

# KellerCenter Research Report



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# The Cost of Choosing: Cognitive Resource Depletion in the Home Buying Process

Vanessa G. Perry, PhD and J.D. Lee, PhD

Imagine three different consumers are each looking for a new house. Consumer #1 is a quick decision maker and cares most that her home has high ceilings and a big, fancy kitchen. Consumer #2 is a “smart shopper” who thoroughly evaluates all relevant information available about a prospective home, including the price, neighborhood, number of bedrooms and bathrooms, closet space, quality of amenities (e.g., flooring, countertops, bathtubs, etc.), proximity to public services, school quality, crime rates, etc. She tries to see all properties on the market, in a number of different areas, multiple times because she is afraid that she might later regret her decision. Consumer #3 focuses on only a few aesthetic factors in a prospective house, such as the square footage and landscaping.



When a house is selected, each consumer must decide how to finance her new home. *Which of these consumers is most likely to choose the best mortgage loan product, given their financial needs?* After all, Consumer #2, the thorough shopper, is most likely to utilize a careful, rational decision-making process, while Consumers #1 and #3 appear to be the least focused on full information.

In a recent study of home shopping and mortgage choice behaviors, we question the intuitive assumption that Consumer #2 will make better decisions based on the effort she puts into decisions and the rationality of her decision-making process. This is an important consideration for real estate professionals, as agents often have an opportunity to influence consumers’ mortgage decision-making process. So we ask: *Does expending more effort make consumers smarter?*

## Does More Effort Make a Smarter Consumer?

According to a recent study published in the *International Journal of Consumer Studies* (Perry and Lee 2012), the process of shopping for a home and choosing between alternative property features is a mentally-taxing set of exercise that wear on an individual’s cognitive resources. Shopping for a home requires both willpower and high-effort decision-making. For example, this process can require complex tradeoffs (e.g., design features or price) and brand comparisons (e.g., particular houses or neighborhoods). As a result, following the home shopping process,

mentally-tired individuals may make sub-optimal home financing decisions. Previous studies have identified a principle, known as “ego depletion” or “cognitive resource depletion,” that suggests that acts requiring cognitive effort, such as exercising willpower, may deplete limited cognitive resources (Baumeister et al. 1998; Twenge et al. 2008; Muraven et al. 1999).

Homebuyers often consider house- or property-related options before choosing a mortgage loan. The mortgage choice can be complex and risky because the terms of different mortgage loan products can vary widely (Kwon and Lee 2009). Homebuyers often consult with one or more professionals for help with the mortgage loan process, such as a real estate agent or broker, or a lender representative at a bank or mortgage company. Due to distractions posed through the home-shopping process, though, consumers may end up devoting less attention to choosing a mortgage, resulting in a higher propensity to select higher-risk mortgage products.

## **Our Study**

The results of two controlled experiments demonstrate how the process of shopping for a home can result in cognitive resource depletion, which in-turn can affect the effort a consumer devotes to the mortgage process as well as the consumer’s choice of mortgage financing. In Study 1, participants in the “depletion” treatment group were asked to complete an online shopping simulation involving 14 different choices about housing characteristics. These participants were given a hypothetical budget, and were asked to view pictures of several different properties. After selecting a house, they were asked to choose among several options (e.g., “What color do you want in your bedroom?”), and asked to make tradeoffs (e.g., “This feature is too expensive for your budget. Please select a different option.”).

After completing this simulation, participants were asked to choose among a set of mortgage alternatives presented in a format adapted from the website of a major national mortgage lender. In addition to listing seven different mortgage loan options, each was accompanied by a link to additional information about each product. Participants in the control group did not complete the online shopping simulation, but were told to imagine that they have recently selected a new house, and were then given the same mortgage choice task as was provided to the treatment group. Prices were controlled in both conditions in order to avoid confounding the decisions (Seaton and Vogel 1980). We measured the mortgage choice and mortgage decision time as a measure of cognitive effort. In a separate task, participants completed a financial knowledge quiz.

As predicted, participants who had participated in the house shopping exercise were more likely to select higher-risk mortgage products (i.e., adjustable-rate mortgages), even after controlling for individual differences in financial knowledge. Since these products featured lower monthly payments, depleted participants were more likely to rely on this feature as the basis for their decision, while failing to consider other elements of the offer. Also, these resource-depleted participants also spent less time selecting a mortgage, in part because they were more likely to

choose one of the first mortgage offers presented to them. This finding implies that cognitive resource depletion kept consumers from conducting additional research and from making an informed choice.

*Since cognitive resource depletion can have a negative effect on financing decisions, is there a simple remedy that can offset the negative effect? Does knowledge about the negative consequences of ego depletion improve decision-making?* In the same article (Perry and Lee 2012), we examined whether informing consumers that they are vulnerable to resource depletion helps them to mentally prepare for subsequent cognitive tasks (Janssen et al. 2008). Thus, if increasing awareness can help consumers bolster their cognitive resources, this may facilitate better decisions.

In Study 2, participants in the treatment condition were informed about the likely effects of cognitive resource depletion in hopes that an inoculation effect would occur that would prompt them to devote more effort to the mortgage decision. We found, however, that awareness of cognitive resource depletion exacerbated the effects observed in Study 1. Participants who had participated in the online house shopping simulation and had been warned about the effects of cognitive resource depletion were more likely to select higher-risk, adjustable-rate mortgages. Participants in the inoculation condition also spent less time at the choice task than participants in the control condition. This suggests that learning about cognitive resource depletion placed additional demands on participants' cognitive resources.



In a third study, we investigated the impact of a period of cognitive “rest and relaxation” on the effects of cognitive resource depletion. Previous research suggests that the effects of depletion is temporary and can be restored (Tyler and Burns 2008). In order to create a baseline level of cognitive resource depletion, participants were asked to make a series of decisions within an online car-shopping simulation. Upon completing their car selections, participants watched video

clips within one of three ego-replenishing conditions (none, moderate, and high) differed by length of the video clip. These video clips were excerpts from the movie “Finding Nemo.” Watching an entertaining video clip has been used several times in psychology experiments to put participants in a positive mood. According to Tice, Baumeister, Shmueli, and Muraven (2007), positive moods created by watching comedy or receiving surprise gifts can counteract ego depletion.

After watching these “Finding Nemo” clips of varying lengths, participants were then asked to choose the “best” loan option from five alternatives. The initial loan amount for all five choices

was the same but due to varying interest rates, cash back rewards, and loan lengths, the total-payment-due for each option differed. We find that both ‘too much rest’ and ‘no rest’ both result in poor performance on subsequent financial decisions. However, moderate levels of cognitive resource replenishment - when it comes to financial decisions - actually paves the way for increased cognitive effort (Olsen, Lee, and Perry 2012).

### **What This Means for Real Estate Professionals (and Consumers)**

Taken together, these findings have important implications for real estate professionals and consumers. The findings also present an opportunity for real estate professionals to become an important part of the consumer’s mortgage decision-making process.

- *Think Mortgage Options Early.* Encouraging borrowers to think about home financing carefully before shopping for a home could increase decision effort and lower the incidence of high-risk financing options.
- *Promote Resource Replenishment Within the Homebuying Context.* Findings from these studies suggest that consumers need a break between tasks in order to make better decisions. Make the consumer aware of the negative effects related to making several decisions in a short period of time that require high cognitive effort. Encourage him to take additional time to make a decision – not necessarily to acquire more information, but rather to allow for resource replenishment.

It is important to note that cognitive resource depletion and replenishment depend on the context, and could potentially vary based on individual differences as well.

### **Conclusion**

It is clear that more effort does not necessarily make the consumer smarter. Real estate professionals can use these learnings to positively influence consumers’ decision-making processes, promoting smarter homebuying decisions. By providing the consumer with valuable information like this, agents can further establish themselves as information resources, making themselves an even more valuable part of the homebuying process.

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