Who Said Multitasking Is Bad? the Benefits of Doing Two Things At the Same Time

Sydney Chinchanachokchai, University of Illinois, USA
Brittany Duff, University of Illinois, USA
Robert S. Wyer, University of Illinois, USA

Consumers often are exposed to ads while they are multitasking. This study examines multitasking behavior in the advertising context and shows that when people are exposed to a high involvement ad, performing another task is distracting and leads to a decrease in ad-related memory. Interestingly, for a low involvement ad, a low-demand secondary task actually increases ad-related memory.

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Sydney Chinchanachokchai, University of Illinois, USA
Brittany Duff, University of Illinois, USA
Robert S. Wyer, University of Illinois, USA

Consumers are often multitaskers, turning on a TV while flipping through a magazine or talking on a cell phone while browsing through grocery aisles. In everyday life, people often engage in multiple tasks at the same time. Multitasking behavior in consumers is an area underexplored yet important for marketers to understand in its impact on advertising effectiveness.

Although multitasking has been explored in psychology and consumer research, most studies show that when people perform two tasks simultaneously, their performance on one or both tasks decreases (Hembrooke & Gay 2003). In some cases, however, performing a secondary task can actually increase one’s attention to a primary task by preventing one’s mind from wandering and, therefore, may increase performance on the primary task and memory for the material that is relevant to it (Andrade 2009). This paper presents a preliminary look at why this difference may occur, particularly in an advertising context, and how multitasking affects memory under different levels of involvement.

In the situation where the two tasks are not equally cognitive demanding, the performance of one task may benefit the others. Performance decrements through competition for task-specific resources are moderated when the secondary task reduces the mind-wandering that can be a hidden feature of single task control conditions (Smallwood et al 2007). MRI studies have also shown that as central executive demands of tasks decrease, stimulus-independent thought (mind-wandering) increases (Mason et al 2007). These stimulus-irrelevant thoughts have been shown to lower performance on memory tasks (Seibert & Ellis 1991), showing that there might not always be straightforward effects of multitasking on consumer memory.

One exception to the lack of research on multitasking and advertising is Shapiro and Krishnan (2001). In this study, attention was divided by playing an audio program at the same time ads were shown on slides. However, this study compared dual-task groups and did not look at possible detrimental effects of a single-task, particularly when the single-task is not involving.

The concept of involvement is an important moderator of the amount and type of information processing elicited by a persuasive communication (Petty & Cacioppo 1981). High-involvement messages have greater personal relevance and consequences or elicit more personal connections than low-involvement messages (Krugman 1965). According to the elaboration likelihood model, as product increases in personal relevance or consequences, people are more motivated to devote cognitive effort required to evaluate it when involvement is high rather than low (Petty et al 1983). High involvement also leads to greater attention and comprehension (Celsi & Olson 1988). When the level of involvement is high, consumers are more motivated to process salient product information in advertisements. They also exert greater cognitive effort during comprehension of the ads, increasingly focusing their attention on the product-related information (Celsi & Olson 1988). Therefore, people who are performing a low cognitive-demand task (such as doodling) while low-involvement ads are presented should recognize product and ad points more than those who are not performing the task. A high-involvement ad may be able to draw attention from the audience by itself, therefore, the low demand task should not help ad memory in this case.

A study was conducted to examine the effect of a low cognitive demand secondary task on memory. In this experiment, we used doodling as a secondary task. Participants (n= 77; 2x2 (Task x Involvement)) were told to listen to a series of monotonous radio commercials as if they were listening to the radio at home and form an impression toward the ads. Participants were randomly assigned into one of the two conditions (dual-task vs. single-task). In the dual-task condition, they performed a “doodling task” while listening to the commercials. Participants were provided paper with shapes on the left hand side and asked to copy the target shapes into the blank spaces. The single-task group only listened to the ads. There were two versions of the target commercial: high and low involvement. Each group heard five radio ads with four ads that were the same for all groups. The target commercial (high or low involvement) was placed at the end in order to generate a boredom effect. After the commercials finished playing, participants wrote down their impression and answered filler questions about the other ads that played and then performed a recognition task on 15 product and ad points (correct and foil).

A separate group (n= 23) rated only the high or low involvement ad (no other ads or tasks) confirmed the high-involvement ad was easier to pay attention to, was less boring, and had a more interesting product than the low-involvement ad.

The results supported the hypotheses. There was a significant interaction effect between doodle task and the level of involvement on the ad recognition [F(1,73)=7.89, p< 0.01]. Participants in the dual-task group scored lower than the single-task group in the recognition task when the target ad was high-involvement. Importantly, the opposite was true for the low-involvement condition. Dual-task participants actually scored higher in the ad recognition task than the single-task participants.

There is a significant main effect of involvement on the target ad [F(1,73)=8.65, p< 0.01]. Participants in both groups rated the target ad in the high-involvement condition as more interesting than in the low-involvement condition. As expected, the effect was not significant for other ads (p> 1, n.s.), indicating the manipulation worked as intended. There was also a significant interaction in self-reported boredom between two groups F(1,73)=6.7, p< 0.05. Specifically, those that listened to the low-involvement ad, the dual-task condition was less bored than the single-task condition. However, in the high-involvement condition, the difference in boredom was not significant. This indicates that the secondary task keeps participants from being bored especially when they are not interested in the primary task (ads).
Multitasking is not always inefficient and sometimes can actually help memory, particularly in low-involvement conditions. Future studies will examine in more depth the role of mind-wandering and stimulus-independent thought as well as the limits of the effect in terms of task load, the role of goals in multitasking, as well as individual differences such as attentional control.

**Selected References**

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**Increasing Persuasion While Decreasing Recognition: Exploring the Interactive Effects of Product Placements on Consumers in a State of Ego-Depletion**

Brian Gillespie, Washington State University, USA
Jeff Joireman, Washington State University, USA

The majority of people who watch television, watch during evening “primetime” hours. While they watch, they are frequently exposed to product placements stemming from a $3.36 billion dollar industry (PQ Media 2007). Importantly, before people sit down to watch primetime television, most spend their day regulating their behavior (e.g. being at work when they would rather be golfing, or working to put their kids to bed when it would be easier to just let them stay up). Past research suggests that engaging in such tasks is likely to lead to a state of “ego-depletion” (Baumeister 2002). This is important because past research shows that ego-depletion interferes with cognitive functioning on challenging intellectual tasks (Schmeichel, Vohs and Baumeister 2003). Furthermore, past research has shown when cognitive resources are limited and individuals have no motivation to process a message, the message is processed peripherally and persuasiveness (positive impact on attitudes) increases (Petty, Cacioppo and Schumann 1983).

This suggests two hypotheses. First, when viewers are in a state of ego-depletion, they may be more positively influenced by lower plot connection (LPC) product placements—products that are subtle and not connected to the plot in a meaningful manner—because LPC placements offering no motivation for the viewer to process the placement. Motivation to process higher plot connection (HPC) product placements—products that are blatant and connected to the plot in a meaningful manner—does exist, so no differences between conditions are expected. Second, the lack of cognitive resources available will interfere with ego-depleted viewers’ ability to recognize LPC placements. HPC placements, however, are so blatant that all individuals will recognize them. This reasoning led to the following two hypotheses:

**H1:** For LPC product placements, individuals in an ego-depleted condition will experience a significant increase in brand attitudes.

There will be no difference for HPC product placements.

**H2:** For LPC product placements, individuals in an ego-depleted condition will experience a significant decrease in brand recognition.

There will be no difference for HPC product placements.

**Method**

Participants were 50 undergraduate students participating for course credit. Two participants’ results were dropped due to their inability to follow instructions. Participants arrived and participated in the study individually. The experimenter was blind to participants’ condition.

Upon arrival, half the participants were given instructions designed to result in ego-depletion. We used a standard attention regulation based ego-depletion manipulation (Schmeichel et al. 2003). Following the ego-depletion manipulation, participants watched an episode of a popular 30 minute primetime comedy television show from a major television network. The episode used in this study was chosen because pilot testing—on a different group of participants—indicated that participants liked the show, recognized the brands involved...