

Are Teens Willing to Pay More for Their Preferred Goods?

Shawn R. Johnson Jr.¹, Jason Scott¹

¹ The Neighborhood Academy, Pittsburgh, PA

SUMMARY

Past research has suggested that brand-loyal adults are willing to pay more for their preferred brand. This study investigated if African American teens are willing to pay more for their preferred brand of honey bun and if, in a real store scenario, a price predetermined by a survey of brand-loyal customers will generate the highest profit. By using a survey of customers who prefer a name-brand honey bun, we found that brand-loyal customers reported they were willing on average to pay \$1.26, while non-brand-loyal customers were willing to pay only \$1.08. The surveyed price was used in a real store scenario by setting three prices: one lower than the surveyed price, one at the surveyed price, and one higher than the surveyed price. Customers shopped at the store regularly without instruction during the three weeks of price changes. We found the surveyed price produced the most profit. Our findings suggest that not just brand-loyal adults, but also brand-loyal African American teens are willing to pay more for a preferred brand of food product. Additionally, our study shows that surveying customers is an effective way to identify brand-loyal consumers and determine the ideal price to maximize profit for a particular product.

INTRODUCTION

Brand loyalty refers to a person's commitment to a product or company and preference for that brand over others (1,2). Many different factors affect the amount of brand loyalty a person has. For example, one study found that brand trust (when the consumer has feelings of reliability, honesty, and confidence in the brand) and brand affect (the brand's ability to cause positive emotions in the customer) are antecedents of brand loyalty. Researchers found a positive effect of both brand trust and brand affect on brand loyalty as well as on price tolerance, with brand-loyal consumers willing to pay more for their preferred brand (3). Further research has investigated the maximum price brand-loyal consumers are willing to pay for their preferred brand compared to non-loyal consumers of the same product (1). In that study, a questionnaire was created to assess participants' brand loyalty to a specific brand of toothpaste, and asked questions regarding how much the participant would pay for the preferred brand. The results of the study revealed that, on average, brand-loyal participants were willing to pay 10.3% more than non-loyal participants for their preferred name-brand toothpaste.

In addition to brand loyalty, advertisements and promotions can also affect a consumer's attention towards a particular brand. A study analyzing the purchasing habits of 14,000

German families concluded that brand-loyal customers are attracted to name-brands over generic brands and are willing to pay more for their favored product (4). Overall, this research demonstrates that the majority of consumers are willing to pay more for a preferred brand.

However, little research has investigated whether these findings about brand-loyal adults can be extended to brand-loyal teenagers. Because teenagers have fewer financial responsibilities than adults, they may make different decisions on how they spend money. The average U.S. teenager is estimated to spend \$428 monthly, with African American teens spending 6% more than average on a monthly basis, and one-third of African American teens purchasing food with their own money (5). These spending habits affect advertiser spending choices; in 2004, advertisers spent \$1.6 million on cookie and cracker advertisements targeted towards African Americans (5). Therefore, understanding how brand loyalty affects the spending habits of African American teenagers is of significant interest to product manufacturers and retailers. Most of the studies done focused on brand loyalty and its connection to consumers' willingness to pay more for a product using surveys (1, 2, 3). The current study is unique because in addition to a survey, the brand-loyal price premium will be tested in a real store scenario to determine if that price will maximize profit. We hypothesize that people who say they are more brand loyal to specific brand will be willing to pay more for their preferred brand. This agrees with previous research (1, 3, 4). Also, we hypothesize that the average price premium of brand loyal customers from the survey will cause the highest profit in a real store scenario.

RESULTS

The purpose of this study is to see if brand-loyal teenagers are willing to pay more for their preferred name brand product, as has been previously demonstrated for brand-loyal adults. Additionally, the survey data collected to assess brand loyalty was used to calculate an optimal product price, which was then tested in a real store scenario to assess whether the chosen price produces the most profit for a store. We hypothesize that people who say they are more loyal to a specific name brand (Krispy Kreme honey buns) will be willing to pay more for their preferred brand. This agrees with previous research (1, 3, 4). Also, we hypothesize that the average price premium of brand-loyal customers from the survey will generate the highest revenue in a real store scenario.

Comparing Brand Loyalty Price Willing to Pay for Non-Brand Loyal Willingness to Pay

A total of 126 students, in grades 6-12, were surveyed regarding their preferred brand of honey bun and how brand loyal they were to their preferred brand. The 94 students who reported preferring Krispy Kreme honey buns also reported the maximum amount they were willing to pay. The sample was split into brand-loyal and non-brand-loyal customers using the median score on the brand loyalty questions. Seventy-one students were brand-loyal. A t-test for independent samples revealed that there was a significant difference between a brand-loyal customer's willingness to pay for a Krispy Kreme honey bun compared to a non-loyal customers willingness to pay ($t(92) = -2.13, p = 0.018$) (Figure 1). On average, brand-loyal customers were willing to spend \$1.26 for a name-brand honey bun (SD = 0.42), while non-brand-loyal customers were only willing to spend \$1.08 (SD=0.34) (Figure 1).



Figure 1. Willingness to Pay for Krispy Kreme Honey Buns. The price customers are willing to pay for a name brand honey bun is higher for brand loyal customers than non-brand loyal customers ($p=0.018$).

Maximizing Profit in a Real Store Scenario

In week one, Krispy Kreme honey buns were sold at \$1.00, a lower cost than either brand-loyal or non-brand-loyal customers reported they were willing to spend. In this week, there were 30 Krispy Kreme honey buns sold and 34 Duchess honey buns (an alternative brand) sold, each for \$0.75 (Table 1). However, the supply cost for Krispy Kreme honey buns was \$0.83 each, compared to \$0.37 each for Duchess honey buns. Although more revenue was earned from Krispy Kreme sales, a profit of only \$5.07 was generated from these sales, compared to a profit of \$12.82 from sales of Duchess honey buns. Under this pricing scheme, consumers who reported being brand-loyal to Krispy Kreme bought their preferred brand 50% of the time; customers who self-identified as brand-loyal to Krispy Kreme purchased 20 Krispy Kreme honey buns and 20 Duchess honey buns during week one. In week two, the price for Krispy Kreme honey buns was raised to \$1.25 to match the average price that brand-loyal consumers reported they were willing to pay when surveyed.

	Week 1 Krispy Kreme \$1.00 Duchess \$0.75	Week 2 Krispy Kreme \$1.25 Duchess \$0.75	Week 3 Krispy Kreme \$1.50 Duchess \$0.75
Total Number of Krispy Kreme Sales	30	42	18
Total Number of Duchess Sales	34	35	40
Total Supply Cost of Krispy Kreme	\$24.93	\$34.90	\$14.96
Total Supply Cost of Duchess	\$12.68	\$13.06	\$14.92
Krispy Kreme Revenue	\$30	\$52.50	\$27
Duchess Revenue	\$25.50	\$26.25	\$30
Krispy Kreme Profit	\$5.07	\$17.60	\$12.04
Duchess Profit	\$12.82	\$12.94	\$15.08
Total Profit	\$17.89	\$30.54	\$27.12
Number of Krispy Kreme Purchases by Customers who are Brand Loyal to Krispy Kreme	20	19	9
Number of Duchess Purchases by Customers who are Brand Loyal to Krispy Kreme	20	19	14

Table 1. Weekly Sales Statistics for Krispy Kreme and Duchess Honey Buns. The table displays the sales count, revenue, cost, and profit for both brands of honey buns. Each column represents a different price charged for Krispy Kremes in a given week. The price charged for Krispy Kreme honey buns during the second week was determined by calculating the average price surveyed brand-loyal consumers reported they would be willing to pay.

In week two, 42 Krispy Kreme honey buns were sold, compared to 30 Krispy Kreme honey buns sold in week one (Table 1). Similarly, more Duchess honey buns were sold in week two than week one, with 34 sold in week one and 35 sold in week two. Krispy Kreme honey buns generated a higher revenue in week two (\$52.50 generated in week two compared to \$30.00 generated in week one), but Duchess revenue did not change from week to week (\$26.25 generated in week two compared to \$25.50 generated in week one). This price scheme produced the largest total honey bun profit for the store (\$30.54 in week two compared to \$17.89 in week one). The brand-loyal purchasing rate did not change from 50% of purchases.

In week three, the price was raised to \$1.50 for a Krispy Kreme honey bun (higher than the average price surveyed brand-loyal consumers reported being willing to pay), and Krispy Kreme sales decreased from 42 sold in week two to 18 sold in week three (Table 1). Conversely, Duchess honey bun sales increased from 35 in week two to 40 in week three. Consequently, Krispy Kreme revenue decreased and Duchess revenue increased from week two to week three. This suggests the price change made people abandon their

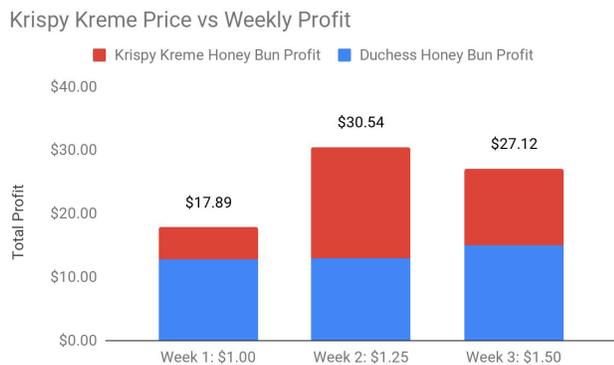


Figure 2. Krispy Kreme Price vs. Weekly Profit. The figure shows how much honey bun profit the store made from Krispy Kreme's price changes, separated by brand of honey bun. The label above each column represents the total honey bun profit.

preferred brand (Krispy Kreme); this conclusion is also supported by our finding that Krispy Kreme honey bun purchase frequency for brand-loyal customers dropped from 50% in weeks one and two to 40% in week three. Interestingly, the overall profit was almost the same in week three as it was in week two (\$27.12 earned in week three compared to \$30.54 earned in week two), suggesting people might be motivated to buy the more profitable Duchess honey bun when their preferred brand of honey bun (Krispy Kreme) was priced too high.

DISCUSSION

We hypothesized that people who self-report that they are loyal to a name brand (Krispy Kreme) will be willing to pay more for their preferred brand. We also hypothesized that using survey data to calculate the average price brand-loyal customers are willing to pay for a product would allow us to determine the price point that would generate the highest revenue in a real store scenario. Both hypotheses were supported by our data. Brand-loyal participants were willing to pay an average of \$1.26 for a Krispy Kreme honey bun, while non-brand-loyal participants were only willing to pay \$1.08 for the same product, supporting the claim that brand-loyal customers will pay more for a product than non-brand-loyal customers. During week two, when Krispy Kreme honey buns were priced at the average price brand-loyal customers reported being willing to pay, the store generated higher revenue than was generated when Krispy Kreme honey buns were priced at a lower or higher value (weeks one and three, respectively).

We found that brand-loyal teenagers, similar to brand-loyal adults (1), are willing to pay more for a brand compared to a non-brand-loyal consumers. Our results were generally consistent with those seen in previous studies; for example, while a study surveying consumers about their willingness to pay for toothpaste concluded that brand-loyal customers were

willing to pay 10.3% more than a non-brand loyal consumer for their preferred toothpaste (1), our study found that brand-loyal teenagers were willing to pay 16.7% more for their preferred brand on honey bun. However, our study expanded upon these survey results to find that pricing a product at the average price brand-loyal consumers are willing to pay for it generates the maximum profit in a real store scenario; since previous research did not test survey data in a similar scenario, our work contributes novel information to the field. While there are concerns that self-reported survey data may not accurately reflect consumer behavior, our research supports the idea that, at least in this context, survey data is an accurate reflection of the amount consumers are willing to pay for a product.

There are some possible confounding factors that may have affected this study. The first possible source of error was that the store was not allowed to sell to middle-schoolers (6-7th graders) on the last two days of the last week, as administrators claimed that the store was causing them to be disruptive in class. This may have altered our results, but we do not feel that the effect was significant enough to decrease confidence in our overall conclusions. In week two, 26% of Krispy Kreme honey buns were bought by middle schoolers, but during the first two days of week three, only 5.5% of sales were to middle schoolers. Therefore, we believe that the exclusion of middle-school consumers from the last two days of week three should not have affected our results in any meaningful way, as the price change likely caused them to stop buying Krispy Kreme honey buns independently of the administrative ban. Other external events that may have influenced our experimental results were several snow days during week two that prevented sales two days out of the week before school was canceled because of the snowstorm. To obtain a full set of data at these price points, week two data was gathered the following week instead. This might have caused consumers to get used to the new price because they were exposed to that pricing scheme for a longer amount of time; under this hypothesis, when the Krispy Kreme honey bun price was raised to \$1.50 in week three, they may have reacted in a more negative way due to additional familiarity with the week two price.

We recommend to future researchers to run the store under each pricing scheme for one month rather than one week to collect more robust data. We believe that this would allow consumers to get used to each price change and remove any shock to the consumers caused from the price change happening every week. Future studies could also be expanded to investigate different types of products, like a comparison of name-brand tea (Pure Leaf or Gold Peak) to a generic brand (e.g., Taster's tea). These proposed experiments would allow researchers to determine if our findings can be generalized to all snack foods and drinks, or if particular products are subject to different purchasing behavior.

In conclusion, we recommend that business owners use surveys of potential customers to help determine optimal

pricing for a name-brand product compared to a comparable generic product. Furthermore, entrepreneurs should use a survey to measure the amount of brand loyalty their target consumers have towards particular brands so marketers better understand their market segment and how to optimize product pricing to maximize business revenue.

MATERIALS AND METHODS

The purpose of this study was to investigate if brand-loyal African American teenagers (ages 12-18) were willing to pay more for a name-brand honey bun versus a generic brand honey bun in a real-life scenario. To assess this, we used a self-created survey given to the entire student body of 126 African American students attending a college preparatory school enrolled in grades 6-11. The student body contains 14% 6th graders, 14% 7th graders, 18% 8th graders, 15% 9th graders, 23% 10th graders, and 16% 11th graders. The school is 52% male, and 48% female in the surveyed grades.

Before completing the survey, the participants were given two types of honeys bun to sample. The first one was the name-brand "Krispy Kreme" honey bun, and the other was a "Duchess" honey bun, a common generic brand of bakery items known for their low cost and wide accessibility in local corner stores in the area of the school. On the survey, participants were asked to indicate which of the two honey buns they preferred. Additional questions were designed to assess brand loyalty; the questions were a combination of self-created questions and questions adapted from a similar study (3). Each question required a response from 1-5 to describe how they agreed with the statements, with 1 being "not at all" and 5 being "very much." Finally, surveyed students who initially indicated that they preferred Krispy Kreme honey buns over Duchess honey buns were asked how much they would pay for a Krispy Kreme honey bun by choosing from a list of prices ranging from \$0.75 to \$2.00. The participants were considered brand-loyal if they had median score of 28 or higher on the brand loyalty questions. This cutoff was set at the median score from all surveyed participants, meaning that customers considered brand-loyal are more brand-loyal than the average consumer, while customers considered non-brand-loyal are less brand-loyal than the average consumer. Our participant pool consisted of 71 brand-loyal consumers and 55 non-brand-loyal consumers. Ninety-four of the participants preferred Krispy Kreme honey buns and 32 of the participants preferred Duchess Honey Buns.

The price name-brand-loyal customers were willing to pay was determined by taking the average of all responses to the last question from the survey. The average was calculated at \$1.26; however, the price value used in the real-store scenario was rounded down to \$1.25, as the store does not use pennies and the true average price would have therefore brought up too many problems with change. To test if this price would produce the highest profit, we also selected a price lower and a price higher than the average. Therefore, Krispy Kreme honey buns were sold for \$1.00 (lower price)

during week one, for \$1.25 (surveyed price) during week two, and \$1.50 (higher price) during week three.

The school store is run by the study authors out of an office during high school and middle school lunch periods, as well as during an afternoon snack period for a total of 90 minutes each day. The store is open four days a week. Participants' purchases were tracked by store receipts, which included customers' names on them and could therefore be matched with their survey responses. During the four weeks prior to the start of the experiment, the store averaged around 38 customers making an average of \$412.75 in revenue per week.

Acknowledgements

We would like to acknowledge the people that helped us operate the store: John McClelland, Brent Jernigan, Joe Roenker, Justin Eiding, Debbie Krochka, Andre Jones, Jamir Howard, Demetri Bose, Shakir Daniels, Jelani Seals, Jaiden Brooks, Quinn Myers, Hailey Pressley, and Tamar Reed.

Received: March 18, 2019

Accepted: September 02, 2019

Published: September 28, 2019

REFERENCES

1. Jackson, Rachael. "A Lighter Wallet Due to Loyalty: The Influence of Brand Loyalty on the Amount a Consumer is Willing to Pay for Their Preferred Brand." *Sentience*, vol. 3, 2010, pp. 12-15.
2. Bryon, Sharyn, *et al.* "Three Conceptualisations of Loyalty." Australia New Zealand Marketing Educators Conference, 1997.
3. Kabadayi, Ebru Tümer, and Inci Aygün. "Determinants of Brand Loyalty and The Link Between Brand Loyalty and Price Tolerance." *Bogazici Journal Review of Social, Economics and Administrative Studies*, vol. 21, no.1-2, 2007, pp. 21-35, doi:10.21773/boun.21.1.2.
4. Janine, Jens-Peter, *et al.* "Price Promotion and Brand Loyalty: Empirical Evidence for the German Ready-to-Eat Cereal Market." *European Journal of Marketing*, 2011, vol.49, pp. 1-11.
5. McGinnis, J. Michael, *et al.* Food Marketing to Children and Youth: Threat or Opportunity? *National Academies Press*, 2006.

Copyright: © 2019 Johnson Jr. and Scott. All JEI articles are distributed under the attribution non-commercial, no derivative license (<http://creativecommons.org/licenses/by-nc-nd/3.0/>). This means that anyone is free to share, copy and distribute an unaltered article for non-commercial purposes provided the original author and source is credited.