How Much is That Soup?: An Evaluation of How Taste Is Influenced by Price

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How much is that soup? / 

An evaluation of how taste is influenced by price

by

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Abstract

Extrinsic and intrinsic cues play a vital role in the judgment and evaluation of food. The effect of price (i.e., extrinsic cue) on expected and actual liking ratings was studied. There were three independent experiments done in this study. Experiment 1 was done to determine the prices used in the two subsequent experiments. In Experiments 2 and 3 subjects rated the expected (Experiment 2) and actual (Experiment 3) liking of the same brand of tomato soup presented at three different price levels: $2.50 (low), $3.25 (average), and $5.50 (high). In addition to the liking judgment, subjects were asked to evaluate the quality of the ingredients, what kind of ingredients were used to make the soup, where the soup would be served, and what would be an appropriate name for the soup. We predicted that participants in Experiment 3 would have ratings that were influenced by their expectations which should be similar to subjects in Experiment 2. The ratings in Experiment 3 could either show assimilation or contrast to the expectation ratings of Experiment 2. The price of the soup did not affect expectations in Experiment 2. However, price did affect quality ratings in Experiment 3. Participants in the average price condition rated the soup significantly higher in quality of the ingredients than did participants in the low price condition when they tasted the soup. That is, assimilation occurred, the high price condition was not significantly different from the other two conditions. While there was an effect of price on the quality ratings of the soup ingredients this study did not show that the effect was related to expectations about the soup.
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How Much is That Soup?

An Evaluation of How Taste is Influenced By Price

Understanding factors that can enhance or reduce food liking and acceptance is important in helping people eat a healthy diet. It is also of interest to food companies and restaurateurs who want people to like their food and purchase it. While characteristics of the food such as taste and smell obviously play a role in liking and the perception of quality, more psychological factors have been found to play a role as well.

Food characteristics can be classified as food related factors and non-food related factors (Cardello, 1995). Food related factors or intrinsic cues are attributes of the food that cannot be changed per se (Cardello, 1995; Szybillo & Jacoby, 1974). Thus, intrinsic cues reflect the innate characteristics of the food such as its color, taste, appearance, and smell (Bredahl, 2004; Veale & Quester, 2009b). Non-food related factors, or what Szybillo and Jacoby (1974) called extrinsic cues are factors that are not embedded in the food. Hence, extrinsic characteristics can include, but are not limited to, product brand, packing, country of origin, and price.

After the actual taste or flavor of the food, the color of the food is probably the largest food-related contributor to liking for a food. For example, Zellner and Durlach (2003) were able to demonstrate how color (an intrinsic factor) influenced participants’ liking for a beverage and how refreshing it is rated. In this study, participants had to evaluated lemon, mint, and vanilla beverages that were presented in a variety of colors (clear, red, blue, green, yellow, orange, purple, and brown). Participants were then asked to rate the level of refreshment, intensity of the flavor, and hedonic value. Results showed that when the lemon and mint solutions were paired with the clear color, the
beverages had higher ratings on liking and refreshment than when paired with the darker colors. Participants were significantly influenced by the color of the beverage.

As it was explained by Zellner (2013) in her review of color-odor interaction, people associate colors with certain smells and flavors. This results in the rejection of foods that are atypically colored (Wadhwani & McMahon, 2012) and the reduction of pleasantness ratings when a solution is colored inappropriately (Zellner, Bartoli, & Eckard, 1991). This is an indication that intrinsic cues can either increase or decrease the acceptability and liking of a particular food. That is, consumers alter their hedonic-judgments based on intrinsic cues.

Extrinsic clues have also been found to have a strong effect on the hedonic ratings of a food [e.g., Allison & Uhl (brand), 1964; Lee, Shimizu, Kniffin, & Wansink, 2013 (labels); Veale & Quester, 2009a (country of origin)]. Although extrinsic characteristics represent external-food-factors, they affect how people experience food. For example, the neatness of the food’s presentation on the plate (Zellner, Siemers, Teran, Conroy, Lankford, Agrafiotis, & Locher, 2011), the color of the plate (Piqueras-Fiszman, Alcaide, Roura, & Spence, 2012) and the attractiveness of the presentation (Michel, Velasco, Gatti, & Spence, 2014; Zellner, Loss, Zearfoss, & Remolina, 2014) have been found to influenced individuals’ liking ratings. As demonstrated by Zellner et al. (2011) food presented in an orderly manner is more pleasant to the consumers than food scattered all over the plate. The results are interesting since presentation doesn’t have anything to do with the flavor of the food. Thus, the acceptance or rejection of food sometimes does not only depend on the gustatory and olfactory characteristics of the
stimulus. Extrinsic cues that surround food could potentially have an effect on an individual’s preference.

Clearly, extrinsic and intrinsic cues play a vital role in the judgment and evaluation of food (e.g., Allison & Uhl, 1964; Lee et al., 2013; Veale & Quester, 2009a; Veale & Quester, 2009b; Wadhwani & McMahon, 2012; Zellner & Durlach, 2003). One way that these cues might influence food judgment is through the formation of expectations (Szybillo & Jacoby, 1974) about the food itself. Price is an extrinsic cue that can be used to form quality expectations. Moreover, price seems to affect our experience of a food. It is possible that price influences quality and liking judgments by influencing expectations.

Cardello (1994) defined hedonic expectations as “the expressed degree of anticipated liking for a future stimulus” (p. 80). What expectations provide to the consumers is a subjective point that allows consumers to compare their hedonic expectations against the sensory properties of the stimuli. Wilson, Lisle, Kraft, and Wetzel (1989) argued that how people know what to feel and/or how they eventually form preferences (e.g., liking of a meal) is based primarily on a data driven process (i.e. intrinsic and extrinsic clues). They concurred with Cardello (1994) by explaining that how one eventually evaluates a stimulus is derived from the combination of people’s expectations and their actual reactions to the stimulus itself.

The question is what does that do to the experience of the food? By having a pre-conceived idea of how much one would like the stimulus, one could form a picture of what the stimulus will be like. Once consumers have experienced the sensory qualities of
the stimulus, expectations and actual sensory-experiences are compared and hedonic judgments are made. There are often differences between the expectation and actual experience of the stimulus and how we process that difference affects how individuals will evaluate food. If price affects expectations of the quality and liking for a food it can affect food evaluation in one of two ways: either assimilation or contrast could occur when evaluating the stimuli.

**Contrast** is one outcome of expectation on evaluation. Contrast is the shift in hedonic rating of the stimulus in the direction counter to the expectation possibly because the expectation is too disparate from the actual perception (Wilson et al., 1989). Contrast happens when there is a noticeable discrepancy between expectation and perception, enabling the expectation to move away from the perception (Zellner, Strickhouser, & Tornow, 2004). For example, Zellner et al. (2004) gave participants Jintan, a Japanese breath freshener, and labeled it as candy. By labeling the Jintan as “candy” it provided cues to the participants to form positive expectations about its taste (i.e., sweet). However, once participants tasted the breath freshener their initial expectations were very disparate from the actual perception (i.e., not candy-like) of the stimuli. This inconsistency caused the participants to rate Jintan’s taste as significantly worse than those participants who were told the Jintan was a mouth cleanser. When told it was candy contrast occurred since their evaluation shifts away from the original expectation (“candy like”); thus, causing the perception to move in the opposite direction of the expectation.

**Assimilation**, on the other hand, is the shift in hedonic rating of the stimulus in the direction of the expectation possibility because the expectation and actual perception are
close (Wilson et al., 1989). In a demonstration of assimilation Wansink, Payne, and North (2007) demonstrated how people reacted differently to the same Charles Shaw Cabernet Sauvignon wine when it was given in two different presentations. In this experiment, participants were given the same wine relabeled as either being from the state of California or North Dakota. Since the wine market considers the California wine to be more prestigious, researchers concluded that the participants would consider the California wine to be more enjoyable due to the presumed higher quality. Their findings suggest that participants did in fact use the label as a cue to form expectations about the wine. Those who received the California labeled wine rated the taste of the wine higher before (expectations) and after consumption than did those who drank the North Dakota labeled wine. Thus, the hedonic expectation for the California wine was positive and the expectation for the North Dakota wine was negative. Once participants tasted the wine, hedonic ratings were shifted toward the subjects’ expectations. Ratings were more positive for the wine labeled as Californian and more negative for the wine labeled as from North Dakota. That is, assimilation occurred since their expectation (e.g., the wine is going to be good) and actual perception (e.g., the wine is good) were close; thus, allowing the perception to move towards the expectation.

Studies conducted in the area of marketing and consumer research have shown how price, results in the assimilation of consumers’ preferences and perceptions of quality (e.g., Schindler & Warren, 1988) to what one would expect from a product of that price. McConnell (1968) reported an experiment where subjects rated product differences and quality in relation to price. In this study, negative adjectives such as “poor” and “fair” were used for the cheapest product whereas words such as “good” and
“very pleasant” were used to describe the expensive product. Although all participants were rating the same product, price influenced their judgments of the perceived quality of the stimuli.

In another study using wine, Almenberg and Dreber (2011), wanted to investigate how price information affected participants’ tasting experience when drinking wine. Thus, they presented participants with two different bottles, one which cost $40 and the other $5. Their hypothesis was that once participants have been presented with the bottle and price information, they would think: “This wine is expensive so it is going to be highly pleasant” or “This wine is cheap therefore it is not going to be a positive experience”. Results revealed that participants found the $40 wine to be more pleasant compared to the inexpensive bottle. Now, one could come to the conclusion that the gustatory components of a $40 dollars wine would be distinguishable with or without price information. On the contrary, the second condition of the study revealed that price did not have a significant effect on pleasant ratings when participants were informed of the price after drinking the wine. That is, price only had an effect when participants were conscious that they were drinking either a $40 or a $5 bottle of wine. This suggests that there was a change in perception and not evaluation of the wines.

One explanation of the previous results is that the market has conditioned consumers to think that high price correlates with better product characteristics (Waugh, 1928) and because they expect high price things to be better they judge them as better. Thus, one would think that this correlation between price and quality automatically drives consumers to assigned higher-positive ratings to expensive products. However, Plassmann, O'Doherty, Shiv, and Rangel, (2008) demonstrated the effect that price has in
the brain, specifically in a zone called medial orbitofrontal cortex (mOFC) which has been identified to encode actual experienced pleasantness. Plassmann et al. (2008) were able to demonstrate how this brain area increased in activity when participants were experiencing the high price version of the same stimulus (wine). This particular study, in addition to the previously described study by Almenberg and Dreber (2011), support the conclusion that the effect that price has on food is not just an effect on what subjects report (e.g., I will say I like it because it is expensive and I should like it). Extrinsic cues such as price might affect how we experience food.

However, it is also possible that some assimilation effects are not the result of perceptual shifts but of demand characteristics (Zellner et al., 2004). Wansink et al. (2007) for example, made the participants give their “expected liking” rating before tasting the wine. Thus, participants rate the wine first and then proceed to taste it in order to give the actual perception rating. There is the possibility that participants attributed positive characteristics to the wine or noticed discrepancies but choose to disregard them just to be consistent with their first ratings. That is, expectation ratings influenced subsequent liking ratings because participants gave the ratings they thought they should give due to the nature of the study (Zellner et al., 2004). As explained by Zellner et al. (2004) when there is a discrepancy between expected and the actual value of the stimulus and the discrepancy is noticed, if social influence is present, hedonic assimilation is more likely to result since participants feel their ratings must be similar to their expectations.

The question addressed in the following studies is whether price, an extrinsic cue, can alter expectations about the hedonic value of a food and if those expectations result in changes in actual liking of the food product. We used price to induce expectations about
the target stimulus. However, to avoid demand characteristic induced by social pressure, the present study included three independent experiments to measure and compare expectation and actual ratings given by participants.

In the following studies participants were given a bowl of tomato soup for evaluation. Experiment 1 was conducted to determine the prices used in the two subsequent experiments in terms of what would constitute “low-pricing”, “average-pricing” and “high-pricing” for soup. In Experiment 2 and 3 the soup was given in three different presentations: high-priced soup ($5.50), average priced soup ($3.25), and low priced soup ($2.50). In Experiment 2, participants were told the price of the soup and asked to look at the soup and imagined eating it. After that, they rated how much they expected to like the soup. In Experiment 3, participants were given the same soup and asked to eat as much as they wanted. Consequently, they rated the soup using a hedonic scale. An independent group of subjects was used for Experiment 3. This was done so that we could determine if any assimilation effect seen was the result of expectations and not demand characteristics due to the participants desire to be consistent between their expected and actual ratings.

Based on the previous findings, we predict that in Experiment 2 participants would have higher expectations for the soup that is higher in price. Thus, we expected subjects to rate the high-priced soup better than the low priced soup. In Experiment 3, we investigated whether those expectations would result in contrast or assimilation. If assimilation occurred it could not be due to demand characteristics because we used different subjects to provide expected and actual soup ratings. Therefore our subjects
should not feel obliged to give ratings to the soup that are similar to their expected ratings.

**Experiment 1**

The aim of this experiment was to determine prices for use in the two subsequent experiments in this study.

**Method**

**Participants**

Subjects were 27 undergraduate volunteers (26 females, 1 male) from Montclair State University Psychology department’s subject pool. This study was approved by the Montclair State University Institutional Review Board.

**Materials**

Subjects were given ¼ cup of tomato soup (Campbell’s Home Style: Harvest Tomato with Basil) in a white foam bowl (5 oz DART Bowls). Subjects were also provided with a cup of water in a 9 oz plastic cup, a white paper napkin, and a white plastic spoon.

**Procedure**

Prior to being given a bowl of soup, all subjects received a dietary questionnaire asking about their allergies and dietary restrictions to ensure their safe participation in the study. All the participants were tested individually. The researcher gave the participant a
bowl of soup, which they were told they should taste but, did not have to finish. They were instructed to notify the researcher when they were finished tasting the soup.

When participants indicated that they were finished eating, the researcher gave them a questionnaire. The questionnaire asked the participants two questions: how much did they like the soup and how much would they be willing to pay for the soup (in dollars and cents). In order to rate the soup, participants used a 201-point hedonic scale. On the scale -100 was labeled as “dislike extremely”, 0 was labeled as “neither like nor dislike”, and +100 was labeled as “like extremely”. Participants could use any number between -100 and +100. The last question required participants to record the price they thought was appropriate for a bowl of the same tomato soup if they were to buy it in a restaurant.

**Results/Discussion**

Subject’s average soup liking rating was 47.07 ($SD = 53.97$). To determine the prices for the subsequent studies, we calculated the 25th percentile, the 50th percentile, and the 75th percentile, of prices given for the perceived cost of soup. The low price was determined to be $2.50; the average price was $3.25; and the high price was $5.50.

**Experiment 2**

Subjects were randomly assigned to three groups. The three groups were based on the prices told to the subjects: $2.50 (low), $3.25 (average), and $5.50 (high) which were obtained from Experiment 1. The main purpose of this experiment was to find out if price could influence a subject’s expected liking of the soup. In addition, in order to be able to determine if price affected their quality judgments we asked subjects to evaluate
the quality of the ingredients, what kind of ingredients were used to make the soup, where the soup would be served, and what would be an appropriate name for the soup.

**Method**

**Participants**

Subjects were 72 undergraduate volunteers (69 females, 3 males) from Montclair State University Psychology department’s subject pool. Subjects’ mean age was 19.2 (SD = 2.1) years. This study was approved by the Montclair State University Institutional Review Board.

**Materials**

Materials were the same as in Experiment 1. However, silverware was not provided to participants. As a courtesy, subjects were provided with a cup of water in a plastic cup.

**Procedure**

All of the subjects were tested individually. Participants were randomly assigned to three groups: $2.50 (low), $3.25 (average), and $5.50 (high). Each group had 24 participants. At the beginning of the experiment, the researcher told the participants that the price of the soup was either $2.50, $3.25, or $5.50. Participants were instructed to just look at the soup and imagine eating it. Consequently, participants were left alone for three minutes so they could think about the soup. Once the three minutes were over, participants received a questionnaire with five questions. First they were asked to rate how much they expected to like the soup (just by looking at it) using the 201-point
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bipolar hedonic scale. They then rated the quality of the ingredients (low quality, average quality, or high quality). They were then asked what kind of ingredients they thought were used to make the soup (organic, artificial, fresh ingredients, or genetically modified) followed by indicating in what type of restaurant they thought the soup could be purchased (Small Bistro, Fast Food restaurant, Fine Dining restaurant, Diner, or Family restaurant). Lastly, they were asked to choose the most appropriate name for the soup from the following names (Hearty tomato soup, Tomato soup, Autumn tomato soup, or Soupe de tomâtes délicieuse). At the end, a debriefing form was given to disclose the real objective of the experiment.

Results/Discussion

A one-way analysis of variance (ANOVA) was conducted to test for differences in quality and liking ratings among the $2.50 (low), $3.25 (average), and $5.50 (high) groups. The analysis yielded no significant differences between groups for expected liking ratings for the soup \[ F(2,69) = 0.60, p = 0.94 \]. There was also no significant difference in the quality ratings of the ingredients \[ F(2,69) = 0.73, p = 0.93 \] (Table 1 & Table 2).

Chi-square tests of independence were used to determine if the price subjects were told the soup cost was related to the other assessments of the soup. Price did not have a significant effect on participants’ judgments of the type of ingredients used to make the soup, Chi-square(6) = 5.81, \( p = 0.44 \). In addition, price did not have a significant effect on participants’ judgments of the type of restaurant that the soup could be available to purchase, Chi-square(8) = 7.95, \( p = 0.44 \). Lastly, price did not have a
significant effect on participants' judgments of what would be an appropriate name for the soup, Chi-square(6) = 3.46, \( p = 0.74 \).

It was hypothesized that participants would have higher expectations for the soup that is higher in price. However, this study found no effect of price on expected liking or quality. Furthermore, participants did not make any significant associative judgments between price and ingredients, restaurant, and name relevant to the soup.

**Experiment 3**

The purpose of Experiment 3 was to determine how price affected the hedonic ratings of the soup once the soup was tasted. In addition, this study investigated whether the actual liking ratings of the soup were affected by price even though price did not affect expected liking ratings in Experiment 2. Since price did not influence liking expectations or any other expectations in Experiment 2, we anticipated no effect of price on these same evaluations once the soup was tasted. If expectations are what causes contrast and assimilation and both the soup and expectations concerning the soup are the same we should see no difference between the price groups on any of the ratings.

**Method**

*Participants*

Subjects were 72 undergraduate volunteers (61 females, 11 males) from Montclair State University Psychology department's subject pool. Subjects' mean age was 18.9 (SD = 1.6) years. This study was approved by the Montclair State University Institutional Review Board. All of the subjects were tested individually.
Materials

Materials for Experiment 3 were the same as for Experiment 1.

Procedure

Participants were randomly assigned to three groups: $2.50 (low), $3.25 (average), and $5.50 (high). Each group had 24 participants. Prior to being given a bowl of soup, all subjects received a dietary questionnaire asking about their allergies and dietary restrictions to ensure that they could safely participate in the study. At the beginning of the experiment, the researcher told the participant that the price of the soup was either $2.50, $3.25, or $5.50. Then, the researcher gave the participant the bowl of soup, which they were told they had to taste but, did not have to finish. They were instructed to notify the researcher when they were finished tasting the soup.

When participants indicated that they were finish eating, the researcher gave them a questionnaire. The questionnaire used in Experiment 3 was the same questionnaire used in Experiment 2. After completing the questionnaire, a debriefing form was given to disclose the real purpose of the experiment.

Results/Discussion

A one-way analysis of variance (ANOVA) was conducted to test for differences in quality of ingredients and liking ratings for the soup among the $2.50 (low), $3.25 (average), and $5.50 (high) groups. The analysis yielded no significant difference in liking ratings for the soup among the different groups \(F(2,69) = 1.41, p = 0.32\) (Table 3). However, there was a significant effect of the price told to participants
on their rating of the quality of the soup's ingredients, \( F(2,69) = 3.03, p = 0.05 \) (Table 4). A post hoc Tukey HSD test showed that participants in the average price condition rated the soup significantly higher in quality of the ingredients than did participants in the low price condition \( (p < 0.05) \). The high price condition was not significantly different from the other two conditions.

Chi-square tests of independence were used to determine if the price subjects were told the soup cost was related to the assessment of the soup. Price did not have a significant effect on participants' judgments of the type of ingredients used to make the soup, Chi-square(6) = 1.41, \( p = 0.96 \). In addition, price did not have a significant effect on participants' judgments of the type of restaurant that the soup would be available for purchase, Chi-square(8) = 10.24, \( p = 0.24 \). Lastly, price did not have a significant effect on participants' judgments of what would be the appropriate name for the soup, Chi-square(6) = 5.28, \( p = 0.51 \).

Price had a significant assimilative effect on quality ratings. There was a similar but not significant effect of price on liking. Unlike other studies (McConnell, 1968) the middle-priced item (in this case soup) was liked the best. Other studies have found a linear increase in liking/quality with price.

In addition, the effect of price on quality was found even though there was no effect of price on expected quality in Experiment 2. It is difficult to think of a mechanism other than expectations that would cause such a shift. These points are discussed in the following General Discussion.
General Discussion

It was hypothesized that the high price condition ($5.50), in Experiment 2 would result in subjects assigning higher expected hedonic ratings to the soup high in price. This is because liking and quality ratings should be positively related to those expectations produced by price. However, there were no significant differences between the high and the low price soup in this condition. That is, price did not cause any shifts in expectation ratings.

Since there was no shift in expectation in Experiment 2, shifts in liking or quality ratings in Experiment 3 were predicted to be unlikely due to either assimilation or contrast. However, the present study found one significant effect on quality in Experiment 3 and a similar but not significant effect on liking. Participants in the average price condition ($3.25) rated the soup significantly higher in quality than did participants in the low price condition ($2.50). That is, an assimilation effect between price and quality occurred.

Since different subjects gave expectation and actual ratings the increase in quality rating of the ingredients from the low to medium priced soup when the soup was tasted can’t be the result of experimental demand. Although subjects in Experiment 2 did not report that they expected the $3.25 soup to have higher quality ingredients than the $2.50 soup there was a clear effect of price when the subjects tasted the soup in Experiment 3. We do not know why subjects in Experiment 2 reported no differences in expected quality but we assume that the subjects in Experiment 3 did differ in their expectations produced by price. It is possible that the subjects were not motivated to give thoughtful
answers in Experiment 2 and might have been a bit bored or annoyed that they had to sit and look at the soup for so long (London & Monello, 1974) without eating it. That might have resulted in the lack of an effect of price in Experiment 2.

The effect that was seen in the present study differed from a study by McConnell (1968) who had participants taste and rate the same beer presented at three different price levels: high-priced beer, medium-priced beer, and low-priced beer. Results indicated that the high-priced beer was rated significantly higher in quality than the low-priced beer. That is, there was significant positive relationship between high-priced beer and quality which showed assimilation. The present study only found that participants in the average price condition (rather than the high price conditioned as predicted) rated the soup significantly higher in quality than did participants in the low price condition when they tasted the soup (Experiment 3). The high price condition was not significantly different from the other two conditions.

The findings by McConnell (1968) bring into question the possible interference of demand characteristics during the study since every participant got the opportunity to taste each one of the three beers at the same time. If an individual is given three different products, it is possible that an individual would be comparing each beer against each other to look for possible discrepancies (e.g., “The three beers must be different”), in order to be compliant with the design of the study. In the present study subjects only participated in one of the three conditions: $2.50 (low), $3.25 (average), or $5.50 (high). Thus, it is more likely that participants were evaluating the soup itself by basing their judgments only on the information that was given (i.e., price) rather than evaluating soups against each other (if they were to be given all three soups together).
The question is, if the increasing prices resulted in increasing quality expectations why didn’t the even higher quality expectation caused by the high-priced soup ($5.50) cause an even higher quality and liking rating than the medium-priced? It is possible that $3.25 could have been considered a reasonably high price for a soup but $5.50 was too high for any soup. That is, $5.50 is not a fair price (Huppertz, Arenson, & Evans, 1978). In the present study, it could be possible that participants rated the average priced food as significantly better because, besides matching their expectations, they thought the soup was being offered at a fair price. On the other hand, the $5.50 soup was not rated as high because maybe it was not as good as a soup participants have tasted before in that price range (thus, judging the price as unfair). That is, participants may have thought that the $5.50 price appeared too high for what they were getting, and therefore they reduced their liking and quality ratings for that particular soup.

This idea also fits with the contrast and assimilation literature which has shown that if a stimulus is not very different on the judged property from what is expected assimilation occurs. If it is too discrepant either contrast occurs (Herr, Sherman, & Fazio, 1983) or no effect occurs (Cogan, Parker, & Zellner, 2013). Clearly, contrast did not occur for the $5.50 price. Maybe the expectation subjects had for a soup of that price was just too high to even be compared with what they tasted. They therefore didn’t compare the soup to their expectation and just rated it as an ordinary soup.

This idea that they simply could not believe that they were tasting a $5.50 soup is supported by the fact that they were getting the soup in a Styrofoam bowl, in a laboratory. According to Han and Ryu (2009) price perception is influenced by various stimuli. That is, an individual takes price into consideration in conjunction with other variables to
make evaluative judgments. Hence, by taking into consideration the ambient conditions, décor and artifacts (e.g., furniture) an individual would give higher ratings to a hamburger eaten at a small Bistro than if the same hamburger was to be eaten at a fast food restaurant (Han & Ryu, 2009). Thus, it is possible that participants wouldn’t be expecting to eat a “fancy” soup in a lab where the décor is pretty much nonexistent.

Further research is needed to determine the effect of expectations due to price on quality and liking for foods. In many studies high prices have been found to increase quality judgments (McConnell, 1968; Szybillo & Jacoby, 1974; Veale, & Quester, 2009b). However, this study suggests that the increase in perceived quality caused by price might only occur up to some particular price point. After that, any advantage of a “premium” price will be lost.

Since there is a perception that higher price equals higher value, one focus of research done in this area (marketing and consumer research) is to determine if price is a significant contributor to perceived quality and liking. However, it might be necessary to further investigate at what point (if any) price of a food item becomes too expensive or “not worth it” for consumers. As our results suggest, there is the possibility that a potential curvilinear relationship exist between price and quality. It is important to food companies and restaurants to know the price where consumers will perceive a food to be of the highest quality and liked the most. At that price the retailer is getting the most money for the food and the consumer is getting the most enjoyment.

This study is not free from limitations. First, our participants were college students who might get limited exposure to what could be consider as “fancy” meals. It
is hard to speculate if participants have a concrete idea of what a particular soup of a particular price should look and taste like. This is especially true of the high priced soup ($5.50).

Second, as mentioned before, in Experiment 2 participants looked at the soup for three minutes which could have caused participants to become bored, disengaged and withdrawal from the experiment completely. As demonstrated by Gorn, Goldberg and Basu (1993) how one is feeling could positively or negatively bias the evaluation of a product. In this experiment, participants were primed to either be in a good mood or bad mood by listening to a previously “liked” or “disliked” music for three minutes. After that, the researchers asked participants to rate a new set of stereo speakers. As it was hypothesized, those participants in a bad mood rated the speakers less favorably than the participants in the good mood conditions. Thus, it is possible that their evaluative ratings were reflective of their moods (Edell & Burke, 1987; Gorn et al., 1993).

Third, as demonstrated by Han and Ryu (2009) price perception is influenced by ambient conditions of the restaurant when making overall quality and hedonic judgements. The present study did not take those variables into consideration when presenting the tomato soup. It is possible that presenting the soup in a ceramic bowl rather than a Styrofoam one would have resulted in differences in expectation ratings in Experiment 2 and larger effects on quality and liking ratings in Experiment 3.

Lastly, something to consider is that price is relative and what is high price to one individual may not be high price to another. There is the possibility that some participants may have perceived the low priced soup ($2.50) as expensive and others as
too cheap (and likewise with the other soups). Thus, it would seem reasonable for a
future study to ask participants at one given point their thoughts about the price of the
soup. This would give us an understanding as to how participants perceive pricing and if
this has a direct effect on quality and liking ratings.
References


Piqueras-Fiszman, B., Alcaide, J., Roura, E., & Spence, C. (2012). Is it the plate or is it the food? Assessing the influence of the color (black or white) and shape of the...
HOW MUCH IS THAT SOUP?

plate on the perception of the food placed on it. *Food Quality and Preference, 24*(1), 205-208.


*Appetite, 77, 31-35.*
### Soup Liking Ratings

<table>
<thead>
<tr>
<th>Variables</th>
<th>Means</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. $2.50 low group</td>
<td>43.70</td>
<td>45.50</td>
<td>24</td>
</tr>
<tr>
<td>2. $3.25 average group</td>
<td>39.41</td>
<td>46.39</td>
<td>24</td>
</tr>
<tr>
<td>3. $5.50 high group</td>
<td>41.16</td>
<td>44.38</td>
<td>24</td>
</tr>
</tbody>
</table>

Note: SD = Standard Deviation. *n* = number of participant
Table 2  
Quality Ratings

<table>
<thead>
<tr>
<th>Variables</th>
<th>Means</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. $2.50 low group</td>
<td>1.91</td>
<td>.40</td>
<td>24</td>
</tr>
<tr>
<td>2. $3.25 average group</td>
<td>1.87</td>
<td>.44</td>
<td>24</td>
</tr>
<tr>
<td>3. $5.50 high group</td>
<td>1.87</td>
<td>.44</td>
<td>24</td>
</tr>
</tbody>
</table>

Note: SD= Standard Deviation. n=number of participants
Table 3

*Soup Liking Ratings*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Means</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. $2.50 low group</td>
<td>32.37</td>
<td>52.80</td>
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</tr>
<tr>
<td>2. $3.25 average group</td>
<td>53.33</td>
<td>43.23</td>
<td>24</td>
</tr>
<tr>
<td>3. $5.50 high group</td>
<td>43.87</td>
<td>47.83</td>
<td>24</td>
</tr>
</tbody>
</table>

Note: SD= Standard Deviation. \( n \)=number of participants
Table 4  
Quality Ratings

<table>
<thead>
<tr>
<th>Variables</th>
<th>Means</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. $2.50 low group</td>
<td>1.79</td>
<td>.58</td>
<td>24</td>
</tr>
<tr>
<td>2. $3.25 average group</td>
<td>2.16</td>
<td>.56</td>
<td>24</td>
</tr>
<tr>
<td>3. $5.50 high group</td>
<td>2.00</td>
<td>.41</td>
<td>24</td>
</tr>
</tbody>
</table>

Note: SD= Standard Deviation. n=number of participants