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Brand Awareness Effects on Consumer Decision Making for a Common, Repeat Purchase Product: A Replication

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This article is a replication of a study of Hoyer and Brown that used a controlled experiment to examine the role of brand awareness in the consumer choice process. The replication used the same methods, but with a different (but similar) product category, a larger sample, and a sample group that included experienced as well as inexperienced consumers. Results support the original study's findings that brand awareness is a dominant choice tactic among awareness group subjects. Subjects choosing from a set of brands with marked awareness differentials showed an overwhelming preference for the high awareness brand, despite quality and price differentials. They also made their decisions faster than subjects in the nonawareness condition and sampled fewer brands. In a surprising finding, respondents use of the awareness choice heuristic did not seem to decline steadily over repeated choice trials, but rather showed something of a U-shaped pattern, with subjects returning to the high awareness brand in the latter choice trials. Little support was found for Hoyer and Brown's finding that subjects in the no brand awareness conditions chose the quality brand on the final trial more often that those in the awareness differential conditions. In summary, awareness differentials seem to be a powerful influence on brand choice in a repeat purchase consumer product context. Consumers show a strong tendency to use awareness as a heuristic and show a degree of inertia in changing from the habit of using this heuristic. J BUSN RES 2000. 48.5–15.

It has long been held that one of the major goals of marketing is to generate and maintain brand awareness, this is seen as particularly important in low-involvement situations where consumers may engage in little active search for information to aid choice. Repetition of advertising is used to keep the brand in the consumer's consideration set—the set of brands to which a consumer gives serious attention when making a purchase decision. Brand awareness has been argued to have important effects on consumer decision making by influencing which brands *enter* the consideration set, and it also influences which brands are selected *from* the consideration set (Macdonald and Sharp, 1996). Brand awareness affects the latter through its use as a heuristic for choice (e.g., "I'll choose the brand I know") and its influence on perceived quality, ("I've heard of the brand, so it must be good"). A study of Hoyer and Brown (1990) carried out pioneering research at the individual decision level by examining the effects of brand awareness on consumer choice. It examined the impact of brand awareness as a heuristic, as well as exploring its effect on perceived quality.

Little research has examined the effect of brand awareness on choice. Consumer behavior theory in both the marketing and economic literature has tended to see product choice as a highly involving problem-solving process (Foxall, 1992). Marketing research has focused upon more elaborate knowledge structures than awareness, such as attitude and brand image. However, a study of Hoyer (1984) indicated that, in many purchase situations, the consumer is a passive recipient of product information who spends minimal time and cognitive effort choosing brands. In situations involving common, repeat purchase products, it may be that consumers choose the brand on the basis of a simple heuristic (e.g., brand awareness, package, price). More detailed evaluation, if it happens at all, occurs subsequent to purchase (Ray, Sawyer, Rothschild, Heeler, Strong, and Reed, 1973; Olshavsky and Granbois, 1979).

The concept of habitual consumer behavior is not new, and limited problem solving has been acknowledged in several cognitive decision-making models of consumer choice (e.g., Engel, Blackwell, and Miniard, 1993; Engel, Blackwell, and Kollat, 1978). East points out, however, that there is contradic-

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tion in this inclusion: if choice is habitual, than there is no decision in the sense of conscious cognitive processing before action, *habits, if they account for much of consumption, need a better explanation than absence of thought* (East, 1996). Behavioral theories are one approach to this gap in consumer behavior theory, brand awareness/salience-based choice theory is another potential direction that is still cognitivist in nature but needs not to be predicated upon the assumption of conscious cognitive processing and attitude formation prior to purchase.

This article reports on a recent replication of Hoyer and Brown's (H&B) (1990) study which used a controlled experiment to explore the effects of brand awareness on choice, brand sampling, and the frequency with which the highest-quality brand is chosen following a series of trials.

Why Replicate Hoyer and Brown, 1990?

Some replications are better than others. Replications conducted early in the history of a particular research program are usually more useful (Monroe, 1992; Rosenthal, 1990). The study of H&B is a pioneering study. As its authors noted:

> Studies that pinpoint the impact of brand awareness on the individual-level choice process are badly needed. This article takes a first step toward filling this void by examining the nature of brand awareness effects on the purchase of a common household product. (Hoyer and Brown, 1990 p.141)

A replication that offers insight into the generalizability of H&B's findings will be particularly useful as consumer behavior begins to address this area.

Such replication research helps us establish the scope or boundaries of previous outcomes. In this regard, studies using different stimuli, samples of people, methods, procedures, and analytical techniques, in different situations, over different occasions serve the advancement of knowledge in consumer behavior (Rosenthal, 1990). The replication reported in this paper, employs the same procedures as H&B but uses a different product category (still a common, repeat purchase product), a slightly altered (inclusion of non-novices) and larger sample, and a more realistic experimental setting.

Generally, replication research that originates with an independent researcher is more highly regarded (Monroe, 1992). Outcomes reproduced by independent researchers reduce concerns about the interaction of the researcher and study being a reasonable explanation for the original results. The value of the results of a replication is maximized for each of the following dimensions that apply: time, physical distance, personal attributes of the experimenters, experimenter's expectancy, and experimenter's degree of personal contact with each other (Rosenthal, 1990). According to these dimensions, the replication reported in this paper is of high value, because the study was conducted at a different time (several years after publication of the original study), in a different place (in Australia rather than the United States), and the researchers in both studies have had no communication. (Requests were made to one of the researchers of the original study to provide details of original methods and results. The first mail request received no reply. The second request through a colleague, received a positive response, but at the time of writing, no material has been received.)

Implicit in this discussion is the assumption that the original study is worth replicating. As discussed, H&B's study was exploratory and carried out in an area where little research has been done previously. It is an important study within a new low-involvement habitual repeat purchase paradigm of consumer behavior. It consisted of a well-constructed experimental design that used actual brands to enhance its external validity. Because of the exploratory nature of the study, the sound experimental design employed, and its interesting results, it is a study worthy of further examination.

Methodology

H&B (1990) employed an experimental procedure in which subjects were asked to make a series of decisions regarding brand choice for a common, repeat purchase product: peanut butter, in this replication study: orange cordial (in Australia, a nonalcoholic soft drink). After each selection, subjects were asked why they chose a particular brand, and they were then permitted to taste it. After five trials, a series of post-task questions were asked regarding product usage and experience. The replication differs in the following respects.

Subjects

H&B selected their sample from U.S. freshman college students ($n = 173$). The replication employed a larger sample selected from a comparable population of undergraduate Australian university students ($n = 472$).

EXPERIENCE WITH THE PRODUCT CATEGORY. The majority of H&B's subjects had never purchased peanut butter for themselves, and the rest indicated they had purchased peanut butter only a few times at most. In the replication study, more than half of the 462 included in the sample (56.3%), had purchased cordial before. Two levels of experience with the product category were identified: (1) inexperienced: never bought orange cordial before or only a few times at most ($n = 226$); and (2) experienced: buy cordial at least every few months ($n = 236$).

Most Australian university students are employed part time and even full time, and do not live with parents, and tend to shop in supermarkets. In addition, with the increase of both parents working, teenagers are increasingly becoming responsible for some or all of the family's grocery purchases. Therefore the sample used in the current study, with half being experienced and the other half novices (although still more

experienced than subjects in the original study), is more realistic than H&B's in terms of the consumption experience of this cohort.

The decision to extend the replication through the inclusion of non-novice respondents was in line with the potential theoretical contribution of empirical research on this topic. The habitual low involvement paradigm of consumer choice is contrasted with the problem-solving models not only in terms of degree of cognition and attitude formation prior to purchase but also in the implicit assumption that many choice decisions are first purchases. The empirical fact that most purchases are repeat or replacement purchases (see Wilkie and Dickson, 1985) provided a powerful rationale for the inclusion of experienced cordial purchasers in the sample.

EXPERIENCE WITH THE TEST BRANDS. To be included in H&B's study, subjects had to have never purchased any of the brands used in the experiment.

Unlike H&B's study, many of the students in the replication had purchased and/or used one of the test brands. The high awareness brand in question, *Cottees*, is a brand name used across several product categories including jam and desserts. Many subjects claimed to have used this brand before (87.2%). Few subjects (5.6%) said they had used (or *thought they might* have used) a second brand in the study, *Mynor*. It was not expected that the small degree of familiarity for this brand would have an impact on the study.

Test Product

In H&B's study, the chosen product category was peanut butter because of the availability of a number of well-known, easily identifiable brands, and several lesser-known nonadvertised brands.

PEANUT BUTTER AS A NATIONAL ICON. Peanut butter is very much a part of the culture in the United States, where peanut butter and jelly sandwiches are almost a staple in the U.S. child's diet, but peanut butter is of less importance in Australian culture (with the sandwich combination of peanut butter and jelly being a specialist taste).

CRUNCHY OR SMOOTH? EXISTENCE OF CUSTOMER SEGMENTS. One difficulty encountered in replicating this study was the existence of wide variation in types of peanut butter, such as crunchy versus smooth. Different segments within the population may regard one or other of these product attributes as more preferable, and respondent preferences could potentially alter, even during the experiment. The researchers of the original study do not make it clear whether the existence of customer segments with different tastes was considered in selecting the products used in the original experiment.

SELECTION OF DRINKING CORDIAL. The selection of orange cordial in the replication was based on the following reasons:

- It is widely used by those in the sample population (77.1% consume cordial often: daily to once per month) with the flavor orange dominating the category.
- The category contains a number of brands. In a pretest of unprompted recall, 25 different brands of cordial were identified ($n = 44$).
- A few well-known, national brands exist in addition to a large number of nonadvertised regional brands and store brands. Thus, marked awareness differentials exist in the real world, enhancing the external validity of the study (at least in terms of generalizing to the tested product category). These awareness differentials indicated that awareness levels could be easily manipulated in the experimental situation. In the pretest, *Cottees* had the highest awareness level, which is consistent with the high level of national advertising for the brand.
- As with peanut butter, cordial can be easily tried and tasted in an experimental situation, permitting an assessment of the impact of awareness on brand evaluations.
- As with peanut butter, cordial is not a status/symbolic/fashionable product category.

LIMITATION. One limitation of cordial as a test category is the need for it to be diluted with water to taste it. To ensure that product quality was standardized, the cordial was premixed in the ratio recommended by manufacturers of 1:4 parts (cordial:water). Spring water was used because of the lamentable variability of the available tap water.

Experimental Design

See Appendix A.

Independent Variables

AWARENESS. As in H&B's study, awareness was operationalized as a two-level blocking factor consisting of awareness and no-awareness conditions. In the awareness condition, subjects were presented with three brands of peanut butter (in H&B's study) and three brands of cordial (in the replication). In each study, one of these brands was a well-known national brand that had been heavily advertised and was highly recognized, as indicated by a pretest. Two unknown brands from other regions of the country completed the three-brand set. These brands elicited very low levels of recognition, and none was recalled by consumers in a pretest of free recall. Thus, it was deemed acceptable to use them in the study. The high awareness brand, *Cottees*, elicited 97% (296/306) recognition and 86% (38/44) free recall; that is, very large differences in levels of awareness were recorded across the test brands.

In the no-awareness condition, subjects were presented with three totally unknown brands. Two brands were the same brands used in the awareness condition. The third was another unknown brand from another region of the country. As discussed previously, unlike the original study, the replication found some level of awareness, although very low and

Table 1. Reported reasons for choice on trial one. Awareness cf no-awareness condition subjects. original study and replication.

	Original Study			Replication		
Criteria	H&B: Not Aware (n = 90)	H&B: Aware (n = 83)	Z	REP: Not Aware (n = 166)	REP: Aware (n = 296)	Z
1. Known brand	0	60.0	11.11**	3.0	48.3	−15.55**
2. Taste	4.3	0	NS	0	0	NS
3. Lowest price	2.2	0	NS	10.8	2.7	3.13**
4. Ingredients	10.8	3.3	2.16*	10.2	1.7	3.446**
5. Package	45.2	4.4	6.95**	34.3	8.1	6.53**
6. Try new brand	1.1	0	NS	0.6	1.4	NS
7. Known brand and taste	0	3.3	NS	0	0.7	NS
8. Known brand and price	—	—	—	0.6	18.9	7.78**
9. Known brand and other	0	18.9	4.41**	0	7.1	−4.756**
10. Price and taste	1.0	0	NS	0	0	NS
11. Price and other	14.0	4.4	2.63*	30.7	8.5	5.65**
12. Taste and other	—	—	—	0	0	NS
13. Other	21.4	5.7	—	9.6	2.7	—

*$p < 0.05$.
**$p < 0.01$.

weak, for two of these brands. One brand in particular, *Mynor*, had a 17% level of recognition; however, it was noted that respondents were far more uncertain of themselves when identifying this brand as known to them in a prompted recall test. This brand was retained in place of having two totally unknown brands, because it was considered of interest to determine whether low levels of awareness might be significant in terms of choice.

The small impact of this degree of awareness for one of the "no awareness" brands can be seen in Table 1, where 3% of respondents in the no-awareness condition reported the reason of "known brand" to explain their first choice. The consequence is that the experiments are a stronger test of H&B's main findings.

QUALITY DIFFERENTIALS. To identify high and low-quality cordials, seven brands were evaluated by a group of pretest subjects (n = 49) in a blind taste test. As in the original study, these brands ranged from presumably high-quality brands (i.e., national, well-advertised brands) to those of presumably lower quality (e.g., store and generic brands). Pretest subjects ranked these brands in order of preference. The full methodology and results to identify high- and low-quality brands is presented in Appendix B. Over the 401 subjects in the quality difference condition, each brand (i.e., bottle) contained the high-quality product (cordial) an approximately equal number of times.

PRICE. A third independent variable, not discussed in detail by H&B, is that of price. H&B did not present their pricing results in their findings other than to state that the price manipulation:

> had little effect on subjects' choices and was orthogonal to the other manipulations. Hence, it is not discussed further. (p143).

Although it is not made clear how price was manipulated across the entire H&B study, the basis for the price manipulation in the replication was as follows: two prices were selected, a high and low price, which were realistic as indicated from a survey of cordial brands' pricing in local supermarkets. Using a counterbalancing procedure for each awareness and quality condition, price was varied so that, in each condition, one brand was marked at the high price, and two brands were marked at the low price.

Dependent Variables

As per H&B (1990, the three dependent variables were the nature of choice tactic used in brand selection (obtained by the open-ended question "Can you tell me why you have selected the brand you have chosen?"), the number of brands sampled (determined by a count of the number of brands sampled by subjects across five trials), and whether the highest quality brand was finally selected (the analysis involved only subjects in the quality difference condition: original study n = 88; replication n = 401).

Procedure

Based on the original study, an experiment was used to test the three hypotheses. Subjects were run individually and made a series of brand choices for orange cordial. After each selection, they were asked why they chose a particular brand and were then permitted to taste it. As in the original study, to complete the session, the subject was asked a series of post-task questions to check the purity of the sample. The only major procedural differences between the original study and the replication was the use of a more natural setting in the replication (a university cafeteria). This research approach is gaining support (e.g., see Lutz, 1991) and added more realism

to the choice task, because consumers usually make buying choices for this type of product in a supermarket, where distractions are present.

Results

The questions of interest in this study are how awareness affects choice probability and sampling of a common, repeat-purchase product under varying conditions of brand quality and awareness (Hoyer and Brown 1990, p. 142): To investigate the extent to which a simple heuristic based on awareness, such as "buy the best known brand," was utilized in a simple choice task.

H1: Brand awareness serves as a dominant choice tactic among inexperienced consumers presented with a brand selection task.

The hypothesis was examined by observing actual choice and by eliciting subjects' free responses about their choice strategies.

Observed Choice

H&B found that subjects' initial choices provided strong support for the hypothesis, and this finding is backed up by the replication. Specifically 93.5 and 85.5% of subjects in the original study and the replication, respectively, chose the familiar brand on the first trial (Analysis of chi-square difference in the replication: $\chi^2 = 1560.1$, df = 2, $p < 0.005$). From the results of both studies, it seems that, when faced with a choice situation in which a known brand competes with unknown brands, consumers are considerably more likely to choose the known brand.

Reported Reason for Choice

To assess the use of awareness directly as a choice heuristic, subjects were asked to give their reasons for choosing a particular brand after the first and last trial. Table 1 presents the results of this open-ended question.

Of the twelve criteria listed in Table 1, agreement between the replication and the original study occurs on nine of the criteria (Z test scores for criteria 1 and 9 were reported without the negative sign in the original study). Of the remaining three criteria, two (8 and 12) were not listed in the original study. The remaining difference between the two studies occurred in the reported use of price as a reason for choice. The replication found a significant price effect difference between consumers in the awareness and no-awareness conditions. That is, it seems that in the presence of awareness, consumers are less likely to use price as a heuristic. Although this might be seen as an exciting finding for owners of high-awareness, high-price brands, it should be noted that consumers can use price as a heuristic in two alternative ways: seek lowest price to avoid financial risk; or seek highest price in an effort to gain high product quality. The original study produced a nonstatistically significant result in the same direction, the lack of statistical significance presumably caused by the small sample size.

The results in Table 1 show substantial use of awareness as a choice tactic by consumers in the awareness condition on the first trial with 60 and 48.3% reporting use of this tactic in the original study and the replication, respectively. A further 22% (original study) and 27% (replication) in both studies reported using a combination of awareness and some other tactic as a basis for their decision.

Contrasting these results with subjects in the no-awareness condition in the absence of awareness, consumers used a number of other criteria upon which to base their choice: package (45 H&B, 34% replication), and then price and ingredients. In the replication (cf. the original), a much larger proportion of subjects reported choice based on price either alone (10%) or in combination with some other factor, such as ingredients (31%).

Both H&B's study and the replication indicate that consumers may rely on awareness as a cue for choosing a brand, when a clear distinction between brands exists on this dimension. However, when no brands are known, other criteria, such as packaging, ingredients, and price, are likely to be employed.

TIME TAKEN TO MAKE THE INITIAL DECISION. Consumers employ heuristics to simplify decision-making tasks. The results so far indicate that consumers have used awareness as a simplifying heuristic. A further hypothesis developed in the replication that builds on this is that:

H1a: Consumers choosing from a set of brands which includes one known brand will make a decision more quickly than consumers choosing from among a set of three unknown brands.

This hypothesis was supported. Consumers in the awareness condition made their initial decisions more quickly than consumers in the no-awareness condition, mean of 9.8 seconds cf. 15.1 seconds ($t = 2.61$, df = 227, $p = 0.01$, critical interval $(-9.252, -1.299)$). Therefore, it seems that in the absence of brand awareness as a simplifying choice heuristic, consumers exert more decision effort by evaluating other brand attributes. Because the only difference between the two conditions was the presence or absence of one known brand, it can be assumed that the difference in decision-making time indicates that brand awareness is important as a heuristic that simplifies decision making for a common, repeat purchase product.

DECREASE IN IMPORTANCE OF BRAND AWARENESS AS A CHOICE TACTIC OVER TIME. Based on the hierarchy of effects model, H&B suggested that:

H1b: Over a number of trials, awareness will decrease in importance as a choice tactic. Choice will instead be based on previous trials and evaluations.

This would imply that where a known brand exists in a choice set, consumers are more likely to choose the known brand on the first trial, but given the opportunity to try other brands

Table 2. Self-reported reasons for choice: first and last trials

	Awareness Condition Subjects	
	Trial 1	**Trial 5**
Awareness	H&B 82%	H&B 33%
	Rep 75%	Rep 51%
Taste	H&B 0%	H&B 41%
	Rep 0%	Rep 24%

over a number of trials, they are more likely to base their choice on their evaluation of the brand, so such factors as taste will become more important.

To investigate this, we first examined the differences in the self-reported reasons for choice on the first and last trials (Table 2).

H&B found that reported use of awareness as a choice tactic dropped from 82% down to 33% between the first and last trials. This strongly supports their hypothesis that other factors become important in making a decision over a number of trials. For example, reported use of a taste as a tactic increased from 0 to 41% by the final trial.

It should be noted, however, that fairly strong experimental effects would also encourage the same result. Respondents might make their first choice based on awareness, but once asked to repeat the choice, might infer that they are required to do something different (e.g., choose a different brand).

Results of the replication show the same trends as in the original study, although they are substantially weaker. Although 75% of subjects reported use of brand awareness as a choice tactic on the first trial, this dropped down to 51% by the final trial. Thus, the use of brand awareness did decline, but it continued to be important, because over half the respondents reported using it as a choice criterion, even after having the chance to sample other brands over a number of trials. This result is not exactly supportive of the hierarchy of effects reasoning that lead to the hypothesis, but rather could be interpreted as being more supportive of the simpler habitual theories of choice.

Supporting the original study, again, it was found that such experience factors as taste increased in importance over the five trials, but the increase in the use of taste over the five trials was less pronounced in the replication (0% on the first trial, as compared with 24% on the final trial).

Moving to subjects' actual behavior, the findings from the replication are clearly different from those predicted by H&B. Instead of observing a decline in choice of the high-awareness brand over the five trials, a U-shaped curve was observed (Figure 1). The majority (86%) of subjects chose the well-known brand on the first trial, but after selecting this brand one or two times on subsequent trials, some were included to try one of the brands they didn't know (31% chose an unknown brand on trial 3). However, most (75%) chose the high awareness brand on the final trial (see Figure 1), indicating that the use of awareness as a heuristic continued long after the initial trial. This somewhat U-shaped curve was also observed in the awareness–no-quality difference condition (Figure 2), but did not occur in the condition where no-awareness existed (Figure 3).

This finding seems to be consistent with the brand-switching literature, which indicates that consumers are loyal not only to a single brand but to a repertoire of brands (Ehrenberg, 1988). Consumers will select from among these brands when in a purchase situation. In addition, from time to time, consumers will try a brand from outside the repertoire, most likely because of some situational event.

The results of this study indicate that consumers demonstrated curiosity about the other brands available to them, but still preferred to choose the well-known brand. This could be a result of some of the effects attributed to high-awareness brands, such as reassurance of popularity and quality (Tybout and Artz, 1994) or that they preferred to stick to their awareness heuristic-habit.

The assumption has been that brand awareness is an important simplifying heuristic for choice. Therefore H&B (1990) hypothesized that, in its absence, consumers would exert more effort in selecting among brands. Therefore, their second hypothesis was that:

H2: Consumers choosing among a set of unknown brands are likely to sample more brands across product trials than consumers who choose among a set of brands that includes one well-known one.

H&B predicted that this hypothesis would be supported by a significant main effect of awareness in a two-way awareness-by-quality analysis of variance (ANOVA). In fact, a significant main effect for awareness did occur in the analysis for both studies (H&B $F[3,169] = 7.87$, $p < 0.01$; replication $F[1,458] = 6.040$, $p < 0.05$). Neither the main effect of quality, nor the two-way interaction approached significance in either study. These results support H2.

Further confirmation of H&B's results is found in the comparison of the mean number of brands sampled between awareness and no-awareness conditions. The results indicate that subjects in the no-awareness condition tended to sample more brands than did subjects in the awareness condition (H&B: 2.67 cf. 2.29, replication: 1.86 cf. 1.58 ($t = 3.94$, $p < 0.001$). Interestingly, the mean number of brands chosen was much lower in the replication than in the original study, despite there being some prior awareness for one of the no-awareness brands, which should have lead to its also enjoying the greater chance of trial effect. This lower mean could be caused by some variation in the procedure used or the difference in product category.

H&B reasoned that when no known brand is available in a choice set, and consumers are given an opportunity to sample brands, their perceptions of quality are likely to be unaffected by the biases and distortions that awareness of the brand can create. They, therefore, hypothesized that consumers in this situation were more likely to detect "objective" quality differ-

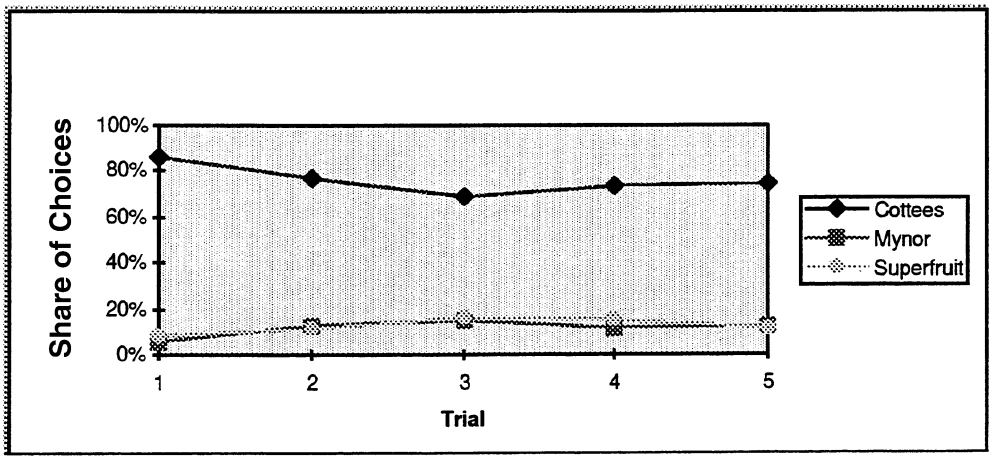

Figure 1. Brand choice: Awareness-quality condition (n = 265).

ences between brands following a number of trials. Therefore, their third hypothesis was that:

H3: After a series of product choices, consumers choosing among a set of three totally unknown brands are more likely to choose the high-quality brand than are consumers who choose among a set of brands that includes one well-known and two unknown brands, especially when the well-known brand is not the high-quality brand.

This hypothesis received the weakest support in both the original study and in the replication.

An analysis of the percentage of subjects who chose the quality brand on the final trial in the replication in both awareness and no-awareness conditions shows a small difference between the two groups (32% awareness condition cf 36% no-awareness condition). Both groups chose the high quality brand around a third of the time which is the expected level owing to chance alone. H&B found a stronger, but again not statistically significant, difference between the awareness and no-awareness groups (41% cf. 59%). Their sample size was very small with only 44 subjects in each condition, in the replication the sample size was much larger (n = 401) but the differences were still not statistically significant (Pearson's chi^2 = 0.63150, p = 0.42681). The lack of statistical significance in either study makes it impossible to say if the results varied meaningfully between the studies but if they did one factor that may account for a difference is that in the replication study subjects selected significantly fewer brands over the five trials than they did in the original study. This may have affected their ability to choose the 'high quality' brand as they may not have tried the high quality brand at any stage during the experiment.

Awareness Effect Is Mediated by Price

Price effects were not detailed in H&B (1990), in the replication, high price had a (realistic) consistent effect to decrease the chance of a brand being chosen (purchased). When the

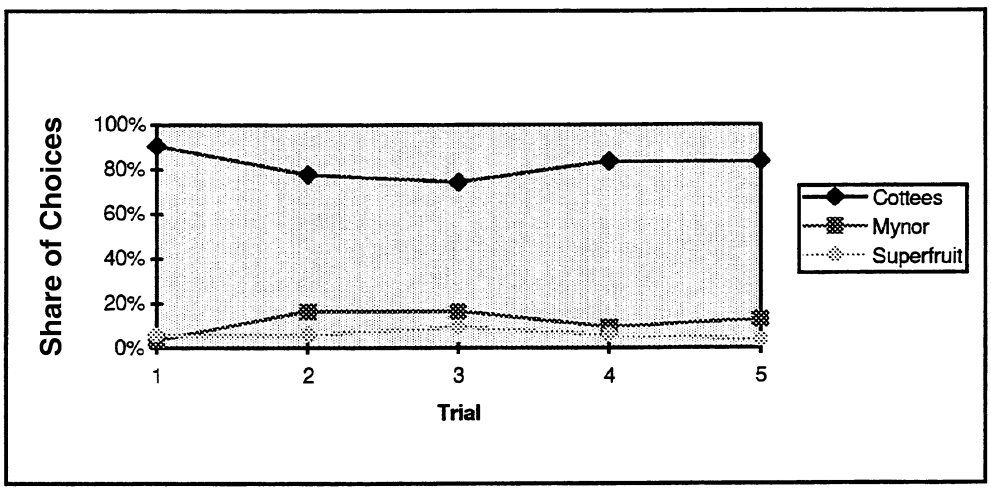

Figure 2. Brand choice: Awareness no-quality condition. (n = 31).

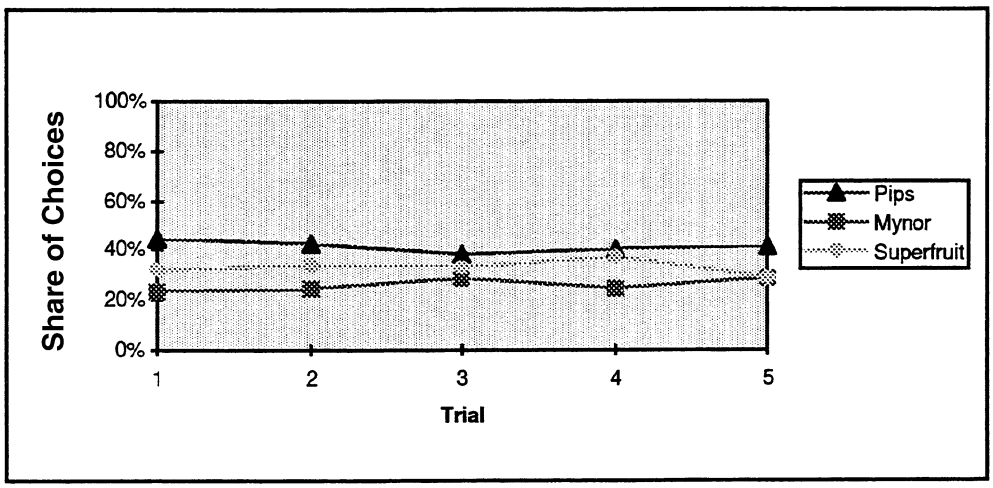

Figure 3. Brand choice: No-awareness quality condition (n = 136).

high-awareness brand was marked at a high price relative to the other two brands, the proportion of subjects choosing it on each trial dropped markedly. Table 3 shows a comparison between over-all choice of the well-known brand in the awareness-quality condition and the choice of a well-known brand in this condition when it was marked at a high price relative to the other brands and when it was marked at a low price relative to the other brands. Even when marked at a higher relative price, the well-known brand was still chosen more frequently than either of the other two brands. This indicates strong support for the brand awareness effect already observed.

When the well-known brand was marked as one of the two low-price brands, the number of subjects who chose it on each trial was very high (ranging from 93% on the first trial to 82%). This indicates that brand awareness has a very strong effect on consumer choice for a common, repeat purchase product; whereas, price has a moderate effect on choice. If the price of the well-known brand is high relative to competing brands, then, although a large number of consumers will choose the well-known brand, some consumers will also be inclined to try other cheaper brands. Thus, the awareness effect is stronger than the price effect.

The U-shaped curve observed in the over-all awareness-quality condition is still present in Table 3. It is observed when subjects in this condition are split into those who saw the high awareness brand marked at a high price and those that saw it marked at a low price.

Summary

A replication of Hoyer and Brown's (1990 study exploring the effects of brand awareness on consumer decision making was carried out using a much larger sample (n = 462 cf. n = 173). Not an exact replication, the study used the same procedure but with a broader sample definition, a more realistic test situation, a different product category, and a larger sample.

The results showed strong support for two of the original study's findings: (1) that brand awareness is an important choice tactic for consumers facing a new decision task; and (2) that subjects who are aware of one brand in a choice set tend to sample fewer brands across a series of product trials. Only extremely weak support was found for H&B's third finding that, in the absence of awareness differentials among

Table 3. Choice of High-Awareness Brand: Awareness-Quality Condition

Chose *Cottees*[a]	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5
AQ condition (n = 265)	86%	77%	69%	73%	75%
AQ condition *Cottees* = HP (n = 88)	72%	59%	50%	59%	60%
AQ condition *Cottees* = LP (n = 177)	93%	85%	79%	80%	82%

[a] Where *Cottees* is the "high-awareness" brand.

brands, consumers are more likely to choose the highest quality product; H&B also only found weak support.

H&B's hierarchy of effects derived hypothesis, that awareness would reduce in prevalence as a choice tactic over repeated trials, received mixed support with the choice of high awareness brand typically declining over the first few trials but then increasing over the latter trials.

Additional findings from this replication include:

1. that brand awareness seems to be an important choice tactic for consumers, even when facing a familiar or repeat choice task; and
2. although some consumers can be enticed to break their habit using an awareness heuristic many show a tendency to return to this habit.

In summary, brand awareness seems to play an important part in explaining habitual choice patterns. The research results fit with the observed empirical regularity that consumers tend to maintain brand repertoires from which choice is made. It would seem that the habit or inertia theories of consumer choice, based upon an understanding of the use of awareness as a choice heuristic, offer considerable potential in explaining low-involvement, repeat purchase patterns. For example, Ehrenberg et al. (1990) use awareness differentials to explain the widely observed double jeopardy pattern. Such explanations may prove superior to competing attitude or hierarchy of effect-based theories, which seem to be more appropriate for a small subset of buying behavior, that is, high-involvement, first purchase choice scenarios.

Appendix A. Experimental Design

Consideration Set Size

The purpose of this study was to examine consumer's decision making under varying conditions of awareness and quality. Consumers usually make a decision from a set of brands they recall from memory, and/or they recognize in their environment, known as their consideration set. In this experiment the consideration set has been decided for the consumer so that all the subject is required to do is choose from this limited set of brands. In H&B's study, the choice set included three brands, and in the replication it was decided not to vary the number of brands. This is partly to allow for a more complete replication of the original study, partly because a consideration set of three was not unrealistic for cordial choice, and partly because with three independent variables employed in this study (i.e., awareness, quality, and price) and three brands, the study requires 24 different variations in these factors. The addition of one or more brands would quickly increase the complexity of the study. The opportunity exists for further research using larger consideration set sizes.

Number of Trials

Five trials were used in the original study. A pretest carried out before the replication found that over five trials, 86.5% of subjects selected each brand at least once ($n = 37$), and the average number of brands chosen over the five trials was 2.811 (from a possible 3). Therefore, five trials was deemed adequate for consumers to make a choice between three brands and to determine a preference. A not unreasonable expectation would be that the majority of subjects would experiment somewhat and then settle on the brand for which they had highest preference.

Appendix B

Quality Differentials

To identify high-quality and low-quality brands, seven brands were evaluated by a group of pretest subjects ($n = 49$) in a blind taste test. As in the original study, these brands ranged from presumably high-quality brands (i.e., national, well-advertised brands) to those of presumably lower quality (e.g., store and generic brands). Pretest subjects ranked these brands in order of preference.

Ranking as a Sensory Evaluation Technique

Ranking samples as a sensory evaluation technique is acceptable when aiming to compare samples according to a single attribute, such as preference (see Meilgaard, Civille, and Carr, 1991). It has the advantage of being a very simple technique, but it does have these disadvantages: (1) the resultant data are merely ordinal, and no measure of the degree of difference is obtained from each respondent; and (2) consecutive samples that differ widely, as well as those that differ slightly, will be separated by one rank unit.

Pretest for Quality

For the purpose of this study, ranking of the cordial brands was considered acceptable. Each cordial brand was identified by a letter from A–G. For the purposes of effective sensory evaluation, samples should be presented to subjects in a balanced, random order (Meilgaard, Civille, and Carr, 1991). In this study, to ensure there was no ordering effect, three conditions were designed, and in each condition, the seven brands were labeled differently.

The use of three conditions also ensured that no professional letter effect could bias the results. A study by Ehrenberg and Charlton (1973) found markedly different consumer repeat buying for four brand names, even when the brand names were only letters of the alphabet: M, J, C, and V respectively. By varying which brands were labeled by particular letters, we were able to avoid this problem. The results indicated no significant preference for any one of the letters used.

The use of ranking data instead of rating data means that

Table 4. Testing for Low-Quality Brand

Brand	Lowest Rating Brand vs. Others Compare subjects who rated brand as lowest in quality with other subjects) (1 vs. 2–7)	Lowest Two Rating Brands vs. Others Compare subjects who rated brand as one of the two lowest with other subjects) (1–2 vs. 2–7)
Cottees Country Blend	Not significant (χ^2 = 0.2301, df = 2, α = 0.89133) (Low = 21, high = 26)	Not significant (χ^2 = 0.1798, df = 2, α = 0.91405) (Low = 29, High = 18)
Coles Savings	Cannot test (L = 8, H = 39)	Not significant (χ^2 = 0.7929, df = 2, α = 0.67272) (L = 21, H = 26)
Cottees	Cannot test (L = 1, H = 46)	Cannot test (L = 9, H = 38)
Farmland	Cannot test (L = 2, H = 45)	Cannot test (L = 8, H = 39)
Cottees All Natural	Cannot test (L = 8, H = 39)	Cannot test (L = 14, H = 33)
Berri	Cannot test (L = 2, H = 45)	Cannot test (L = 4, H = 43)
Golden Circle	Cannot test (L = 5, H = 42)	Cannot test (L = 9, H = 38)

1 is the lowest quality ranking and 7 is the highest ranking.

a parametric statistical test, such as ANOVA, cannot be unemployed, because it would be violating the test's underlying assumptions: (1) normality; (2) independence; and (3) constant variance. Therefore a nonparametric test, the chi-square analysis, has been employed. The underlying assumption of chi-square analysis is that for a contingency table where *r* or *c* are greater than 2, then the sample size must be large enough so that there is a minimum sample size of 5 in each cell. Because of the small sample size in this study, it was necessary to combine cells to carry out the test. This is acceptable, because the purpose of this test is only to identify two extreme brands—a high-quality brand and a low-quality brand.

LOW-QUALITY BRAND. No significant difference was found in terms of the low-quality rating for each brand versus the other ratings it received (Table 4). Only *Cottees Country Blend* was ranked as the lowest-quality brand with enough frequency to be testable (i.e., 21 (45%) (consumers ranked this brand as the lowest quality brand overall). *Coles Savings* brand was testable as one of the two lowest ranking brands with 21 responses (45%).

HIGH-QUALITY BRAND. *Golden Circle* was ranked as the top quality brand by far, with 20 subjects rating it as the highest quality brand, although this result is not significant (Table 5). Thirty subjects (64%) ranked it as one of the two top quality brands. *Berri* was ranked as one of the top two brands by 24 (51%) of subjects. The other five brands were ranked as one of the top two brands with much lower frequency.

Quality Manipulations

Although the quality ranking for none of the brands was significant, by observation *Golden Circle* was ranked as *highest*-quality more frequently than any other brand. For this reason, it was used as the high-quality cordial in the quality manipulation in the experiment. Although, *Cottees Country Blend* was

Table 5. Testing for High-Quality Brand

Brand	Highest Rating vs. Others (Compare subjects who rated brand as highest in quality with other subjects) (1–6 vs. 7)	Highest Two Ratings vs. Others (Compare subjects who rated brand as one of the two highest with other subjects) (1–5 vs. 6–7)
Golden Circle	Not significant χ^2 = 3.586, df = 2, α = 0.16647 (Low = 27, high = 20)	Cannot test (Low = 17, high = 30)
Berri	Cannot test (Low = 38, high = 9)	not significant χ^2 = 2.438, df = 2, α = 0.29546 (Low = 24, high = 23)
Cottees Country Blend	Cannot test (L = 45, H = 2)	Cannot test (L = 39, H = 8)
Coles Savings	Cannot test (L = 47, H = 0)	Cannot test (L = 44, H = 3)
Cottees	Cannot test (L = 44, H = 3)	Cannot test (L = 37, H = 10)
Farmland	Cannot test (L = 44, H = 3)	Cannot test (L = 40, H = 7)
Cottees All Natural	Cannot test (L = 37, H = 10)	Cannot test (L = 34, H = 13)

1 is the lowest quality ranking, and 7 is the highest ranking.

ranked as the *lowest*-quality brand overall, it was a much paler orange color than many of the other brands and for this reason, was not selected for the main experiment to avoid adding another distracting cue to the choice situation. Therefore, the brand ranked as one of the two lowest-quality brands was selected, *Coles Savings* brand. Over the 401 subjects in the quality-difference condition, each brand contained the high-quality product an approximately equal number of times.

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