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Asking Questions Can Change Choice Behavior: Does It Do So Automatically or Effortfully?

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The present research uses a technique that permits unique estimation of both automatic and effortful processes in the question–behavior link. Results show that individuals asked to report behavioral intent (vs. those not asked) are more likely to choose options that are highly accessible and positively valenced, regardless of cognitive resources available at the time of processing. This suggests that the effect of intent questions on subsequent behavior is primarily the result of automatic, as opposed to effortful, processing. Practically, this suggests that efforts to debias this robust effect need to affect nonconscious processes and adjust for the automatic impact of being asked an intention question on respondents' behavior.

Research on the relationship between intentions and behavior has shown that individuals regularly report biased assessments of their intentions or likelihood to perform a behavior. Perhaps more interesting, they, by virtue of answering the intent question, are then more likely to perform in accordance with the biased report of intention. In the consumer domain, for example, by simply asking consumers to form and report a purchase intention, marketing researchers change the consumers' actual purchase rates in a systematic and predictable fashion (Morwitz, Johnson, & Schmittlein, 1993). The present research uses an experimental methodology to identify the degree to which this mere-measurement effect is an automatic versus an effortful cognitive process.

Recent research (Fitzsimons & Morwitz, 1996; Morwitz & Fitzsimons, 1999) has suggested that changes in brand choice behavior caused by the measurement of intention to purchase in a product category (with no specific mention of a brand) corresponds to the valence and accessibility of attitudes toward the brands in the product category. Phrased more generally, asking questions about behavioral intentions toward a category changes future behavior in the category in proportion to the accessibility of attitudes toward members of that category. For example, asking a consumer how likely they are to buy an automobile in the future makes that consumer more likely to purchase the brand of car that was most accessible and positively viewed prior to being asked the intent question.

However, whether the act of asking category intent influences choice automatically or through an effortful process has yet to be determined. If the mechanism were automatic in nature, then it would operate through simply increasing the accessibility of attitudes in a category in proportion to the preexisting pattern of attitude accessibility. If the mechanism were more effortful, then the act of asking intent would change behavior through some form of elaborative processing on each of the items in the category, again in a manner consistent with the preexisting accessibility of attitudes toward the category members. It is important to note that the pattern of effects on behavior would be identical whether the mere-measurement effect was operating automatically, intentionally, or through some combination of the two. Although we cannot draw process conclusions on the basis of changes in the pattern of behavior due to asking intent questions, there is some precedent for separation of automatic and effortful processes (Jacoby, 1991; Pham & Johar, 1997).

Developing a better understanding of the relative contribution of each type of process would have significant practical implications for researchers. Perhaps the most important practical implication of developing a richer understanding of the relative automaticity of the effect of asking questions on actual behavior would be to permit researchers to design an effective debiasing tool. For example, if asking questions changes behavior through a conscious elaborative mechanism, then debiasing techniques, such as directly warning or notifying the respondent, may be reasonably effective. However, if the mechanism is largely automatic, then such debiasing approaches may have little or no impact. Alternative debiasing techniques designed for automatic processes need to be used (Bazerman, 1997).

The principal goal of the present research is to develop and report a method that permits identification of the role both automatic and effortful processes play in the mere-measurement effect

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(i.e., the effect of asking behavioral intent questions on subsequent behavior). We first describe research on the mere-measurement effect in some detail, then describe the technique developed to identify the magnitude of both potential components of the effect. The results of two laboratory experiments are presented: one in the domain of consumer purchases and the other in a social behavior context. In each experiment, we manipulate (a) whether or not respondents are asked about their behavioral intentions, (b) respondents' cognitive resources through a divided attention task, and (c) extent of effortful processing through a magnification–reduction task. The combination of these manipulations permits the role of both automatic and effortful mere-measurement effects to be uniquely identified. Finally, we discuss the implications of this process knowledge of the mere-measurement effect, both in terms of theory and in terms of implications for researchers.

The Mere-Measurement Effect

In his research examining the link between stated intentions and actual behavior, Sherman (1980) found that for socially desirable behaviors, respondents systematically overpredicted their likelihood to perform the behavior (compared with a control group not asked to predict their likelihood to perform the behavior). Not surprisingly, just the opposite was observed for socially undesirable behaviors (i.e., systematic underprediction). When examining the behaviors of those who were asked and systematically overpredicted (or underpredicted) their likelihood of performing the behavior, Sherman further observed what he called "the self-erasing error of prediction." Participants who had given biased responses to the behavioral question actually behaved in accordance with their biased response. For example, 48% (22 of 46) of participants asked about willingness to volunteer 3 hr for the American Cancer Society said they would volunteer, whereas only 4% (2 of 46) of their peers (not asked about willingness) actually agreed to volunteer. Of most interest, of those asked about willingness to volunteer, 31% (14 of 45 contacted) actually agreed to volunteer. Thus, the act of asking participants to predict future behavior not only led to a biased response but also to a substantial change in behavior (i.e., volunteer rates of 4% vs. 31%).

In a study of the relationship between the act of measuring intentions to purchase and subsequent actual consumer purchase behavior, Morwitz et al. (1993) demonstrated that the act of measuring intent to purchase both for automobiles or personal computers led to increased purchases. For example, 3.3% of consumers who were asked a purchase intent question regarding the automobile category (i.e., "When will the next new car be purchased by someone in your household?") made an automobile purchase within the next 6 months, versus a purchase rate of 2.4% in a control group not asked intent ($N > 40{,}000$ consumers). These results were consistent with similar results obtained for personal computers. Morwitz et al. argued that an aggregate increase in sales as a result of intention measurement was not surprising because measuring intentions should reinforce cognitions related to purchasing the product, thereby leading to behavior that is more consistent with those cognitions. Because the products in Morwitz et al.'s study were ones for which most people were likely to hold favorable attitudes, measuring intentions was expected and observed to lead to increased aggregate purchase rates.

Extending this research, Fitzsimons and Morwitz (1996) argued that asking a purchase intent question about a product category (i.e., a question about intention to purchase in the product category, with no specific reference to individual category members) leads to activation of that category in memory. This activation then spreads to brands in the category, in proportion to the prior accessibility of existing cognitions about the brands. Thus, when people are asked about category purchase intention, a previously highly accessible brand is most likely to be activated in memory, relative to a brand with low accessibility. The intention question further strengthens the existing pattern of brand cognitions, increasing the likelihood that consumers will subsequently act in accordance with them. Results showed that among current car owners, the increase in choice incidence associated with the mere-measurement effect accrued to the brand of car they currently used. For example, asking Saab owners about likelihood to purchase an automobile increased the likelihood they purchased a new Saab, compared with control Saab owners not asked about car-buying intentions. Non-car owners asked about intentions to buy a car (versus nonowners not asked about their car-purchase intentions), by contrast, were more likely to purchase a large market share brand, such as Ford. Thus, both owners and nonowners asked about purchase intentions more often bought the brand of car most readily accessible in memory prior to assessment of their intentions in the category.

Further examination within the domain of consumer behavior has suggested that the mere-measurement effect is most likely driven by the activation of preexisting brand attitudes rather than other cognitive structures, such as the brand name itself. In four experiments, Morwitz and Fitzsimons (1999) provided strong evidence that the changes in purchase behavior are due to a proportional increase in the accessibility of preexisting brand attitudes. For example, asking about category purchase intentions led to an increase in choice of a brand of candy bar that had been manipulated to have a highly accessible and positive attitude associated with it. In contrast, the same question posed when the most accessible brand was negatively valenced led to a decrease in choice of that brand. By contrast, no mere-measurement effect was observed when brand name accessibility patterns were manipulated.

Although these results suggest that the mere-measurement effect is driven by increased activation of relevant attitude structures stored in memory, it remains unclear whether the impact of asking intentions on subsequent behavior is a conscious or nonconscious process. Do these changes occur primarily because consumers carefully consider making a purchase among the various brands in the category, thus devoting effortful processing to the intent question? Or, do the changes occur simply because being asked to consider a purchase automatically invokes category members, heightening preexisting accessibilities, regardless of intent to thoughtfully consider those brands? Although it is likely that both types of processing may contribute to the mere-measurement effect (Jacoby, 1991), the relative degree to which the effect is effortful versus automatic cannot be determined from the previous research. The present research attempts to understand the nature of the process by which attitude information stored in memory is used in response to an intentions question.

Separating Automatic Versus Effortful Components of the Mere-Measurement Effect

It has been widely accepted that both encoding and retrieval processes in memory can be separated into two distinct types of processes: those that are relatively automatic (unintentional or nonconscious) and those that are effortful (intentional, controlled, or conscious). Automatic memory processes, such as the encoding of spatial and frequency information, are generally defined as occurring without intention, without interfering with other processing, and without necessarily giving rise to awareness (Hasher & Zacks, 1979; Posner & Snyder, 1975). They are likely to run to completion and are difficult to suppress once activated (Schneider & Shiffrin, 1977; Shiffrin & Schneider, 1977). Of importance, automatic memory processes are conceived of as not benefiting from practice or feedback, in sharp contrast with effortful processes, such as elaborative rehearsal and mnemonic activities (Hasher & Zacks, 1979). Although this automatic–effortful contrast has been significant in raising research issues and in adequately understanding the nature of human memory, methods to accurately assess the degree to which particular tasks can be described as occurring relatively more automatically versus effortfully have been limited. This is particularly true as it has been pointed out that measures or tasks designed to examine a particular type of processing do not necessarily have a one-to-one mapping with those underlying processes and thus cannot be proven to be "factor-pure" (Jacoby, 1991). As a result, findings interpreted as providing support for automatic processing, for example, may have occurred as a result of an unobserved effortful process (Holender, 1986; Richardson-Klavehn & Bjork, 1988).

This difficulty has been addressed in a number of ways, most notably through Jacoby's (1991) "process dissociation procedure." This methodology has been used to estimate the unique contributions of automatic and effortful processing to a single memory task, typically using a divided attention procedure. These scenarios usually involve two experimental scenarios, one in which automatic and effortful processes work in concert ("a facilitation paradigm") and another in which automatic and effortful processes act in opposition ("an interference paradigm," similar to that used in the Stroop task; Stroop, 1935). Through the development of two simultaneous equations, the relative automatic and effortful contributions to task performance can be isolated. This work has been fundamental in identifying the notable impact automatic influences on memory and perception can exert on a wide variety of phenomena (e.g., judgments regarding fame [Jacoby, Woloshyn, & Kelley, 1989] and judgments of background noise [Jacoby, Allan, Collins, & Larwill, 1988]).

Additional methods relying on the basic premise of Jacoby's (1991) decompositional paradigm have been used in a variety of other settings as well. For example, Pham and Johar (1997) have recently shown that similar principles can be applied to source attribution problems. Their goal was to identify the relative contribution of multiple processes that may be used by consumers to identify the source of particular persuasion messages. To do so, they developed a framework and experimental methodology similar to Jacoby's that described four types of source identification processes and that ultimately allowed for the identification and estimation of the relative contribution each makes to memory performance. This research joins a growing literature that demonstrates that a variety of phenomena of interest to psychologists and consumer behavior researchers can be shown to depend on several underlying cognitive processes, each of which can be separately identified and assessed through these new decompositional methodologies. Furthermore, this expanding research base suggests that although the basic assumptions underlying these methods may be controversial, there is value in applying them to phenomena while critical discussion of the assumptions continues.

Experiment 1

Mere-Measurement Process Dissociation Model Description

The current research draws on methodologies to separately identify the automatic and effortful components of the mere-measurement effect by using a decompositional technique. We develop a method and set of equations in the spirit of Jacoby's (1991) process dissociation procedure. Although generalizable to similar problems, the equations we develop and present below are specific to the mere-measurement issue we are investigating.

The basic design of Experiment 1 is a 2 (category purchase intent: measured, not measured) × 2 (attention: full, divided) × 2 (effortful manipulation: magnification, reduction) between-subjects full factorial design. This design allows us to assess the relative magnitude of the mere-measurement effect across four key scenarios: the full attention, effortful magnification condition (FM); the full attention, effortful reduction condition (FR); the divided attention, effortful magnification condition (DM), and the divided attention, effortful reduction condition (DR).

To assess the degree to which the mere-measurement effect is the result of automatic versus effortful processes, we further decompose the effects listed above. We propose, in accordance with Jacoby's (1991) methodology, that in each scenario, the mere-measurement effect is composed of a combination of both automatic and effortful processes. More specifically, we propose that this phenomenon, as investigated in this research, occurs as a result of automatic processing and two separate types of effortful processing, the first of which represents naturally occurring effortful processing underlying the mere-measurement effect, and the second reflects effortful processing due to what we refer to as an amplification–dampening manipulation.

Thus, in addition to the basic intent question manipulation used in studies of the mere-measurement phenomenon, participants also received a manipulation that, through effortful processing, would lead them to either reduce or magnify any observed mere-measurement effect. This manipulation is similar in spirit to Jacoby's (1991) "facilitation" and "interference" paradigms in that it is intended to evoke effortful processing that either works in concert with or acts in opposition to the natural tendencies reflected in the mere-measurement effect. Those in the magnification (facilitation) condition learn of a lottery that would make them more likely to choose the target option, whereas those in the reduction (interference) condition learn of a lottery that leads them to be less likely to choose the target option. Thus, participants asked intent in the magnification condition are expected to demonstrate larger increases in choice share for the target option than are those asked intent in the reduction condition.

In addition to the intent–no-intent and magnification–reduction manipulations, participants in our studies completed the experiment under either a full or a divided attention condition, as is typically the case in the decompositional literature (e.g., Jacoby, 1991; Pham & Johar, 1997). Thus, under full attention, no parallel task is required and participants' complete attention is devoted to the intent question, the reduction–magnification manipulation, and the choice task they are asked to perform. In these conditions, participants have no constraint on their ability to perform effortful processing, either of our effortful reduction–magnification manipulation, or of any effortful component of the mere-measurement effect. In the divided attention condition, however, participants perform a distraction task in parallel with the intent question and the reduction–magnification manipulation. Under divided attention, participants' ability to perform effortful processing is expected to be impaired, both for our effortful manipulation and for any effortful component of the mere-measurement effect. Consistent with much previous research on the automatic uses of memory (e.g., Hasher & Zacks, 1979), we assume that any automatic component of the mere-measurement effect is unaffected by our divided attention manipulation and, moreover, that it remains constant across conditions (Jacoby, 1998).

This basic methodology permits us to estimate the effect of our effortful manipulation and, more importantly, to calculate (after some algebraic manipulation) the relative size of both the automatic and the effortful components of the mere-measurement effect. We refer to each of the components of the mere-measurement effect as follows: A (automatic component of the mere-measurement effect), EMM_f (effortful component of the mere-measurement effect under full attention), EMM_d (effortful component of the mere-measurement effect under divided attention), $EMan_f$ (component of effect due to the effortful reduction–magnification manipulation under full attention), and $EMan_d$ (component of effect due to the effortful reduction–magnification manipulation under divided attention). EMM refers to any effortful processing that naturally occurs when the mere-measurement effect is observed (the MM standing for mere-measurement), and EMan refers to effortful processing that occurs as a result of our effortful reduction–magnification manipulation (the Man standing for manipulated). The subscript *f* refers to full attention situations, and the subscript *d* refers to divided attention conditions.

As discussed above, we anticipated that the magnitude of the mere-measurement effect in each of the four critical scenarios would be determined by a combination of automatic and effortful effects as follows:

$$FM = A + EMM_f + EMan_f. \quad (1)$$

$$FR = A + EMM_f - EMan_f. \quad (2)$$

$$DM = A + EMM_d + EMan_d. \quad (3)$$

$$DR = A + EMM_d - EMan_d. \quad (4)$$

Thus, in each scenario, the mere-measurement effect is a result of automatic processes as well as both naturally-occurring and manipulated effortful processes.

The similarity between Jacoby's (1991) facilitation versus interference paradigms and our effortful magnification versus reduction manipulation can be seen visually in these equations, as its effects are set to act either in concert with or in opposition against the intrinsic mere-measurement phenomenon that would be observed. This manipulation is critical in our estimation of the various processes underlying the mere-measurement effect in the equations described below. Variance in the observed choice shares due to this manipulation allows estimation of the effortful component of the mere-measurement effect in both the divided and full attention conditions and thus comparison of the relative impact of effortful versus automatic aspects of the phenomenon.

Equations 1–4 reflect several key assumptions of our approach that are also common to other decompositional models such as Jacoby's (1991) process dissociation, some of which have been relatively controversial. Foremost is the assumption of an additive model, absent any interactive effects between the various terms (for arguments in favor of and against this assumption, see Cowan & Stadler, 1996; Curran & Hintzman, 1995, 1997; Hay & Jacoby, 1996; Jacoby, Begg, & Toth, 1997; Jacoby & Shrout, 1997; Jacoby, Yonelinas, & Jennings, 1997; Joordens & Merikle, 1993; Mulligan & Hirshman, 1997). Second is the assumption that the automatic effect remains constant across the various conditions (Jacoby, 1998). In addition, our method assumes that the effortful reduction–magnification manipulation has the same magnitude of effect in each direction, symmetrically increasing and decreasing the mere-measurement effect that would otherwise occur. This is consistent with Jacoby's (1991) assumption that effortful processing contributes to performance equally under both the facilitation and interference paradigms (see Graf & Komatsu, 1994; Toth, Reingold, & Jacoby, 1995, for discussion). In the description of our empirical work, we describe a pretest conducted to ensure that our final assumption held true.

Finally, we specify an additional assumption that is critical in allowing us to estimate the various components of our model.

$$\frac{EMan_f}{EMan_d} = \frac{EMM_f}{EMM_d} = k, \text{ where } k = \text{constant}. \quad (5)$$

This statement asserts that the proportion of effortful processing impaired by the divided attention task will be the same for both the effortful reduction–magnification manipulation and for the effortful component of the mere-measurement effect. This is expected (cf. Jacoby, 1991) because both effects represent similar conscious or controlled processes and, as a result, should be impacted in the same manner by any impairment of controlled processing. Consistent with Norman and Bobrow (1975), we assume that both of these effortful processes are resource-limited (vs. data-limited) tasks and, thus, are likely to suffer symmetrically from limitations associated with processing resources. For example, if a participant's ability to attend to the reduction–magnification manipulation is reduced by 30%, then any effortful mere-measurement effect would be reduced by 30% also.

The following equations reflect algebraic manipulation of Equations 1–5 to arrive at unique estimates of the various components of the mere-measurement effect.

$$k = \frac{FM - FR}{DM - DR}, \quad EMM_d = \frac{DM - DR}{2}, \quad EMM_f = \frac{FM - FR}{2}$$

$$A = \frac{1}{2}\left[DM + DR - \left\{\frac{FM + FR - DM - DR}{\left(\frac{FM - FR}{DM - DR}\right) - 1}\right\}\right]$$

$$EMAN_d = \frac{FM + FR - DM - DR}{2\left[\left(\frac{FM - FR}{DM - DR}\right) - 1\right]},$$

$$EMAN_f = \frac{FM - FR}{DM - DR}\left\{\frac{FM + FR - DM - DR}{2\left[\left(\frac{FM - FR}{DM - DR}\right) - 1\right]}\right\}$$

These expressions yield a basic understanding of the process through which the mere-measurement effect operates. The proportion of the effect that is automatic and that is due simply to increases in the accessibility of attitudes toward the category and members within the category can be weighed against the proportion of the effect due to an effortful or elaborative process.

Procedure

As discussed above, the decompositional method we designed took the form of a 2 (category purchase intent: measured, not measured) × 2 (effortful manipulation: magnification, reduction) × 2 (attention: full, divided) between-subjects full factorial design. In exchange for $3.00 and their choice of a candy bar, 278 participants took part in the 10-min long study. The procedure we followed is similar to that used in Morwitz and Fitzsimons's (1999) experimental demonstrations of the mere-measurement effect. Participants were led to believe that the study was designed to gather data about U.S. consumer impressions of candy bars from New Zealand and were exposed to the names and attribute descriptions of five New Zealand candy bars.[1] The candy bars were actual brands on sale in New Zealand, but the ratings on each of the four attributes were constructed. Participants were told that these were important attributes to New Zealand consumers and that the ratings were collected by the New Zealand division of *Consumer Reports*. Attribute ratings for each of the five alternatives were identical to those used in Morwitz and Fitzsimons (1999) and are shown in the Appendix.

Participants were asked to report their attitudes toward each of the five brands on a 7-point scale (1 = *extremely negative* and 7 = *extremely positive*). After reporting attitudes toward each of the five brands, all participants were then asked to describe in a few sentences why their attitude toward the Lunas candy bar was positive or negative. In pretesting, Lunas had generally positive attitudes toward it and was the second most-preferred alternative.[2] This procedure was designed to increase the accessibility of participants' attitude toward the target option (i.e., Lunas) without changing the accessibility of other brand attitudes. Thus, Lunas was a brand toward which consumers had a favorable and highly accessible attitude (relative to the accessibility of attitudes toward the other four brands).

Attention was manipulated through the assignment of a secondary task designed to reduce capacity to attend to the task at hand. For example, a typical divided attention manipulation involves asking participants to keep track of the number of times three odd digits occur in a row in a long spoken string of random digits (Jacoby, 1991; Pham & Johar, 1997). As a secondary or distraction task in the present study, we asked participants to keep a mental count of the number of times they blinked their eyes. In both the full and divided attention conditions, the blink-counting experiment was introduced as an unrelated second study, and it was suggested that blinking had been tied to information processing. If participants were assigned to the full attention condition, they completed the blink-counting task prior to being asked a category purchase intention question. However, if participants were assigned to the divided attention condition, they continued their blink-counting task both as they were asked to report intent and as they received the reduction–magnification effortful manipulation. Following the blink-counting instruction, participants answered several filler questions before the intent question.

If assigned to the intent measured condition, participants received and responded to the following intention question: "How likely or unlikely would you be to try a New Zealand candy bar if it was available in the U.S.?" If participants were assigned to the intent not measured condition, they answered the following intention question about an unrelated product category: "How likely or unlikely would you be to try a Canadian fruit punch if it was available in the U.S.?"

If the mere-measurement effect were operating, then we would expect to observe, consistent with previous results, that the choice share of brands toward which participants hold positive and highly accessible attitudes would increase (relative to control respondents not asked category purchase intent). In the current experimental scenario, the brand with the most accessible attitude was Lunas (this attitude was also positive). Thus, evidence supportive of the mere-measurement effect would be a higher choice share for Lunas among participants asked intent than among those not asked intent.

On the page following the intent question, participants received the reduction–magnification manipulation that was designed to either heighten or reduce an observed mere-measurement effect through effortful processing. This manipulation consisted of the following paragraph, followed by a table that listed how many boxes of each candy bar were available.

> There is a small possibility that the sponsors of this research will provide us with a number of boxes of New Zealand candy bars to be distributed to the participants of this study some time in the next few weeks. (There is a slight problem with U.S. Customs which could prevent the importing of foreign candy bars in bulk.) They have asked that if able to import the boxes, each box be given away to a participant that expressed interest or liking for that particular candy bar. The number of boxes, and the types of candy now being planned to be given away are as follows:. . .

If participants were assigned to the magnification condition, they were informed that there were seven boxes of Lunas available and three boxes of Chew available. If they were assigned to the reduction condition, they were informed that there were three boxes of Lunas and seven boxes of Chew available. We expected that if participants attended to this information, relative to no such manipulation, we would see increased share of Lunas in the magnification condition and decreased share of Lunas in the reduction condition, in approximately equal magnitudes. In the magnification condition, participants were expected to be more likely to choose Lunas because the manipulation increased their chance of receiving one of the seven boxes available to be given away. By contrast, in the reduction condition, participants were expected to be more likely to choose Chew (and not Lunas) because there were more boxes of Chew to possibly be given away. To confirm this, we conducted a pretest of 61 participants in which participants were shown descriptions of the five candy bars and either the magnification or reduction manipulation or no information (the control condition) and were asked to choose a candy bar. As expected, results showed similar increases and decreases in choice of Lunas versus a control condition (Lunas choice = 55%, n = 20) for the magnification (Lunas choice = 67%, n = 21) and reduction manipulations (Lunas choice = 45%, n = 20), respectively.

After this manipulation, experimental participants were informed that a number of promotional samples of the candy bars had been obtained and were available for trial. Participants chose one of the five alternatives and tore off a coupon that they exchanged for a product sample after they completed the study. Finally, each participant answered a series of questions regarding candy bar consumption, typical price paid for a candy bar, their favorite candy bars, and familiarity with the candy bars used in the experiment.

Results

As a check that participants followed our divided attention instructions, a comparison was made between the number of reported blinks for those in full attention versus divided attention conditions. Participants in full attention conditions, while performing the blink-counting manipulation, completed the task prior to being asked the category intent condition. By contrast, participants in the divided attention conditions continued the blink-counting task for a considerably longer period. Thus, we expected that if participants were accurately tracking the number of times they blinked, we would observe greater blink counts for the divided attention participants than for the full attention participants. As expected, participants in the full attention conditions reported a mean number of blinks of 6.31 versus a mean of 19.95 for the divided attention conditions, $t(276) = 7.87$, $p < .0001$.

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[1] Pretesting found the brand names to be unfamiliar to U.S. consumers. Each of the five brands had mean familiarity ratings of less than 2 on a 7-point scale (1 = *not at all familiar* and 7 = *familiar*).

[2] The second most-preferred brand was chosen to avoid potential ceiling effects in choice shares associated with the most-preferred brand.

Table 1
Choice Share of Lunas Brand by Condition

Condition	Intent measured (%)	No intent measured (%)	Magnitude of mere-measurement effect (%)
Full attention, magnified	65.71	36.11	+29.60
Full attention, reduced	42.42	27.50	+14.92
Divided attention, magnified	55.17	34.21	+20.96
Divided attention, reduced	44.83	28.57	+16.26

Prior to computing the contributions of automatic and effortful components to any observed mere-measurement effect, we performed a 2 (category purchase intent: measured, not measured) × 2 (effortful manipulation: reduction, magnification) × 2 (attention: full, divided) categorical analysis of variance (ANOVA) to ensure that the mere-measurement effect occurred in this research setting. The dependent variable for this analysis was choice incidence of the second most-preferred positive and accessible brand (Lunas). Because the dependent variable is binary, the data were analyzed using a categorical ANOVA procedure (the CATMOD procedure in the SAS statistical package [SAS Institute, Inc., 1989]). As we expected, the mere-measurement effect was observed. That is, participants who were asked a category purchase intent question were more likely to choose the second most-preferred, but most accessible, brand in the category (Lunas share = 66/123 or 54%) than were those not asked a category intent question (Lunas share = 49/155 or 32%), $\chi^2(1, N = 278) = 13.68$, $p < .001$. Also as we expected, our effortful reduction–magnification manipulation was significant, as evidenced by a greater rate of Lunas choice for those in the magnification conditions (Lunas share = 65/137 or 47%) than for those in the reduction conditions (Lunas share = 50/141 or 36%), $\chi^2(1, N = 278) = 3.96$, $p < .05$. Neither the main effect of attention nor any of the two- and three-way interactions had significant impact on choice (all *ps* > .40).

Table 1 presents the choice share for Lunas in each of the eight experimental conditions. The magnitude of the mere-measurement effect (i.e., the difference in choice share for Lunas between a condition that was asked category intent vs. one that was not asked category intent) is shown across the four Attention × Effortful Manipulation conditions. The mere-measurement effect was greatest for the FM manipulation (the magnitude of the effect was a 30% increase). The smallest effect was found for the FR manipulation condition (15%). Intermediate magnitudes were observed for the DM condition (21%) and the DR condition (16%).

Substituting these values into the algebraic representations shown above yielded a value of k of 3.12, which represents the ratio of effortful contributions to choice at full versus divided attention (see Equation 5). This suggests that our divided attention task reduced both effortful components by a factor of three and provides additional support for the effectiveness of our divided attention manipulation. Consistent with the results of the ANOVA, we found a substantial influence of our effortful reduction–magnification manipulation, which, at full cognitive capacity, leads to an increase or decrease in the share of Lunas of more than 7% ($EMan_f = 7.34$). At divided attention, this manipulation leads to an increase or decrease of only 2% ($EMan_d = 2.35$). Thus far, though providing support that our manipulations operated as expected, none of these results give us any true insight into the nature or mechanism through which the mere-measurement effect operates.

The principal goal of this research was to uniquely estimate the effects of both automatic and effortful processes in the mere-measurement effect. Again, using the algebraic representations above, we found that at full attention, the effortful component of the mere-measurement effect leads to an increase in Lunas choice share of more than 5% ($EMM_f = 5.37$), whereas at divided attention, the effortful component leads to an increase of less than 2% ($EMM_d = 1.72$). By contrast, the automatic component of the mere-measurement effect contributes an increase in Lunas choice share of almost 17% ($A = 16.89$), approximately three times the relative size of the effortful effect observed in this experiment.[3]

Discussion

This experiment presented a unique decompositional method designed to separately estimate the degree to which the mere-measurement effect is a result of automatic versus effortful processing. Results demonstrated that the phenomenon is due substantially more to automatic processes than to effortful processes. These findings lend support to a perspective that the changes in behavior that occur as a result of being asked an intentions question do not occur because of thoughtful examination of existing knowledge about the options and/or attitudes but rather are primarily due to the automatic spreading of activation across the preexisting cognitive structure in which that information is contained. As such, the most accessible brand in memory appears to be activated most in response to an intent question, thereby enhancing its subsequent accessibility even further and ultimately leading to an increased likelihood that the brand is retrieved at the time of choice.

Although this experiment offers potential new insights into the process underlying the mere-measurement effect, it also leaves several important questions unanswered. First, does the degree to which the mere-measurement effect occurs automatically or effortfully depend on the amount of involvement

[3] Because the mere-measurement effect is most likely to occur under full attention in a real-world setting, we draw conclusions about the overall relative impact of automatic versus effortful processes by comparing the size of the automatic contribution observed with that of the full attention effortful observed contribution.

individuals feel with the behavioral domain identified in the intent question? Perhaps choice among unknown New Zealand candy bars is likely to be a low-involvement task and therefore more dependent on the accessibility of brand attitudes available in memory than on any careful consideration of those brands. A similar experiment conducted in a more highly involving situation, however, may reveal a greater effect of effortful versus automatic processing (Petty & Cacioppo, 1980). We address this potential directly in Experiment 2.

Second, how well does the proposed model of the mere-measurement effect account for the observed choice behavior? Although process-decomposition models typically have not attempted to estimate the degree to which the proposed models fit the underlying data (cf. Jacoby, 1991; Pham & Johar, 1997), it is nonetheless reasonable to ask such questions. In the present research, we obtain a sense of overall fit by running a model in which, for each of the eight experimental conditions, dummy variables are included to indicate the presence or absence of each of our five automatic and effortful latent constructs. Even though the individual parameter estimates are not reliable due to the lack of identification between the automatic and intentional components of the mere-measurement effect, the overall model fit does provide a sense for how well our model fits the data.[4] The results of a simple additive model with choice of Lunas as a dependent variable show that the model fits the data quite well, as indicated by a nonsignificant chi square in the categorical regression procedure, $\chi^2(3, N = 278) = 0.67, p = .88$. This analysis lends further credence to our approach and, thus, in turn, to the effects that point to the relative importance of automatic versus effortful processing in the mere-measurement effect.

Experiment 2

Procedure

In Experiment 2, we examine the impact of asking intent questions on volunteering behavior to heighten the degree of involvement our participants feel in the experimental situation as well as to broaden our examination of the mere-measurement effect beyond consumer choice. As in Experiment 1, the design was a 2 (category intent: measured, not measured) × 2 (effortful manipulation: magnification, reduction) × 2 (attention: full, divided) between-subjects full factorial design. One hundred ninety-seven participants completed the experiment in partial fulfillment of a course requirement.

Unlike Experiment 1, the context was not a candy bar choice but rather required the participants to commit to actually volunteering for a charitable organization. Participants were led to believe that there was a shortage of laboratory hours available for them to complete their course requirement (3 laboratory hours per semester) but were told that volunteering at a local charity could be substituted for their lab hours. This decision was more involved than the candy bar choice because participants would be required to commit a half day of their time to volunteer at a local charity. Participants were then exposed to the names and brief descriptions of four fictional charitable organizations (e.g., Children's Reading Circle; see the Appendix for a list of the volunteer option descriptions). They next reported their attitudes toward each of the four charities on a 7-point scale (1 = *extremely negative* and 7 = *extremely positive*). To increase the accessibility of an attitude toward a positively viewed charity, we then asked all participants to describe in a few sentences why their attitude toward the Children's Reading Circle (CRC) charity was positive or negative. In pretesting, attitudes toward CRC were generally positive. Thus, after the elaboration task, consumers had a highly favorable and highly accessible attitude toward the CRC, analogous to the positive and accessible attitudes toward the candy bar in Experiment 1.

The manipulation of attention was identical to that used in Experiment 1. We asked participants to keep a mental count of the number of times they blinked their eyes. In both full and divided attention conditions, the blink-counting experiment was introduced as an unrelated second study. If participants were assigned to the full attention condition, they completed the blink-counting task prior to being asked an intention question about their likelihood to volunteer for one of our charities instead of doing another laboratory experiment. However, if participants were assigned to the divided attention condition, they continued their blink-counting task both as they were asked to report their intent to volunteer for a charity and as they received the magnification–reduction effortful manipulation. Following the blink-counting instruction, participants answered several filler questions before the intent question.

If assigned to the intent measured condition, participants received and responded to the following question: "How likely or unlikely is it that you would be willing to volunteer to participate in one of the previously outlined volunteer activities rather than participate in an hour of experimentation?" (1 = *definitely would volunteer* and 7 = *definitely would not volunteer*). If the mere-measurement effect were operating in this context, we would expect to observe that the percentage of participants volunteering for the charity toward which they held positive and highly accessible attitudes (i.e., CRC) would increase (relative to a control condition not asked intent to volunteer for a charity). Evidence in support of a mere-measurement effect would be a higher volunteer rate for CRC for participants that were asked intent than for those that were not asked intent.

Next, all participants received the reduction–magnification manipulation that was designed to either heighten or reduce an observed mere-measurement effect through effortful processing. This manipulation consisted of the following statement, followed by a table that showed the percentage of previously surveyed students that were interested in volunteering for each charity: "We have collected information about volunteering in these activities from a number of students already. The previously surveyed students have indicated their volunteer preferences as described below:. . ."

If participants were assigned to the magnification condition, they were informed that 17% had volunteered for the Brighter Days Society, 0% for Citizens for a Cleaner Society, 17% for Loving Animals Society, and 66% for CRC, our target charity. If they were assigned to the reduction condition, they were informed that 50% had volunteered for the Brighter Days Society, 0% for Citizens for a Cleaner Society, 50% for Loving Animals Society, and 0% for CRC. This manipulation is necessarily different than the lottery in Experiment 1 in that it uses a social influence variable (i.e., option popularity) to enhance or dampen any observed mere-measurement effect, whereas in Experiment 1, we used option availability to do so (i.e., number of boxes to be given away). However, the specific manipulations are of much less interest than the magnification and reduction outcome of the manipulations, which we pretested carefully in each case.

A pretest of 62 participants was conducted in which participants were shown descriptions of the four charities and either the magnification, reduction, or no previous volunteer information (a control condition) and

[4] It is this lack of individual parameter identification that leads us to use the more complicated process-decomposition approach to determine the specific contributions of elaborative and automatic effects. Treating the latent variables as we do to estimate overall model fit makes the EMM_d term redundant with the A and EMM_f terms. Thus, the model that is fit essentially regresses four dummy variables on Lunas choice and provides a conservative estimate of model fit.

were asked to choose which charity they would volunteer for. Results showed nearly equal increases and decreases in choice of CRC versus the control condition (CRC volunteer rate = 42%, n = 19) for the magnification (CRC volunteer rate = 55%, n = 22) and reduction manipulations (CRC volunteer rate = 29%, n = 21), respectively. Thus, we expect that, relative to the control condition, if participants attended to this information we would see increased rates of volunteering for CRC in the magnification condition and decreased CRC volunteer rates in the reduction condition.

Following the magnification–reduction manipulation, participants were asked which of the four volunteer activities they would be most interested in donating time to. Finally, each participant answered a series of questions regarding previous volunteering behavior and their familiarity with each of the fictional charities used as stimuli.

Results

As in Experiment 1, we compared the blink counts for those in divided attention conditions to those in full attention conditions and expected the counts to be greater for divided attention conditions (as they were asked to count their blinks for a longer period of time). As expected, participants in the full attention conditions reported a mean number of blinks of 5.11 versus a mean of 14.54 for the divided attention conditions, $t(195) = 10.51$, $p < .0001$.

We performed a 2 (category purchase intent: measured, not measured) × 2 (effortful manipulation: reduction, magnification) × 2 (attention: full, divided) categorical ANOVA to ensure that the mere-measurement effect occurred in this new research setting. The dependent variable for this analysis was volunteer rate for the target charity, CRC. Because the dependent variable is binary, the data were again analyzed using a categorical ANOVA (the CATMOD procedure in the SAS statistical package). As expected, and as found in Experiment 1, the mere-measurement effect was observed. That is, participants who were asked a category intent question regarding their likelihood to volunteer to perform charitable work were more likely to choose the positively viewed and most accessible charity in the category (CRC volunteer rate = 95/156 or 61%) than were those not asked a category intent question (CRC volunteer rate = 60/148 or 41%), $\chi^2(1, N = 304) = 11.77$, $p < .001$. Also, as we expected, our effortful reduction–magnification manipulation was significant, $\chi^2(1, N = 304) = 6.37$, $p < .01$, as evidenced by a greater volunteer rate for CRC for those in the magnification conditions than for those in the reduction conditions. Neither the main effect of attention nor any of the two- and three-way interactions had a significant impact on choice (all $ps > .45$).

Table 2 presents the volunteer rates for CRC in each of the eight experimental conditions. The magnitude of the mere-measurement effect (i.e., the difference in volunteer rates for CRC between a condition that was asked category intent vs. one that was not asked category intent) is shown across the four Attention × Effortful Manipulation conditions. As in Experiment 1, the mere-measurement effect was greatest for the FM condition (the magnitude of the effect was a 39% increase). The smallest effect, again replicating the results of Experiment 1, was found for the FR condition (14%). Intermediate magnitudes were observed for the DM condition (24%) and the DR condition (19%).

Substituting these values into the algebraic representations shown above yielded a k value of 5.03 (see Equation 5, where k represents the ratio of effortful contributions to choice at full vs. divided attention). This suggests that our divided attention task reduced the effortful component of the mere-measurement effect by a factor of five and provides additional support for the effectiveness of the manipulation. Consistent with the results of the ANOVA, we found a substantial influence of our effortful manipulation, which at full cognitive capacity leads to an increase or decrease in the volunteer rate of more than 12% ($EMan_f = 12.57$). At divided attention, this manipulation leads to an increase or decrease of only 2% ($EMan_d = 2.5$). More interestingly, we found that at full attention, the effortful component of the mere-measurement effect leads to an increase in CFC volunteer share of more than 6% ($EMM_f = 6.11$), whereas at divided attention, the effortful component leads to an increase of slightly more than 1% ($EMM_d = 1.22$). By contrast, the automatic component of the mere-measurement effect contributes an increase in the CRC volunteer rate of more than 20% ($A = 20.45$), approximately 3.5 times the size of the effortful effect observed in this experiment, and similar to the factor of three observed in Experiment 1.

Again, as in Experiment 1, we estimated model fit by running a model in which for each of the eight experimental conditions, dummy variables are included to indicate the presence or absence of each of our five latent automatic and effortful constructs. As in Experiment 1, the results of the simple additive model with choice of CRC as a dependent variable show that the model once again fits the data quite well, as indicated by a nonsignificant chi square in the categorical regression procedure, $\chi^2(3, N = 197) = 2.08$, $p = .56$. This analysis provides additional support for the validity of our model.

Discussion

In summary, Experiment 2 replicates the results found in Experiment 1. The findings indicate that the relative contribution of automatic versus effortful processing to the mere-measurement phenomenon remains roughly the same, regardless of the degree of

Table 2
Percentage of Participants Choosing Children's Reading Circle by Condition

Condition	Intent measured (%)	No intent measured (%)	Magnitude of mere-measurement effect (%)
Full attention, magnified	82.61	43.48	+39.13
Full attention, reduced	50.00	36.00	+14.00
Divided attention, magnified	72.00	47.83	+24.17
Divided attention, reduced	55.17	36.00	+19.17

involvement associated with the domain of interest. Results also indicate once again that the proposed model performs well in its estimation of the observed effects. This important result lends further credence both to the methodology used to explore the process underlying the mere-measurement effect in this research and to the findings regarding the degree to which the phenomenon is due to automatic versus effortful use of memory.

General Discussion

The mere-measurement effect is a robust one that has been recently demonstrated in both field and laboratory settings across a variety of behavioral categories (Fitzsimons & Morwitz, 1996; Morwitz & Fitzsimons, 1999; Morwitz et al., 1993). The current research both serves as a replication of the basic finding that an individual's actual behavior is changed by virtue of being asked an intent question about a category and, more importantly, provides the first evidence regarding the degree of automaticity present in its mechanism.

Previous research has been unable to clearly demonstrate the reasons for the mere-measurement effect. The results of the process-dissociation procedure used in these two experiments clearly show that the change in behavior due to automatic processing is of much greater magnitude than a change due to effortful processing. In Experiment 1, a change in choice share of the target brand due to measuring category purchase intent of some 17% may be attributed to automatic processes (this represents a relative increase of more than 50% over the baseline share of 32%). This contrasts with a change in choice share of 5% due to an effortful or conscious reaction to measurement of category intent. In Experiment 2, a change in volunteer rates of greater than 20% may be attributed to automatic processing, whereas an increase of 6% in volunteer rates may be attributed to effortful processing.

Our ability to estimate specific contributions of automatic and effortful components of the mere-measurement effect is enabled by the development of a new process-decomposition procedure. Previous process-decomposition efforts have focused on the domain of perception and memory (e.g., memory for famous names) but have not examined behavioral outcomes. The current article takes the spirit of the process decomposition used in these research areas and applies it to decomposing automatic and effortful components of actual behavior. In doing so, we develop a unique set of procedures and equations that could be extended to study other behavioral phenomena beyond the mere-measurement effect.

The results of our novel approach strongly suggest that the mere-measurement effect does not arise from careful consideration of existing knowledge or attitudes toward category members in response to an intent question but rather is primarily due to the automatic activation of the cognitive structure in which that information is contained. As such, the most accessible category member is activated in response to the question, thereby enhancing its accessibility and leading to increased likelihood that it is automatically retrieved at the time of purchase or decision.

Such results also highlight the potential similarities between the processes underlying the mere-measurement phenomenon and the effect from which its name is borrowed, the mere-exposure effect (Kunst-Wilson & Zajonc, 1980). This literature has repeatedly found effects such that prior experience with an object results in altered evaluations of it, even when individuals are unaware of that prior experience. Jacoby (cf. Jacoby & Kelley, 1987) argued that such effects are due to increased perceptual fluency with the target items. For neutrally valenced objects, a net positive shift in liking of the object is observed (Zajonc, 1968), whereas for positively or negatively valenced objects, exposure results in more extreme attitudes toward the object (Downing, Judd, & Brauer, 1992). These evaluative shifts are not due to careful consideration of the target item itself but rather result from the enhanced perceptual fluency with, or accessibility of, the item due to previous experience with it. Such effects are similar in nature to the likelihood of judging nonfamous names to be famous after previous exposure to them, when that previous exposure cannot be accurately recalled (Jacoby et al., 1989). In each case, prior experience influences perception and interpretation of subsequent events, without intention on the part of the individual. Likewise, the results of the current research appear to indicate that the mere-measurement phenomenon reflects a process whereby answering an intent question increases the fluency of the most accessible item in a category. In the purchase intention case, for example, this most accessible item is most often either the currently owned brand or the dominant brand in the category, depending on current usage status. This increase in accessibility then appears to increase the likelihood that the brand will later be invoked automatically at the time of a purchase decision.

The focus on heightened accessibility as the basis for the mere-measurement effect is also consistent with psychology literature investigating the role of prospective memory on intentions. This research stream identifies two memory-based components to the successful implementation of intentions. The first is referred to as *prospective memory*, which is defined as remembering to remember or memory regarding the performance of an action at some point in the future. The second component of intentions memory is referred to as *retrospective memory*, defined as remembering what to remember or memory for a previously formed intention (Einstein, Holland, McDaniel, & Guynn, 1992; Einstein & McDaniel, 1990; Kvavilashvili, 1987). As the mere-measurement effect occurs because of the expression of some future intention, it thus likely invokes prospective memory or something akin to it.

Of importance, these prospective memories appear to naturally exhibit a high level of activation that persists until the intended behavior has been accomplished (cf. Marsh, Hicks, & Bink, 1998). As a result of their heightened and sustained activation, it has been suggested that prospective memories are likely to automatically or unconsciously enhance an individual's ability to perceive intention-relevant situations (cf. Einstein & McDaniel, 1996; Gollwitzer, 1999; Mantyla, 1996). This elevated degree of accessibility may fundamentally change the ability of the individual to perceive contexts relevant to the previously formed intention, automatically giving rise to feelings of familiarity or perceptual fluency that cause the circumstances relevant to the intended action to be noticed (Einstein & McDaniel, 1996). Thus, although retrospective memory is believed to reflect strategic voluntary use of memory, the use of prospective memory is believed to be unique because of its reliance on automatic activation (McDaniel & Einstein, 1992). Moreover, the formation of intentions may facilitate perceptual fluency with such situations even if the episodic representation of the intention is not consciously recollected, suggesting that conscious recall of the formation of an intention is not necessary for that intention to run its course (Goschke & Kuhl, 1996).

Practical Implications

Of importance, the degree of automaticity present in our results suggests that the behavioral impact of mere-measurement will be difficult for respondents to avoid and thus may be similar to other sources of mental contamination or biasing (Wilson & Brekke, 1994). These effects, however, may be undone if respondents can be made aware of the potential impact of the intent question on their behavior. For example, further research on the mere-exposure phenomenon (Lombardi, Higgins, & Bargh, 1987) has found that with awareness of exposure to the original stimulus and its potential influence on evaluations, contrast, rather than assimilation, effects are observed.

Such an impact requires a shift in the use of memory, from memory as a "tool" to memory as an "object" (Jacoby & Kelley, 1987; Polanyi, 1958). Using memory as a tool implies the transparent accessing of information from memory to perform a current task, such as the way language is accessed to read a book. In this way, the past sets the stage for perception and interpretation of ongoing situations. Even a single experience can serve as a tool for this type of interpretation, particularly when there is a match between the previous experience and the details of the current situation (Jacoby & Kelley, 1987). This type of match occurs in the mere-measurement situation because questions regarding intent are naturally relevant to subsequent purchase behaviors. In contrast, using memory as an object suggests careful inspection of it to search for potential influences on current behavior. However, even if consumers could be made aware of the potential impact of an intentions question on their purchase behavior, it is not clear they could avoid those influences (Wilson & Brekke, 1994) or indeed whether they would necessarily want to do so. This suggests even greater reasons for marketers and marketing researchers to be concerned about the unintended impact of their actions on consumer behavior and resulting difficulties in interpreting consumer intentions data (Fitzsimons & Morwitz, 1996).

More generally, the automaticity of these results also raises considerable concerns outside the marketing research domain and applies to any situation in which a researcher asks an intent question. For example, researchers in the public policy arena should exercise caution when asking questions about high-risk behaviors to at-risk populations. If members of such populations view these behaviors positively, researchers may be inadvertently encouraging the behaviors they seek to avoid.

Limitations

The present study relies on the manipulation of the effortful aspects of mere measurement. It is certainly possible to focus instead on the manipulation of automatic processes. For example, a nonconscious prime could be used to either magnify or reduce the choice share, similar in concept to that used to manipulate effortful choice in this experiment. Consistent with the manipulation of effortful processing, the prime would be expected to impact automatic processing but would not be likely to have any potential impact on effortful processing. Similarly, we would expect parallel results such that when automatic processing is magnified, the magnitude of the mere-measurement effect is larger. However, results of the present experiments suggest that when automatic processing is reduced, little or no mere-measurement effect should be observed because without the operation of automatic processes, the mere-measurement phenomenon is less likely to occur at all.

The most significant limitations of the present research are two that underlie all process-decomposition attempts: (a) the assumption of an additive model and thus independence of automatic and effortful processes underlying the effect of interest and (b) the assumption that the automatic effect is equivalent across all conditions of the experiment. A number of researchers have suggested that these assumptions may not apply in all contexts (e.g., Curran & Hintzman, 1995; Jacoby, 1998). Future research may be warranted to explore to what degree the two types of process interact in the mere-measurement effect, as well as how to adequately address any such interaction in arriving at unbiased estimates of the size of each underlying process.

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(Appendix follows)

Appendix

Description of Experimental Stimuli

Table A1
Experiment 1 Stimuli

Brand name	Taste[a]	Grams of fat	Calories	Shelf life (days)
Lunas	8	4.8	350	100
Wriggler	7.5	11.0	340	110
Tempo	7	7.0	335	105
Turkish	6	13.0	330	110
Chew	10	8.0	350	105

[a] On a 10-point scale (1 = *poor* and 10 = *excellent*).

Table A2
Experiment 2 Stimuli

Charity	Action	Time of day
The Brighter Days Society	Visit hospitals and spend time playing with children suffering from cancer.	Weekend afternoon
Citizens for a Cleaner City	Work with city maintenance employees, cleaning up litter and trash and painting benches in local parks.	Weekend morning
Loving Animals Society	Participate in taking cats and dogs to interact with the elderly at local nursing homes.	Weekend afternoon
Children's Reading Circle	Visit local children's centers or libraries to read books to groups of children.	Weekend afternoon

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