The Effect of Measuring Intent on Brand-Level Purchase Behavior

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Previous research has demonstrated that merely asking consumers purchase intent questions has a significant impact on their actual purchase incidence in the category. Our article extends this research to explore the impact of the "mere-measurement" effect at the brand level. We hypothesize that there are predictable patterns of brand-level purchase effects that depend on whether a consumer has previously made a purchase in the product category. The results demonstrate that current owners of cars are more likely to repurchase the brands they currently own when they are asked intent questions. In addition, the purchase behavior of current car owners is more consistent with their brand attitudes when they are asked intent questions. First-time car buyers, on the other hand, are more likely to purchase brands that have large market shares when asked intent questions. Finally, we discuss both the implications of these results and opportunities for future research.

The standard assumption in consumer research is that surveys measure respondents' existing attitudes, opinions, and behavior. However, a recent stream of research has shown that the process of survey measurement actually changes respondents' attitudes, intentions, and behavior (Feldman and Lynch 1988; Morwitz, Johnson, and Schmittlein 1993; Simmons, Bickart, and Lynch 1993). For example, Morwitz and her colleagues (1993) found that merely asking consumers whether they intended to purchase an automobile or a personal computer in a survey increased their subsequent purchase rate. In other words, the mere act of measurement creates purchase intentions either directly or by altering consumers' attitudes. These purchase intentions are not only created, but also acted on.

Our objective in the current research is to further explore the mere-measurement effect by examining the effect of measuring purchase intentions on which brands consumers purchase. Previous research has examined the effect of measuring intentions on category-level purchasing (i.e., Morwitz et al. [1993] reported inten-

tions and purchases for two durable goods at the product category and not the brand level). Morwitz et al. (1993) found that consumers whose purchase intentions were measured were more likely to buy a product in the category than was a control group of consumers whose intentions were not measured. They found this result to be true in two categories for which the predominant attitude toward the products in the population was positive. However, the implications of the mere-measurement effect at the brand level are not clear. The increase in category-level sales may come from a proportionate gain in sales for all brands in the category (i.e., the market share of brands purchased may remain the same as sales in the category increase). Alternatively, the incremental sales in the category may accrue only to a subset of brands in the category. In this article we examine the brand-level implications of the mere-measurement effect.

Our focus on purchasing at the brand level is important for two reasons. First, in practice, marketing researchers are usually more interested in the effect of a particular marketing action on their specific brand than on the entire product category. Therefore, the ability to isolate the brand-level impact of asking purchase intent questions should per se be of interest to marketers. Second, this examination will extend the theoretical literature on the mere-measurement effect by examining the brand-level behavioral impact.

Morwitz et al. (1993) suggest that measuring intentions to buy a product can change purchase behavior in two ways. First, measuring intent may make underlying product-related cognitions, such as attitudes or intentions, more accessible. Second, measuring inten-

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tions can lead the respondent to engage in cognitive effort that results in the creation of or changes in these cognitions. In both cases the resulting purchase behavior becomes more consistent with the respondent's cognitions than it would be if the questions were not asked. The empirical results from the Morwitz et al. study were consistent with these theoretical explanations. Presumably, the mere-measurement effect at both the category and brand levels operates through a similar cognitive process. By extending this research to an examination of the brand-level effect of intent measurement, we hope to demonstrate an interesting and important phenomenon, to provide some insights that will aid in developing an improved understanding of the underlying cognitive process, and to highlight some interesting new directions for future research in this area.

This article demonstrates that measuring intention to buy within a product category affects in a systematic manner the brands consumers purchase. We examine the impact of measuring intent on market share among consumers that made a purchase in a product category. Specifically, we find that for consumers currently using a brand, asking questions about their future intentions to buy in a product category increases the market share for the brand currently used (relative to comparable consumers who were not asked a purchase intent question). We find a positive relationship between brands' repeat purchase rates and brand choice probability. This effect is larger when intent questions are asked than when they are not asked. For consumers who do not currently use any brand in the product category, asking a purchase intent question increases the market share for those brands with the largest market shares (relative to nonusers who were not reported to report their purchase intentions). These results are particularly interesting given that the product category studied is an expensive consumer durable, automobiles. The fact that asking intent questions leads to changes in purchase behavior for such an expensive item not only is an interesting phenomenon, but strongly suggests that additional theoretical analyses of this subject are warranted. Finally, these results suggest care be taken in both the use and interpretation of purchase intent data.

The next section reviews literature that supports the mere-measurement effect and its extension to brand-level purchase behavior and develops hypotheses. The design of the study is then outlined, and the methods used to control for confounding factors are discussed. We then present the results of a large-scale quasi experiment that measures exposure to purchase intent questions and subsequent brand-level purchase behavior. Finally, we discuss both theoretical and practical implications of this research.

HOW MEASURING INTENT AFFECTS BRAND SALES

What happens when an intent question is asked and how does this affect the choice process? We assume that consumers follow a simple three-stage model of choice such as that proposed by Nedungadi, Mitchell, and Berger (1993). First, consumers will generate alternatives, in a stimulus-based manner, a memory-based manner, or most likely, some combination of the two. Second, consumers will determine which alternatives to consider selecting. Finally, they will select an alternative. Brand-related cognitions, such as attitudes toward a brand and intentions to purchase a brand, may or may not be fully developed at each of these stages; however, as consumers progress through the choice process it becomes increasingly likely they will form these cognitions. The effect of asking an intent question may well depend on the stage of the choice process in which the consumer is at. Asking an intent question of a consumer who is early in the choice process may lead to the construction of attitudes and intentions for different brands. For example, for consumers early in the choice process, measuring intent may cue and increase the accessibility of brand names that easily come to mind and lead to cognitive processing related to these brands. Consumers who are at a later stage in the choice process are more likely to have already constructed attitudes and purchase intentions for different brands. For these consumers, measuring intent may cue and increase attitude accessibility or lead to the direct retrieval of a preformed intention. This is consistent with a recent stream of literature that has demonstrated that answering an attitude question about a product will cause the attitude toward the product to become more accessible (Fazio, Powell, and Williams 1989; Kardes, Allen, and Pontes 1993).

Morwitz et al. (1993) demonstrated the behavioral consequences of measuring intentions for a large group of consumers who presumably were at various different stages in the decision-making process. Overall, they found that the purchasing behavior of respondents whose intentions were measured was significantly different from the behavior of respondents whose intentions were not measured. They suggest that this occurs for two related reasons. First, asking an intent question will in some cases make a preexisting attitude more accessible. Consumers' resulting behavior, in turn, will be more consistent with their underlying attitudes. Second, measuring intent may cause consumers to engage in cognitive work that may lead to the construction or change of attitudes, intentions, and behavior.

In this study we focus on consumers who are likely to be in the later stages of the decision-making process. In particular, our study is limited to consumers who will purchase an automobile within an immediate six-month period. We believe it is quite likely that many of these consumers have already formed brand-related cognitions. Some consumers may have already formed attitudes toward brands and some may have even formed purchase intentions. In these cases, asking an intent question is likely to increase the accessibility of brand attitudes or intentions, which in turn leads to
changes in behavior consistent with these cognitions. However, for other consumers (e.g., consumers who have not previously formed attitudes toward brands) asking an intent question may increase the accessibility of a brand name rather than the accessibility of an attitude toward a brand. In this case asking an intent question may lead to the formation of an attitude or an intention toward an accessible brand. As we motivate our hypotheses we will assume that most consumers are late in the decision-making process and are likely to have previously formed brand-related cognitions. However, we will return to this issue in the discussion section and consider several different cognitive processes that may be operating at an individual level for consumers at different stages in the decision-making process.

We next develop specific predictions for the behavioral consequences of asking intent to buy at the brand level. Specifically, our predictions are based on the accessibility levels of cognitions related to each of the different brands in the product category prior to the collection of purchase intentions. Those brands whose cognitions are most accessible will be most affected when the category is activated by asking a purchase intent question. This proposition assumes an associative network model of memory (e.g., Anderson and Bower 1973). Thus, predicting how measuring intent will affect sales requires the determination of the accessibility levels of brand cognitions prior to purchase intent measurement.

Feldman and Lynch (1988) review a wide variety of factors that have been demonstrated to affect the level of accessibility in memory of a prior cognition (such as attitude, belief, and intention). Factors such as the time since the most recent activation, the amount of interfering material, and the presence of retrieval cues (both internal and external) are all cited as having a major impact on the accessibility of a cognition. One important factor in consumer research is the level of prior usage of a brand or category. Several studies have suggested or demonstrated that brand usage is related to the accessibility, salience, and memorability of the brand (e.g., Alba and Chattopadhyay 1986; Biehal and Chakravarti 1983; Hutchinson 1983). In a study of attitude formation, Fazio et al. (1982) provide further support for the link between usage and increased accessibility. They compared subjects who reported attitudes toward an intellectual puzzle after having an opportunity to physically attempt the puzzle (direct behavioral experience) to subjects who reported attitudes after seeing and hearing a description of the puzzle but not attempting to do it (indirect experience). They found that the group with direct behavioral experience showed enhanced attitude accessibility (measured through response latency), both in the case in which attitudes had been previously formed and in the case in which attitudes had not been previously formed.

There are several reasons why product usage should increase the accessibility of cognitions about that product. In general, the accessibility of a cognition decreases with the time since the most recent activation (Wyer and Srull 1986). Cognitions about brands that consumers are currently using will be activated more often (i.e., with every use occasion) than other brands. Therefore, it is likely that a cognition for the brand currently used has been activated more recently than cognitions for other brands and hence will have greater accessibility. In addition, each usage occasion acts as a retrieval cue for previous product-related cognitions (Alba, Hutchinson, and Lynch 1991). Thus, recall of these previous cognitions makes it more difficult to recall information on other products or brands (an interference effect). A number of studies have demonstrated that increased attention to or accessibility of one alternative may interfere with recall of information on other alternatives (Alba and Chattopadhyay 1985, 1986; Fischhoff, Slovic, and Lichtenstein 1980; Hoch 1984). Together, these findings suggest that brand usage will lead to increased accessibility of cognitions for the brand previously used and inhibit thoughts for other brands in the choice set. If the accessibility of a brand-related cognition is increased, will there be any behavioral consequences? Two streams of research have demonstrated that there are behavioral consequences. Studies in the first stream have shown that the relationship between attitudes and behavior grows stronger as attitudes become more accessible (Alba et al. 1991; Biehal and Chakravarti 1983; Fazio and Zanna 1981; Fazio et al. 1989). For example, Nedungadi (1990) found changes in consumer memory and choice as he varied the accessibility of fast-food alternatives. Studies in the second stream have shown that when attitudes about performing a behavior are made more accessible by asking subjects' intentions to perform the behavior, subjects engage in cognitive elaboration. The resultant behavior is more consistent with the underlying attitude when intentions are asked than when they are not asked. For example, Sherman (1980) showed that merely asking people to predict whether they will perform a socially desirable or undesirable behavior increases or decreases the likelihood that they will perform the behavior. Similarly, Greenwald et al. (1987) found that asking voters whether they intend to vote increases their actual turnout on election day.

In summary, it has been shown that product usage leads to increased accessibility, which in turn leads to increased attitude-behavior consistency. Thus, we propose the following:

H1: For current users of a brand, measuring intent at the category level will change the market share of the brand currently used when the group in which intent is measured is compared to a control group of category users who are not asked a purchase intent question.
The direction of the change hypothesized in Hypothesis 1 will depend on whether the predominant attitude in the population is positive or negative. When attitudes are positive we expect asking intent questions to increase sales for the brand currently used. When attitudes are negative we expect decreased sales for those brands.

At the brand level, the direction of the effect of measuring intent will depend on whether attitudes toward the brand are favorable among current users. One measure of attitude favorability for brands is the degree of brand switching. For brands for which switching is low (i.e., most people who have purchased a particular brand purchase the same brand at the next purchase occasion), we assume that most consumers hold positive attitudes for the brand, and for brands for which switching is high we assume that attitudes are negative. We would therefore expect a positive relationship between repurchase rate and brand choice probability. Because measuring intent is likely to increase attitude accessibility, we expect the relationship between repurchase rate and brand choice probability to be stronger when intentions are measured than when they are not. Thus,

H2: For current users of a brand the relationship between repeat purchase rate and brand choice probability is positive and is greater for a group in which intent is measured than in a control group of category users who are not asked a purchase intent question.

The previous discussion focused on consumers who currently use a brand in the category. However, does measuring intent affect the brands purchased by consumers who are not currently users of a category? For the nonusers, accessibility will be a function of external cues such as advertising, prominence of product display, and product promotion rather than direct product experience. For example, Hutchinson (1983) and Alba and Chattopadhyay (1986) discuss the role continuous advertising plays in increasing the levels of salience and subsequent recall of a brand.

We suggest that, for people who do not use any products in a category, cognitions for the leading brands will be the most accessible. There are three reasons why we make this prediction. First, by definition, brands with large market shares have been purchased by more consumers than other brands in the product category. In product categories where usage can be publicly observed (e.g., automobiles, watches, clothing), there will be more opportunities for nonusers to be exposed to leading brands than other brands. For example, more leading automobiles will be on the street than other automobiles. Each time a nonuser sees a product being used, cognitions for that brand will be activated. Thus nonusers will be more familiar with leading brands. Second, leading products are likely to be considered highly representative or prototypical of their product category (Carpenter and Nakamoto 1989). Cognitions concerning prototypical members of a category are recalled more quickly and more frequently than cognitions for other category members (Nedungadi and Hutchinson 1985; Rosch and Mervis 1975). Ward and Loken (1986) demonstrated this effect for prototypical brands in a product category. Similar results have been found for familiar brands (Alba et al. 1991). This suggests that cognitions toward prototypical and familiar brands will be more accessible than cognitions toward other brands. Third, companies that market brands with large market shares are typically successful firms that presumably can afford to spend more money on marketing communications.1 When these companies advertise and promote their products, these communications serve as an external cue for cognitions related to that brand. Taken together, these three arguments suggest that for nonusers in a category, cognitions toward the brands with the largest market shares should be the most accessible. Thus, measuring intent should have the largest effect on sales of these brands. Because these are successful brands, and are likely to be viewed favorably, we predict a positive measurement effect and posit that

H3: For current nonusers of a category, measuring intent will increase the purchase incidence of the brands with the largest market share in the category, when the group in which intent is measured is compared to a control group of category nonusers who are not asked a purchase intent question.

STUDY DESIGN

Data from a quasi experiment were used to test the hypotheses outlined above. These data are the result of a naturally occurring experiment that took place in a large, nationally representative consumer mail panel. Over the course of time in any panel, members drop out and must be replaced with new members in order to retain the representativeness of the panel. It was through this mechanism that variations in the number of purchase intent questions households received was achieved. By observing the purchase behavior of panel households that varied in the number of purchase intentions they received, we could determine how measuring intent affected their purchase behavior.

In order to control for any other influences on purchase behavior and rule out alternative explanations, a formal laboratory experiment could be conducted. Subjects would be assigned at random to receive or not receive purchase intent questions. The number of questions could be carefully controlled. The dependent measure, subsequent purchase, would be monitored for all subjects, or subjects could be provided a purchase opportunity at the end of a laboratory experiment. As

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1For example, in 1993, the brands with the three largest market shares in the automobile product category spent in excess of $3.8 billion, or 55 percent of total industry advertising expenditures, across 10 media outlets (Ad Age Summary 1993).
this was a naturally occurring quasi experiment, we were unable to control for a number of factors that would have been controlled in a laboratory setting. However, we employed three separate techniques designed to control for differences in a wide variety of demographic covariates that were also collected throughout the course of this study. We hope that through these techniques we have accounted for any major differences between households that remain in the panel over time and households that are new additions to the panel. In addition, we tested our hypotheses at three different times to ensure that our results are robust.

An important aspect of our study is that we examine the actual purchase behavior of real consumers. In particular, the panel survey data concern intentions to purchase an automobile. The purchase of an automobile is an important decision for household members. In fact, for many households it is one of the largest expenditures they will ever make. In addition, our manipulation, the measurement of intent, is relatively subtle. Intent questions were asked in a large omnibus survey funded by many different firms and sent to panel households each quarter with questions on a variety of topics. We believe that if measuring intent affects the brands consumers purchase here, when the decision has considerable financial risk and when the manipulation is modest, then those effects are especially important.

Data Description

The data come from eight waves of mail surveys sent to a large consumer mail panel provided by sponsors of this research. During each wave respondents were asked when they intended to buy a new car, what brand they were most likely to buy, whether they had purchased a new automobile since the last survey, and if so the brand purchased. The panel data are the same automobile data used in Morwitz et al. (1993) except we now also include brand-level purchase incidence data. A detailed description of the data set and collection method is provided in Morwitz et al. (1993).²

The surveys took place every three months, between the fourth quarter of 1987 and the third quarter of 1989. Both first-time car buyers and repeat purchasers are represented in the panel. The focus of our research is the market shares of brands in the purchases of panel households during three different six-month time frames. For each time frame, we divide the panel households into those whose intentions were never measured because they had just joined the panel and existing panel members whose intentions were measured at least once. In particular, we focus on the percentage of panel households that purchased during the six-month period following wave 6 (the beginning of the first quarter of 1989), wave 4 (the beginning of the third quarter of 1988), or wave 2 (the beginning of the first quarter of 1988). Of the 129,338 households used over three time periods in Morwitz et al. (1993), 3,796 purchased an automobile during the first six months of 1989, the second six months of 1988, or the first six months of 1988. This research focuses on these 3,796 households that purchased an automobile during one of these three time periods. This group is divided into 232 households that were not asked any purchase intent questions (6.1 percent) (because they joined the panel after intentions were measured) and 3,564 households that were asked to indicate their purchase intentions (93.9 percent).

Each survey asked the household member who was the panel representative to indicate his/her timed intent to purchase an automobile in the future. The category-level purchase intent measures read

When will the next new (not used) CAR (not truck or van) be purchased by someone in your household?

6 months or less
7-12 months
13-24 months
25-36 months
Over 36 months
Never

Respondents who did not respond "Never" to the product category intent question were asked to respond to the following open-ended brand-level purchase intent question:

If in the market for a new (not used) CAR today, what would he or she buy and what would be replaced?

For both the car that would be purchased and for the replacement vehicle, respondents were asked to provide the model year, the make, the model, and details about the type of car (e.g., front-, rear-, or four-wheel drive, the body style, the number of cylinders, and the type of engine).

In order to measure new car purchases for the preceding time periods, all households were also asked the following purchase incidence question:

Between MM/DD/YY – MM/DD/YY did anyone in your household buy a new car?

Panel households that purchased a new car during the preceding period were asked to provide the model year, the make, the model, and details about the type of car.
We analyze the data at the make or manufacturer level. When we use the term "brand," we are referring to the manufacturer of the automobile (e.g., General Motors, Ford, Chrysler, Nissan, Honda).

Purchase data are analyzed during the six months following wave 6 (the first six months of 1989), wave 4 (the second six months of 1988), or wave 2 of the survey (the first six months of 1988). The comparison of interest in this study is between brand-level market shares for the time period of interest for households that were asked intent and households that were not asked intent. Thus, we were able to test Hypothesis 1 by comparing the brand-level market shares for current category users who were asked intent with those who were not asked intent. Finally, we were able to test Hypothesis 3 by comparing market share for nonusers who were asked intent with nonusers who were not asked intent. Tests of Hypotheses 1 and 3 were first conducted using a test of two proportions. We next tested all three hypotheses using multinomial logit models of brand choice probability.

As this study was conducted in a natural setting, a number of differences could have been systematically present between the former panel members (those who received intent questions) and new panel members (those who were not asked intent). To control for these differences, the same three techniques employed by Morwitz et al. (1993) were used. These techniques make use of demographic data collected in the study and listed in the Appendix. Cross-tabulations were performed associating each of the demographic variables with the number of intent measures that was repeated to identify systematic differences. Households that received more survey waves were more likely to have older heads, retired heads, and widowed female heads. Because these demographic differences could affect purchase behavior, three methods were used to control for demographic variables.

The first two correction methods weight the data according to the variables on which the largest systematic differences were detected. For a detailed discussion on the method of weighting data, see Lehmann (1989, pp. 426–429). First, data were weighted to be balanced on the life cycle variable (this variable had the largest chi-square statistic in the above-mentioned cross-tabulations). Second, data were weighted to be balanced on the age of the head of the household. In each case, the data were weighted to match the distribution of the demographic variable in the cross section of panel households that responded to wave 7. Tests of proportions and multinomial logit models were run on the weighted data to test our hypotheses. Both sets of weighted data as well as the unweighted data are reported. The third method used to control for individual differences was to include dummy variables for the demographic descriptors as covariates in the multinomial logit model. The specific demographics included are the first nine variables in the Appendix, selected from the overall set in order to minimize collinearity. Dummy variables were used to code the nominal descriptors. Results of these analyses are also reported.

**EMPIRICAL RESULTS**

**Hypothesis 1: The Mere-Measurement Hypothesis for Previous Users of a Brand**

We hypothesized that for consumers currently using a brand, the impact of measuring intent would be to change the market share of the brand currently used at the next purchase opportunity. We based this hypothesis on the argument that asking an intent question would make cognitions concerning the current brand more accessible, which would in turn result in behavior more consistent with these cognitions. In addition, we argued that increased accessibility for the brand currently used would interfere with thoughts about competing products.

We stated that the direction of the change described in Hypothesis 1 would depend on whether most consumers who purchase in the product category hold favorable attitudes toward their brand. Given that purchasing an automobile is a high-involvement decision with considerable financial consequences, it seems reasonable to assume that most automobile purchasers will hold favorable attitudes toward the brand they purchase, at least initially. Although we expect some consumers' attitudes will become less favorable over time, we expect in the aggregate most consumers will continue to hold favorable attitudes. Therefore, we predict that, in the aggregate, measuring intent will increase the market share for the brand currently owned.

In order to test Hypothesis 1 we compare the percentage of households that replaced an automobile with one of the same brand for households that were not asked intent to the percentage for those that were asked their purchase intent. For example, pooling across the three time periods of respondents currently owning a Ford car, 34.1 percent of those who were not asked their purchase intent bought a new Ford (n = 44), while 57.0 percent of those who were asked their purchase intent purchased a new Ford (n = 626). Thus, for Ford owners, measuring intent increased the likelihood that Wave 7 were under 30. The weight for respondents in this cell (those under 30 whose intentions were never measured) would be .700 (.05/.150)."
the next car bought would also be a Ford. When we pool the data across time and brands, the same pattern holds.

We test the significance of the results in two different ways. First, using a test of two proportions, we compare the proportion of respondents who purchased the brand they previously owned when intentions were measured with the proportion when they were not measured. Second, we estimate a multinomial logit model of brand choice. The predictor variables are a set of brand (main effect) dummy variables, a dummy variable indicating whether the brand was previously owned (PREVOWN), a dummy variable indicating whether intentions were measured (INTENT), and a two-way interaction between PREVOWN and INTENT. We test Hypothesis 1 by examining the significance of this two-way interaction.

All of the results provide directional and statistical support for Hypothesis 1 based on the pooled data. For the unweighted data, of those respondents who were not asked their purchase intent, 39.4 percent replaced their old car with one of the same brand (n = 221), while 51.7 percent of those who were asked their intent bought the same brand (n = 3,459). This represents a 31 percent increase in purchasing. A test of two proportions on the unweighted data indicates that this difference is highly significant (p < .001). The direction of the results and significance level for the tests of two proportions was the same when the data were weighted by life cycle and age of head of household. An increased repeat purchase rate with intent measurement was observed for all nine time period and weighting scheme combinations. The observed increase was significant (p < .05) on the basis of a test of two proportions for six of the nine combinations.

Table 1 reports the coefficients and the significance levels for the PREVOWN by INTENT interaction in the multinomial logit model for the pooled data. The interaction was in the hypothesized direction, indicating that respondents whose intentions were measured are more likely to purchase the brand they previously owned than respondents whose intentions were not measured. This interaction was significant for the unweighted data (p = .05), when the data were weighted by life cycle (p = .03), when the data were weighted by age (p = .05), and was marginally significant when demographic covariates were included (p = .08). For the 12 interactions of time period and controlling method (three time periods by unweighted, weighted by life cycle, weighted by age, and controlling for demographic covariates) the interactions were in the hypothesized direction in all cases. The interaction was significant at the .05 level in four of 12 cases. In addition, we ran separate logistic regressions on the unweighted data for brands that were previously owned and for brands that were not previously owned. These models examine the effect of INTENT on choice for the two groups of brands. For brands that were previously owned, measuring intent significantly increased the probability of purchase (p = .05), while for brands that were not previously owned, measuring intent had a nonsignificant decrease in the probability of purchase (p = .35). Overall, the results of both the tests of proportions and the multinomial logit model provide strong support for Hypothesis 1. For current users of a brand, measuring intent increases the market share of the brand currently used compared to category users who are not asked a purchase intent question.

Hypothesis 2: Does the Mere-Measurement Effect Vary by Brand?

We hypothesized that at the brand level, the direction of the mere-measurement effect would depend on whether attitudes among current users were predominately favorable or unfavorable. We will use the repeat purchase rate at the brand level as a surrogate for attitude favorability among current brand users.

In order to test Hypothesis 2, we examine how the relationship between repurchase rate and brand choice varies when intentions are measured versus when they are not measured. We expect overall to find a positive relationship between repurchase rate and choice and expect it to be greater when intentions are measured than when they are not measured. Repurchase rate was measured from the panel data and is the aggregate proportion (across time periods) of previous brand owners that purchased the same brand on their next purchase occasion.

Specifically, we estimate a multinomial logit model of brand choice in which the predictor variables are the brand's repeat purchase rate (REPEAT), PREVOWN, INTENT, and the two-way interactions between REPEAT and PREVOWN, PREVOWN and INTENT.
and REPEAT and INTENT. We test Hypothesis 2 by examining the significance of the REPEAT by INTENT interaction.

The coefficient for REPEAT was positive and significant, indicating that respondents are more likely to purchase a brand with a higher than with a lower repeat purchase rate. The second column of Table 1 provides the coefficients and the significance levels for the REPEAT by INTENT two-way interaction for the pooled data. The interaction was in the hypothesized direction, indicating that respondents whose intentions were measured are more likely to purchase a brand with a high repeat purchase rate than respondents whose intentions are not measured. The interaction was highly significant for the unweighted data (p < .0001), when the data are weighted by life cycle (p = .007), when the data are weighted by age (p < .0001), and when demographic covariates are included in the model (p = .01). The 12 combinations of time period and controlling method were in the hypothesized direction in all cases and were significant at .05 in 11 of the 12 cases.

In addition, we ran two separate logistic regressions on the unweighted data, one for brands with high repeat purchase rates (determined by a median split) and one for brands with low repeat purchase rates. Specifically, we estimated two separate multinomial logit models of brand choice with PREVIOUS, INTENT, and their interaction as predictor variables. For brands with high repeat purchase rates, measuring intent significantly increases the probability of purchase (p = .03), while for brands with low repeat purchase rates, measuring intent led to a nonsignificant decrease in the probability of purchase (p = .17).

Overall the results of the multinomial logit model provide strong support for Hypothesis 2. For current users of a brand, the relationship between repeat purchase rate and brand choice probability is positive, and it is greater for a group in which intent is measured than for current users who are not asked a purchase intent question.

Hypothesis 3: The Mere-Measurement Hypothesis for New Users of the Category

In Hypothesis 3, we hypothesized that measuring intent would increase the market share of the leading brands in the market among new users of the category. We argued that cognitions concerning the leading brands will be most accessible for consumers who have not previously purchased in the product category. This assertion was based on the observation that the leading brands are seen more often by consumers, communications for the leading brands are seen more often and are more familiar to consumers, and leading brands are often the prototypes in their product categories. All of these arguments lead to increased accessibility for cognitions related to the leading brands. Because these are successful brands in the market, we expect the direction of the mere-measurement effect to be positive.

We test Hypothesis 3 in two different ways. First, we compare the proportion of respondents who purchase a leading brand for those for whom intentions were measured with those for whom intentions were not measured both for first-time buyers and repeat buyers using tests of two proportions. Second, we test Hypothesis 3 using market share as a continuous variable in a multinomial logit model. For both methods we estimate each brand's market share using the panel data and define it as the overall share of purchases (across time periods) among the entire cross section of panel households. Because our sample sizes for first-time car buyers are small within each time period, we report only the pooled results for Hypothesis 3.

In order to apply tests of two proportions to Hypothesis 3, we first divide the brands of automobiles into those with high and those with low market share. We classified brands as market share leaders if their market share was 5 percent or higher. Five brands met this criterion in all three time periods: General Motors, Ford, Chrysler, Honda, and Subaru. We expect that measuring intent will increase the likelihood that a household purchases one of these brands for first-time buyers but not for repeat buyers.

We also estimate a multinomial logit model of brand choice in which the predictor variables are the brand's market share (SHARE), a dummy variable indicating whether the respondent is a first-time or repeat car buyer (FIRST), INTENT, all two-way interactions, and the three-way interaction between SHARE, FIRST, and INTENT. We test Hypothesis 3 by examining the significance of this three-way interaction.

The results of the tests of two proportions support Hypothesis 3. In the unweighted data, of first-time car buyers who were not asked a purchase intent question, 36.3 percent purchased a leading brand (n = 11), while 71.8 percent of households that were asked a purchase intent question purchased a leading brand (n = 103). This difference is statistically significant (p = .008). For repeat buyers there is no significant difference between the percentage of households purchasing a leading brand when intentions are asked and the percentage when they are not asked. Of repeat-buys households that were not asked a purchase intent question, 78.7 percent purchased a leading brand (n = 291), while 79.1 percent of households that were asked a purchase intent question purchased a leading brand (n = 3,391; p = .88).

These results support Hypothesis 3. The directional pattern and level of significance of the results were the same for the two weighting schemes.

The third column of Table 1 provides the coefficients and the significance levels for the SHARE by FIRST by INTENT three-way interaction in the multinomial logit model for the pooled data. The interaction was in the hypothesized direction but was not statistically significant for the unweighted data (p = .15), when the
INTENT AND PURCHASE BEHAVIOR

data were weighted by life cycle \((p = .14)\), or when the data were weighted by age \((p = .17)\). The results were marginally significant when demographic covariates were included in the model \((p = .09)\).

We also ran two separate logistic regression models for first-time buyers and for repeat buyers on the unweighted data. The models predicted brand purchased as a function of brand market share, prior intent measurement, and the interaction between market share and intent measurement. As we hypothesized, the results for first-time buyers were stronger than for repeat buyers. For first-time buyers the two-way interaction was marginally significant \((p = .07)\). By contrast, for repeat buyers the results were not statistically significant \((p = .20)\).

Overall, on the basis of the tests of proportions and the multinomial logit model we have directional support and some statistical support for Hypothesis 3. The results provide some evidence that for current nonusers, measuring intent increases the purchase incidence of the brands with the largest market share in the category compared to nonusers who are not asked a purchase intent question.

DISCUSSION

Our goal in this research was to examine the brand-level effect of asking purchase intent questions. The results of this study suggest that there are predictable patterns of the mere-measurement effect at the brand level and that they are dependent on a consumer’s usage or nonusage of the category. We found strong support for Hypotheses 1 and 2 and modest support for Hypothesis 3. For consumers who currently use a brand in the product category, asking intentions causes increased purchase incidence of the brand consumers currently use. In addition, their purchase behavior is more consistent with their brand attitudes when asked intent questions. For those who are not current users of the category, asking intent causes increases in purchase rates for brands that have large market shares.

These results are important for both theoretical and practical reasons. Our results have practical implications for those interpreting and using intent data. Intentions are often used to forecast brand sales. In academic research they are often used as a surrogate for choice. Reliance on intent measures can result in an overestimation of sales for some brands and an underestimation for other brands. Determining the pattern of bias requires, at a minimum, knowledge of prior brand usage, market share information, and consumers’ attitudes toward the brands. The results also suggest the need to develop methods to reduce such intent-measurement effects. Future research should develop taxonomies for determining what market structure conditions, consumer characteristics, and measurement tasks lead to increases or decreases of sales at both the product category and brand levels. This taxonomy would aid both practitioners and academics in interpreting intent data.

Theoretically, the results increase our knowledge about how preferences are formed and choices are made. Other studies have shown that preferences may be constructed in response to a market research question (Feldman and Lynch 1988; Simmons et al. 1993). Morwitz et al. (1993) demonstrated that constructed preferences can alter purchase behavior at the category level. Our results extend this literature by demonstrating that constructed preferences also alter purchase behavior at the brand level.

The results of this study, together with those reported in Morwitz et al. (1993), are consistent with the notion that measuring intentions may increase the accessibility of cognitions concerning a product category. As the category is primed, activation spreads to the brands in the category in proportion to their previous accessibility. This increase in brand accessibility affects purchasing behavior (i.e., both purchase incidence and choice). In this study, we hypothesized and found that two groups of consumers who were likely to have different accessibility patterns at the brand level (users and nonusers) would demonstrate a purchase reaction to the mere-measurement effect consistent with their brand accessibility patterns.

However, there are several other ways in which measuring intentions could alter purchase behavior that may also account for the results of this study and lead to some interpretational ambiguities. As mentioned in the introduction, the consumer’s position in the consumer choice process is one critical factor that is likely to affect which specific cognitive process occurs when an intent question is being asked.

One alternative is that measuring intentions increases the accessibility of a preexisting attitude toward the brand. This prior attitude accessibility will then mediate the impact of measuring intention on behavior. However, Nedungadi et al. (1993), among others, have demonstrated that the accessibility of a brand name may have effects similar to those of attitude accessibility at some stages of the choice process. For example, when deciding which alternatives to consider, the accessibility of a brand name may have an effect similar to that of the accessibility of an attitude toward the brand. That is, increased brand name accessibility would lead to an increased likelihood of consideration, as would an increase in attitude accessibility. Nedungadi et al. (1993) were, however, able to separate the effects of brand name accessibility from attitude accessibility in their model of the choice process through a carefully controlled laboratory experiment. Unfortunately, given the nature of the data we have collected, it is difficult for us to separate the effect of an increase in brand name accessibility from an increase in attitude accessibility.

It is likely that, at least for repeat buyers, attitudes exist prior to intent questioning. It is possible, however, that attitudes are not preformed. Rather, the consumer...
may form an attitude in response to an intent question and then behave in a manner consistent with this constructed attitude. Fazio, Lenn, and Effrin (1983–1984), in their discussion of spontaneous attitude formation, argue that attitudes are formed when individuals feel it is useful or prudent to form them. Asking an intent question could certainly act as a cue for attitude formation. However, if an individual had felt it functional to do so, he or she could have previously formed an attitude toward a brand on encountering a cue. Given that each of the consumers in our study (including nonusers) actually purchased an automobile over the course of this study, we feel it is likely that, given their impending purchase decision, they would have felt it functional to have also formed attitudes toward brands prior to intent measurement for many of the brands in the automobile category. However, it is possible that not all consumers in our study had preformed attitudes when they were asked the intent question. If attitudes did not exist prior to measurement, it is possible that measuring intent would lead consumers to construct attitudes or intentions in a manner consistent with our observed results (i.e., users construct attitudes favorable for the brand previously owned, while nonusers construct favorable attitudes for brands with large market shares). Once again, it is difficult to determine which mechanism consumers use with the data currently available.

Consumers who are at late stages in the decision-making process are likely to have already formed attitudes and purchase intentions. Measuring intent may lead to the retrieval of brand attitudes and the resulting behavior may in turn be more consistent with these attitudes. However, it is possible that consumers directly retrieve intentions for brands when asked an intent question, bypassing attitudes altogether. The results in each case would, we believe, be identical to those found in this research. As with the interpretational difficulties raised in the previous two paragraphs, our data set makes it difficult to tease apart which mechanism (or combination of mechanisms) consumers are using. However, each of these ambiguities presents testable hypotheses that could form the basis of some interesting future research. A carefully controlled series of laboratory experiments may be able to identify the mechanism through which the mere-measurement effect operates. We believe that pursuing a more thorough theoretical understanding of the mere-measurement effect would be an important extension to the current research.

A final cautionary note regarding interpretation of our results seems prudent. It is possible that the wording of the intent question may have magnified our hypothesized effects. Recall that respondents were asked, “If in the market for a new car today, what would he or she buy and what would be replaced.” By making reference to replacement in the question wording, cognitions related to the current brand used may have been made more salient than would otherwise be the case. In future research, the reference to replacement in the intent question could be experimentally manipulated and any potential magnification of the hypothesized effects could be evaluated.

In summary, we feel that we have demonstrated a powerful and interesting phenomenon. Asking a relatively nonintrusive intent question influenced the purchase patterns of consumers of a high risk, expensive consumer good. While we offer some theoretical explanations for these findings, there remains a considerable amount of theoretical analysis to be performed to isolate exactly how the mere-measurement effect is operating. We hope that this article serves as a motivation to continue research in this area.

APPENDIX

Household Demographic Information
Used in Analyses

<table>
<thead>
<tr>
<th>Size of household</th>
<th>Total household income</th>
<th>Age of head of household</th>
<th>Marital status</th>
<th>Life cycle of household (e.g., new baby boomers, affluent elderly)</th>
<th>Number of hours head of household employed per week</th>
<th>Education of head of household</th>
<th>Race</th>
<th>Occupation of head of household</th>
<th>Composition of household (e.g., male and female married, male alone)</th>
<th>Type of housing</th>
<th>Home ownership</th>
</tr>
</thead>
</table>

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REFERENCES


Bchali, Gabriel and Dipankar Chakravarti (1983), "Information Accessibility as a Moderator of Consumer


