Deborah Roedder John, Barbara Loken, & Christopher Joiner

The Negative Impact of Extensions: Can Flagship Products Be Diluted?

This article extends the scope of investigations into the potential risks of brand and line extension strategies. Here, the authors examine whether extensions can dilute beliefs associated with a strategically important and highly visible product—the flagship product. The results of three experimental investigations indicate that beliefs about flagship products are less vulnerable to dilution than beliefs about the parent brand name in general. The findings suggest that assessments of the impact of brand leveraging strategies should include analysis of the effects on individual products as well as on the family brand name.

B rand and line extensions have become increasingly popular ways to leverage the equity associated with well-known and well-respected brand names. Yet extension strategies can pose certain risks for firms. Extensions carry the risk of diluting what the brand name means to consumers, especially in the case of extensions that are inconsistent with the brand's image or fail to meet consumer expectations in other ways.

Researchers are just beginning to examine dilution in empirical investigations. Evidence now is emerging that, under certain conditions, brand extensions can diminish consumers' feelings and beliefs about a brand name (Loken and John 1993; Milberg, Park, and McCarthy 1994; Sullivan 1990). Studies in this vein typically have measured whether consumer perceptions of, beliefs about, or evaluations of the parent brand name are affected by the introduction of a new brand extension. For example, consumers might be shown information about a new hypothetical brand extension being introduced under a well-known brand name (e.g., Ivory bubble bath) and then queried about their beliefs or evaluations of the parent brand name in general (e.g., Ivory).

Although the risk of diluting brand names has been the focus of research to date, there could be equally important risks of dilution at the individual product level. Of these, the most important one is the risk that brand name dilution will be accompanied by dilution of the firm's flagship product carrying that brand name. A flagship product is defined here as the one consumers most closely associate with the brand name, such as Ivory (soap), American Express (credit

cards), Betty Crocker (cake mix), and Johnson & Johnson (baby shampoo). At issue is whether an extension (e.g., Ivory bubble bath) that dilutes the image or beliefs associated with a brand name (e.g., Ivory) also might dilute the image or beliefs associated with the flagship product carrying that brand name (e.g., Ivory soap).

Clearly, the risk of diluting the flagship product as well as the brand name itself is a key concern. As the previous examples suggest, flagship products are often dominant in their product category, produce sales and profits with relatively smaller marketing support than other products, and provide a platform for future line and brand extensions. From the consumer's viewpoint, the flagship product is the most visible embodiment of the brand name, serving as a concrete example of everything important that a brand name stands for. Exposure to advertising messages for flagship products is usually high and accumulates over time, as does the experience that many consumers have with the product year after year. The accumulated exposure to and familiarity and experience with the product can contribute to the product's dominance in consumers' associations with the brand name. Diluting the flagship product carries immediate risks in terms of depressing sales in the short run and further diminishing the parent brand's reputation in the long run.

The purpose of this article is to explore the possibility that extensions can dilute flagship products as well as brand names themselves. Specifically, our focus is on detecting whether dilution of a flagship product can occur as a result of the introduction of an extension that has attributes that are inconsistent with consumer beliefs about the parent brand.[1] Our interest lies in exploring the negative change, if any, in consumer beliefs about a flagship brand in the face of this type of inconsistent extension. Defining "dilution" as a negative change in consumer beliefs is consistent with prior research examining brand name dilution (e.g., Loken and John 1993) and is in line with current conceptualizations of brand equity (see Keller 1993; Tauber 1988).

[1]Although extensions might be inconsistent with the parent brand for a variety of reasons, the focus of our research is on extensions that have attributes associated with them that are inconsistent with the brand's image. Effects of extending into product categories that are inconsistent with the brand's image are not addressed in this research.

To enable us to compare dilution effects for flagship products versus the brand name itself, we cast our investigation in a context shown to produce brand name dilution in prior work (cf. Loken and John 1993). Specifically, we examine a brand name that is well known, firmly established, and well regarded, under which many different types of products are marketed. Furthermore, we introduce an extension with one attribute that is inconsistent with what consumers expect from products carrying the parent brand name. Consumer beliefs about the parent brand have been diluted (reduced) for the attribute in question under these circumstances. We now use this same scenario to examine what effect, if any, there might be on consumer beliefs about the flagship product carrying the same brand name.

Background

Defining Flagship Products

To motivate our discussion, consider the branding context we explored. A popular brand name, Johnson & Johnson, was chosen for study. Johnson & Johnson markets a variety of health and beauty aid products, as well as first aid products, under its brand name. Consumers associate the Johnson & Johnson name with attributes, such as gentleness and quality, and mention Johnson's baby shampoo as the product they are most familiar with, have the most experience with, and associate most with the Johnson & Johnson name.

Given this set of facts and our definition of a flagship product as the one most closely associated with the parent brand name, Johnson's baby shampoo is clearly the flagship product, dominating other Johnson & Johnson products, such as baby lotion or cotton swabs. Although we acknowledge that the term *flagship* is used in a variety of ways in the marketing literature and trade press and some ways are more consistent with our definition than others, it is also true that a formal definition of "flagship" is absent from the marketing literature. In the absence of any widely accepted definition, we define a *flagship product* from the consumers' viewpoint as the product they most closely associate with the parent brand name.

Furthermore, by defining a flagship product in terms of brand associations, we can speculate even further about how flagship products exist and function in a branding context. Following Keller (1993), we view knowledge about brands as being organized in an associative network (Anderson 1983; Collins and Loftus 1975; Herr, Farquar, and Fazio 1996) of beliefs and feelings. The parent brand name, individual products, and beliefs and feelings about both the brand name and individual products are represented by nodes in the network that are connected by links that vary in strength. With brand names as well as individual products represented in this network, several types of nodes and links exist. The parent brand name, for example, is linked to nodes containing beliefs and feelings that consumers associate with the brand name in general. The parent brand name also is linked to nodes representing individual products, which are linked, in turn, to a set of nodes that represent beliefs and feelings that consumers associate with a particular product.

Viewed in this manner, we believe the flagship product has several distinguishing characteristics. First, it has a well-developed network of nodes, consistent with the fact that flagship products are the most familiar of all individual products marketed under the parent brand name. The nodes reflect exposures to and direct experiences with the product, as well as general attribute beliefs and affective feelings toward the flagship product, similar to Keller's (1993) notion of brand image. Second, the links between the flagship product and these nodes are strong, developed as a result of long-term exposure to product messages and, often, direct experiences. Third, the link between the flagship product and the parent brand name is significantly stronger than similar links for other individual products. This is consistent with our notion that a flagship product is the one most closely associated with the parent brand and the one that comes to mind most readily when consumers think about the brand name.

Are Flagship Products Vulnerable to Dilution?

Our characterization of flagship products provides a starting point for reasoning about how vulnerable flagship products might be to the same dilution effects we have seen for parent brand names. Recall that we are interested in a situation in which beliefs about the parent brand name have been diluted by an inconsistent extension. At issue here is whether the same type of dilution is evident for flagship products carrying the parent brand name and whether flagship products are more or less vulnerable to dilution than most other individual products.

At first glance, it might seem that flagship products would be more vulnerable to dilution given that they are linked most closely to the parent brand name. Given the strong link, it seems reasonable to expect that any change in beliefs or feelings about the parent brand name would be accompanied by similar changes in the flagship product. Beliefs about less prominent individual products, which have weaker links to the parent brand name, would be affected less by these types of changes. This line of reasoning suggests, for example, that Johnson's baby shampoo would be more vulnerable to dilution than other Johnson & Johnson products, such as adhesive bandages or cotton swabs.

However, the case for the opposing prediction that flagship products are less vulnerable to dilution is even stronger. Although it is true that the link between the flagship product and the parent brand name is strong, it also is true that the links between the flagship and its own network of beliefs and feelings are equally strong, if not stronger. Consumers often have years of accumulated exposure to and experience with the flagship product, resulting in a well-developed set of associations that are more extreme and strongly held (e.g., Fazio and Zanna 1978), highly accessible (e.g., Fazio, Powell, and Williams 1989), and more resistant to change (cf. Petty and Krosnick 1994). As a result, beliefs about the flagship product are "encapsulated" and extremely resistant to change, regardless of belief changes that might be occurring at the parent brand level.

Consistent with this reasoning, we predict that beliefs about flagship products will be extremely resistant to

change. Note that our prediction also implies that beliefs about flagship products are less vulnerable to dilution than similar beliefs about the parent brand in general. The expectation in our empirical context is that Johnson's baby shampoo will escape the dilution of beliefs experienced by the parent brand, Johnson & Johnson, and possibly by other individual Johnson & Johnson products.

Study 1

Overview

We examined our predictions about flagship products in an experiment conducted with women between the ages of 18 and 49 years. Participants were shown information about a new hypothetical brand extension being marketed under a well-known brand name, Johnson & Johnson, and subsequently were asked for their beliefs regarding Johnson & Johnson's existing individual products and Johnson & Johnson products in general. As noted previously, Johnson & Johnson was selected as the parent brand for study because it is well regarded by consumers, is strongly associated with specific product attributes (e.g., gentleness), markets a variety of products carrying the parent brand name, and features one product (baby shampoo) that clearly stands out from the rest as the flagship product.

The study design included two between-subjects factors and one within-subjects factor, plus a control group. The first between-subject factor was a brand extension replicate, with participants receiving extension information about either a new bath powder or a new bath oil. These extensions were selected as ones that would be believable items for Johnson & Johnson to market as well as being reasonably associated with the flagship product, given their common connection as "bath" items. Replicates were included to broaden the generalizability of the results and diminish the possibility that any dilution effects observed here might be driven by product-specific factors. The second between-subjects factor was the order of the dependent measures, with attribute beliefs about individual Johnson & Johnson products measured first, followed by measures of attribute beliefs for Johnson & Johnson products in general, or the reverse. This factor was varied to address the concern that attribute belief measures at a more general level might affect similar measures at the product-specific level, or vice versa. The final factor, manipulated here within subjects, was the existing Johnson & Johnson product of interest. Seven different Johnson & Johnson products were used, including the flagship product, Johnson's baby shampoo. Finally, a control group received no information about the new brand extension and simply answered the belief questions about Johnson & Johnson products, which were used for comparison purposes to detect dilution effects.

Sample and Procedure

One hundred ninety-two women were recruited by a marketing research firm in a mall-intercept study. Previous pretests had revealed women to be more familiar and more experienced than men with Johnson & Johnson products. Women between the ages of 18 and 49 years, with at least a high school education and a household income of $10,000 or greater, were invited to participate.

Those who agreed were taken to a research facility in the mall, assigned randomly to one of the study conditions, and given the appropriate instructions.[2] Subjects in the experimental conditions, who were to see information about a new brand extension, were told that we were interested in learning "how people go about deciding whether to try new products" as a guise for the study. They were asked to read, at their own pace, some information presumably from *Consumer Reports* on a new product (either a bath oil or a bath powder) being introduced by Johnson & Johnson in another part of the United States that would be available sometime soon in their local area. Participants were asked several questions to ensure that they had paid attention to and comprehended the relevant information in the report (i.e., "Does the table say that Johnson & Johnson bath oil/bath powder is gentle?"). Those answering incorrectly (n = 7) were excused from the study.

For subjects passing the initial screening question, interviewers removed the *Consumer Reports* table, gave them the survey questionnaire, and instructed them to fill it out at their own pace. Subjects first completed several questions about their beliefs regarding the gentleness of individual Johnson & Johnson products and Johnson & Johnson products in general. To control for order effects, half the subjects completed the individual product belief questions first, followed by the more general belief questions, whereas the remaining half answered them in the reverse order. For a similar reason, two orders also were used for obtaining belief measures for the individual Johnson & Johnson products. Half the subjects answered questions about individual products in one order (cotton swabs, baby oil, dental floss, baby shampoo, cotton balls, baby powder, and adhesive bandages), whereas the other half received the questions in the reverse order (i.e., adhesive bandages first and cotton swabs last). Participants also answered questions designed to check their comprehension of the gentleness information contained in the *Consumer Reports* table. Next, participants completed questions to assess whether they perceived the new brand extension as consistent or inconsistent with their perceptions of Johnson & Johnson products. These questions were included to check that the inconsistent extensions were perceived as intended. Subjects then answered some final demographic questions (age, income, education) and were debriefed and dismissed.

Subjects in the control group were recruited in the same manner as those participating in the experimental conditions but were not presented with the *Consumer Reports* information. They were told that we were interested in consumer opinions about products and were asked to fill out a self-administered survey. The survey they completed contained the same belief measures as those used in the experimental conditions and the same demographic questions but did not include any questions about the new brand extension.

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[2]Subjects were assigned randomly to one of eight experimental conditions. Four of these are of interest here, pertaining to inconsistent brand extensions. The remaining four conditions involved consistent brand extensions.

Brand Extension Stimuli

The *Consumer Reports* table used in the experimental conditions consisted of a brand-by-attribute matrix, with six brands of bath powder or six brands of bath oil and three attributes per brand. One of the brands of bath powder or bath oil was designated as the new Johnson & Johnson product. The focal gentleness attribute was described as "low" for the new Johnson & Johnson product, with ratings of "high" for one filler brand, "low" for another filler brand, and "medium" for the remaining three brands in the table. The two attributes other than gentleness, size availability (e.g., 10-ounce and 16-ounce) and scent (e.g., scented and unscented), were not relevant to the experimental manipulations. Two different versions of the *Consumer Reports* table were prepared, one for bath powder and one for bath oil.

These stimuli were designed to meet several requirements. First, we selected gentleness as the focal attribute given its strong association with the parent brand. In pretesting, gentleness was the attribute mentioned most frequently in a free association task in connection with the Johnson & Johnson name. Also, using a rating scale format, Johnson & Johnson products were rated high on the gentleness attribute (on a scale from 1 = unlikely to 7 = likely to be associated with gentleness, $\overline{X}$ = 6.6). Second, the selection of gentleness as the focal attribute afforded the opportunity to design inconsistent brand extensions on the basis of gentleness ratings. Third, the *Consumer Reports* format was selected to be easy to read and comprehend as well as believable. A pretest with 30 women similar to those in the main study corroborated the fact that the *Consumer Reports* information was easy to understand ($\overline{X}$ = 5.83 on a 1 to 7 scale with endpoints of "hard to understand" and "easy to understand") and believable ($\overline{X}$ = 5.53 on a 1 to 7 scale with endpoints of "not believable" and "believable").

Individual Products

In selecting products for the study, the first priority was to identify the flagship product from the set of available Johnson & Johnson products. Given our definition of a flagship product as the one consumers associate most with the parent brand, we proceeded to examine the associative strength of individual Johnson & Johnson products with the Johnson & Johnson brand name. For this purpose, a sample of 25 women with characteristics similar to those included in the main study were recruited in a mall-intercept study. Participants were asked to respond to the following open-ended questions: "When you think about Johnson & Johnson, what products come to mind?" and "When you think about gentleness, what Johnson & Johnson products come to mind?" Two forms of the question were used: the first one a typical top-of-the-mind brand awareness probe and the second one more specific to the particular attribute of interest here.

Both forms of questioning confirmed that baby shampoo is the flagship product by our definition. In response to the first question, 88% of respondents mentioned baby shampoo in association with the Johnson & Johnson name. Significantly more consumers mentioned baby shampoo than the next most frequently mentioned product, baby powder (88% versus 64%, χ^2 = 3.95, $p < .05$). Other products mentioned by a substantial percentage of the sample included baby oil

(36%), cotton swabs (24%), and adhesive bandages (16%). Responses to the second question were similar, with 84% of women mentioning baby shampoo, 44% mentioning baby powder, and 36% mentioning baby oil. As previously, significantly more consumers mentioned baby shampoo than the next most frequently mentioned product (χ^2 = 8.68, $p < .01$). These results provide evidence not only that baby shampoo is the flagship product, but also that gentleness is associated strongly with the flagship baby shampoo.

We verified these results with an additional measure of the associative strength between the Johnson & Johnson name and its individual products. A sample of 40 women, again with characteristics similar to those in the main study, were asked to respond to the following question: "What Johnson & Johnson product do you feel is the *very best example* of what Johnson & Johnson stands for?"[3] In response to this question, 60% of consumers mentioned baby shampoo, significantly more than the next most frequently mentioned products, baby lotion (25%; χ^2 = 10.03, $p < .01$), baby oil, and baby powder (both 12.5%; χ^2 = 19.53, $p < .01$). Mentions for baby shampoo were also much more frequent than mentions of the "baby products" line in general (60% versus 20%; χ^2 = 13.33, $p < .01$). These data provide convergent evidence pointing to baby shampoo as the flagship product and underscore the importance of flagship products in anchoring the parent brand image.

The next task was to identify a set of additional Johnson & Johnson products for inclusion in the study. Although our focus was clearly on the flagship product, we wished to include a set of additional products as a way of contrasting the vulnerability of the flagship product with other products. This enabled us to rule out the unlikely possibility that all products are affected in the same way and gave us some preliminary data about which types of products might suffer most from dilution effects.

For this purpose, we asked women with characteristics similar to the women included in the main study to judge a variety of Johnson & Johnson products on the basis of familiarity, experience, exposure, and attribute importance (for gentleness). We hoped to find products that would be familiar to consumers, products that consumers had at least some degree of experience with, and products with gentleness (the focal attribute) as a moderately important attribute at minimum. Subjects were asked about the importance of the gentleness attribute for each product on a seven-point scale (1 = a lot less important than other product attributes to 7 = a lot more important than other attributes), their familiarity with each product on a five-point scale (1 = never heard of it to 5 = extremely familiar), their exposure to each product on a five-point scale (1 = no exposure to this product to 5 = a lot of exposure to this product), and their experience with each product on a five-point scale (1 = have had no experience using this product to 5 = have had

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[3]This study was conducted after the completion of Study 1 and in conjunction with Study 3 but is reported here for ease of presentation. Respondents were allowed to name more than one product example if necessary, which resulted in percentages that add up to more than 100.

a great deal of experience using this product). Each participant completed these items for the following Johnson & Johnson products: baby shampoo, baby powder, baby oil, cotton swabs, cotton balls, adhesive bandages, and dental floss.

The results indicated that these products were acceptable on article dimensions. Ratings of importance for the gentleness attribute, obtained from a sample of 24 women, indicated that the products vary on this dimension, with baby shampoo having the highest importance rating ($\overline{X}$ = 6.58) and dental floss having the lowest importance rating ($\overline{X}$ = 5.21). Note, however, that gentleness appears to be a consideration even for products such as dental floss ($\overline{X}$ = 5.21) and adhesive bandages ($\overline{X}$ = 5.38). It seems plausible that consumers consider how gentle dental floss is to use on delicate gums or how gentle bandage adhesives are to sensitive skin (especially upon removal). Thus, in different ways, gentleness does appear to be at least moderately important in purchase considerations for each of these products.

Consumers were also familiar with this set of products. To facilitate presentation, items measuring familiarity, exposure, and experience were summed to form a multi-item scale for each product (average coefficient alpha for seven products = .85). By examining ratings obtained from a sample of 49 women across products, we found that consumers were at least somewhat familiar with every product, with baby shampoo being the most familiar ($\overline{X}$ = 4.39) and dental floss being the least familiar ($\overline{X}$ = 2.88). The high ratings for baby shampoo provide further support for its status as the flagship product, with high levels of familiarity and experience presumed to underlie a strong network of flagship product beliefs.

Measures

Beliefs regarding the gentleness of individual Johnson & Johnson products were measured on three seven-point scales for each product (strongly agree/strongly disagree, extremely likely/extremely unlikely, very probable/not at all probable). These items were summed to form a multi-item scale (average coefficient alpha for seven products = .950), where higher values indicated more agreement with the statement that "Johnson & Johnson [name of product] is very gentle." Beliefs about Johnson & Johnson products in general were measured on the same three seven-point scales, which were also summed to form a multi-item scale (coefficient alpha = .887).

Perceptions regarding the inconsistency of the new brand extension with the Johnson & Johnson brand name were measured on four seven-point scales (consistent/inconsistent, similar/different, representative/unrepresentative, and typical/atypical of the Johnson & Johnson image). These scales were combined to form a sum scale (coefficient alpha = .974), where higher numbers indicated greater consistency with the Johnson & Johnson brand name.

Finally, comprehension of the gentleness information conveyed by the *Consumer Reports* table was assessed through recognition measures. Specifically, subjects were asked to respond (with a "yes," "no," or "don't remember") to statements such as "The new Johnson & Johnson bath oil shown in the table was described as gentle."

Results

Comprehension screening. We expected to find that recognition, as measured in the survey, would yield accurate judgments about the gentleness information presented in the *Consumer Reports* table, because all subjects passed the initial screener. The vast majority of participants (101 of 106, or 95%) were able to remember correctly in a subsequent recognition task whether the table described the new extension as very gentle or not. The five women who failed the screener were omitted from subsequent analyses.[4]

Brand extension consistency. To determine whether the information contained in our *Consumer Reports* stimuli manipulated the level of consistency as intended, we examined ratings of brand extension consistency with the parent brand image. First, the results indicated that the two inconsistent brand extensions were perceived as we anticipated, with both being judged as moderately inconsistent with the parent brand image ($\overline{X}$ = 4.74 for bath oil and $\overline{X}$ = 4.54 for bath powder). Perception of both extensions as moderately inconsistent was viewed as important given previous findings of dilution occurring in the presence of moderately inconsistent brand extensions under the same experimental conditions described here (cf. Loken and John 1993). Second, comparison of the means for the two inconsistent extensions indicated that both replicates (bath oil and bath powder) were viewed as similar in the degree of consistency they represented (t(1,70) < 1).

Order analysis. A preliminary set of analyses was conducted to assess whether order effects were evident in the data. Recall that the order in which subjects answered questions about individual product beliefs and parent brand beliefs was manipulated as well as the order in which subjects answered questions about the seven individual products. Findings from our order analyses yielded no order differences of import, which resulted in our decision to aggregate all data across order conditions to facilitate further analysis and presentation.[5]

Parent brand beliefs. Dilution of beliefs about the gentleness of Johnson & Johnson products in general was assessed prior to the analysis of beliefs for individual Johnson & Johnson products. Recall that our empirical scenario, as well as certain lines of our conceptual reasoning, included an assumption that beliefs about the parent brand would be diluted after exposure to an inconsistent brand extension. To check this assumption, we analyzed parent brand beliefs by planned comparisons between the means for such beliefs in each experimental condition and the mean beliefs for the parent brand in the control group.

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[4]The main results of the study were not altered significantly with the entire sample included in the analyses.

[5]The two order manipulations (order of the gentleness belief measures and the individual products) were combined to yield a total of four different order conditions. Of the contrasts reported here (64 for the two conditions), only 6.3% showed different patterns by order condition at a .05 significance level. Because the number of significant order effects approached chance levels and there was no understandable pattern to these results, we decided to collapse the data over the four order conditions.

As we expected, there was evidence of dilution of parent brand beliefs related to gentleness in both the bath oil extension condition ($\overline{X}$ = 5.24 for bath oil versus $\overline{X}$ = 5.89 for control group; t(1,66) = -2.03, p < .05) and the bath powder extension condition ($\overline{X}$ = 4.97 for bath powder versus 5.89 for control group; t(1,60) = -2.77, p < .01).[6] These data not only confirm our expectations but also replicate our prior research showing dilution for parent brand beliefs (cf. Loken and John 1993).

Flagship product beliefs. Means and standard deviations for belief measures pertaining to the flagship product and other individual products are presented in Table 1. A brief inspection of the means for experimental conditions versus the control group suggests that attribute beliefs for some products were affected. To examine these differences in more detail, the means for each experimental condition were compared with the control group mean for each of the seven products (see Table 1 for t-values). These planned contrasts provide a test of our predictions regarding the dilution of the

flagship product as well as other products carrying the parent brand name.

The results indicate an absence of dilution effects for beliefs regarding the flagship product. Across both brand extension conditions, gentleness beliefs about Johnson's baby shampoo remained intact, despite extension information that was inconsistent with these beliefs.

In contrast, several other products did not fare as well. Beliefs about Johnson's adhesive bandages and dental floss were diluted for both brand extension conditions, with Johnson's cotton swabs also diluted in the bath powder extension condition. Taken together, these findings provide support for the view that flagship products are resistant to change as well as less vulnerable to dilution than several other products in the same line.

Discussion

Our findings demonstrate for the first time that inconsistent brand extensions can dilute beliefs about individual products as well as beliefs about the parent brand in general. As we predicted, though, beliefs about the flagship product appear to be resistant to change and less vulnerable to dilution than beliefs about the parent brand in general. Looking across the set of products other than the flagship, some experienced dilution and some did not, an interesting finding that we discuss in more detail subsequently.

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[6]One-tailed tests were used for contrasts involving parent brand beliefs in view of previous findings of dilution under similar contexts. Two-tailed tests were used for all contrasts involving individual products.

TABLE 1
Study 1: Means, Standard Deviations, and T-Values for Individual Product Beliefs

Products	Experimental Conditions		Control Group (n = 29)
	Bath Powder (n = 33)	Bath Oil (n = 39)	
Flagship:			
Baby Shampoo	5.83	5.94	5.85
	(1.37)	(1.39)	(1.55)
	t = -.06	t = .26	
Others:			
Baby Powder	5.65	6.10	6.05
	(1.18)	(1.08)	(1.03)
	t = -1.43	t = .21	
Baby Oil	5.74	5.82	5.86
	(1.06)	(1.14)	(1.14)
	t = -.44	t = -.15	
Cotton Balls	5.92	6.13	6.09
	(.94)	(.86)	(1.15)
	t = -.69	t = .15	
Cotton Swabs	5.41	6.02	6.13
	(1.17)	(.79)	(1.13)
	t = -2.73**	t = -.43	
Adhesive Bandages	4.69	4.88	5.40
	(1.18)	(1.23)	(1.26)
	t = -2.30**	t = -1.74*	
Dental Floss	4.34	4.35	5.18
	(1.29)	(1.49)	(1.37)
	t = -2.37**	t = -2.44**	

Notes: Standard deviations are enclosed in parentheses. T-values are for planned contrasts versus the control group.
*.05 < p < .10.
**p ≤ .05.

Overall, these findings provide support for our view that beliefs about flagship products are highly resistant to change. It is also the case, however, that these results are limited in being able to pinpoint the exact source of the resistance to change. Recall that our explanation centers on the idea that flagship products have very strong associative networks, resulting in beliefs being encapsulated and extremely resistant to change. Although our current findings are supportive of this view, the results also are consistent with a different interpretation that is based on the strength of specific beliefs in the network. Because we examined a belief (gentleness) that is related strongly to the flagship product (baby shampoo), it is possible that these beliefs were resistant because of the strength of this single belief rather than the overall strength of the belief network associated with the flagship.

We pursued this possibility in a second study. Using the same empirical context as in Study 1, we examined an attribute belief that is associated less strongly with the flagship product, which enabled us to untangle the effects of belief strength from the overall associative network strength. Instead of focusing on beliefs about gentleness, we now switch to an examination of beliefs about how hygienic Johnson & Johnson products are. Although shampoos, and baby shampoo in particular, could be considered hygienic, this attribute is associated less closely with baby shampoo than the gentleness attribute. In fact, this attribute is equally or more likely to be associated with products that have antiseptic properties, such as Johnson & Johnson first aid or dental hygiene products.

Consistent with our prior reasoning, we predict that hygiene beliefs about the flagship product (baby shampoo) will be extremely resistant to change, even though this belief is not a particularly strong one when considered in isolation. Evidence to this effect would provide strong evidence in pinpointing the source of belief resistance at the associative network level (e.g., encapsulated beliefs) rather than at the individual belief level.

Study 2

Overview

Our second study included the same sampling frame, procedures, and measures as those employed in Study 1. The study design included two between-subjects factors and one within-subjects factor, plus a control group. The first between-subjects factor was a brand extension replicate, with participants receiving extension information about either a new mouthwash or a new first aid swab. Once again, replicates were included to broaden the generalizability of results and diminish the possibility that product-specific factors might be responsible for any observed effects. The second between-subjects factor was the order of the dependent measures, with attribute beliefs about individual Johnson & Johnson products measured first or attribute beliefs about Johnson & Johnson products in general measured first. Although order effects were not a factor in our first study, we included an order manipulation here to account for the possibility that beliefs about hygiene might be more affected by order than beliefs about gentleness. The third factor, indi-

vidual Johnson & Johnson products, was manipulated within subjects. Five different Johnson & Johnson products were used, including the flagship, Johnson's baby shampoo. Finally, a control group received no information about the new brand extension. They simply answered the belief questions about Johnson & Johnson products, and their responses were used for comparison with the experimental groups as a way of detecting dilution effects.

Sample and Procedure

One hundred thirty-nine women were recruited by a marketing research firm in a mall-intercept study.[7] Once again, women between the ages of 18 and 49 years, with at least a high school education and a household income of $10,000 or greater, were invited to participate.

Those who agreed to participate were taken to a research facility in the mall, assigned randomly to one of the study conditions, and given the same instructions as those provided to subjects in our previous studies. Participants read information about a new Johnson & Johnson mouthwash or first aid product that was presented in a *Consumer Reports* table, as in Study 1. A screening question to ensure comprehension and controls for order effects also were included.

Brand Extension Stimuli

The *Consumer Reports* table used in the experimental conditions consisted of a brand-by-attribute matrix, with six brands of mouthwash or six brands of first aid swabs and three attributes per brand. One of the brands of mouthwash or first aid swabs was designated as the new Johnson & Johnson product. The focal hygiene attribute was described as "low" for the new Johnson & Johnson product, with ratings of "high" for one filler brand, "low" for another filler brand, and "medium" for the remaining three brands in the table. The attributes other than hygiene, size availability (e.g., 24-ounce or 32-ounce), number of flavors (e.g., two), and package type (e.g., foil or plastic), were not relevant to the experimental manipulations.

These stimuli met several requirements. First, we selected the hygiene attribute as one that consumers associate less strongly with the flagship product. The idea of selecting an attribute related to hygiene was precipitated by the fact that Johnson & Johnson makes many products in the personal hygiene (e.g., dental floss, toothbrushes) and first aid (e.g., adhesive bandages, first aid cream) product categories. The term *hygienic* was adopted after two pretests indicated that alternative phrases, such as "sterile," "germ-free," or "antiseptic," were not as meaningful across a wide range of Johnson & Johnson products.

Further testing confirmed that hygienic beliefs were associated less strongly than gentleness beliefs with the flagship product. A sample of 20 women, similar in composition to prior samples, was asked to respond to the following open-ended question: "When you think about Johnson & Johnson products that are hygienic, which ones come to

mind?" The top three products mentioned by respondents were baby shampoo (45%), adhesive bandages (35%), and baby lotion (35%), with no single product dominating the top three (for all comparisons, $\chi^2 < 1$). Although the number of women associating baby shampoo with hygiene is somewhat surprising and probably due to the dominant association of baby shampoo with the Johnson & Johnson brand name, this percentage is about half that reported previously for women associating gentleness with Johnson's baby shampoo (84%).

Finally, responses from a different sample of 29 women confirmed that the hygiene attribute varies in importance for a range of Johnson & Johnson products. As expected, Johnson's baby shampoo registered the lowest attribute importance rating ($\overline{X}$ = 5.72 on a seven-point scale, where 1 = a lot less important and 7 = a lot more important than other attributes), though the mean suggests that hygiene is an important consideration even for products such as baby shampoo. Other Johnson & Johnson products scored much higher, including gauze ($\overline{X}$ = 6.83), adhesive bandages ($\overline{X}$ = 6.41), and first aid cream ($\overline{X}$ = 6.38).

After selecting an appropriate attribute, we chose mouthwash and first aid swabs as the two new hypothetical brand extensions. Hygiene appeared to be an important feature of both extensions and one that conceivably could be rated by *Consumer Reports*.

Individual Products

In selecting Johnson & Johnson products for this study, we made several changes to the set of products used in Study 1. We continued to include Johnson's baby shampoo as the flagship product. To this, we added baby lotion as a second baby care item to examine whether the lack of dilution effects observed for several baby care products in the first study (baby oil, baby powder) would extend to additional products in the line. The remaining three products were chosen to represent Johnson & Johnson's personal hygiene line (dental floss) and first aid products line (adhesive bandages, first aid cream).

These nonflagship products were tested with a sample of 29 women to check the degree of familiarity and experience consumers have with each Johnson & Johnson product. Respondents were asked to judge each product on the five-point familiarity and experience scales used in the first study. Responses to these items then were combined into a multi-item scale (average correlation of .77 across products). Using this composite scale, the results indicate that consumers were at least somewhat familiar with all products, with adhesive bandages ($\overline{X}$ = 4.47) being the most familiar and first aid cream ($\overline{X}$ = 3.03) being the least familiar.

Measures

Measures of parent brand beliefs, individual product beliefs, brand extension consistency, and extension information comprehension were measured as in Study 1. The only difference was the wording of the belief measures, with the statement that "Johnson & Johnson [name of product] is very gentle" changed to "Johnson & Johnson [name of product] is very hygienic." Respondents rated this belief sentiment on three seven-point scales (strongly agree/strongly

disagree, extremely likely/extremely unlikely, very probable/not at all probable), which were combined to form a multi-item scale (average coefficient alpha for five products = .970; coefficient alpha for parent brand = .940). As in the previous study, higher values for the multi-item scale indicated more positive beliefs.

Results

Comprehension screening. The vast majority of respondents correctly remembered the hygiene information presented in the *Consumer Reports* table. Only 4 of 139 (2.8%) failed the recognition test included in the survey and subsequently were omitted from further analyses.

Brand extension consistency. To examine whether the *Consumer Reports* stimuli manipulated the level of inconsistency as intended, ratings of brand extension consistency were examined (coefficient alpha = .963). The results confirm that both brand extensions were perceived as anticipated, with both being judged as moderately inconsistent with the parent brand image ($\overline{X}$ = 4.61 for mouthwash and $\overline{X}$ = 4.03 for first aid swabs). Once again, moderate inconsistency rather than high inconsistency was favored as fulfilling one of the preconditions for dilution effects set forth by prior research (cf. Loken and John 1993).

Order analyses. A preliminary set of analyses was conducted to explore whether order effects were present in the data. Two different types of order effects were possible, with one order manipulation affecting the sequencing of parent brand beliefs and individual product beliefs, and a second order manipulation affecting the sequencing of the individual product beliefs. As in Study 1, few differences emerged in the order conditions, which resulted in our decision to aggregate all data across order conditions in subsequent analyses.[8]

Parent brand beliefs. Our first look at the data pertained to the parent brand beliefs. To check our assumption that parent brand beliefs would be diluted, we conducted a planned comparison between the mean for the parent brand beliefs in each experimental condition and the mean parent brand beliefs in the control group. As we expected, parent brand beliefs regarding hygiene were diluted in both the mouthwash extension condition ($\overline{X}$ = 4.80 for mouthwash versus $\overline{X}$ = 5.83 for control group; t(1,68) = –2.58, p = .01) and the first aid swab extension condition ($\overline{X}$ = 4.77 for first aid swabs versus $\overline{X}$ = 5.83 for control group; t(1,62) = –2.68, p < .01). These findings mirror the dilution effects found for gentleness beliefs in the first study, which provides further support for the existence of dilution effects at the parent brand name level.

Flagship product beliefs. Means and standard deviations for belief measures pertaining to the flagship product are presented in Table 2. As previously, differences between the experimental and control group beliefs were examined by conducting planned comparisons between the group means.

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[8]Again, the two order manipulations were combined. Of the 48 contrasts, only 4 (8.3%) showed different patterns at a .05 significance level.

TABLE 2
Study 2: Means, Standard Deviations, and T-Values for Individual Product Beliefs

	Experimental Conditions		
Products	Mouthwash (n = 49)	First Aid Swabs (n = 53)	Control Group (n = 16)
Flagship:			
Baby Shampoo	4.85 (1.76) $t = -.65$	4.92 (1.67) $t = -.51$	5.17 (1.58)
Others:			
Baby Lotion	4.31 (1.68) $t = -3.18^{**}$	4.63 (1.48) $t = -2.51^{**}$	5.75 (1.49)
Dental Floss	5.45 (1.52) $t = -1.13$	5.21 (1.48) $t = -1.73^{*}$	5.92 (.93)
Adhesive Bandages	5.54 (1.53) $t = -1.26$	5.45 (1.44) $t = -1.52$	6.06 (.98)
First Aid Cream	5.37 (1.54) $t = -1.09$	5.46 (1.27) $t = -.86$	5.79 (.93)

Notes: Standard deviations are enclosed in parentheses. T-values are for planned contrasts versus the control group.
$^{*}.05 < p < .10$.
$^{**}p \le .05$.

The results of these comparisons, shown in Table 2, indicate the absence of dilution effects for beliefs regarding the flagship product. Hygiene beliefs for Johnson's baby shampoo escaped dilution, even though these beliefs were associated less strongly with the flagship product than the gentleness beliefs assessed in Study 1.

Examining the results for other Johnson & Johnson products, however, we see evidence of beliefs being diluted for several products (see Table 2). The most affected across both brand extensions was Johnson's baby lotion. This result indicates that not all baby products are judged similarly and provides further support for the view that Johnson's baby shampoo has a special status as a flagship product. One other product, dental floss, shows evidence of dilution in the first aid swab extension condition.

Discussion

These findings provide support for our view that flagship beliefs are resistant to change because of the overall strength of the associative network that characterizes flagship products. Beliefs about the flagship product remained unchanged regardless of whether the particular belief in question was relatively weak (e.g., hygiene in Study 2) or strong (e.g., gentleness in Study 1). Thus, the strength of a single belief in isolation does not determine necessarily whether the flagship belief is resistant to change. What matters is the strength of the network of beliefs that consumers have developed as a result of accumulated exposure to and experiences with the flagship product.

The results also complement our data from Study 1 in finding further empirical support for the basic notion that flagship beliefs are resistant to change. Combining data from both studies, flagship beliefs remained unchanged

across two different types of beliefs and four different brand extensions, despite the fact that beliefs about the parent brand were diluted consistently. Given the strength of this data, the logical question at this point is whether it ever would be possible to change or dilute flagship product beliefs.

We pursued this possibility in a third study by examining whether flagship beliefs would be diluted by inconsistent information about a line extension. Recall that our first two studies focused on brand extensions, which were related either moderately (Study 1: bath powder and bath oil) or more distantly (Study 2: mouthwash and first aid swabs) to the flagship product, baby shampoo. It is possible that inconsistent information of this sort may have relatively weak effects on flagship beliefs, given the ambiguous relationship between the brand extension product and the flagship product. This line of reasoning is consistent with several areas of psychological research, which conclude that strong prior beliefs (e.g., flagship beliefs) can be changed, but only in the presence of strong incoming information (e.g., extension information) that is unambiguous and diagnostic for making judgments (cf. Alloy and Tabachnik 1984; also Feldman and Lynch 1988).

Following this line of thought, we reason that inconsistent information about a line extension of the flagship product might produce dilution of the flagship product, presuming that line extension information would be much stronger than similar information conveyed about a brand extension in a different category. Clearly, a line extension is related unambiguously to the base product, and information about the line extension is considered more diagnostic than information about more distant products. Therefore, we predict that inconsistent line extension information will dilute

beliefs about the flagship product as well as beliefs about the parent brand.

Study 3

Overview

In this study, we employed the same sampling frame, procedures, and measures as those described for the first two studies. Our stimuli, however, were somewhat different in nature. We presented information about a hypothetical line extension of the flagship product (Johnson's baby shampoo with vitamin E) as opposed to our previous emphasis on brand extensions of the Johnson & Johnson family of products. Mirroring our previous studies, we described the extension as low in terms of gentleness or hygiene. After reading the extension information, consumers were asked for their beliefs about the parent brand, the flagship product, and other individual products. In summary, the study design included one between-subjects factor (type of belief: gentleness, hygiene) and one within-subjects factor (individual Johnson & Johnson products).

Sample and Procedure

One hundred twenty-four women were recruited by a marketing research firm in a mall-intercept study. As in the previous studies, women between the ages of 18 and 49 years, with at least a high school education and a household income of $10,000 or greater, were invited to participate.

Those who agreed to participate were taken to a research facility in the mall, assigned randomly to one of the study conditions, and given the same instructions as those provided to subjects in our first two studies. This time, participants read information about a new Johnson's baby shampoo with vitamin E that was presented in a *Consumer Reports* table. A screening question to ensure comprehension of the table information was included once again.

Brand Extension Stimuli

The *Consumer Reports* tables consisted of a brand-by-attribute matrix, with six brands of baby shampoo and three attributes per brand. One of the brands of baby shampoo was listed as the new Johnson & Johnson product. One version of the table described the new Johnson' baby shampoo as "low" in gentleness, with ratings of "low" for one filler brand, "high" for two filler brands, and "medium" for the other two filler brands listed. A second version of the table described the new Johnson's baby shampoo as "low" in terms of hygiene, with similar "low" ratings for one other filler brand, "high" ratings for another brand, and "medium" ratings for the remaining three brands listed. The two attributes other than gentleness or hygiene, type (normal or dry hair) and size availability (e.g., 11-ounce or 15-ounce), were not relevant to the experimental manipulations.

Individual Products

In selecting Johnson & Johnson products for this study, we chose a subset of those examined in our first two studies. We included the flagship, Johnson's baby shampoo, as well as other baby care products (baby oil, baby powder, baby lotion) and health care/personal hygiene products (adhesive bandages, dental floss). These items represented a range of products that include ones with gentleness or hygiene as a primary attribute and ones that were moderately known to consumers at a minimum.

Measures

Measures of parent brand beliefs, individual product beliefs, extension consistency, and extension information comprehension were measured as in our first two studies. Two versions of the individual product belief measures were used, depending on whether the focal attribute was gentleness ("Johnson & Johnson [name of product] is very gentle") or hygiene ("Johnson & Johnson [name of product] is very hygienic"). As in the previous studies, respondents rated these sentiments on three seven-point scales, which were combined to form a multi-item scale for gentleness beliefs (average coefficient alpha for six products = .976), hygiene beliefs (average coefficient alpha for six products = .974), and parent brand beliefs (coefficient alpha = .929 for gentleness and .920 for hygiene beliefs). Higher values for the multi-item scale were indicative of more positive beliefs.

Results

Comprehension screening. As in the previous studies, the vast majority of respondents correctly remembered the gentleness or hygiene information presented in the *Consumer Reports* table. Only 8 of 124 (6.5%) failed the recognition test included in the survey and subsequently were omitted from further analyses.

Line extension consistency. Ratings of extension consistency (coefficient alpha = .977) were examined to determine whether the information contained in the *Consumer Reports* stimuli manipulated the level of inconsistency as intended. The results confirm that the line extension was perceived as anticipated for both the version describing it as low in gentleness ($\overline{X} = 4.82$) and the version describing it as low in hygiene ($\overline{X} = 4.20$). In addition, both versions were viewed as similar in the degree of inconsistency they represented ($t(1, 75) < 1.50, p > .20$). Recall that moderate inconsistency as represented by these ratings was not only expected but also important as a precondition for dilution effects at the parent brand level.

Parent brand beliefs. To check for dilution of the parent brand beliefs, we conducted a planned comparison between the mean for the parent brand beliefs in each experimental condition and the mean parent brand beliefs in the control group. As expected, parent brand beliefs were diluted for both the gentleness attribute ($\overline{X} = 5.40$ for baby shampoo line extension versus $\overline{X} = 6.27$ for control group; $t(1, 76) = -3.40, p < .01$) and the hygiene attribute ($\overline{X} = 4.41$ for baby shampoo line extension versus $\overline{X} = 6.18$ for control group; $t(1, 76) = -5.77, p < .01$). These findings replicate the dilution effects found for gentleness and hygiene beliefs in the first two studies.

Flagship product beliefs. Means and standard deviations for flagship product belief measures, as well as those for

TABLE 3
Study 3: Means, Standard Deviations, and T-Values for Individual Product Beliefs

Products	Gentleness Beliefs		Hygiene Beliefs	
	Baby Shampoo with Vitamin E (n = 38)	Control Group (n = 40)	Baby Shampoo with Vitamin E (n = 38)	Control Group (n = 40)
Flagship:				
Baby Shampoo	5.21 (1.52) t = −4.16**	6.48 (1.15)	5.15 (1.59) t = −2.51**	5.93 (1.12)
Others:				
Baby Powder	5.62 (1.20) t = −1.82*	6.12 (1.20)	4.75 (1.67) t = −3.14**	5.79 (1.24)
Baby Oil	5.61 (1.40) t = −1.60	6.09 (1.30)	4.66 (1.67) t = −2.93**	5.63 (1.22)
Baby Lotion	5.64 (1.16) t = −3.44**	6.45 (.91)	4.79 (1.61) t = −3.70**	5.92 (1.03)
Adhesive Bandages	5.01 (1.05) t = −2.67**	5.68 (1.17)	5.37 (1.55) t = −3.87**	6.46 (.86)
Dental Floss	4.84 (1.05) t < 1	5.04 (1.43)	5.61 (1.25) t = −1.83*	6.08 (1.06)

Notes: Standard deviations are enclosed in parentheses. T-values are for planned contrasts versus the control group.
*.05 < p < .10.
**p ≤ .05.

other individual products, are presented in Table 3. As in the previous studies, differences between the experimental and control group beliefs were examined by conducting planned comparisons between the means for both sets of beliefs. The results of these comparisons, shown in Table 3, indicate that dilution did occur for the flagship baby shampoo for the first time. Dilution was evident for both types of attribute beliefs, gentleness and hygiene.

Examining the results for other Johnson & Johnson products, we see evidence of dilution for baby lotion and adhesive bandages across both line extensions. Other products also were diluted by the line extension with the inconsistent hygiene belief. All four baby care products as well as adhesive bandages showed dilution of hygiene beliefs, with dental floss being the only product to escape dilution in this condition.

General Discussion

Prior research has shown that important beliefs about a brand name can be diluted by brand extension information, particularly when the brand extension is perceived as moderately inconsistent with consumers' expectations for the brand. Our current findings contribute further to this literature in three important ways. First, the present research goes a step beyond the traditional dilution research in demonstrating that even when the overall parent brand beliefs are diluted, beliefs about the flagship product could be immune. Compared with beliefs about the parent brand, beliefs about

the flagship are less vulnerable to dilution in the face of inconsistent brand extension information. Second, even flagship products can be diluted, but only when the extension information describes a line extension that is associated very closely with the flagship product. Third, our research is the first to demonstrate that beliefs about individual products marketed under a parent brand—both flagship and nonflagship products—can be diluted.

These findings are discussed in more detail subsequently. In particular, our discussion focuses on developing a better understanding of why different patterns of dilution emerge for different types of products, as well as understanding the managerial implications arising from our data.

Flagship Products

Our primary focus was on flagship products, which we define as the products that consumers most closely associate with parent brand names. In consumers' minds, the flagship product is the embodiment of everything the brand name stands for or represents. From the vantage point of the firm, the flagship product is often the most prominent and successful among all products carrying the parent brand name.

Overall, our data suggest that beliefs about flagship products (e.g., Johnson's baby shampoo) are less vulnerable to dilution than beliefs about the parent brand (e.g., Johnson & Johnson) in general. In Studies 1 and 2, the same inconsistent *brand extension* information that consistently diluted beliefs about the parent brand had absolutely no impact on

beliefs about the flagship. Flagship beliefs were highly resistant to change across several different types of brand extensions (bath oil, bath powder, mouthwash, first aid swabs) and across two different attributes (gentleness, hygiene) that varied in their strength of association to the flagship product.

Consistent with our expectations, beliefs about the flagship did not change simply because of its prominent status and close association with the parent brand name. As we argued previously, beliefs about flagship products appear to be encapsulated and resistant to change, largely due to the exposure, familiarity, and experience that consumers have acquired with regard to the flagship over time. Flagship products have strong networks of beliefs that are difficult to penetrate or change. As we have seen, the strength of the network as a whole appears to insulate flagship beliefs from change, even in the case of individual beliefs that are relatively weak (e.g., hygiene) when considered in isolation.

Thus, flagship products seem to have a special type of immunity, though it can be overcome when the inconsistent information pertains to a *line extension*. Results from Study 3 show that, when inconsistent information is introduced for a line extension (Johnson's baby shampoo with vitamin E), beliefs about the flagship product (Johnson's baby shampoo) are no longer immune to change. Presumably, the close relationship between the flagship and its line extension breaks down the resistance that was so evident in our first two studies. As we argued previously, information about a line extension is likely to be less ambiguous and more diagnostic for making judgments about the flagship, in contrast to the same information about a brand extension with fuzzier connections to the flagship product.

Other Products

Although our focus was on flagship products, our findings also indicate that inconsistent brand and line extensions can dilute beliefs about other products. Combining data across all three studies, it is clear that several different products experienced dilution, with some more affected than others. What is less clear, however, is why some products seem more vulnerable than others or vulnerable only under certain situations.

Although a lengthy examination of this issue is beyond the scope of our research, we did investigate several post hoc explanations of the data to provide some preliminary insights. First, using results from our first two studies, we examined whether beliefs about individual products were diluted in cases in which the brand extension was "closer" to the product. For example, in Study 1, the bath oil and bath powder extensions are closer to baby oil and baby powder, respectively, than they are to the other products (e.g., cotton balls, dental floss). In Study 2, the mouthwash and first aid swab extensions are closer to dental floss and first aid cream, respectively, than they are to other products (e.g., baby lotion). In both studies, individual products that were closest to the brand extension did not experience dilution. Although we did not assess the effects of a line extension as we were able to do for the flagship product, the pattern of data we do have is not consistent with our first scenario.

Second, we examined the nature of the individual products themselves. We reasoned that, similar to the flagship, individual products might be more or less subject to dilution depending on the degree of familiarity, exposure, and experience that consumers have acquired for each product. We ordered the composite measure of familiarity, exposure, and experience we had for each product and compared it to the dilution results for each study. The ordering was less than satisfactory, starting with the first study. For example, in Study 1, cotton balls were rated low on our composite measure (along with dental floss and adhesive bandages and lower than cotton swabs) yet were more immune to dilution than dental floss, adhesive bandages, and cotton swabs.

On our third attempt, we turned our focus from the nature of the individual product to the belief itself. Consistent with our previous discussion of brand associations and with much recent work on attitude strength and resistance (cf. Petty and Krosnick 1994), we examined whether "stronger" beliefs pertaining to a product might yield more resistance to change, making the product less vulnerable to dilution. In contrast to our notion about the strength of the belief network for flagships, we reasoned that nonflagship products may be more or less vulnerable to dilution on the basis of the strength of an individual belief in isolation.

We first computed a belief "extremity" score (cf. Krosnick et al. 1993) using data collected in pretests and control groups. For each product and each attribute belief (gentleness, hygiene), we took the absolute value of the distance of consumers' belief ratings from the scale midpoint and computed an average extremity score. For example, in Study 1, the belief extremity scores for gentleness beliefs were baby oil (2.13), baby powder (2.10), cotton balls (1.94), cotton swabs (1.81), adhesive bandages (1.46), and dental floss (1.15). These scores indicate that consumers hold the strongest beliefs about the gentleness of products such as baby oil and baby powder, with much weaker beliefs about the gentleness of products such as adhesive bandages and dental floss. For each study, for each product within each extension condition, we also noted whether the product beliefs had shown dilution, coded as 0 (no dilution) or 1 (dilution).

Considering the data for brand extensions, we found a significant negative correlation between a product's belief extremity score and its dilution outcome. For Study 1, $r(12) = -.86$ ($p < .01$); for Study 2, $r(8) = -.82$ ($p < .01$); for both studies combined, $r(20) = -.70$ ($p < .01$). For line extensions related to the flagship, the same relationship is nonsignificant in Study 3, where $r(10) = .30, p > .10$.[9] These data suggest that different processes occurred when consumers were exposed to brand versus line extension infor-

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[9]A similar analysis was pursued with attribute importance ratings, which might be considered another indicator of belief strength. Correlations between attribute importance ratings and dilution outcomes were consistent with, though weaker than, the correlations for belief extremity reported in this article. For example, in Studies 1 and 2 combined, $r(20) = -.70$ for belief extremity scores and $r(2) = -.54$ for attribute importance ratings.

mation. When consumers were exposed to brand extension information that was inconsistent, products for which people held strong attribute beliefs were more resistant to change than products for which people held weak attribute beliefs. When people were exposed to inconsistent line extension information targeting the flagship product, even some products with strong beliefs (e.g., baby powder) were diluted.

Parenthetically, we also note that similar data for the flagship product (baby shampoo) diverge from the trends noted previously. As we would expect on the basis of our previous arguments, individual belief strength does not drive the presence or absence of dilution effects for the flagship product. Beliefs about Johnson's baby shampoo were not diluted in any of the conditions in Study 1 or 2, despite the fact that the belief extremity rating for baby shampoo was high in Study 1 ($\overline{X} = 2.23$, higher than the means for all other products) and low in Study 2 ($\overline{X} = 1.38$, lower than the means for all other products, including baby lotion, which was diluted). This leads us to conclude, once again, that the flagship product appears to have a special status in resisting dilution that other products do not.

Managerial Implications and Considerations

Our key finding is that the risk of brand and line extensions does not stop at the parent brand level. Inconsistent extensions carry the risk of diluting important consumer beliefs about individual products that carry the parent brand name. Beliefs about flagship products are the most immune to dilution, showing resistance to change unless a line extension is involved. Other products are less predictable but do experience dilution depending on the strength of the attribute belief under attack.

These results imply that the risks of brand extensions are much lower than the risks of line extensions, particularly in the case of flagship products. Beliefs about flagship products, by our definition and in our context, are quite resistant to change, even more so than beliefs about the parent brand in general. The real risks appear to be associated with line extensions, which are capable of diluting not only flagship products but also a host of other products. These risks must be incorporated into current thinking about branding policies as managers weigh the costs and benefits of extension strategies.

We offer these implications with the following caveats. First, it is important to understand the type of flagship product that is most consistent with our findings. Our data are most applicable to flagship products about which consumers have well-established beliefs apart from the more abstract beliefs they hold about the parent brand in general. We studied one particular flagship product, Johnson's baby shampoo, but many others come to mind, such as American Express credit cards and Betty Crocker cake mixes, when we think about brands that have firmly entrenched flagship products. We note that other brands, such as Healthy Choice, for which a single product may not be prominent to consumers, could have flagships that are less resistant to change.

Second, in the case of some brands, it is possible that more than one product could have flagship status. Although we do not address this issue in our research, our data do not rule out this possibility entirely for Johnson & Johnson products, for example. We can rule out the idea that baby products should be considered a "family" of flagship products, given the findings from Study 2 that baby lotion was diluted even when baby shampoo was not. What is more difficult to dismiss, however, is the notion that baby oil and baby powder might have flagship status along with baby shampoo. Although it is clear that baby shampoo dominates consumers' associations with the Johnson & Johnson brand name, both baby oil and baby powder also were mentioned frequently and resisted dilution when baby shampoo did. Without further data, we simply note that a group of products could function as flagships with the attendant resistance to dilution.

Third, it is important to note that extensions can be perceived as inconsistent on a variety of bases, including the degree to which extension attributes and product categories fit the parent brand image. Consistent with our previous work (Loken and John 1993), we investigated the potential dilution of specific attribute beliefs rather than of global affect. For this reason, we focused on extensions with attributes that are inconsistent with existing parent brand beliefs, though the extension categories are consistent with the parent brand image. For example, bath products (Study 1) and first aid products (Study 2) fit well with the current lineup of Johnson & Johnson products. What is inconsistent is the extension's performance with regard to an important attribute, either gentleness or hygiene. As these examples illustrate, "attribute" inconsistency is not the same as "product category" inconsistency. It is, therefore, important to note that our "moderately inconsistent" extensions are operationally different from those described in prior research as having a "moderate fit" with the parent brand.

Finally, we are mindful of the fact that our data were collected at a single point in time, following exposure to a single set of extension information. Although even this single administration produced dilution effects, especially at the parent brand level, the existence of long-term dilution effects remains unknown. Could long-term, repeated exposures yield even greater and more insidious dilution even among "immune" flagship products? Will a flagship product be diluted eventually simply by virtue of its connection to a diluted brand name? Whether a "leak" can occur within the boundaries of flagship product beliefs, creating slow but gradual shifts over time, awaits further study.

These observations suggest the need to consider the extent to which our dilution effects generalize to different settings and with different types of flagships, time frames, and exposures. Although further empirical research might address these issues, it is also the case that further theoretical understanding of the structural aspects of brands and the way consumers incorporate extension information would be equally helpful. Alternative measures and methodological tools, such as conceptual mapping tech-

niques (e.g., Joiner 1995), also might be needed for describing consumers' cognitive structures of a brand, a brand's individual products, and attribute beliefs about the brand and its products. Progress on any of these fronts would provide us with a better understanding of the risks of extension strategies—both brand and line extensions—for brands as well as their individual products.

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