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Announcements ..... 229

FROM THE EDITOR  
The next challenge for the Journal of Consumer Psychology ..... 231

ARTICLES  
Bibliometric reflections on the history of consumer research  
Hans Baumgartner ..... 233

Why did I eat that? Perspectives on food decision making and dietary restraint  
Melissa G. Babbitt, Janet A. Probst, and Lauren G. Block ..... 239

The effect of expertise on the relation between implicit and explicit attitude measures: An information availability/availability perspective  
Sander Custers and David Lane ..... 259

Effects of accuracy motivation and need to evaluate on modes of attitude formation and attitude-behavior consistency  
Marti L. Conroy, Susan Powell Mansel, and Paul R. Kardes ..... 274

Communal and exchange relationship perceptions in separate contexts and their role in motivations to donate  
Jennifer Wiggins Johnson and Pamela E. Green ..... 282

Is there a sex-related bias? The moderating role of processing type on preference theories  
Joseph H. Nisbett and Jennifer Eilam Kadane ..... 295

Metacognitive determinants of transportation into marketing narratives  
Drew McFerran, Darren W. Dahl, Gerald J. Gorn, and Heather Hoyer ..... 306

Exploring the representativeness effects of source and picture on verbal recall: An extension of dual coding theory  
May G. Lwin, Marlene Martin, and Anindita Kundu ..... 317

Prods and holes: The role of firm profitability information in consumer inference  
Soren V. Purohit, Mahesh Kulkarni, Frank R. Kardes, and Sarah Srinivasan ..... 327

How persuasive messages can influence behavior without awareness  
J. Edward Lane and Anne-Sophie Chetail ..... 338

The role of frequency of experience with a product category and temporal orientation in self-referent advertising  
Claudia V. Diaper and Richard P. York ..... 343

The influence of involvement on the endorsement effect: The measurable value function  
Najim U. Naji, Norman Finkel, and Edward Droning ..... 353

The role of alternative attribute evaluations in mass communication  
Luisa Padgugalis, Riship Ghoshal, Arindam Bhattacharya, and Frank R. Kardes ..... 369

METHODS  
Neural network applications in consumer behavior ..... 381

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## Motivational determinants of transportation into marketing narratives

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### Abstract

This paper identifies factors that facilitate narrative transportation, where people become immersed in the storyline of an advertisement. Specifically, using a lottery context, this research shows that consumers who feel lucky or believe in personal good luck are motivated to engage in transportation, a process that is intensified as the attractiveness of the outcome increases. Further, this research shows that highly transported consumers (a) become more focused on ad outcomes and less on the low personal probability of winning, and that (b) attempts to attenuate consumers' transportation are most efficacious if undertaken before the ad (and transportation) begins.

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### Introduction

An emerging body of research suggests that people's transportation into the storyline of an advertisement serves to blur the divide between the real and hypothetical and in turn facilitates persuasion (Escalas, 2004a, 2007). In many product categories, advertisements aiming to persuade consumers present dramatic scenes that feature "everyday" people (Deighton, Romer, & McQueen, 1989; Mick, 1987; Stern, 1994). Spurring the viewer to imagine that "it could happen to me" draws the consumer into the ad storyline and transports him or her to a fictitious world shaped by the original ad narrative. We focus on lottery advertisements to examine the factors that drive the leap from the real world to a narrative world inspired by the ad storyline. We explore how consumers' personal beliefs facilitate their connection to the ad narrative, showing

when and how a connection can motivate immersion in the storyline.

Transportation was first identified by Green and Brock (2000) as a mechanism that could explain how through the "integrative melding of attention, feelings, and imagery" individuals could become immersed in a narrative (Green, 2004). As they get "lost" in a narrative (Gerrig, 1993), they become absorbed in the storyline and mentally simulate the events outlined. In a marketing context, transportation has been shown to play a role in consumer persuasion. When viewers are transported into a self-referencing ad storyline, they are persuaded by both weak and strong arguments; whereas traditional cognitive elaboration that relates ad information to the self results in persuasion only through strong arguments (Escalas, 2007). Similarly, highly transported individuals are shown to find fewer "false notes" (statements that do not ring true and are likely to provoke counter-arguing) while being immersed in a narrative, whereas research on involvement would predict the opposite (Green & Brock, 2000).

While there is evidence that transportation may impact persuasion, little is known about when transportation is more or less likely to occur in response to marketing narratives (Escalas,

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2007). Our research addresses this gap in the literature. Utilizing the circumstances of a lottery ad we measure the degree to which transportation impacts consumers' purchase desires, and what factors motivate consumers to immerse themselves into the narrative of the advertisement. This research makes a number of important contributions. First, we identify a belief in good luck as an intrinsic motivational factor that connects the consumer to the narrative and in turn facilitates transportation. Second, we find that the attractiveness of an outcome is an important moderator of this intrinsic motivation, as those that believe in good luck need an attractive prize outcome to connect to the storyline of the ad, become immersed in the ad, which ultimately, increases their desire to purchase. Finally, we show that a consequence of transportation in our context is that consumers become more focused on ad outcomes and less focused on the low personal probability of attaining the outcomes in the ad.

### Conceptual background

Transportation is one type of visual mental imagery (MacInnis & Price, 1987; Wyer, Hung, & Jiang, 2008) that consumers may use when interacting with marketing communications and narratives. It is described as a convergent process involving imagery, cognitions, and emotions, all of which are focused on events in the narrative and lead to a heightened sense of realism. The viewer feels as if (s)he is actually experiencing the story or scenario, and this self-referencing (Burnkrant & Unnava, 1995) has been shown to facilitate learning and recall (Klein & Loftus, 1988). A transported individual treats the narrative as a frame of reference (Strange, 2002) and leaps from the world of origin to the world of the narrative (Green & Brock, 2000). Factors such as familiarity with settings, prior knowledge or experience related to the themes of a story, similarity with the main character, and regulatory fit have been shown to facilitate transportation into the narrative of text (Green, 2004; Vaughn, Hesse, Petkova, & Trudeau, 2009). Our research seeks to build on these initial findings by identifying specific factors, both individual tendencies within a consumer and external factors in the environment, which encourage individuals to transport when the narrative context involves a lottery product. Using the specific context of lottery advertising, we show that a consumer's positive belief in luck can motivate transportation. Further, we identify situation cues in the lottery context that moderate the impact of this motivation.

#### *Lottery advertising as a vehicle for transportation*

Lotteries are part of a class of products known as experiential goods (e.g. Holbrook & Hirschman, 1982), meaning that most consumers do not derive monetary benefits from the purchase, nor is ownership of a physical good transferred in the transaction. In fact, most consumers derive no monetary benefit from playing the lottery; the net expected value per dollar played is  $-\$0.47$  (Miyazaki, Langenderfer, & Sprott, 1999; see also United States Census Bureau, 1995). So a number of authors have suggested that the utility of a lottery ticket lies in

the hopes or dreams that are associated with ownership of it (e.g. Clotfelter & Cook, 1989).

In the U.S., lottery advertisers spend more than \$300 M annually, placing them in the top 50 advertisers in the nation, with the result that consumers see more ads for the lottery than for most conventional products (Selinger, 1993; Stearns & Borna, 1995). Lottery advertising is a profitable investment and efficacious: one study from Florida found that for every \$1 spent on advertising, \$2.11 was generated in revenue; and that advertised games outperformed comparable non-advertised ones by a 41% margin (National Council of Legislators from Gaming States, 2006). The efficacy of these ads may lie in their ability to capitalize on the imagination of the viewer. Lottery ads are notorious for encouraging participants to dream or imagine a winning scenario (Landman & Petty, 2000) and "engage transforming fantasies" (Carey, 2007), even though the odds are extremely unlikely. With campaigns such as "Give your dreams a chance" (New Jersey State Lottery), "Can you imagine" (Lotto 6/49 – Canada), and "Win the stuff dreams are made of" (New York State Lottery), lottery advertising explicitly invites viewers to suspend their persuasion knowledge and picture themselves as winners. Thus a lottery advertisement context seemed appropriate for an examination of the transportation of consumers into a marketing narrative.

#### *Feelings about luck and outcome attractiveness as motivational factors*

Some people believe luck is a positive force that acts in their favor, while others do not hold such a belief (Darke & Freedman, 1997a; Jiang, Cho, & Adaval, 2009). It should be noted that very few people believe luck exists but they themselves are unlucky people, so while beliefs in the existence of luck and one's personal good fortune are separate factors, they are strongly correlated (e.g. Darke & Freedman, 1997b). A belief in good luck or good fortune has been shown to positively predict people's expectations regarding outcomes associated with luck (Darke & Freedman, 1997b). As such, those who feel they are lucky should believe they are somewhat more likely to win the lottery than those who do not believe they are lucky, and hence should have a stronger intrinsic motivation to play. Successful lottery play is a function of chance, so if an individual does not believe in personal good luck, selective processing should occur (Kunda, 1990), resulting in unmotivated individuals being less predisposed to immerse themselves in a lottery ad narrative. Thus we propose that individual differences in feelings about personal good luck (e.g., good fortune, karma, and fatalism) are likely to have an impact on transportation and lottery play. Specifically, intrinsic motivation (i.e., feelings about personal luck) will predict transportation into a lottery ad.

We also expect that consumers' internal propensity to transport will be moderated by external properties inherent to products such as the lottery, such as the attractiveness of the outcome being advertised. If the lottery prize is negligible or trivial, the potential outcome is not highly desirable and is therefore relatively less motivating for consumers. People are willing, however, to spend thousands of dollars per year just for the chance of the positive outcome of striking it rich with a big

prize. Larger jackpots are more desirable and attract greater numbers of players, despite the poorer odds of winning for any one person (Landman & Petty, 2000). Given that the attractiveness of an outcome (size of the prize) would seem to serve as an extrinsic motivator for lottery play, we expect this factor will also motivate consumers to transport into the ad storyline. Therefore, in our research we alter the size of the dollar prize, enabling us to manipulate the attractiveness of the outcome without confounding other factors such as ad quality. We expect that larger jackpots represent highly positive outcomes and consequently also motivate consumers to engage themselves in the storyline of the ad. Thus, we expect that consumers' belief in good luck will be moderated by the attractiveness of the lottery prize.

Across four studies we test how the relationship between a belief in good luck and transportation can be moderated by external factors. Further, we also show consequences of transportation into a lottery ad narrative. In Study 1 we explicitly manipulate intrinsic and extrinsic motivational factors (i.e., feelings of luck and size of the lottery prize) and examine their effects on transportation. In Study 2 we more directly examine the effect of transportation on a downstream variable (desire to purchase) by manipulating the underlying process. Studies 3 and 4 show how transportation affects consumers' focus on ad outcomes, and also show how transportation can be attenuated, even amongst highly motivated consumers. We use the same visual stimuli across all conditions to control for ad effects.

### Study 1

Our theorizing suggests that if two people are shown the same ad, the person believing that a positive outcome is possibly attainable will be motivated to transport more than the person who does not believe the scenario being portrayed is likely. In this study we prime different feelings about luck; some people are primed to believe they are lucky, while others are primed to believe they are unlucky. It may not be entirely surprising that individuals who believe they are lucky would be more interested in buying a lottery ticket. However, if feelings of luck predict the likelihood of imagining oneself in the storyline, such a finding would be strong evidence that the transportation process is impacted by intrinsic motivation. Those who feel lucky should be more motivated to immerse themselves in the ad and engage their imagination more fully because they believe that the event depicted could happen to them. For those who do not feel lucky, the motivation to imagine is attenuated and thus we should see lower levels of transportation.

However, we also expect extrinsic factors to moderate this effect. Lottery prizes vary widely in the size of the jackpot. Naturally, a large prize is more motivating than a small one, and as the prize increases, consumer motivation to play goes up (Landman & Petty, 2000). Looking at the dynamic of what small vs. large prizes do to motivate transport, unless the lottery prize is sufficiently large, the consumer's imagination is not likely to be engaged, and hence when they are viewing a lottery ad with a small prize, they are unlikely to get transported into it.

We expect the level of transportation experienced will be determined jointly by intrinsic and extrinsic motivation (as operationalized by the size of prize). Without significant internal motivation, there will be little incentive to transport, and thus little difference between those faced with an attractive prize versus a modest one. Among those with significant intrinsic motivation, those who are also extrinsically motivated should experience the greatest amount of transportation.

Study 1 focuses specifically on transportation, employing measures of transportation from the literature (i.e., Green & Brock, 2000). The study used a 2 (luck prime: lucky vs. unlucky)  $\times$  2 (size of prize: big prize vs. small prize) between-subjects experimental design.

### Method

#### Participants and procedure

Participants were 198 undergraduate students from a large west-coast university. In order to manipulate participants' feelings about luck, the study had participants first complete a priming task, ostensibly for another experiment. Under the guise of a "story evaluation task," participants read a story featuring a protagonist named Leslie (matched to the gender of the participants) who had just experienced a day where everything seemed to go his/her way, or the same story where the identical events seemed to be against him/her. In either case, the events were clearly out of her control, and luck (destiny or fate) seemed to be in the protagonist's favor (or not) that day.

To validate the luck manipulation, a pretest involving 90 participants was conducted where each was asked to rate (between subjects) each prime on: 1) whether the main character experienced luck, and 2) whether they felt lucky themselves after reading the narrative. The extent to which the main character had a lucky day was measured with the item "Luck was in Leslie's favor," anchored by not at all (1)/very much (7); and ANOVA results showed that indeed participants deemed Leslie more lucky in the story where things went well ( $M=5.49$ ) than when they did not ( $M=2.11$ ),  $F(1,86)=116.60$ ,  $p<.001$ . Participants' perceptions of their own luck were measured with the item "I don't mind leaving things to chance because I am a lucky person," anchored by not at all (1)/definitely (7); and as expected, participants themselves felt more lucky ( $M=2.85$ ) after reading the fortunate story than the unfortunate narrative ( $M=2.34$ ),  $F(1,86)=4.13$ ,  $p<.05$ . There were no effects of gender or priming by gender interactions on any of these measures.

After reading the story that served to prime luck, participants answered some decoy questions about the story ("How much experience do you think the writer has," "How old do you believe the author is," etc.). After completing this priming task, participants began the main study. The guise for the main study was the evaluation of a new commercial for TV. The ad featured a main character winning the lottery and deciding how to spend his newfound windfall. To manipulate extrinsic motivation, the advertisement was altered by video editing professionals to create two new advertisements featuring different prize sizes. One advertisement claimed that the size

of the lottery jackpot this week was \$1000, while the other claimed it was \$10 million. These prize points matched the upper and lower prize levels found in the market where the study was conducted. The same announcer was used in both conditions, the ads were the same length, and they otherwise featured exactly the same visual stimuli, ensuring a high level of internal consistency. We note that the original ad was for a \$1.3 million lottery prize and featured a storyline where the protagonist was in his basement imagining how he would spend his money to outfit this space. This storyline was appropriate for both price points featured in the manipulation, since any of the items imagined (a jukebox, pool table, hot tub) could be purchased by winners at both price levels.

To confirm the prize size manipulation, a pretest involving 40 participants from the main study participant population had them rate (between subjects) the size of each prize according to how attractive the prize was in playing the lottery. Attractiveness was measured with three items (“large,” “attractive,” and “life-changing,” anchored by not at all (1)/very much (7),  $\alpha = .79$ ); and results showed that the \$10 million prize was more attractive ( $M = 6.40$ ) than the \$1000 prize ( $M = 3.22$ ),  $t(38) = 10.98$ ,  $p < .001$ .

After viewing the commercial, participants completed measures of transportation and basic demographic information.

#### Measures

Because the original Green and Brock (2000) transportation items were designed for written narratives, we adapted the items to suit the television commercial stimuli employed. In this study, transportation was measured with three items adapted from Green and Brock (2000): “I could see myself winning as I thought about the ad”/“I could visualize myself winning the lottery as I viewed the commercial”/and “I was mentally involved in thinking about the lottery when viewing the ad,” anchored by disagree (1)/agree (7),  $\alpha = .83$ .

#### Results and discussion

An ANOVA using the luck prime and size of prize as manipulated factors and the Green and Brock (2000) transportation measure as the dependent variable showed that participants in the large-prize condition transported more ( $M = 3.48$ ) than those in the small-prize condition ( $M = 2.85$ ,  $F(1,193) = 8.14$ ,  $p < .01$ ). However, this main effect was qualified by the predicted size by luck interaction ( $F(1,193) = 6.38$ ,  $p = .01$ ). Follow-up contrasts showed that those who were intrinsically motivated by feeling lucky transported more in the high extrinsic motivation condition (i.e., a large prize) ( $M = 3.89$ ) than those who viewed an ad for a less attractive smaller prize ( $M = 2.67$ ) and this difference was significant ( $F(1,193) = 13.99$ ,  $p < .001$ ). Among those without significant intrinsic motivation, there were no differences in transportation in the large ( $M = 3.06$ ) or small ( $M = 2.99$ ) prize conditions ( $F < 1$ ). The high intrinsic/high extrinsic condition was also significantly different from all other cells (all  $ps < .001$ ), none of which significantly differed from each other.

The results of Study 1 show that intrinsic and extrinsic motivations combine to determine the extent to which participants are transported into a lottery advertisement. Among those primed with luck and who were led to believe that the lottery prize was large, we found higher levels of transportation. For those that were not primed, the size of the lottery prize did not produce differences in the level of transportation realized by the participant.

#### Study 2

Study 2 sought to extend our findings in three ways. First, we sought to manipulate the underlying transportation process directly. Study 1 showed that extrinsic and intrinsic motivational factors interact in determining transportation likelihood. If our theorizing is correct, attempts to directly heighten participants' propensity for transportation when viewing a lottery advertisement should result in greater transportation when consumers are intrinsically motivated to do so. Second, we measure rather than manipulate participants' propensity to believe in their own good luck. Identifying the chronic belief in personal good luck of the individual provides a more stable assessment of the influence of this intrinsic motivator. Third, we also report empirical evidence that this factor does indeed relate to intrinsic motivation in the manner hypothesized. Given that Study 1 showed that the greatest transportation occurred with a large prize, we focus solely on this condition in this study. Fourth, Study 2 examines the consequences of the transportation experienced by assessing consumers' resulting desire to purchase. We explicitly test for the mediating role played by transportation in fostering consumers' desire to purchase a lottery ticket.

If transportation per se is an important mechanism in fostering lottery play, then we would expect that directly manipulating the underlying process should influence consumers' desire to purchase lottery tickets. Specifically, we would expect that the effect of intrinsic motivation will be moderated by how consumers are instructed to process the ad, such that the processing style will moderate the relationship between a belief in good luck and both transportation and desire to purchase. Further, we expect the motivation of the consumer to trump any instructions focused on transportation. The rationale for this is as follows: if there is little intrinsic motivation in the form of a personal belief in good luck, changing the instructions to encourage participants to transport (engage their imagination) should have minimal impact. In contrast, with a sufficient intrinsic motivation, processing instructions should impact the likelihood of transportation experienced by the participant. We anticipated that in this instance we would observe the largest amount of transportation and desire to purchase.

In sum, we propose an interaction between processing instructions and belief in personal good luck, where those encouraged to transport and who believe in their own good luck will exhibit the highest levels of desire to purchase. This prediction was tested in Study 2 with a 3 (transportation instruction: immerse in commercial vs. pay attention to

commercial vs. alternate task)  $\times$  2 (belief in good luck: high belief in good luck (high BIGL) vs. low belief in good luck (low BIGL)) design, with the first factor manipulated between subjects and the second assessed as a measured individual difference variable.

Following Green and Brock (2000), we sought to manipulate the likelihood of participants engaging in transportation. Using the manipulation of those researchers, we directed participants to process the ad in a manner that was equally cognitively taxing, while either encouraging or discouraging transportation. We then explicitly tested for the mediating role of transportation in the relationship between the experimental manipulations and desire to purchase. Further, while past work has shown that imagining a scenario makes it seem more realistic and probable (Gregory, Cialdini, & Carpenter, 1982), Study 2 sought to test if our findings can be understood through the alternative explanation of participants feeling that they themselves had more favorable odds of winning as a result of our manipulations.

## Method

### Participants and procedure

One hundred and forty-five undergraduate students from two west-coast universities participated in the study for partial course credit. Since school location did not interact with any of the dependent measures of interest, the data sets were combined for the purpose of analyses reported below.

Participants were invited into the lab to participate in a study evaluating commercials. Intrinsic motivation was captured through the belief-in-good-luck scale (Darke & Freedman, 1997a), which was treated as a continuous individual difference variable ( $\alpha = .71$ ). The belief-in-good-luck scale is composed of 12 items (e.g., “I often feel it’s my lucky day,” “I tend to win games of chance,” and “Some people are consistently lucky and others are unlucky,” anchored by disagree (1)/agree (7)).

To ensure that the theoretical relationship between belief in good luck and internal motivation to process lottery advertising was valid, we conducted a pretest. Thirty-six participants were asked to complete the BIGL scale ( $\alpha = .93$ ) and measures of internal motivation. The latter was assessed with five items: “I am motivated to imagine winning the jackpot myself,” “I enjoy thinking about how I would spend my money,” “I am motivated to visualize the scene in the ad,” “I like to think about what I would do if I was the main character winning the lottery,” and “I like to imagine how I might win the lottery one day,” (all anchored by 1 = strongly disagree/7 = strongly agree),  $\alpha = .94$ . Regression analysis showed that a luck belief was strongly associated with an internal motivation to transport in our context  $B = .61$ ,  $p < .001$ .

The second factor in the study design (processing instructions) was adapted from the literature (Green & Brock, 2000). Participants in the immerse transportation condition were instructed before viewing the commercial to “Immerse yourself in the commercial, imagining what it might be like to be in that situation. You are now the main character!” In the attention

condition participants were told the following: “While watching the commercial, use your attention.” Finally, the alternate task condition asked, “While watching the commercial, try to identify any claims or words that might be confusing to people who do not speak English as their native language.” After the manipulations were executed and participants viewed the large-prize commercial from Study 1, they were given a survey containing the dependent measures of interest. Participants were then thanked and debriefed.

## Measures

Desire to purchase was measured with three items: “would like to purchase”/“want to play”/“little desire to play,” with the third item reverse-scored, anchored by disagree (1)/agree (7). The three items had sufficient reliability ( $\alpha = .91$ ) and thus were summed to form a single measure of desire. Transportation was measured with the Green and Brock, (2000) items used in Study 1 ( $\alpha = .85$ ). We measured participants’ subjective odds of winning with two items: “How likely are you to win the lottery in your life” anchored by likely never will win the lottery (1)/might win the lottery (7) and “I believe I will win the lottery if I play often enough” anchored by not at all true (1)/very true (7),  $r = .74$ ,  $p < .001$ . Manipulation checks for the processing instructions followed Green and Brock (2000), asking participants the extent to which they (a) imagined how they would feel in the situation, (b) were watching carefully to help pilot testing for future commercials, and (c) were looking for difficult words and phrases, with each question scale anchored by disagree (1)/agree (7).

## Results

### Manipulation checks

Results revealed significant omnibus  $F$ -tests for all three questions (imagined  $F(2, 142) = 3.05$ ,  $p = .05$ ; carefully  $F(2, 142) = 10.05$ ,  $p < .001$ ; difficult words  $F(2, 142) = 140.22$ ,  $p < .001$ ). Participants thought about how they might feel in the situation that the ad portrayed more in the immerse condition ( $M = 4.30$ ) than the alternate task condition ( $M = 3.37$ ,  $F(1, 142) = 5.9$ ,  $p < .01$ ) and directionally more in the immerse condition than the attention condition ( $M = 4.04$ ) although this did not reach significance ( $F(1, 142) = .97$ ,  $p = .33$ ). Our results here replicate those of Green and Brock (2000), who found it easier to decrease than to increase transportation, and thus our test is conservative. Participants also differed in the response to the claim that they were pilot testing for future commercials, indicating more agreement in the attention condition ( $M = 3.90$ ) than in the alternate task ( $M = 2.48$ ,  $F(1, 142) = 16.83$ ,  $p < .001$ ) or immerse ( $M = 2.81$ ,  $F(1, 142) = 10.13$ ,  $p < .01$ ) conditions. Participants indicated that they were looking for difficult words and phrases more in the alternate task condition ( $M = 6.02$ ) than either the attention ( $M = 2.13$ ,  $F(1, 142) = 190.28$ ,  $p < .001$ ) or immerse ( $M = 1.83$ ,  $F(1, 142) = 225.57$ ,  $p < .001$ ) conditions. Importantly, none of these manipulations interacted with the belief-in-good-luck scale.

### Desire to purchase

In order to test the relationships among experimental factors on the key dependent measures, hierarchical regression was used. The instruction manipulation was dummy coded (−1 for alternate task, 0 for attention, and +1 for immerse). The main effects of the processing instructions and belief-in-good-luck (BIGL) scale were included in step one. In step two, the two-way interaction between processing instructions and luck was added to the model. The interaction term was mean-centered to reduce multicollinearity (Aiken & West, 1991).

Results showed that there was a main effect of intrinsic motivation (BIGL) ( $B = .41, p < .001$ ), qualified by the predicted motivation (BIGL) by processing interaction ( $B = .26, p < .01$ ). To facilitate interpretation and exposition of the interaction, simple slopes analyses were conducted. Examining the simple slopes gives further credence to our predictions regarding the relationship of intrinsic motivation and processing instructions and its effects on desire to purchase. Regression lines were plotted for one standard deviation above and below the mean of BIGL (Aiken & West, 1991). Results show (see Fig. 1) that there was a significant slope as participants with high intrinsic motivation moved from the alternate task to immerse transportation condition ( $t = 3.32, p < .01$ ), but not for those low with intrinsic motivation ( $t = -1.28, p > .20$ ). Comparing across processing instruction conditions, the regression line in the alternate task condition showed no difference between those low and high in intrinsic motivation ( $t = 0.95, p > .20$ ), but a significant difference emerged between low and high intrinsic motivation in the attention ( $t = 5.10, p < .001$ ) and immerse ( $t = 5.25, p < .001$ ) conditions (Fig. 2).

### Transportation

Regression analysis was also utilized to test the extent of participants' transportation. There was a significant main effect for processing instructions ( $B = .18, p < .05$ ), qualified by the predicted motivation (BIGL) by processing interaction ( $B = .19, p < .05$ ). Deciphering this interaction resulted in a pattern that mirrored those of participants' reported desire to purchase a lottery ticket. Results show that there was a significant slope as participants high in intrinsic motivation moved from the alternate task to immerse transportation condition ( $t = 2.29, p < .05$ ), but not for those low in intrinsic motivation ( $t = -1.00,$

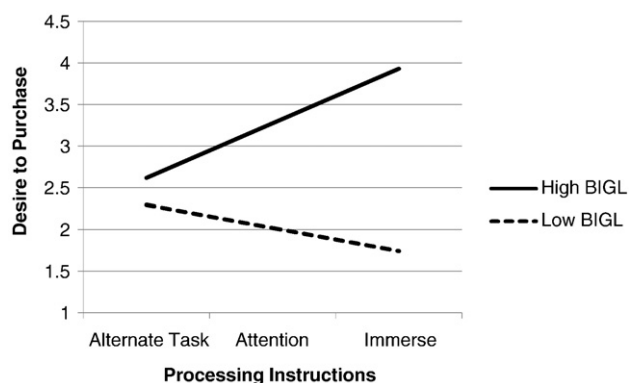


Fig. 1. BIGL × processing instructions interaction on desire to purchase (Study 2).

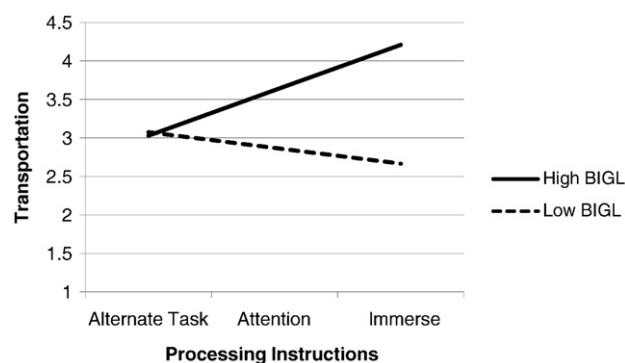


Fig. 2. BIGL × processing instructions interaction on transportation (Study 2).

$p > .20$ ). Comparing across processing instruction conditions, the regression line in the alternate task condition showed no difference between those low and high in intrinsic motivation ( $t = 0.01, p > .90$ ), but a significant difference emerged between low and high intrinsic motivation in the attention ( $t = 2.16, p < .05$ ) and immerse ( $t = 3.20, p < .01$ ) conditions (Fig. 2).

### Mediation

In order to test whether transportation mediated the relationship between the experimental manipulations and desire to purchase, two additional regression analyses were run. First, transportation significantly predicted desire to purchase ( $B = .44, p < .001$ ). Second, including the transportation measure in the original model predicting desire to purchase caused the two-way interaction between the experimental variables to fall in significance ( $B = .19, p < .05$ ), whereas the transportation measure itself remained highly significant ( $B = .37, p < .001$ ). The results of a Sobel test (Sobel, 1982) were shown to be significant ( $Z = 2.07, p < .05$ ). Following the criteria set by Baron and Kenny (1986), this is evidence of mediation.

### Odds of winning

While there was an unsurprising main effect of belief in personal good luck ( $B = .37, p < .001$ ), such that those high in BIGL thought it more likely that they would be winners at some point than did those low in BIGL, this effect was not qualified by an interaction with the instruction manipulation, nor was there a main effect of the instruction manipulation on perceived odds of winning (both  $ps > .20$ ).

### Discussion

Study 2 provides evidence that those identified as having strong intrinsic motivation—i.e., a chronic belief in personal good luck—were in general more likely to transport into the ad. Further, participants who transported themselves into the ad storyline were significantly more likely to purchase. Our results confirmed a moderating role of processing instructions, i.e., the extent of the transportation realized by the participant depended on the processing instructions provided. Those individuals with a strong belief in good luck were more likely to transport into the ad if they received instructions that fostered the likelihood of

immersion into the ad. Those with low levels of belief were unaffected by processing instruction.

Collectively, Studies 1 and 2 show that while there is an intrinsic motivational antecedent to transportation, consumers also respond to extrinsic motivational cues that serve to enflame the extent to which consumers engage in the ad. Study 3 was designed to extend these studies by examining how motivation might be operating on consumers' thoughts and feelings in response to lottery advertising. For instance, does seeing a lottery ad lead highly motivated consumers to ignore the poor odds of winning, in favor of imagining the implications of taking home a lottery prize? Study 3 was designed to test this question, and to also examine how such imagination can be curtailed, even in the presence of high levels of motivation. Moderating the effect in such a fashion is important theoretically, as it supports our motivation account by showing that dampening internal motivation affects transportation processes.

Our hypothesis that individuals highly motivated to transport will ignore the poor odds of personally winning is grounded in recent research. Escalas (2007) showed that participants who were instructed to process an ad analytically exhibited less transportation, and were more sensitive to weak arguments than those who processed the ad in a narrative fashion (see Green & Brock, 2000 for a similar finding). Given that Studies 1 and 2 show that motivation impacts transportation, and that transportation has been shown to decrease attention towards information that might disrupt narrative immersion (such as questionable claims or weak arguments), we expect that high motivation will be associated with a reduced focus on the poor odds of winning. However, we expect that if consumers are instructed to process the ad analytically (as opposed to narratively), even highly motivated consumers (those high in BIGL) will focus on the ad in a similar fashion as those relatively lower in internal motivation (low in BIGL). As such, we expect an interaction between internal motivation and how the ad is processed, such that analytical processing will attenuate processes associated with transportation for those high in BIGL. Those low in BIGL chronically should be less motivated to engage in transportation, and should be relatively less affected by the manner in which they process the ad.

### Study 3

This prediction was tested in with a 2 (processing style: analytical vs. immerse)  $\times$  2 (belief in good luck: high belief in good luck (high BIGL) vs. low belief in good luck (low BIGL)) design, with the first factor manipulated between subjects and the second assessed as a measured individual difference variable.

#### Method

##### Participants and procedure

Participants were 117 undergraduate students from a large west-coast university. In order to manipulate participants'

processing style, we manipulated whether people were instructed to process the ad analytically or in a manner consistent with narrative processing. The manipulation was borrowed from Escalas (2007). We were interested if intrinsically motivated (high BIGL) consumers would focus less on the unlikely outcome of winning if they process the ad analytically, resulting in them focusing more on the long odds of winning that low BIGL consumers do more naturally. The immerse condition mirrored closely the instructions for that condition in Study 2:

“Today you will be watching a pilot test commercial. One technique of ad testing involves putting yourself in the role of the lead character, assuming the person's persona. While watching this commercial, use your imagination. Think about the setting, how the characters are feeling, and how you might feel in the situation. Immerse yourself in the commercial, imagining what it might be like to be in that situation. You are now the main character!”

In contrast, the analytical condition read:

“Today you will be watching a pilot test commercial. One technique of ad testing involves putting yourself in the role of the lead character, assuming the person's persona and thinking critically about the content of the ad. Your instructions are to critique the ad as if you were an ad critic for a magazine such as Ad Age. Please, take the time to evaluate the ad carefully. We ask you to think analytically, relating the features described by the ad to you personally in order to evaluate them.”

After completing this priming task, participants began the study. The guise for the main study was the evaluation of a new commercial for TV. Again, only the \$10 million ad was used. After viewing the commercial, participants completed the dependent measure of interest. The belief in good luck scale was assessed a minimum of 1 week in advance of the main study.

#### Measures

Intrinsic motivation was again assessed with the BIGL scale ( $\alpha=.86$ ). Although the efficacy of the analytical prime has already been documented (Escalas, 2007), a manipulation check assessing the efficacy of the prime was assessed with three items “please indicate how you felt while watching the ad” (skeptical/doubtful/unconvinced), each assessed with a seven-point scale (1 = Not at all true, 7 = Very true).

As the dependent measure, we assessed participants' relative focus on probabilities vs. possibilities with the single item: “I thought more about... (1 = what I'd do if I won, 7 = the poor odds of winning).

#### Results and discussion

The manipulation check items ( $\alpha=.83$ ) showed that the manipulation was successful, as those in the analytical condition had a higher mean on this composite item ( $M=4.99$ ) than those in the immerse condition ( $M=4.52$ ),  $F(1,115)=2.99$ ,  $p<.10$ .



In order to test our hypothesis, regression analysis was again used. Results revealed only the predicted motivation (BIGL) by processing interaction ( $B = .20, p = .03$ ). To facilitate interpretation and exposition of the interaction, simple slopes analyses were conducted. Regression lines plotted for one standard deviation above and below the mean of BIGL show that while high intrinsic motivation consumers did shift their attention as a function of the manipulation, those low in intrinsic motivation did not. Results show (see Fig. 3) that there was a significant slope as participants with high intrinsic motivation moved from the analytical to immerse instruction condition ( $t = -4.05, p < .001$ ), but not for those low with intrinsic motivation ( $t = .57, ns$ ), showing that an analytical (versus narrative immersion) focus caused high BIGL consumers to focus their attention relatively more on the long odds, similar to those low in BIGL (Fig. 4).

The results of Study 3 show that the effect of high BIGL can be neutralized by priming an analytical processing strategy, but the prime had little effect on those who are low in BIGL. This provides some evidence that ignoring the long odds of winning underlies consumers' motivation to engage in the process of imagining oneself as the protagonist in a lottery win. However, the study was limited in a number of ways. First, while the analytical prime did serve to enhance skepticism and diminish a process consistent with transportation, we only measured odds, rather than manipulate their salience. Second, the prime always preceded the ad, while in reality warnings may come before or after viewing an ad. Third, while the process of favoring possibilities over probabilities is consistent with transportation, this study did not empirically document this relationship.

A final study was conducted to rectify these deficiencies and build further on the transportation literature. In this study, we explicitly made the poor odds of winning salient either before or after viewing the ad. While a simple skepticism account would suggest that highlighting the poor odds (regardless of placement) should reduce consumers' engagement in the ad (as compared to no warning), the transportation literature points to a more nuanced pattern of effects. Specifically, we expect that priming the poor odds of winning should only be effective before, rather than after, viewing the ad itself. Research by Escalas (2007) provides insight as to why we might expect this. She found that skepticism preceded transportation, and that an

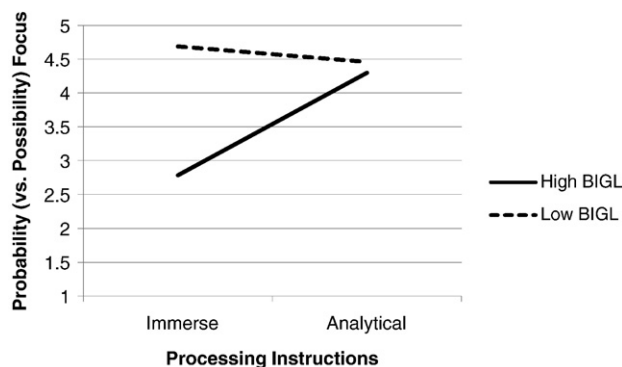


Fig. 3. BIGL × processing instructions interaction on probability (vs. Possibility) Focus (Study 3).

intervention to change processing style was effective before the ad, significantly changing consumers' transportation experience and sensitivity to claims made in the ad. Once transported however, consumers become insensitive to information (such as counter-arguments) that might serve to disrupt the experience (Green & Brock, 2000). Similarly, Wang and Calder (2006, 2009) showed that highly transported individuals found ads given in the middle (versus end) of their transportation experience to be more intrusive and less effective. Given these lines of research, we expect that priming the poor odds of winning will change consumers' focus and transportation, but only if it is placed before they view the ad. Again, following our motivational account and Study 3 results, we also expect such an intervention to be more efficacious for those chronically motivated to transport (high BIGL consumers), whereas consumers low in motivation (low BIGL consumers) should be relatively less affected by the prime, given that they exhibit low desire to engage themselves in the ad narrative in the first place.

#### Study 4

We tested the above hypothesis with a 3 (odds prime: before vs. after vs. absent) × 2 (belief in good luck: high belief in good luck (high BIGL) vs. low belief in good luck (low BIGL)) design, with the first factor manipulated between subjects and the second assessed again as a measured individual difference variable.

#### Method

##### Participants and procedure

Participants were 98 undergraduate students from a large west-coast university. In order to prime the poor odds of winning, we created a separate survey where participants were asked to read through real news stories from the New York Times before being instructed how to proceed further. The key manipulation was an article about the poor odds of winning the lottery (Rampell, 2009). The article features a quote from an employee of Tax.com, who is quoted as saying “[Y]our chances of hitting one of these jackpots is about the same as being eaten by a tiger and a shark on the same day.” In order to disguise the purpose of the stories, participants were also asked to read another dummy story (about a website) from the same newspaper that was unrelated to lotteries or advertising, which always appeared before the target prime article. In one condition (prime before condition), participants were given the priming study to complete immediately before viewing the same \$10 million lottery ad, followed finally by a survey containing the dependent measure of interest and BIGL scale. In a second condition (prime after condition), participants first viewed the lottery ad, then were given the booklet containing the prime, followed by the survey containing the dependent measure and BIGL scale. In a third condition (prime absent condition), participants viewed the ad and then completed the survey containing the dependent measure and BIGL scale, and no odds prime was given. We were interested if BIGL

interacted with the prime (and its placement timing) in determining how consumers focus their attention on probabilities vs. possibilities.

Measures

Intrinsic motivation was again assessed with the BIGL scale ( $\alpha = .85$ ). Transportation was assessed using the same items as previous studies ( $\alpha = .91$ ).

As the key dependent measures, we assessed participants' relative focus on probabilities vs. possibilities with the single item: "I thought more about... (1=the possibility of me winning, 7=the probability of me not winning). The measure was modified slightly from Study 3 so as to not use the words "odds," which appeared prominently in the title of the prime article.

Results and discussion

In order to test our hypothesis, we again used regression analysis. We treated the control condition as the holdout condition, and created two dummy conditions representing the two priming conditions, before and after (Aiken & West, 1991). We also created mean-centered interaction terms involving each dummy coded condition and the BIGL scale. We entered the two dummy coded main effects for condition and the luck scale in step 1 of a hierarchical regression. In Step 2, we entered the interaction terms involving BIGL and the prime before condition, as well as BIGL and prime after condition. Results (shown in Table 1) show that there was a main effect of BIGL ( $B = -.25, p = .01$ ), but this was qualified by an odds prime x BIGL interaction, present only in the prime before condition ( $B = .38, p < .001$ ). The interaction term involving the prime after condition did not reach significance ( $B = .10, p = .31$ ).

We again conducted simple slopes analysis to test our hypotheses. To conduct this analysis, we regressed BIGL on the dependent measure in each of the three treatment conditions. Results revealed a significant relationship between BIGL and focus on possibilities (vs. probabilities) in both the prime absent ( $B = .51, p < .001$ ) and prime after conditions ( $B = .43, p = .03$ ) but not in the prime before condition ( $B = -.27, p = .16$ ), showing that the effect of intrinsic motivation can be

Table 1

Regression results on probability (vs. possibility) focus (Study 4).

	Step 1	Step 2
Belief in good luck (BIGL)	-.24 **	-.25 **
Prime before condition (PBC)	-0.08	-0.10
Prime after condition (PAC)	0.13	0.11
BIGL × PBC		.38 **
BIGL × PAC		0.11
<i>F</i>	3.38 *	5.19 **
<i>R</i> <sup>2</sup>	0.10	0.22

Standardized regression weights are presented.

\*  $p < .05$ .

\*\*  $p < .01$ .

attenuated if the poor odds of winning are made salient before, but not after, viewing the ad (consistent with a transportation account) (Fig. 4). In further support of our predictions, the measure of transportation was significantly correlated with the key dependent measure of participants' focus ( $r = -.35, p < .001$ ), providing evidence that the transportation process is indeed associated with a reduced focus on odds in favor of a more narrative-driven imagination process focused on possibilities.

Our results show that the odds prime caused high BIGL consumers to focus their attention relatively more on the long odds than possibilities. However, this effect was only present if odds were primed before, and not after the ad. With no significant interaction in the odds after condition, we can conclude that there were no differences as a function of this prime among those high or low in BIGL, whereas there was if the prime was placed before the ad instead.

General discussion

Transportation is particularly relevant to marketers because of its persuasive power (Escalas, 2007). Escalas (2004a) showed that ads that facilitate transportation improve persuasion via connecting the ad to the self, which is important in "breaking through the clutter" and creating personal connections to products (Escalas, 2004b; Pieters, Warlop, & Wedel, 2002). Across four studies, we show that ads encouraging individuals to imagine winning outcomes are effective in persuading via transportation. Those individuals identified as having strong intrinsic motivation—i.e., those who feel lucky or have a belief in their personal good luck—in general were more likely to transport into the advertisement. Further, we show that the likelihood that motivated participants effectively engaged in transportation was moderated by several external factors: i.e., size of the lottery prize, how the ad was processed, or priming designed to reduce narrative engagement. Finally, we showed that participants who transported themselves into the ad storyline were significantly more likely to express a desire to purchase a lottery ticket.

This work contributes to the literature by identifying both an intrinsic motivational factor, as well as several antecedent moderators of the transportation process. We address when transportation is more or less likely to occur in response to a

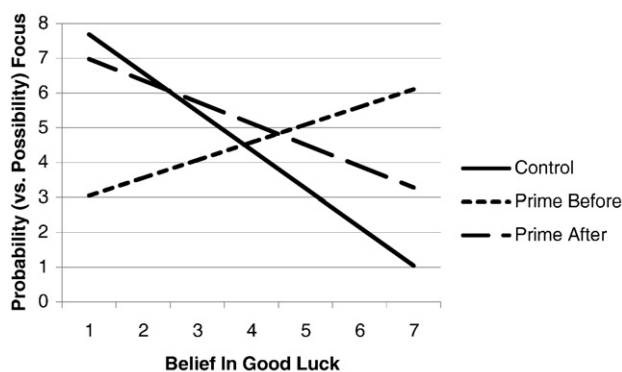


Fig. 4. BIGL × prime interaction on probability (vs. possibility) focus (Study 4).

marketing narrative and show that these factors jointly impact the extent of narrative transportation experienced. We demonstrate that in our context ignoring the long odds of winning underlies consumers' motivation to engage in the process of imagining oneself as the protagonist in a lottery win. Further, we show that even in the presence of sufficient motivation, consumers' focus on the possibilities of a win can be attenuated by either priming analytical processing (by engaging skepticism), or by reminding consumers about the unlikely odds of winning them personally.

We also show that interventions designed to reduce transportation are only effective if placed before the ad. This finding may potentially speak to research on the effectiveness of warning labels more generally (Argo & Main, 2004). Knowing that transportation can alter the manner in which consumers process information, the placement of warnings or disclaimers may influence their effectiveness, as transported consumers have been shown to be less sensitive to weak arguments, skeptical claims, use less analytic processing, and tend to engage in motivated reasoning (Escalas, 2007; Green & Brock, 2000).

While most research in transportation has focused on narrative stories (Argo, Dahl, & Zhu, 2008; Green & Brock, 2000; Wang & Calder, 2006, 2009) or the textual component of print advertising (Escalas, 2004a, 2007), our research uses video advertising as the medium of investigation. Previous research in both advertising and transportation has pointed to the ability of commercial advertisements to draw consumers into a transportative state. Indeed, the richer and more marketing-relevant medium of television or online may enhance transportation (Adaval & Wyer, 1998). We find evidence for the efficacy of video advertising in this regard. Future research should be directed towards better understanding these media in the context of transportation. What aspects of these media enhance transportation? Do television or online environments alter the likelihood and scope of the transportation realized by the individual?

This work also makes a contribution to the study of lotteries. The lottery truly is an important part of life for millions of North Americans; paradoxically, it is also one of the least researched topics in the marketing literature. The bulk of behavioral research has focused on determining who plays, but not why they play (Browne & Brown, 2001). Our research contributes to the latter question. How lotteries are allowed to advertise have important implications for both lottery promoters and those concerned with public policy. For example, previous research (Landman & Petty, 2000) has pointed out that ads showing counterfactual scenarios (such as "it could have been you...") are illegal for investment companies but legal in the domain of lottery advertising. Our findings raise questions regarding this policy, since during transportation the reader accepts the narrative world that the author has created, often at the expense of objective facts (Green & Brock, 2000). Given that we show persuasion effects for ads that encourage transportation and imagination, perhaps the implications for consumer welfare of such advertising approaches for gambling products should be addressed. Our research speaks directly to how the design of

such an intervention might look like in a lottery context. However, one limitation of our study in this regards stems from our experimental design. We operationalized prize size as small and large but held the ad constant. Smaller prize items (e.g., scratch and win) are often promoted differently in the marketplace than larger prizes; they are promoted more heavily as impulse items at the point of purchase. Understanding how transportation might be cultivated when there is limited time to construct a fantasy would be worth examining further.

We are not suggesting that the processes that impact transportation in our research are limited to the lottery. These effects perhaps apply to any domain where intrinsic motivational factors and highly attractive outcomes are involved. Individuals are likely to be motivated to transport in a number of domains germane to consumer researchers: for example, when searching for potential companions (dating services), when trying to change their look (cosmetics, elective surgery), or when attempting to improve their life experiences (soap operas, romance novels). Our results indicate that consumers may use templates in the marketing communications of such products to go beyond the ad. Furthermore, any regulatory requirements intended to mitigate this process must give consideration to the placement of warnings relative to the narrative, as presentation of information before or after transportation may have entirely different impacts. Future research should examine how the effects identified could be applied or extended in these domains, and how actively soliciting consumers to fantasize, visualize, and daydream affects reactions to communications.

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