

## **The Effect of Experiential Analogies on Consumer Perceptions and Attitudes**

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Consumers desire products that provide meaningful experiences. A marketer's success therefore often depends on familiarizing consumers with the unique experience offered by a product.

Marketers recognize the value in communicating about a product experience through analogy, yet little research has been conducted to determine if and why these analogies are persuasive. By comparing a product to a familiar but disparate experience, an analogy has the power to focus consumers on the evaluative, emotional and multi-sensory information associated with the product experience. This focus on subjective product experience enables the identification of base preference (i.e., a consumer's liking for the comparison experience) as an important moderator of analogical persuasiveness. Additionally, the emotional knowledge transfer perspective utilized in this research contributes further to understanding the role of emotional knowledge and experienced emotion in analogical thinking.

Keywords: analogy, emotion, experiential, experience, hedonic

Recently there has been a transition from a service economy to an “experience economy” (Pine and Gilmore 1998). This change has been driven by the convergence of consumers’ increasing desire for products that provide meaningful experiences (Keinan and Kivetz 2008) and companies’ desire for novel differentiation strategies. Marketers at the forefront of this change have determined that success depends on familiarizing consumers with the unique experience offered by a product rather than focusing on the product’s functional benefits. While the power of analogical thinking to transfer functional knowledge has been well established in the literature (e.g., Gregan-Paxton and Moreau 2003; Roehm and Sternthal 2001), we propose that analogy is a powerful tool for conveying information and influencing attitudes about a product experience.

Marketers recognize the value in communicating a product experience through analogy as evinced by the numerous ads utilizing these more experience-oriented comparisons versus conventional simile and metaphor appeals (see Table 1). State Farm Insurance has compared competitors’ services to the experience of sitting between two “fat guys” in an economy class flight; Microsoft has compared playing the Xbox 360 to participating in a city-wide water balloon fight; Ford has compared driving the Fusion to listening to an iPod and dancing at a club; and Alfa Romeo has compared driving its Spider to a first kiss. Surprisingly, few of the analogies studied in marketing or psychology have involved emotional experiences.<sup>1</sup> Rather, the analogies examined have been primarily designed to highlight non-emotional similarities. For example, research on new product learning has used analogies that focus exclusively on the transfer of functional knowledge in the context of technology products. Digital cameras have been compared to computer scanners, personal digital assistants to secretaries, and off-line web readers to VCRs.

By comparing a product to a familiar but disparate experience, an analogy has the power to focus consumers on the evaluative, emotional and multi-sensory information associated with a

product experience. This focus enables the identification of base preference (i.e., a consumer's liking for the comparison experience) as an important influence on analogical persuasiveness. Surprisingly, the power of an analogy to tap into the emotional knowledge that individuals have gained from their own prior experiences has received little research attention.<sup>2</sup> However, anecdotal evidence supporting the persuasiveness of this type of emotional transfer is compelling given the prevalence of recent ad campaigns using experiential analogies. The knowledge transfer perspective that we utilize in our research builds on previous speculation on the role of emotions in analogical thinking (Thagard and Shelley 2001) by defining and isolating the effects of base preference, emotional knowledge, and experienced emotion on consumer attitudes.

The contribution of this research is three-fold. First, analogy researchers have highlighted the need to move beyond the identification of factors that affect analogy comprehension to factors that affect an analogy's persuasiveness (Perrott, Gentner and Bodenhausen's 2005). Addressing this, we establish base preference as an important influence on an analogy's persuasiveness.<sup>3</sup> This research is the first to examine how preference for a disparate base is integrated into a target product evaluation. Second, we demonstrate that product attitudes can be significantly influenced by directing people to consider their own subjective experience as a basis for understanding the emotions that may be experienced when using a new product. We find evidence that this involves the cognitive consideration of emotions, which we have labeled emotional knowledge transfer. This is perhaps surprising and of central interest to marketers, since we show the persuasiveness of an experiential analogy is not limited to emotional reactions. Finally, on a broader level, our research provides the first known empirical investigation of analogies involving experiential comparisons, thus establishing their value in persuasion.

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Insert Table 1 about here

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### *CONCEPTUAL FRAMEWORK*

Analogical processing is based on the idea that new information or a novel perspective can be acquired by comparing a target (e.g., product) to a disparate domain of knowledge (base) (Gentner 1989). Substantial support has been amassed for analogy-based knowledge transfer consisting of three stages, access, mapping and transfer (Gentner and Markman 1997; Gregan-Paxton and Roedder John 1997). Research has also shown that these stages are governed by structural constraints including preference for structural consistency and systematicity. With an experiential analogy, the knowledge base used for comparison to the target is centered in an experience, for example, comparing the experience of driving a sports car to a first kiss or a weekend in Venice, or the experience of an airline flight to an evening of watching television and drinking wine, as featured in recent ads. We build on the fundamentals of previous analogy research by making specific predictions about the moderating effect of base preference on the persuasiveness of this type of analogy. To do this, the role of emotional knowledge transfer in the processing and persuasiveness of an experiential analogy is established.

When processing an experiential analogy, it is anticipated that consumers will access their knowledge of the base experience and any knowledge they might have of the target product experience. With the Alfa Romeo Spider comparison, consumers are prompted to think about their first kiss (base) and the experience of driving a sports car (target). Once knowledge of the base and target has been accessed from memory, potential similarities between the two

experiences are identified. This mapping process signals that the base and target may share other similarities that are not immediately apparent, thus enabling the generation of target product inferences. By encouraging consumers to access knowledge of a familiar experience, an experiential analogy invites consumers to view the target product in terms of the experience it offers, not just as a bundle of functional attributes and benefits.

### *Experience and Emotional Knowledge*

The TEAV model of consumption experience proposes that the thoughts, emotions, activities and evaluations that comprise an experience are deeply interconnected and feed into one another as the experience unfolds (Hirschman and Holbrook 1985). What occurred during the experience may be stored as knowledge or information, accessible from memory at a later time (Comblain, Argembeau, and Van der Linden 2005). For example, if you have ever experienced an overbooked flight, the events which transpired during the unpleasant situation, the thoughts you had about the airline's reliability and the frustration and anger you felt may have been stored in memory; proving to be useful information when booking a future flight. Consistent with this, the current research adopts the position that emotions gleaned from an experience may be stored as knowledge useful for evaluating prospective product experiences. Although consumer behavior research has tended to conceptualize knowledge as information pertaining to a product's benefits, attributes and functionality, other types of non-market information, like knowledge of emotions, play an important role in persuasion (Ruth 2001).

The preceding discussion is important, as it highlights that consumers think about emotions and may use this as information when considering a product. This is distinct from more traditional accounts of affect and feelings in persuasion (Gorn, Goldberg, and Basu 1993; Pham 1998). For example, the "feelings-as-information" perspective examines how momentarily

experienced affect is interpreted as evidence of liking, satisfaction or attitude towards a target stimulus. How emotional knowledge acquired from a prior experience can be used to better understand a product experience has not been explored. Given that experiential analogies involve a base experience that is potentially emotional and that resolving an analogy has been shown to generate positive feelings (Gregan-Paxton et al. 2002), feelings and emotions may be elicited during the processing of an experiential analogy. However, we also see an important role for the transfer of emotional knowledge, a more cognitive process characteristic of analogical thinking.

#### *Emotional Inferences and Emotional Knowledge Transfer*

Both intuition and previous research suggest that an experiential analogy will prompt consumers to identify the underlying structural similarities between the base experience and the target product, such that emotions cognitively associated with the base are then transferred, creating expectations that they will also be experienced with the target. We base this claim on several key reasons. First, the base experiences that marketers often select in these types of analogy ads tend to be those that are emotionally charged. Second, empirical investigation of the TEAV model showed that when consumers are prompted to think about previous product experiences, information related to the emotions, events, preferences, and product attributes are recalled (Lofman 1991). Consistent with this, when an individual's memory of a specific experience is cued, details such as the events, feelings, location, and people present become salient (Anderson and Conway 1993; Comblain et al. 2005). Finally, when asked to consider a previous product experience, it is agreed that consumers devote significant attention to the emotional aspects of the experience (Havlena and Holbrook 1986; Holbrook and Hirschman 1982). Taken together, this evidence suggests that the processing of an experiential analogy will involve mapping the structural similarities between the base and the target experiences, enabling

the transfer of emotional knowledge. Recall the Alfa Romeo Spider ad. Individuals may think about what happened and the emotions experienced during a first kiss (see Figure 1a). Any structural similarities between what takes place during a first kiss experience and what an individual thinks that the Alfa Romeo driving experience might entail would be cognitively identified (see Figure 1b). Based on these identified similarities, emotional inferences would be generated. Emotional inferences are defined as predictions about the emotions that would be experienced during target product use. As supported by analogy research, inferences signal the transfer of knowledge from the base to the target (Gentner and Markman 1997). With an experiential analogy, we anticipate that people will infer that the emotions associated with the base experience are likely to occur during the target product experience.

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Insert Figure 1 about here

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### *The Moderating Role of Base Preference*

Previous accounts speculating about the role of prior preferences in analogical thinking have been relatively vague, and little empirical work has been directed towards this area (Perrott, Gentner, and Bodenhausen 2005; Thagard and Shelley 2001). This is not surprising given that past research has focused on analogies that by nature carry less of an evaluative reaction (Gregan-Paxton and Moreau 2003; Hoeffler 2003; Moreau, Markman, and Lehmann 2001). The analogies examined have spotlighted function and performance; thus enabling the mapping and transfer of more objective, functional knowledge and missing the evaluative reactions that are a large part of a consumer's subjective experience. Given that evaluations are very likely to come to mind when

a consumer reflects on an experience, we propose that consumer preferences will play a critical role in defining the effectiveness of an experiential analogy.

Base preferences are likely to vary among consumers, and this may be reflected in the effect that emotional inferences have on an analogy's persuasiveness. For an experiential analogy to be persuasive, it is proposed that a high number of emotional inferences must be generated. This signals that the mapping stage of analogical processing was successful. Generating fewer emotional inferences about the target product may reflect a breakdown in the mapping stage of analogical processing (Gentner and Markman 1997; Markman and Gentner 1993). When a link (i.e., relational mapping) cannot be made between a base and a target experience, the generation of emotional inferences is unlikely to occur. We predict that whether or not the generation of emotional inferences will have a positive or negative effect on target attitudes will depend on the favorability of the base preference (i.e., how much the base experience is liked). This moderating hypothesis implies that target attitudes will be more positive when preference for the base experience is favorable and a high number of emotional inferences are generated. When preference for the base experience is less favorable and a high number of emotional inferences are generated, we expect target attitudes to be more negative. However, the current investigation focuses on the more common use of experiential analogies to positively influence attitudes.

Three studies were used to test our theorizing (see Figure 2 for an overview). This was done using three different analogies across several base and target categories. Study 1 involved direct measures of base preference and emotional inferences to test the main moderating prediction. By directly manipulating participants' ability to generate emotional inferences, study 2 provided additional evidence for this prediction and for the cognitive nature of the emotional knowledge transfer process. Measures of experienced emotion were included in studies 2 and 3 to

further show that emotional knowledge transfer is cognitive and has an effect on target attitudes independent of experienced emotion. Finally, the soundness construct (which captures the extent to which the base and target share deeper underlying similarities) was introduced in study 3 to further demonstrate that base preference moderates the effect of emotional knowledge transfer on target attitudes. In all three studies, we also compared the persuasiveness of an experiential analogy to more general emotion-oriented appeals. This provided us with additional insight on the contributors to analogical persuasiveness and the ability to make substantive recommendations for whom experiential analogies may be more persuasive.

### *STUDY 1*

In addition to testing the key moderating prediction, a second, empirical goal of study 1 was to compare the persuasiveness of an experiential analogy with other emotion-oriented appeals. To do this, an emotional appeal ad and a more neutral ad were included as control conditions in this study. Although an experiential analogy may not always confer a persuasive advantage over other types of emotional appeals, when a high number of emotional inferences are generated and consumers have a favorable preference for the base experience, an experiential analogy may be superior. This is because the comparison may 1) increase one's knowledge of the emotions associated with a new or unfamiliar target product, 2) foster a novel or unique perspective of a target product, and/or 3) promote a deeper consideration of the emotions already known to be associated with a familiar target product.

#### *Method*

*Design and procedure.* A two-way between subjects design with two measured factors, base preference and emotional inferences, was used. This design was conducted using an experiential analogy ad. The control conditions consisted of emotional appeal and neutral ads. Participants ( $n = 126$ ) were recruited for pay (\$10) from a large West Coast university and were randomly assigned to the analogy condition or the control conditions. Participants were told they were completing the study for a company interested in feedback on an ad concept. Participants viewed a print ad for ten seconds. The ad was removed, and participants were then given thirty seconds to consider the ad before responding to the survey. The survey measured ad attitude (the key dependent variable), base preference and emotional inferences.

*Ad stimuli and measured factors.* “Brand X Massage Chair” was the advertised target product in the analogy and control ads. Only the analogy ad contained copy referring to the base experience, hot tubbing after skiing, and no emotions were mentioned. The copy stated, “Like hot tubbing after an intense day on the ski slopes. Now experience this any time of day. Brand X Massage Chair.” The base and target were selected because these experiences have relational structures that align well. A day of skiing is physically and mentally demanding. Hot tubbing after skiing may enable one to relax. Similarly, one can imagine doing something demanding that may require the relaxation of a massage chair.

Relaxation was most associated with the base experience in a pretest, as identified by 64% of respondents ( $n = 17$ ). Therefore, the copy in the emotional appeal ad stated, “Relaxation... Now experience this any time of day. Brand X Massage Chair.” The emotional reference was akin to providing participants with the key emotional inference that would be expected to be generated in response to the analogy. The neutral ad contained the following ad copy, “Now experience this any time of day. Brand X Massage Chair.” This ad was designed to provide a

broad cue for participants to think about the massage chair experience without offering a specific emotional anchor. A picture of the target product was included in all three ads.

Base preference and emotional inferences were the key measured factors used to test our moderating hypothesis in the analogy condition. Participants' preference for hot tubbing after a day of skiing (base) was measured by three, seven-point Likert scale items (not appealing/very appealing, do not like/like very much, do not enjoy/enjoy very much;  $\alpha = .94$ ). An open-ended question was used to measure emotional inferences and was adapted from Gregan-Paxton and Moreau (2003). Participants were asked, "What does the advertisement convey to you about the Massage Chair? Please write down ALL of your thoughts no matter how simple, complex, relevant or irrelevant they may seem." Two coders, blind to the ad condition, coded responses for emotional inferences (i.e., emotions associated with the target product experience) ( $r = .90$ ). Disagreements were resolved through discussion. For example, one participant responded, "The fantastic feeling you get from the hot tub after a day of skiing can now be experienced at the comfort of your home; relaxation and relief". Two emotional inferences would be coded in this response, relaxation and relief. Only emotional references that adhered to the emotion sets defined by Richins (1997) and Shaver et al. (1987) were coded as emotional inferences. In the control conditions, emotional inferences would be a result of accessing prior knowledge of massage chairs or making an online prediction of the target experience, as these ads contained no base experience from which to transfer emotional knowledge.

*Dependent variable.* Ad attitude, the key dependent variable, was measured using four, seven-point Likert scale items, anchored by "not at all" (1) and "very much" (7) (ad like, ad good, ad effective, ad convincing;  $\alpha = .89$ ). The open-ended question, the base preference and ad attitude measures were counterbalanced to control for order effects. Similar counterbalancing was

used in studies 2 and 3, and no order effects were found. Participants responded to a suspicion probe and general demographic questions including age, gender, years of education and major. None of the demographic measures had a significant effect on the key dependent variables, nor were participants aware of the hypotheses in this study or in subsequent studies.

### *Results*

To test our key prediction, that preference for the base experience moderates the effect of emotional inferences on target attitudes for those who process an experiential analogy, we performed a regression analysis in the analogy condition ( $n = 51$ ) (see Web Appendix for specific details). A comparison of the experiential analogy ad to the control ads follows.

*Experiential analogy condition.* Base preference and emotional inference measures were centered and entered as independent variables into a regression. To test our moderating prediction, these centered measures were also multiplied and entered into the regression model as an interaction term. A significant interaction between emotional inferences and base preference on ad attitude was found ( $\beta = .18, t = 2.03, p < .05$ ). No other effects were significant.

Simple slopes tests were conducted to interpret the interaction in the analogy condition (Cohen et al. 2003; Preacher, Curran and Bauer 2006; West, Aiken, and Krull 1996). The effect of emotional inferences on ad attitude was examined for those who had a more favorable base preference (one SD above the mean of base preference) and for those who had a less favorable base preference (one SD below the mean of base preference). As shown in Figure 3, the positive effect of emotional inferences on ad attitude was significant when base preference was favorable ( $\beta = .39, t = 2.65, p < .05$ ). When base preference was less favorable, the effect of emotional inferences on ad attitude was non-significant ( $\beta = -.13, t = -.64, p > .20$ ). The more emotional inferences generated and the more favorable was preference for hot tubbing after skiing, then the

more positive was ad attitude. The effect of emotional inferences on ad attitude was mitigated when base preference was less favorable.

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Insert Figure 3 about here

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*Experiential analogy ad versus control ads.* Median splits on base preference and emotional inferences were computed in the analogy condition to facilitate comparisons among the ad conditions. For those who generated a high number of emotional inferences and had a favorable base preference, the analogy ad ( $M = 5.13$ ;  $SD = 1.27$ ,  $n = 14$ ) was liked significantly more than the emotional appeal ( $M = 3.90$ ;  $SD = 1.40$ ;  $n = 33$ ) and neutral ads ( $M = 3.54$ ;  $SD = 1.37$ ;  $n = 33$ ) (respectively,  $t(111) = 2.90$ ,  $p < .01$ ;  $t(111) = 3.76$ ,  $p < .01$ ). Ad attitude did not significantly differ between the control ads ( $t(111) = 1.11$ ,  $p > .20$ ).<sup>4</sup>

### *Discussion*

The findings are consistent with our theorizing. Preference for hot tubbing moderated the effect of emotional knowledge transfer on ad attitude. This suggests that base preference and emotional knowledge are made salient when prompted by an experiential analogy. In the analogy condition, ad attitude was more positive for those who transferred a high number of emotions and had a more favorable preference for hot tubbing. Simply having a favorable preference for the base experience (which would have been represented as a main effect) or simply generating a high number of emotional inferences (which also would have been represented as a main effect) was not sufficient to enhance ad attitudes. Further to this, it is important to point out that the number of emotional inferences was not a function of base preference. Therefore, the persuasiveness of the analogy cannot be discounted to personal relevance, where the more one

liked the base then the more emotional inferences were generated. The results suggest that even for those who had a less favorable base preference, a high number of emotional inferences may be generated. However, the positive effect of the analogy on ad attitude was only realized if base preference was positive and emotional inferences were high.

The experiential analogy ad was significantly more persuasive than the emotional appeal ad. This coincided with significantly more emotional inferences generated in response to the analogy ad ( $M = 2.06$ ) versus the emotional appeal ad ( $M = 1.42$ ) ( $t(114) = 2.19, p < .05$ ). Our key analysis in the analogy condition suggests that this effect may have been due to the interaction of emotional inferences and base preference. Individuals who had a favorable base preference and generated a high number of emotional inferences in the analogy condition reported more positive ad attitudes in comparison to the emotional appeal ad. These results are interesting and suggest that the persuasive superiority of the analogy ad may have been a result of the comparison afforded by the analogy and the number of emotional inferences generated. In contrast to the analogy ad, recall that relaxation was explicitly mentioned in the copy of the emotional appeal ad. We suspect this explicit mention may have narrowed attention to the specific emotion at the expense of considering other emotions, while the analogy ad encouraged elaboration and the transfer of more emotional information from the base to the target. The neutral ad was designed to provide participants with a general cue to consider the product experience. However, in comparison to the analogy ad, this potentially less restrictive cue did not prompt the generation of emotional inferences equivalent to the analogy condition.

Although the findings are consistent with our theorizing, we acknowledge the limitations of this study. Given that the ads may be seen as differing in information length and/or vividness, there may be a concern that these inconsistencies may account for differences in ad attitude

among the conditions. To assess this possibility, we examined total thoughts generated in response to the ads across the conditions. No significant differences were found. Therefore, the findings may not be attributed to differences in overall elaboration in response to inconsistencies in information length or vividness across the ads. To further address this issue, we equated the information length and vividness of the ad copies in study 2.

## STUDY 2

Study 2 was designed to provide further support for the moderating effect of base preference on emotional knowledge transfer and target attitudes. We also wanted to provide additional evidence for the cognitive nature of the emotional knowledge transferred in the processing of an experiential analogy. In this study, cognitive load was used to directly manipulate participants' ability to generate emotional inferences. The use of this manipulation was consistent with previous characterizations of analogical processing as effortful and purposeful (Kubose, Holyoak, and Hummel 2002; Roehm and Sternthal 2001). Those under high load were expected to generate significantly fewer emotional inferences than those under low load. Study 2 was also designed to examine the effect of momentarily experienced emotion on an experiential analogy's persuasiveness. While experienced emotion may also predict target attitudes, its effect is thought to occur with little conscious control. As such, it should be unaffected by the load manipulation, and the influence of experienced emotion on attitudes should be independent from the transfer of emotional knowledge.

### *Method*

*Design and procedure.* A two-way between subjects experimental design was used with one manipulated factor, cognitive load (low/high), and one measured factor, base preference. The design was conducted using an experiential analogy ad. Two control conditions consisted of an emotional appeal ad condition at low and high levels of cognitive load. Participants ( $n = 118$ ) from a large West Coast university participated for course credit. Participants were told they were completing a study on the effect of media multi-tasking on memory. First, participants memorized either a two-digit (low load) or thirteen-digit number (high load) during a 25 second memory task (Shiv and Fedorikhin 2002). The procedure then followed study 1 with one exception. While viewing the ad, participants were reminded to also keep their focus on the number. Prior to completing the base preference measure and key dependent variables, participants recalled the memorized number and were told they no longer needed to focus on it.

*Ad stimuli and independent variables.* Experiential analogy and emotional appeal ads were created. The target product was “ActionZone Eco-Tours”, an adventure tour package offered at a local mountain. Finishing a video game was the base experience used in the analogy ad. The analogy ad copy stated, “For hours you gripped the video game controller, as you escaped fiery peril and solved the unsolvable. Finally, you raised the last flag high on its post. Now take this experience outside with ActionZone Eco-Tours.” The emotional appeal ad described the target product experience and provided a direct emotional reference, “Higher and higher... step by step... sweat drop by sweat drop... You finally climbed Mount Baker in Washington State Park. Now experience excitement and victory outside with ActionZone Eco-Tours.” Participants were randomly assigned to receive low or high cognitive load. Base preference was measured the same as in study 1 ( $\alpha = .96$ ).

*Dependent variables.* The ad attitude measure from study 1 was used ( $\alpha = .89$ ). To measure target product attitudes, participants were asked, “Based on the ad you saw, what is your impression of ActionZone Eco-Tours?” Participants rated three items ranging from -4 to 4 and anchored by “dislike very much”/ “like very much”, “very negative”/ “very positive”, “very unfavorable”/ “very favorable” ( $\alpha = .93$ ). Experienced emotion was measured using a five item index that consisted of emotional descriptors associated with the base experience, as indicated in a pretest (excited, energetic, aroused, positive and satisfied;  $\alpha = .79$ ). These items were measured using the same instructions and format as the PANAS (Watson, Clark, and Tellegen 1988).

*Manipulation check.* The cognitive load manipulation was assessed through an open-ended question and through a one item index asking participants how much attention they paid to the ad, where one represented “very little” and seven represented “very much”. The open-ended question in study 1 was used to measure emotional inferences and to assess how much participants focused on the memory task (Shiv and Fedorikhin 2002). Two coders coded the open-ended question for the mention of emotions associated with the target product ( $r = .92$ ).

## Results

*Manipulation check.* The results were consistent with a successful cognitive load manipulation. Participants reported paying significantly more attention to the ad under low load ( $M = 4.35$ ) than under high load ( $M = 3.13$ ) ( $\beta = -1.24$ ,  $t = -4.23$ ,  $p < .01$ ). Significantly more emotional inferences were generated under low load ( $M = .30$ ) than under high load ( $M = .06$ ) ( $\beta = .25$ ,  $t = 2.04$ ,  $p < .05$ ). Participants mentioned that they focused more on the number in the high load condition ( $M = .15$ ) than in the low load condition ( $M = 0$ ) ( $\beta = .15$ ,  $t = 2.64$ ,  $p < .01$ ).

*Experiential analogy condition.* Regression was used to test for the predicted interaction between base preference and cognitive load in the analogy condition ( $n = 76$ ). The base

preference measure (centered) was multiplied by the cognitive load measure (dummy-coded) to create an interaction term. This interaction term, along with the cognitive load and base preference measures, was entered into the regression to predict ad and target product attitudes. The interaction between base preference and cognitive load significantly predicted ad and target product attitudes in the analogy condition (respectively,  $\beta = -.42, t = -2.70, p < .01$ ;  $\beta = -.33, t = -2.09, p < .05$ ). Base preference also significantly predicted ad and target product attitudes (respectively,  $\beta = .35, t = 3.18, p < .01$ ;  $\beta = .38, t = 3.30, p < .01$ ). Simple slopes tests were conducted the same as in study 1. When preference for playing video games was more favorable, ad and target product attitudes were more positive for those under low load than those under high load (respectively,  $\beta = .41, t = -2.81, p < .01$ ;  $\beta = .41, t = -2.81, p < .01$ ) (see Figure 4). When base preference was less favorable, ad and target product attitudes did not differ regardless of load (respectively,  $\beta = .39, t = .98, p > .20$ ;  $\beta = .40, t = .12, p > .20$ ).

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Insert Figure 4 about here

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When included in the regression, experienced emotion significantly predicted ad and target product attitudes (respectively,  $\beta = .36, t = 2.96, p < .01$ ;  $\beta = .29, t = 2.27, p < .05$ ). However, the interaction between cognitive load and base preference remained significant (ad attitude:  $\beta = .36, t = 2.96, p < .05$ ; product attitude:  $\beta = -.28, t = -1.76, p = .08$ ), as did the main effect of base preference on ad and target product attitudes (ad attitude:  $\beta = .28, t = 2.60, p < .05$ ; product attitude:  $\beta = .32, t = 2.27, p < .05$ ).<sup>5</sup>

*Experiential analogy ad versus emotional appeal ad.* A median split on base preference was performed in the analogy condition to facilitate comparisons across ads. Ad attitudes were

highest for those with a favorable base preference under low load in the analogy condition ( $M = 4.02$ ;  $SD = 1.29$ ;  $n = 20$ ) versus the emotional appeal ad under low load ( $M = 3.30$ ;  $SD = 1.09$ ;  $n = 25$ ) and high load ( $M = 3.18$ ;  $SD = 1.17$ ;  $n = 17$ ) (respectively,  $t(112) = 1.99$ ,  $p = .05$ ;  $t(112) = 2.13$ ,  $p < .05$ ). Target product attitudes were highest for those with a favorable base preference under low load in the analogy condition ( $M = 6.43$ ;  $SD = 1.13$ ) versus the emotional appeal ad under low load ( $M = 5.65$ ;  $SD = 0.97$ ) and high load ( $M = 4.88$ ;  $SD = 1.78$ ) (respectively,  $t(112) = 2.02$ ,  $p < .05$ ;  $t(112) = 3.66$ ,  $p < .01$ ).

We also examined if experienced emotion, as a dependent variable, differed among the analogy and emotional appeal conditions. Experienced emotion did not differ significantly among those with a favorable base preference under low load in the analogy condition versus the emotional appeal control ad under low and high load (respectively,  $t(112) = .53$ ,  $p > .20$ ;  $t(112) = 1.13$ ,  $p > .20$ ). An overall comparison of the analogy ad under low and high load to the emotional appeal ad under low and high load revealed no significant differences in experienced emotion.

### *Discussion*

The moderating effect of base preference on emotional knowledge transfer and target attitudes was replicated. By manipulating the ability of participants to generate emotional inferences (through cognitive load), we provide further evidence that an experiential analogy is an effective way to convey information about the emotionality of a target product experience. Importantly, the moderating effect of base preference on emotional knowledge transfer and target attitudes remained significant even when experienced emotion significantly predicted target attitudes. These results suggest that target attitudes may be influenced by both thinking about emotions and experiencing emotion. It is important to note that the effect of experienced emotion alone (high load conditions) was not sufficient to increase target attitudes in comparison to when

a high number of emotional inferences were generated and base preference was favorable. This further suggests that the significant effect of experienced emotion on target attitudes may be viewed as a complementary rather than competing process to emotional knowledge transfer.

### *STUDY 3*

Studies 1 and 2 used analogies that were designed to be structurally sound. A sound analogy is one in which the base and target share deeper underlying relational similarities, as opposed to superficially based similarities (Gentner, Rattermann, and Forbus 1993). The stronger the relational structure shared between a base and target, the more sound an analogy is rated, and the more useful an analogy is for prediction and explanation. For an analogical comparison involving a base experience, a “sound” experiential analogy would imply that the base and target share a system of relational similarities that make the experiences emotional (as outlined in Figure 1). This also implies that simply linking any positive experience to a target product may not produce a sound match and, therefore the comparison may not be as persuasive of a message as when the base and target experiences share deeper relational similarities. Although many interesting base experiences may be used to prompt consumers to consider the emotionality of a potential product experience, soundness implies that the base and target must possess a system of relational similarities to be persuasive. Even if a base and target superficially share common emotions or if the emotionality of a base experience is strong, when a base and target do not align at a deeper level, then the persuasiveness of an experiential analogy may be compromised. To date, the effect of soundness on an analogy’s persuasiveness has not been empirically examined, nor has this moderator been investigated in the context of an experiential analogy.

The results from studies 1 and 2 suggest that base preference alone is not sufficient to enhance target attitudes; a positive base preference coupled with emotional inferences is needed. Contrasting a sound experiential analogy with a less sound experiential analogy will enable us to further examine whether base preference can enhance target attitudes even in the absence of emotional knowledge transfer. Like study 2, experienced emotion measures were included to examine their effect on target attitudes. Experienced emotion may be evoked and have a positive effect on target attitudes when an experiential analogy is less sound. However, the lack of underlying relational similarities between the base and target experiences in a less sound analogy are predicted to mitigate the generation of emotional inferences; thereby reducing any potential positive effect ascribed to the more cognitive transfer of emotional knowledge with the analogy.

Accounting for the soundness of an experiential analogy enables us to 1) demonstrate that this construct is also an important moderator of analogical persuasiveness, 2) show that the moderating effect of base preference alone is not sufficient to enhance target attitudes, as is the case when an analogy is less sound, and 3) provide additional evidence for the effectiveness of emotional knowledge transfer beyond the effect of experienced emotion.

### *Method*

*Design and procedure.* A three-way between subjects experimental design was used with one manipulated factor, soundness (sound analogy/less sound analogy), and two measured factors, base preference and emotional inferences. An additional emotional appeal control condition was also included. Participants ( $n = 180$ ) from a large West Coast university received course credit for the study. The instructions and procedure were the same as study 1.

*Ad stimuli and independent variables.* Sound analogy, less sound analogy, and emotional appeal ads were created. The target product was the Bugatti Sportster, a European sports car. In

the sound analogy condition, the target was compared to a first kiss (base). The copy stated, “Like your first kiss...An experience worth repeating. The Bugatti Sportser.” In the less sound analogy condition, the target was compared to a weekend at the cottage (base). The copy stated, “Like a weekend at the cottage... An experience worth repeating. The Bugatti Sportster.” A pretest ( $n = 40$ ) confirmed that the base and target comparisons were perceived as more and less sound. In the pretest, respondents rated the extent to which they thought the base and target experiences shared feelings and emotions on a one to seven Likert scale and answered an open-ended question where they were asked to list the feelings and emotions, if any, that they thought the base and target experiences shared. Respondents rated the experiences in the sound condition ( $M = 2.60$ ) as having significantly more feelings and emotions in common than the experiences in the less sound condition ( $M = 1.45$ ) ( $t(38) = 3.98$ ,  $p < .05$ ). Respondents listed significantly more emotions in the open-ended question as shared between the base and the target in the sound analogy condition ( $M = 2.30$ ) than in the less sound condition ( $M = 1.25$ ) ( $t(38) = 2.48$ ,  $p < .05$ ). As excitement and thrilling were the emotions most frequently associated with a first kiss and driving a sports car, they were used in the copy of the emotional appeal ad. The copy stated, “The thrill and the excitement... An experience worth repeating. The Bugatti Sportster.” The ads contained a picture of the sports car. Preference for the base experience in the sound and less sound conditions was measured similar to studies 1 and 2 (respectively,  $\alpha = .89$ ,  $\alpha = .97$ ). The same open-ended question as study 1 was used to measure emotional inferences ( $r = .90$ ).

*Dependent variables.* Ad and target product attitudes were measured the same as study 2 (respectively,  $\alpha = .84$ ;  $\alpha = .92$ ). The measure of experienced emotion was expanded from study 2 to include a mix of descriptors related to the base experiences. A principle components analysis of the emotions revealed two factors with eigenvalues greater than one, explaining 56% of the

variance. Interpretation suggests the following factors: 1) happy (happy, positive, content, relaxed, calm, and satisfied;  $\alpha = .78$ ), and 2) excitement (excited, proud, energetic, and aroused;  $\alpha = .67$ ). The item scores were averaged to form happy and excitement indices.

### *Results*

*Sound versus less sound analogy.* To test the predicted three-way interaction between soundness, base preference and emotional inferences, the latter two measures were standardized and entered into a regression as predictors along with a dummy variable for soundness (sound versus less sound) and their respective interaction terms. A three-way interaction between emotional soundness, base preference and emotional inferences significantly predicted ad and target product attitudes (respectively,  $\beta = -.56$ ,  $t = -2.08$ ,  $p < .05$ ;  $\beta = -.55$ ,  $t = -1.92$ ,  $p = .05$ ).

As expected, the interaction between base preference and emotional inferences had a significant effect on ad and target product attitudes in the sound analogy condition ( $n = 76$ ) (respectively,  $\beta = .41$ ,  $t = 2.28$ ,  $p < .05$ ;  $\beta = .50$ ,  $t = 2.28$ ,  $p < .05$ ) but not in the less sound condition ( $n = 68$ ) (respectively,  $\beta = -.15$ ,  $t = -.86$ ,  $p > .20$ ;  $\beta = -.05$ ,  $t = -.31$ ,  $p > .20$ ). Base preference also predicted ad attitude ( $\beta = .33$ ,  $t = 2.39$ ,  $p < .05$ ). No other effects were significant.

Simple slopes tests were conducted to examine the effect of emotional inferences on ad and product attitudes for those who had a more and less favorable base preference in the sound analogy condition. The effect of emotional inferences on ad and target product attitudes was significant when base preference was favorable (respectively,  $\beta = .36$ ,  $t = 2.22$ ,  $p < .05$ ;  $\beta = .40$ ,  $t = 2.62$ ,  $p < .05$ ) (see Figure 5). When base preference was less favorable, the effect of emotional inferences on ad and target product attitudes was non-significant ( $\beta = .33$ ,  $t = -1.46$ ,  $p > .05$ ;  $\beta = .36$ ,  $t = -1.40$ ,  $p > .05$ ). The more emotional inferences generated and the more favorable was base preference, then the more positive were target attitudes if the analogy was sound.

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Insert Figure 5 about here

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To examine how accounting for the effect of experienced emotion on target attitudes would affect the significant three-way and two-way interactions between soundness, base preference and emotional inferences, the happy and excitement factors were standardized and entered individually as predictors into the regression. The happy factor was a significant predictor of ad and target product attitudes (respectively,  $\beta = .24$ ,  $t = 2.33$ ,  $p < .05$ ;  $\beta = .27$ ,  $t = 2.45$ ,  $p < .05$ ). However, the three-way interaction between soundness, base preference and emotional inferences on ad and target product attitudes remained significant when happiness was included as a predictor (respectively,  $\beta = -.52$ ,  $t = -1.95$ ,  $p = .05$ ;  $\beta = -.51$ ,  $t = -1.79$ ,  $p = .07$ ). The interaction between base preference and emotional inferences on ad and target product attitudes also remained significant (respectively,  $\beta = .38$ ,  $t = 2.16$ ,  $p < .05$ ;  $\beta = .46$ ,  $t = 2.48$ ,  $p < .05$ ).<sup>6</sup>

*Sound analogy ad versus less sound analogy and emotional appeal ads.* To facilitate comparison across ads, median splits on base preference and emotional inferences were computed in the sound analogy condition. Ad attitudes were highest for those who had a favorable base preference and generated a high number of emotional inferences in the sound analogy condition ( $M = 4.82$ ;  $SD = 1.41$ ;  $n = 29$ ) in comparison to the less sound analogy condition ( $M = 3.94$ ;  $SD = 1.07$ ;  $n = 68$ ) ( $t(174) = 3.25$ ,  $p < .01$ ) and the emotional appeal condition ( $M = 3.69$ ;  $SD = 1.24$ ;  $n = 36$ ) ( $t(174) = 3.71$ ,  $p < .01$ ). Similarly, target product attitudes were highest for those who had a favorable base preference and generated a high number of emotional inferences in the sound analogy condition ( $M = 6.70$ ;  $SD = 1.52$ ) in comparison to the less sound analogy condition ( $M = 5.99$ ;  $SD = 1.05$ ) ( $t(174) = 2.60$ ,  $p < .05$ ) and the emotional

appeal condition ( $M = 5.93$ ;  $SD = .98$ ) ( $t(174) = 2.50, p < .05$ ). Ad and target product attitudes did not differ significantly between the less sound analogy and emotional appeal conditions (respectively,  $t(174) = .99, p > .20$ ;  $t(174) = .23, p > .20$ ).

Contrasting those with a favorable base preference in the less sound condition to those with a favorable base preference who generated a high number of emotional inferences in the sound condition provides an additional way to assess if base preference alone is sufficient to enhance target attitudes. To do this, a median split was performed on base preference in the less sound condition. As expected, ad attitudes were less positive for those with a favorable base preference in the less sound condition ( $M = 4.32$ ;  $SD = 1.03$ ;  $n = 37$ ) in comparison to those with a favorable base preference who generated a high number of emotional inferences in the sound condition ( $M = 4.82$ ) ( $t(173) = 1.66, p = .05$ , one tail). Consistent with the ad results, target product attitudes were less positive for those with a favorable base preference in the less sound condition ( $M = 6.23$ ;  $SD = 1.09$ ) in comparison to those with a favorable base preference who generated a high number of emotional inferences in the sound condition ( $M = 6.70$ ) ( $t(173) = 1.45, p = .07$ , one tail). Given that emotional inferences were not found to predict target attitudes or to interact with base preference in the less sound condition, this provides further evidence that a positive base preference alone may not be enough to enhance target attitudes.

### *Discussion*

We found empirical evidence that soundness operates as a moderator of an analogy's persuasiveness when the comparison involves experiences. Study 3 showed that the persuasive effect of base preference and emotional knowledge transfer may not be realized when an analogy is less sound. Although base preference predicted target attitudes in the less sound condition, target attitudes were not as positive as those who had a favorable base preference and generated a

high number of emotional inferences in the sound condition. This suggests that a base experience must be carefully selected such that the structural alignment between the base and target involves strong relational similarities related to the emotionality of the experiences. When a base experience is positive but does not share a strong system of relational similarities with the target, (i.e., when the sports car was compared to a weekend at the cottage), participants may have been unable to establish the relational mappings necessary to transfer emotional knowledge.

Similar to study 2, experienced emotion (happiness) was found to influence target attitudes in both the sound and less sound conditions. Importantly, base preference continued to moderate the effect of emotional inferences on target attitudes when happiness was included as a predictor. This again suggests that the effect of experienced emotion on target attitudes may be viewed as a complementary rather than a competing process to emotional knowledge transfer.

### *GENERAL DISCUSSION*

Previous research has focused on analogies designed to transfer objective knowledge in the context of functional comparisons. In doing so, the consumer's ability to transfer unique, personally-experienced emotional information has been ignored. Such an oversight in psychology and marketing is surprising given the persuasive influence that emotional knowledge can have during the consideration of a product. By utilizing an emotional experience as a basis of comparison to a target, base preference has been established as an important moderator of an analogy's persuasiveness. Across three studies, we find consistent evidence that how much an individual likes or dislikes a base experience matters.

The use of experiential analogies to study the effect of base preference on target attitudes was strategic. Comparing a target product to an emotional experience invites consumers to view the target in terms of the subjective experience it offers. Preferences are an important part of subjective experience. Therefore, experiential analogies provided an ideal context to examine the role of base preference in the processing and persuasiveness of an analogy. Focusing on experiential analogies also enabled a better understanding of how information related to the emotionality of a product experience can be conveyed. Consumers desire products that provide meaningful experiences. Part of what makes an experience meaningful is the emotions ascribed to product usage. Our findings indicate that an experiential analogy is an effective way to communicate the emotions associated with a product experience, and that this occurs through the transfer of emotional knowledge, a cognitive process characteristic of analogical thinking. Studies 2 and 3 showed a role for experienced emotion in the process. Although the effect of emotional knowledge transfer and experienced emotion on an analogy's persuasiveness may be viewed as complementary rather than competing processes, it was found that reducing one's ability to generate emotional inferences significantly decreases an analogy's persuasiveness.

Unlike previous research and theorizing on the role of emotion in analogical thinking (Gregan-Paxton et al. 2002; Thagard and Shelley 2001), our studies were designed to isolate and examine the effects of prior preferences, emotional knowledge and experienced emotion on consumer attitudes. The findings suggest that neither base preference, nor emotional inferences alone are sufficient to maximize the persuasiveness of an experiential analogy. The more an individual liked a base experience and the more emotional inferences generated, then the more positive were target attitudes. When an experience is perceived less favorably, or if too few emotional inferences are generated, then the persuasiveness of an experiential analogy may be

compromised. Generating fewer emotional inferences may signal a breakdown in the mapping and transfer of emotional knowledge from the base experience to the target product. The use of cognitive load to manipulate the generation of emotional inferences in study 2 is evidence that insufficient cognitive resources may reduce emotional knowledge transfer. Additionally, our investigation of soundness as another moderator of analogical persuasiveness in study 3 demonstrates that when a base and target do not align well, the lack of relational similarities characteristic of a less sound analogy may also impede emotional knowledge transfer.

From a broader perspective, the necessity of generating a high number of emotional inferences is akin to what previous research would identify as “resolving an analogy” (McQuarrie and Mick 1996; 1999). With an experiential analogy, this means figuring out how the base and target experiences are similar. More specifically, resolving an experiential analogy involves the activation of base preferences and identifying the underlying similarities that make the base and target experiences emotional.

### *Substantive Implications*

The identification of experiential analogies in recent ads suggests that we need to better understand how consumers process these comparisons. Predominant views on emotions and feelings as information (e.g., Pham 1998) would suggest that experiential analogies are persuasive because they involve the generation of feelings (likely associated with the base experience) that are interpreted as one’s judgment about a target product. Although it is not clear if this is the assumption that marketers make when using an experiential analogy, our research demonstrates that emotional knowledge plays a key role in influencing an analogy’s persuasiveness. When consumers process an experiential analogy, they make predictions about the emotions experienced with a new product based on the similarities they establish with the

base experience. This cognitive process is characteristic of analogical thinking, and in our research is shown to influence attitudes independently of experienced emotion. Our findings also suggest that marketers should be mindful of the experiences chosen as a basis of comparison. If a base experience is not perceived favorably, the generation of emotional inferences has a less positive effect on target attitudes. Also, because the processing of an experiential analogy is cognitively demanding and not limited to the potentially positive effects of experienced emotion, simply associating any positive experience with the target product may not have the desired effect on consumer attitudes. A target product needs to be perceived as capable of evoking the kind of emotional experience that is associated with the base experience. In fact, the difference in the number of emotional inferences generated in response to the analogy ads across our three studies also speaks to the importance of choosing fruitful, rich experiences as a basis of comparison for an advertised product. More broadly, our research provides evidence that analogy is an effective way to communicate about a product experience. In a marketplace fraught with consumers seeking products that provide meaningful experiences, analogy can be used to tap into the evaluative, emotional and multi-sensory information associated with a product experience.

#### *Limitations and Future Directions*

It is acknowledged that not all experiential analogies have the capacity to be more persuasive than other types of emotional appeals. However, our findings highlight that a cleverly designed analogy may prompt consumers to leverage their emotional knowledge associated with an experience. As this knowledge is often generated from first-hand experience or thoughtful expectations, these analogies have the potential to be more persuasive than a generic reference to a feeling in an ad. However, it is also important to acknowledge that the access and transfer of emotional knowledge may not occur if persuasion knowledge is invoked. Additional

investigation may be useful in determining the circumstances under which a consumer's persuasion knowledge may become salient and the specific mechanisms through which this would, perhaps, negatively influence the persuasiveness of an experiential analogy.

It is worth noting that we did not distinguish between emotional inferences generated from first-hand versus indirect experience with the base. The base experiences were selected as experiences that most people would be familiar with. Additional analysis of our open-ended questions did not enable us to make this distinction. Thus, future research should seek to delineate the effect of first-hand versus indirect base experience on the generation of emotional inferences and experienced emotions. Following from this, our analogies involved target products with which most people were likely familiar. It also seems worthwhile to ensure that experiential analogies would be equally effective for really novel target experiences.

Our experiential analogies were created to obtain variance in base preferences, as such was necessary to test our key moderating hypothesis. However, the base experiences in our studies were likely positive (or neutral) for the majority of participants. Thus, it is an open question as to whether our findings may generalize to experiential analogies that use negative experiences. In addition, further empirical investigation may seek to determine if base preference would influence the transfer of functional information when an analogy is designed to communicate how a product works. In addition to base preference, we investigated soundness as another moderator of an experiential analogy's persuasiveness. We would also like to acknowledge that varying the target product while holding the base experience constant would be another way to examine the moderating effect of soundness on target attitudes.

One may question whether or not the valence of the emotional inferences coincided with the favorability of the base preference. Were target attitudes enhanced because a base preference

was favorable and the valence of emotional inferences generated was positive? Statistical analyses were conducted to determine if evidence could be provided for the valence of emotional inferences interacting with base preference to affect target attitudes. The results were inconclusive. When preference for the base was less favorable, this did not always coincide with negative emotional inferences. As discussed, the analogies in our studies did not necessarily involve experiences where participants would have been polarized on their preferences. To further specify if the valence or even the strength of the emotional inferences would affect the persuasiveness of an analogy, additional research is needed.

## REFERENCES

- Anderson, Stephen J. and Martin A. Conway (1993), "Investigating the Structure of Autobiographical Memories," *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 19 (5), 1178-96.
- Bowdle, Brian F. and Dedre Gentner (2005), "The Career of Metaphor," *Psychological Review*, 112 (1), 193–216.
- Cohen, Jacob, Patricia Cohen, Stephen G. West, and Leona S. Aiken (2003), *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences* (Third ed.). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Comblain, Christine, Arnaud D'Argembeau, and Martial Van der Linden (2005), "Phenomenal Characteristics of Autobiographical Memories for Emotional and Neutral Events in Older and Younger Adults," *Experimental Aging Research*, 31 (2), 173–89.
- Gentner, Dedre (1983), "Structure Mapping: A Theoretical Frameworks for Analogy," *Cognitive Science*, 7 (2), 155–70.
- (1989), "The Mechanisms of Analogical Learning," in *Similarity and Analogical Reasoning*, Stella Vosniadou and Andrew Ortony, eds. New York, NY: Cambridge University Press.

———, Brian F. Bowdle, Phillip Wolff, and Consuelo Boronat (2001), “Metaphor Is Like Analogy,” in *The Analogical Mind*, Dedre Gentner, Keith J. Holyoak and Boicho N. Kokinov, ed. Cambridge, MA: MIT Press, 199–253.

——— and Arthur B. Markman (1997), “Structure Mapping in Analogy and Similarity,” *American Psychologist*, 52 (1), 45–56.

———, Mary Jo Rattermann, and Kenneth Forbus (1993), “The Roles of Similarity in Transfer: Separating Retrievability from Inferential Soundness,” *Cognitive Psychology*, 25 (4), 524–75.

Gick, Mary L. and Keith J. Holyoak (1983), “Schema Induction and Analogical Transfer,” *Cognitive Psychology*, 15 (1), 1–38.

Gorn, Gerald J., Marvin E. Goldberg, and Kunal Basu (1993), “Mood, Awareness, and Product Evaluation,” *Journal of Consumer Psychology*, 2 (3), 237–56.

Gregan-Paxton, Jennifer, Jonathan D. Hibbard, Frederic Brunel, F., and P. Azar (2002), “ ‘So That’s What That Is’: Examining the Impact of Analogy on Consumers’ Knowledge Development for Really New Products,” *Psychology and Marketing*, 19 (6), 533–50.

Gregan-Paxton, Jennifer and C. Page Moreau (2003), "How Do Consumers Transfer Existing Knowledge? A Comparison of Analogy and Categorization Effects," *Journal of Consumer Psychology*, 13 (4), 422–30.

——— and Deborah Roedder John (1997), "Consumer Learning by Analogy: A Model of Internal Knowledge Transfer," *Journal of Consumer Research*, 24 (December), 266–84.

Havlena, William J. and Morris B. Holbrook (1986), "The Varieties of Consumption Experience: Comparing Two Typologies of Emotion in Consumer Behaviour," *Journal of Consumer Research*, 13 (December), 394–404.

Hirschman, Elizabeth C. and Morris B. Holbrook (1985), "Expanding the Ontology and Methodology of Research on the Consumption Experience," in *Philosophies and Methods for Research on Experiential Consumer Behaviour*, David Brinberg and Richard Lutz, eds. New York, NY: Springer-Verlag.

Hoeffler, Steve (2003), "Measuring Preferences for Really New Products," *Journal of Marketing Research*, 40 (4), 406–420.

Holbrook, Morris B. and Elizabeth C. Hirschman (1982), "The Experiential Aspects of Consumption: Consumer Fantasies, Feelings and Fun," *Journal of Consumer Research*, 9 (September), 132–40.

Keinan, Anat and Ran Kivetz (2008), "Productivity Mindset and the Consumption of Collectable Experiences," in *Advances in Consumer Research*, Vol. 35, Angela Y. Lee and Dilip Soman, eds.

Kubose, Tate T., Keith J. Holyoak, and John E. Hummel (2002), "The Role of Textual Coherence in Incremental Analogical Mapping," *Journal of Memory and Language*, 47 (3), 407–435.

Lofman, Brian (1991), "Elements of Experiential Consumption: An Exploratory Study," in *Advances in Consumer Research*, Vol. 18, Rebecca H. Holman and Michael R. Solomon, eds.

Markman, Arthur B. and Dedre Gentner (1993), "Structural Alignment During Similarity Comparisons," *Cognitive Psychology*, 25 (4), 431–67.

McQuarrie, Edward F. and David G. Mick (1996), "Figures of Rhetoric in Advertising Language," *Journal of Consumer Research*, 22 (4), 424–39.

——— (1999), "Visual Rhetoric in Advertising: Text-Interpretive, Experimental, Reader-Response Analyses," *Journal of Consumer Research*, 26 (1), 37–54.

Moreau, C. Page, Donald R. Lehmann, and Arthur B. Markman (2001), "Entrenched Knowledge Structures and Consumer Response to New Products," *Journal of Marketing Research*, 38 (1), 14–29.

———, Arthur B. Markman, and Donald R. Lehmann (2001), ““What is it?” Categorization Flexibility and Consumers’ Responses to Really New Products,” *Journal of Consumer Research*, 27 (March), 489–98.

Perrott, David A., Dedre Gentner, and Galen V. Bodenhausen (2005), “Resistance Is Futile: The Unwitting Insertion of Analogical Inferences in Memory,” *Psychonomic Bulletin & Review*, 12 (4), 696–702.

Pham, Michel Tuan (1998), “Representativeness, Relevance, and Use of Feelings in Decision-Making,” *Journal of Consumer Research*, 25 (2), 144–59.

Pine, Joseph B. and James H. Gilmore (1998), “Welcome to the Experience Economy,” *Harvard Business Review*, 76 (4), 97–105.

Preacher, Kristopher J., Patrick J. Curran, and Daniel. J. Bauer (2006), “Computational Tools for Probing Interaction Effects in Multiple Linear Regression, Multilevel Modeling, and Latent Curve Analysis,” *Journal of Educational and Behavioral Statistics*, 31, 437–48.

Richins, Marsha (1997), “Measuring Emotions in the Consumption Experience,” *Journal of Consumer Research*, 24 (September), 127–46.

Roehm, Michelle L. and Brian Sternthal (2001), “The Moderating Effect of Knowledge and Resources on the Persuasive Impact of Analogies,” *Journal of Consumer Research*, 28 (September), 257–72.

Ruth, Julie A. (2001), "Promoting a Brand's Emotion Benefits: The Influence of Emotion Categorization Processes on Consumer Evaluations," *Journal of Consumer Psychology*, 11 (2), 99–113.

Salovey, Peter, Brian T. Bedell, Jerusha B. Detweiler, and John D. Mayer (2000), "Current Directions in Emotional Intelligence Research," in *Handbook of Emotions*, Vol. 2, Michael Lewis and Jeannette Haviland-Jones, eds. New York, NY: Guilford Press.

Shaver, Phillip, Judith Schwartz, Donald Kirson, and Cary O'Connor (1987), "Emotion Knowledge: Further Exploration of a Prototype Approach," *Journal of Personality and Social Psychology*, 52 (6), 1061–86.

Shiv, Baba and Alexander Fedorikhin (2002), "Spontaneous Versus Controlled Influences of Stimulus-Based Affect on Choice Behavior," *Organizational Behavior and Human Decision-Making Processes*, 87 (March), 342–70.

Thagard, Paul and Cameron Shelley (2001), "Emotional Analogies and Analogical Inference," in *The Analogical Mind*, Dedre Gentner and Keith J. Holyoak and Boicho N. Kokinov, eds. Cambridge, MA: The MIT Press.

Watson, David, Lee A. Clark, and Auke Tellegen (1988), "Development and Validation of Brief Measures of Positive and Negative Affect: The PANAS Scales," *Journal of Personality and Social Psychology*, 54 (6), 1063–70.

West, Stephen G., Leona S. Aiken, and Jennifer L. Krull (1996), "Experimental Personality Designs: Analyzing Categorical by Continuous Variable Interactions," *Journal of Personality*, 64 (1), 1–48.

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### FOOTNOTES

1. For ease of explication, a comparison between a target product and an experience is called an experiential analogy.
2. Emotional knowledge refers to the information that is acquired and stored in memory as a result of reflecting on the correlates and causes of emotional experiences (Salovey et al. 2000; Shaver et al. 1987).
3. While functional analogies could involve preferences and emotions associated with a product experience, these analogies are often designed to communicate how a product works; therefore, we focus on experiential analogies.
4. Overall, the analogy ad ( $M = 4.60$ ;  $SD = 1.24$ ;  $n = 51$ ) was liked significantly more than the emotional appeal ad ( $t(114) = 2.36$ ,  $p < .05$ ). Median splits on the base preference and emotional inference measures in the emotional appeal condition were also performed. It was found that those with a favorable base preference who generated a high number of emotional inferences in the analogy condition ( $M = 5.13$ ;  $SD = 1.27$ ;  $n = 14$ ) still liked the ad significantly more than those with a favorable base preference who generated a high number of emotional inferences in the emotional appeal condition ( $M = 3.50$ ;  $SD = 1.28$ ;  $n = 13$ ) ( $t(105) = 17.00$ ,  $p < .001$ ). There was no significant interaction between base preference and emotional inferences in the emotional appeal condition.
5. Higher order interactions involving experienced emotion as a predictor did not have a significant effect on ad and target product attitudes in study 2 or in study 3.
6. When included in the model, the excitement factor was not a significant predictor of ad or target product attitudes (respectively,  $\beta = .19$ ,  $t = 1.77$ ,  $p > .05$ ;  $\beta = .15$ ,  $t = 1.34$ ,  $p > .05$ ), and the key three-way and two-way interactions between soundness, base preference and emotional inferences remained significant.

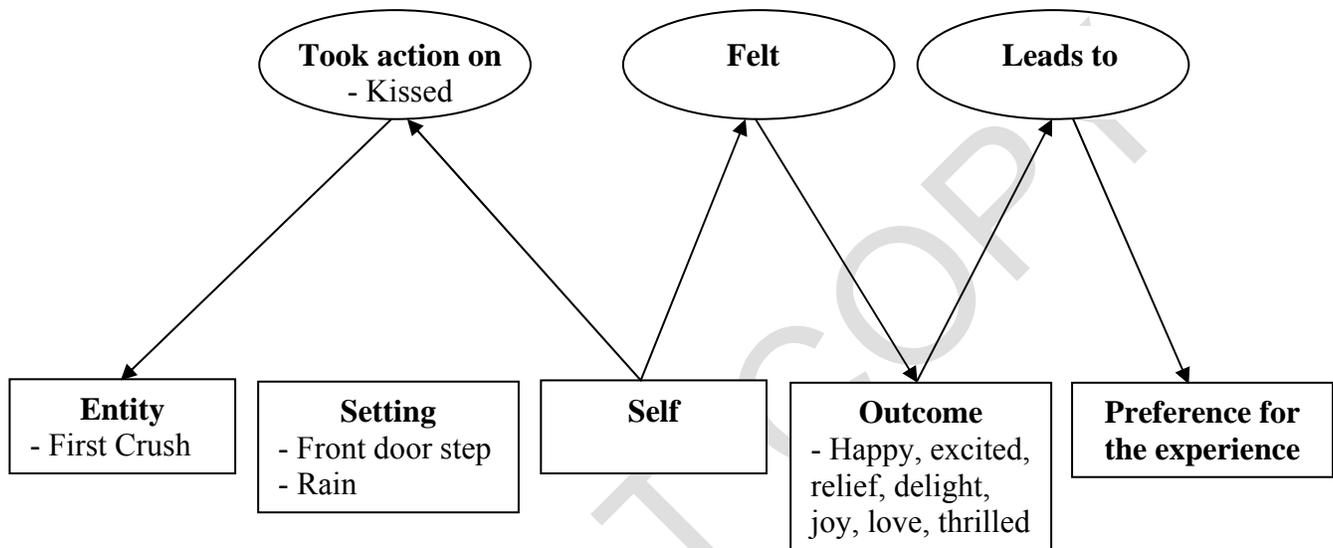
TABLE 1  
 AN OVERVIEW OF CHARACTERISTICS THAT DIFFERENTIATE NOVEL VERSUS CONVENTIONAL  
 COMPARISONS USED IN ADVERTISEMENT APPEALS

	<b>Novel Experiential Analogy</b> (e.g., like a first kiss... the Bugatti sports Car)	<b>Novel Functional Analogy</b> (e.g., not since the human body has anything worked like the Bugatti sports car)	<b>Conventional Simile or Metaphor</b> (e.g., fast as a speeding bullet... the Bugatti sports car)
<b>Primary Purpose</b>	Persuade; provide unique perspective of target experience using the consumers' own experiential knowledge	Explain; enhance understanding of how a target product works	Persuade or inform via minimal elaboration
<b>Base Domain of Knowledge</b>	Personally relevant; acquired from direct or indirect experience with the base	More functional in nature; may be acquired from direct or indirect experience with the base	Generic; acquired as a learned convention
<b>Preference for the Base Domain</b>	A central influence on the transfer of knowledge from base to target	Generally not salient or of little relevance to the knowledge transfer process	Generally not salient
<b>Emotionality of the Base Domain</b>	Moderate to High (see Figure 2 for an outline of the role of emotional knowledge and actual base-related emotions)	Minimal to moderate	Minimal to moderate
<b>Alignment Between Base and Target During Processing of the Comparison</b>	Requires identification of similarities between the base and target (mapping)	Requires identification of similarities between the base and target (mapping)	Involves relatively effortless access of abstract metaphoric category (Bowdle & Gentner 2005; Gentner et al. 2001)
<b>Cognitive Resources Required to Process Comparison</b>	Moderate to high	Moderate to high	Low to moderate
<b>Type of Knowledge Transferred from Base to Target</b>	Deeper relational information	Deeper relational information	Superficial, surface level attribute information
<b>Perspective of Target after Processing the Comparison</b>	Novel, enhanced understanding of the emotionality associated with the target product experience	Novel, enhanced understanding of the target product's attributes and functions	Cliché, information about the target is acquired

Notes: This table highlights the factors that differentiate the use of novel functional analogies versus the experiential analogies of central interest in this research and the more conventional metaphors and similes in ad appeals (for a more extensive discussion see Gentner, Bowdle, Wolff, and Boronat 2001).

FIGURE 1  
 BASE AND TARGET KNOWLEDGE STRUCTURE REPRESENTATIONS FOR AN EXPERIENTIAL ANALOGY

A. Base Experience Representation – Your First Kiss



B. Target Product Experience Representation – Alfa Romeo Spider

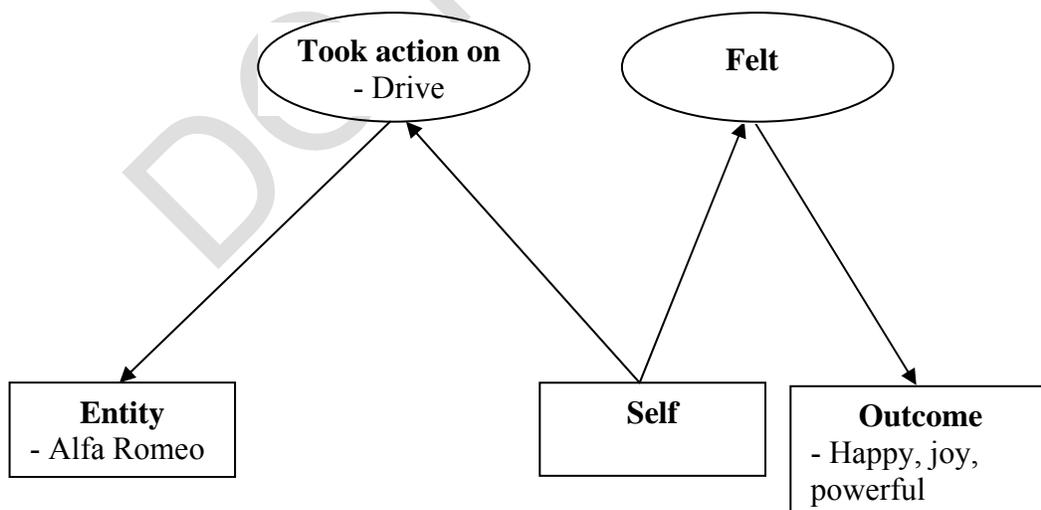
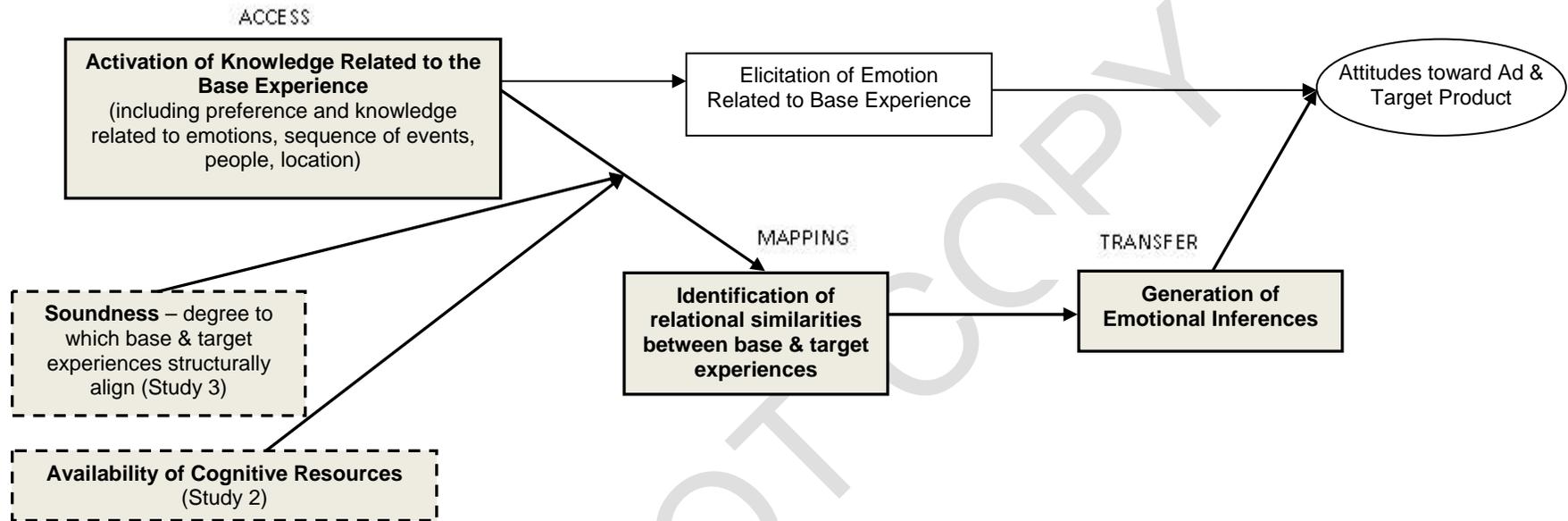
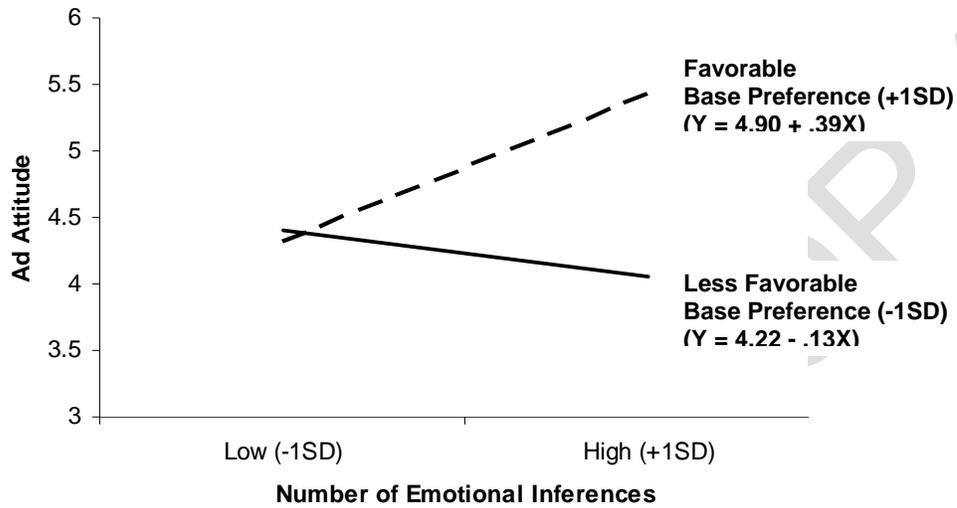


FIGURE 2  
 THE PROCESS THROUGH WHICH ATTITUDES TOWARD AN AD AND TARGET PRODUCT ARE INFLUENCED BY AN EXPERIENTIAL ANALOGY



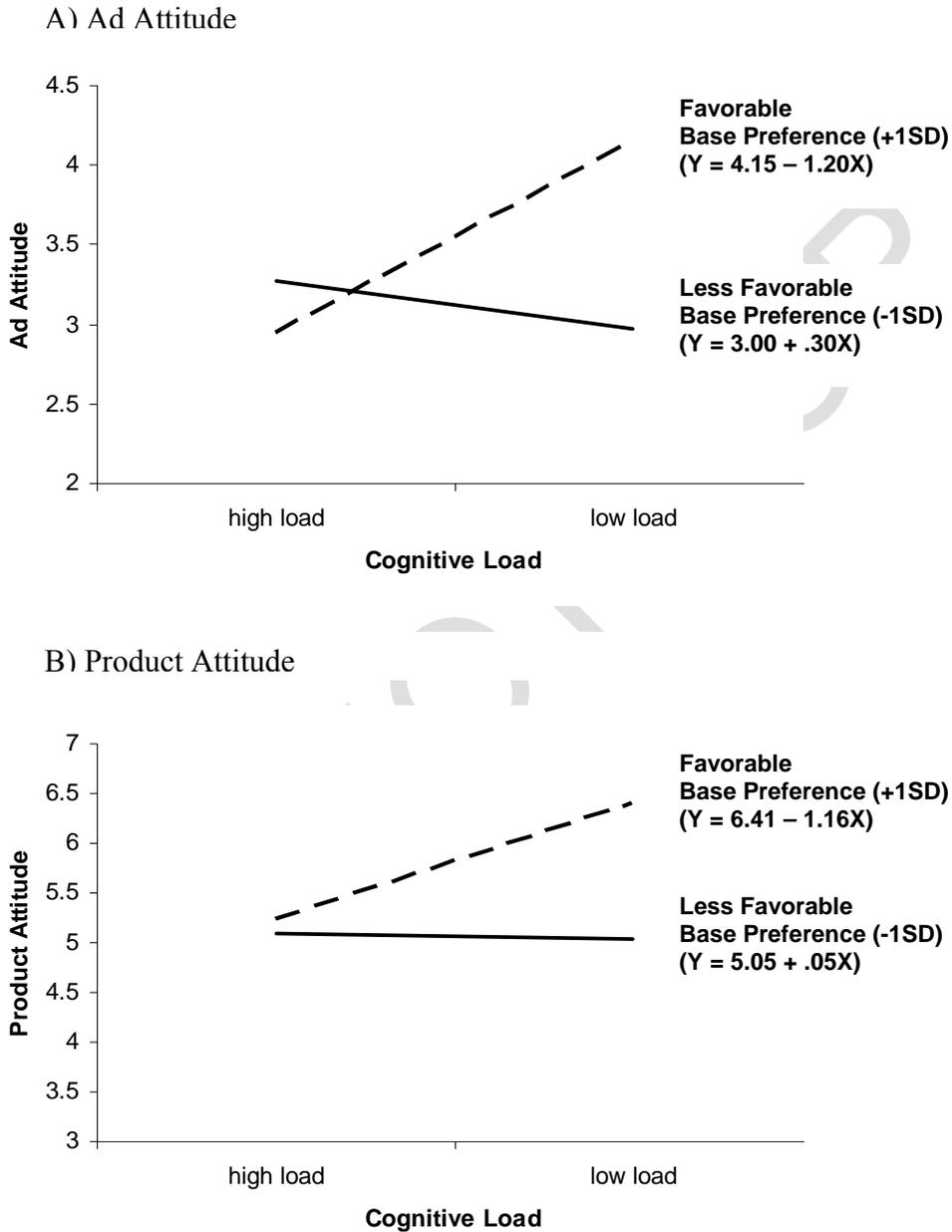
Notes: The effect of an experiential analogy on ad and target product attitudes involves the elicitation of actual emotion and the generation of emotional inferences, of which the latter is characteristic of analogical thinking. The shaded boxes and bolded arrows outline the effects of soundness and availability of cognitive resources on the access, mapping and transfer of information from the base experience to the advertised target product.

**FIGURE 3**  
**EFFECT OF EMOTIONAL INFERENCES AND BASE PREFERENCE ON AD ATTITUDE IN RESPONSE TO AN ANALOGY AD (STUDY 1)**



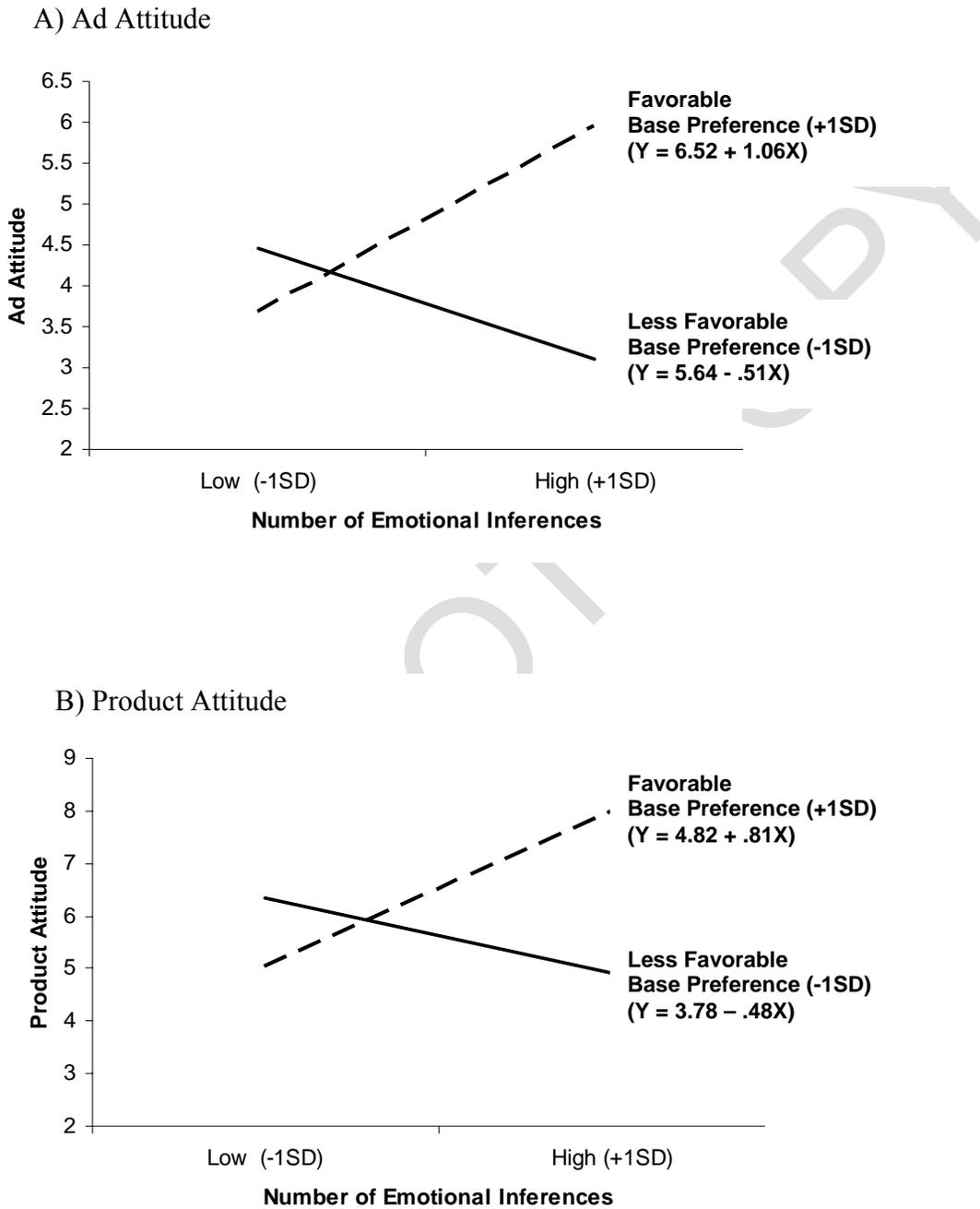
Notes: The slope coefficient for favorable base preference is significant at  $p < .05$ ; for less favorable base preference, the slope coefficient is  $p = NS$ .

**FIGURE 4**  
**EFFECT OF COGNITIVE LOAD AND BASE PREFERENCE ON AD AND PRODUCT ATTITUDES IN RESPONSE TO AN ANALOGY AD (STUDY 2)**



Notes: The slope coefficients for favorable base preference in part A and B are significant at  $p < .05$ ; for less favorable base preference in part A and B, the slope coefficients  $p = NS$ .

**FIGURE 5**  
**EFFECT OF EMOTIONAL INFERENCES AND BASE PREFERENCE ON AD AND PRODUCT ATTITUDES IN RESPONSE TO A SOUND ANALOGY AD (STUDY 3)**



Notes: The slope coefficients for favorable base preference in part A and B are significant at  $p < .05$ ; for less favorable base preference in part A and B, the slope coefficients  $p = NS$ .

## The Effect of Experiential Analogies on Consumer Perceptions and Attitudes

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### Web Appendix

To illustrate the specifics on how we conducted our statistical analysis, we refer to the results of study 1. Similar approaches were used in subsequent studies.

As indicated on page 8 of the manuscript, the key hypothesis outlines a moderating effect of base preference on the effect of emotional inferences on ad and target product attitudes. To test this moderating hypothesis and given that both base preference and emotional inferences were continuous independent variables, we performed a regression analysis in the experiential analogy ad condition (Cohen et al. 2003; Preacher, Curran and Bauer 2006; West, Aiken, and Krull 1996). To do this, we did the following:

1. The base preference and emotional inference measures were centered. This allows for meaningful interpretation of significant effects (West, Aiken, and Krull 1996).
2. The centered base preference and emotional inference variables were multiplied together to create an interaction term. This interaction term was key to assessing the moderating hypothesis.
3. A regression analysis was run with the centered base preference and emotional inference measures and the interaction term entered as predictors into the model. A significant interaction between emotional inferences and base preference on ad attitude was found ( $\beta = .18$ ,  $t = 2.03$ ,  $p < .05$ ). The effect of base preference on ad attitude was not significant ( $\beta = .23$ ,  $t = 1.77$ ,  $p > .05$ ). The effect of emotional inferences on ad attitude was not significant ( $\beta = .13$ ,  $t = 1.12$ ,  $p > .25$ ).
4. Simple slopes tests were performed to allow for the interpretation of the interaction between base preference and emotional inferences. Simple slopes tests are comparable to tests of simple effects in ANOVA (West, Aiken, and Krull 1996). With respect to moderation, an interaction between two continuous variables signifies that the regression of a dependent variable on a predictor variable changes at a constant rate as a function of changes in the moderator (Cohen et al. 2003). Essentially, by conducting simple slopes tests, we were able to determine whether or not there was a significant effect of emotional inferences on ad attitude at specified levels of our moderator, base preference. According to convention (Cohen et al. 2003; Preacher, Curran, and Bauer 2006; West et al. 1996), we performed simple slopes tests at one standard deviation above and below the mean of base preference. This required calculating a simple regression equation whereby ad attitude was regressed on emotional inferences at one standard deviation above the mean of base preference ( $Y = 4.90 + .39X$ ) and one standard deviation below the mean of base preference ( $Y = 4.22 - .13X$ ) (also see Figure 2). The slope coefficient was significant in the equation for those who had a favorable base preference (one SD above the mean) ( $\beta = .39$ ,  $t = 2.65$ ,  $p < .05$ ). However, the slope coefficient was not significant in the equation

for those who had a less favorable base preference (one SD below the mean) ( $\beta = -.13$ ,  $t = -.64$ ,  $p > .20$ ). These results suggest that the positive effect of the analogy on ad attitude was only realized if base preference was positive and emotional inferences were high.

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