fictitious, Brazilian drink (Relaxan) that purportedly relaxed the user and enhanced memory and asked 145 Brazilians from the Universidade de São Paulo to consume the beverage before completing a memorization task where participants initially memorized a list of 24 words then attempted to recall the list. Manipulation checks confirmed that we successfully manipulated taste and packaging typicality.
**Task performance.** To test our hypotheses we compared performance (i.e., the number of words recalled) on the memorization task across the taste and packaging conditions. In support of H3, we found that participants randomly assigned to the substandard taste \((M = 13.2)\) condition outperformed participants assigned to the superior taste \((M = 11.5)\) condition \((F(1,141) = 13.5, p < 0.01)\). In support of H4, we found that participants randomly assigned to the typical packaging \((M = 13.5)\) condition outperformed participants assigned to the atypical packaging \((M = 11.1)\) condition \((F(1,141) = 28.5, p < 0.01)\). We did not predict or find a significant interaction \((F < 1)\).

This research replicated the original marketing placebo effect and demonstrated that variables other than price (i.e., set size, scarcity, packaging, and taste) also produce marketing placebo effects. Consumers hold naïve theories about the possible influence of many marketing variables, and these theories influence subjective beliefs and objective behavior. Understanding these theories is vital to managers who wish to influence post-consumption satisfaction, WOM, brand loyalty, and repeat purchase behavior.

Please refer to the Supplementary Online Appendix to download the data or for additional details regarding the methodology, stimuli, or measures.
REFERENCES

Campbell, M.C., & Goodstein, R.C. (2001). The moderating effect of perceived
risk on consumers’ evaluations of product incongruity: Preference for the norm.
Journal of Consumer Research, 28(3), 439-449.

processing within and beyond the persuasion context. In J. S. Uleman, & J. A. Bargh
(Eds.), Unintended thought (pp. 212-252). New York: Guilford.


(Eds.), Affect and cognition (pp. 1-41). Hillsdale NJ: Erlbaum.


perceptions of product quality: An integrative review. Journal of Marketing Research,
26(3), 351-357.


Sharma, V., & Chopra, H. (2010). Role of taste and taste masking of bitter drugs in
pharmaceutical industrieies- an overview. International Journal of Pharmacy and
Pharmaceutical Sciences, 2(4), 14-18.

Supplementary Data
Click here to download Supplementary Data: Replication Data.xlsx