Conceptual Combination and Categorization of Ambiguous Products

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A robust finding in the categorization literature has been the finding that inferences about an object are limited to a single category. The present article examines how inferences about multiple categories can be induced for a single object. We utilize findings from the conceptual combination literature and show that priming respondents with property interpretations can overcome the single inference problem. We further examine the effect of multiple category inferences on brand attitudes and find that both category-consistent and category-inconsistent attributes predict brand attitudes under property interpretations. Our findings contribute to the literatures in categorization and conceptual combinations.

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the modifier was also superordinate (F=6.87, p<.01). Further, when the nouns were similar, relational interpretations were less frequent (F=56.5, p>.0001). When relational interpretations declined, property interpretations increased. Overall, the incidence of pure hybrid interpretations was low. Taken together, this study provides crucial understanding of the conditions under which different types of interpretations occur. However, the nouns participants saw were different across conditions. In the next study, we hold the nouns constant across all conditions but vary the order in which they are observed. This manipulation allows for a more controlled test of the influence of position (header vs. modifier) on interpretation.

Study 2 manipulated a single factor between-subjects (word order). Participants provided their own definitions of and preferences for each novel combination as well as plausibility ratings for a fixed set of possible definitions. Half the subjects saw one set of conceptual combinations (e.g., vitamin-coffee, laptop-projector, computer-purse, purse-sock, and chair-basket), while the other half saw the same set with the words reversed. The results show that word order significantly influences a) participants’ interpretations of the conceptual combination, and more importantly for marketers, b) preferences for the combined concept.

“Conceptual Combination and Inferences about Ambiguous Products”
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A robust finding in the categorization literature has been the finding that inferences about an object are limited to a single category (Malt, Ross and Murphy 1995; Murphy and Ross 1996; Ross and Murphy 1994). For example, if an object is categorized as a cell phone, then inferences about the object will be limited to those attributes appropriate for a cell phone and will not include any inferences from other categories. This finding suggests that people do not seem to hold multiple category inferences about single objects, i.e. they do not believe that an object can possess attributes of more than one category. However, many products that exist in today’s marketplace are ambiguous with respect to the product category to which they belong and possess attributes of multiple categories. For example, products like the Handspring Treo possess features and functionalities of a cell phone and a PDA while crossover vehicles like the Nissan Murano and Chrysler Pacifica possess features of a minivan and a SUV. Success for such products depends to a large extent on being able to convince consumers that they possess features of more than one category. Hence the finding with respect to single category inferences needs to be re-examined to suggest how multiple category inferences can be induced. The current paper therefore aims at understanding how single category inferences can be extended to multiple categories so that a single object can be perceived to possess features of more than one category.

We refer to the literature on conceptual combinations to overcome the problem of single category inferences. The literature on conceptual combinations focuses on how people interpret novel noun-noun combinations such as “whale boat”. Past research in this area has found that people predominantly interpret novel combinations in one of two ways—property interpretations and relational interpretations (Costello and Keane 2001). Under property interpretations, attributes from both nouns are transferred to the combination. For example, a whale boat could be a boat that is very large (like a whale). Under relational interpretations, thematic linkages are drawn between the two nouns and properties of only the head noun are retained in the combination. For example, a whale boat could be a boat that is used to watch whales. Property interpretations therefore lead to the presence of attributes from more than one category in a single object. Hence, we suggest that priming respondents with property interpretations (versus relational interpretations) will enable them to make multiple category inferences.

We further explore why property interpretations induce multiple category inferences and suggest that greater attention is paid to both categories under property interpretations which allows for easy retrieval of both sets of category attributes during product judgments. Under relational interpretations, greater attention will be paid to the head category’s attributes, leading to faster retrieval of only one category’s attributes during product judgments.

Two empirical studies were conducted to test our research propositions. In Study 1, we primed respondents with different interpretation strategies (property vs. relational) and exposed them to information about an ambiguous product that was labeled as either a PDA or a Camera. As expected, we find that when primed with a property interpretation strategy, respondents are able to make multiple category inferences and believe that the product will possess attributes of both a PDA and a Camera. When primed with a relational interpretation strategy however, respondents make single category inferences and believe that the product will either possess features of a PDA or a Camera but not both. Hence, property interpretations appear capable of inducing multiple category inferences.

In Study 2, we examine why property interpretations induce multiple inferences by incorporating a response time variable to measure accessibility to information about the two categories. As predicted, we find that under property interpretations, respondents exhibit no differences in speed of retrieval of information about both categories while under relational interpretations, respondents are significantly faster at retrieving information about one category as compared to the second category.

From a theoretical standpoint, this research contributes to the literatures on categorization and conceptual combinations. We combine research from two different literature streams—traditional categorization theories and psycholinguistics—to examine how inferences about one category can be influenced by inferences from other categories. The finding that all product inferences are not derived solely through categorization, but also from the type of interpretation strategy used is a radical departure from traditional categorization theory findings, which predict that inferences are derived from a single category. From a managerial perspective, this research provides a better understanding of the comprehension processes of ambiguous products by consumers and suggests ways by which marketers can promote acceptance of their products.

“Learning and Liking through Comparison: The Influence of Multiple Analogies on New Product Interpretations and Preferences”
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Previous research in marketing and psychology (e.g., Gentner, Ratterman, and Forbus 1993; Roehm and Sternthal 2002) has asserted that analogy cues with their emphasis on structural relations communicate the core functionality of a new product effectively. However, researchers have highlighted the shortcoming of a single analogy cue by showing that in the absence of surface similarity between the new product and an analogy cue, consumers may not be able to detect the common relation between the new product and analogy cue. This shortcoming can be eliminated and the unique benefits of analogies can be realized if consumers can compare the new product to multiple analogous concepts in a synergistic manner so that the underlying benefit is illuminated. Marketers of new products, which defy straightforward categoriza-
tion (e.g., Metronaps, Forerunner) could benefit from the use of multiple analogous concepts in their communication as it helps engender superior understanding of the new product and influence preferences for it.

Stemming from the structural alignment paradigm, the theory of analogical encoding (Ferguson 1994; Ferguson and Forbus 1998) suggests that if consumers are presented with two analogous concepts, their comparison and alignment illuminates the common underlying functionality, leading to superior knowledge transfer to the new product. However, in a new product context, the nature of analogous concepts used would determine if this process indeed occurs and how the interpretations influence the preferences for the new product. We hypothesize that the distance between the two analogous concepts (far concepts: shared functionality but no shared surface attributes vs. near concepts: shared functionality and shared surface attributes) used to describe the new product will influence consumers’ interpretations and preferences for the new product.

Specifically, we predict that by comparing and aligning two far analogous concepts (e.g. jacuzzi and therapist), which have no shared attributes, consumers can identify the common alignable functionality (provides relaxation) while the use of two near analogous concepts (e.g. jacuzzi and sauna) focus consumers on the shared attributes (e.g. high temperatures) and shift attention away from the common alignable functionality.

At the same time, research has shown that the ability to categorize a product results in confidently held inferences (Gregan Paxton and Moreau 2003). Therefore, while the use of far concepts facilitates the transfer of the core functionality, the inability to categorize the new product weakens the effect of superior knowledge transfer, leading to lower preferences for the new product. On the other hand, when two near concepts are used, due to the focus on shared attributes, consumers have a tendency to categorize the new product into one of the two base categories, leading to greater preferences for the new product. We theorize that if the new product can be situated within a superordinate category (e.g. leisure product for far analogous concepts, jacuzzi and therapist), the uncertainty associated with the inability to categorize is eliminated, and the gains of analogical encoding are realized by reversing the preference patterns. In other words, when the consumer is no longer uncertain about the superordinate category in which to situate the new product, the deeper inferences drawn from the far analogy cues drive the positive evaluations towards the new product.

We further shed light on the underlying process of abstraction that leads to greater preferences for the new product, in the far concept condition. Using temporal construal theory (Liberman and Trope 1998), we suggest that when the new product purchase is construed in the distant future, the effects on preferences will be stronger, as the individual is primed to think at a more abstract relational level. In contrast, when the new product purchase is construed in the near future, the effects on preferences are undermined, as the individual is primed to focus on the concrete attributes.

Studies 1 and 2 exposed subjects to scenarios where the new product was compared to two analogous concepts of varying distance (near vs. far). In Study 1, participants were presented with four replicate scenarios and asked to provide descriptions of the new product in an open-ended format, based on the pair of analogous concepts. Judges assessed, if the shared functionality and shared features were transferred to interpret the new product. As expected, the far concepts facilitated a higher transfer of the common underlying functionality, while the near concepts resulted in a higher transfer of attributes. In Study 2, participants first provided their own description, and subsequently responded to preference and certainty measures for that interpretation. The interpretation results of Study 1 were replicated. The ability to categorize provided a certainty for consumers in the near scenario resulting in greater preferences than in the far scenario. A closer analysis showed that in the near concept scenario there was a higher tendency to categorize the new product into one of the two base categories.

In Study 3, the scenarios were created based on an existing new product, and the superordinate category of the new product was provided to the participants. Further, the time construal of the new product purchase was varied (near future vs. distant future). The main effects revealed that with the elimination of the categorization uncertainty, the far concept scenario was preferred than the near concept scenario. Also, the interaction effects of time construal confirmed that the process of abstraction drives preferences towards the new product. Specifically, when primed with a distant future purchase, the far concept scenario reported a greater preference than the near concept scenario. In contrast, when primed with a near future purchase, there was no significant difference in preferences between the far and near concept scenarios.

Theoretically, these findings have implications for the theories of analogical processing and temporal construal. From a managerial perspective, these findings suggest effective means of communicating the core functionality of new products.

REFERENCES


SESSION SUMMARY
Consumer behavior researchers are becoming increasingly aware of the variety of nonconscious influences on behavior (e.g., Dijksterhuis, Smith, van Baaren, & Wigboldus, 2005; Chartrand, 2005; Simonson, 2005; Janiszewski & van Osselear, 2005), and it is now generally acknowledged that stimuli can affect people’s behavior without their intention or awareness. Research in this area is entering its second generation. Whereas most previous research was aimed at demonstrating that these effects occurred, more recent research is aimed at illuminating moderators for these general effects. Can the same prime have different effects on different groups of people? Can established effects be reversed? Can primes have the same effects on behavior, but operate via different mechanisms under different conditions and for different people? The present session outlines several individual difference and situational moderators of established automatic behavior effects. These moderators illustrate the boundary conditions that identify when and among whom these effects occur, but also lend evidence regarding their mechanism.

The first presentation, by Wheeler and Berger, shows that the same prime can have different, and sometimes opposite effects on choice, depending on the unique personal associations recipients have with the prime. Across three experiments and using both demographic and individual difference segmentation variables, they show that the effects of primes on choices of different groups of people can be predicted by understanding their personal prime associations. The experiments further demonstrate that the differential priming effects are be mediated by the unique personal associations the recipients have with the prime.

The second presentation, by Dalton and Chartrand, examines how exposure to relationship partners affects goal pursuit. Whereas previous research has demonstrated that exposure to relationship partners leads to pursuit of the goals they have for the prime recipient, the current studies show that these effects can be reversed. The first study shows that accessibility of overly controlling relationship partners actually leads to pursuit of goals incompatible with those the relationship partner has for recipients, presumably in an attempt to restore personal freedom. The second study lends additional evidence for this account by showing that low reactance individuals pursue the goals of salient relationship partners, but high reactance individuals do not. Hence, reactance can automatically moderate nonconscious goal pursuit and can manifest both as a function of prime targets and individual differences.

The final presentation, by Smesters, Wheeler, and Kay, examines direction of focus as a moderator of whether primes will affect behavior via perceptions of others or more directly. They hypothesized that when features promote focus on other individuals in the situation, perceptions of those individuals will be biased by activated constructs, and changes in behavior will be mediated by such perceptions. When features promote self-focus, on the other hand, behavioral changes will not be mediated by perceptions of other people. Across a series of studies, and using both manipulations and measurements of self-focus vs. other-focus, they supported these hypotheses. Their studies show that primes can generate the same effects on economic decisions, but via different mechanisms, depending on the level of other focus.

References

EXTENDED ABSTRACTS
“Same Prime, Different Effects: Segmentation in Nonconscious Behavior Influence”
S. Christian Wheeler, Stanford University
Jonah Berger, Stanford University

Segmentation has long been recognized as a critical procedure in influencing consumer behavior. The varying needs, wants, experiences, and psychological characteristics of different consumer groups require individualized marketing attempts tailored to these subsets of people. Although the need for segmentation has been widely acknowledged for traditional marketing campaigns, the importance of segmentation for more non-conscious influence attempts has not been recognized. Indeed, one part of the power of such influence techniques is the assumed potential for them to influence different people in similar ways. Because such influence techniques rely on basic associative processes, it has been implicitly assumed that stimuli should exert consistent effects across different types of people.

In the present experiments, we demonstrate that the same primes can exert different, and sometimes opposite effects on recipients, depending on the unique personal associations they have to the primed stimulus. Much as unique experiences and associations can affect responses to more deliberate influence attempts, we show that they can also affect less overt influences. Across three studies, and using both demographic and individual difference segmentation variables, we show that different subgroups of consumers exhibit predictable differences in their responses to primes. Specifically, we show that primes can significantly affect consumer choice, but that the effects differ across subgroups of individuals who tend to have different prime associations.

The first experiment used the domain of clothing shopping. Pretests indicated that men and women have different shopping associations. Whereas men tend to be more “purpose-driven” or pragmatic and efficient, women tend to be more “possibility-driven” and browse just to see what is out there. We predicted that these different tendencies, once activated, would influence participants’ subsequent choices in an unrelated task. Thus in the main experiment, men and women were randomly assigned to write about either clothes shopping or a control topic (i.e. geography).
Then in an ostensibly unrelated study they were asked to make a series of hypothetical choices, some of which between more “purpose-driven” and “possibility-driven” options (e.g., driving a direct route cross-country vs. taking the scenic route). Results indicated that the effect of the prime on subsequent choices differed based on participants’ gender; writing about shopping (versus geography) led women to make more possibility-driven choices in the subsequent context whereas it led men to make more purpose-driven choices.

The second experiment used the domain of formal events. Pretests indicated that when attending a formal event, men have a goal to dress rather similar to others, whereas women have a goal to dress rather differently from others. Thus in the main experiment, men and women were instructed to write about attending a formal event (or geography) before choosing between different products. Results again indicated different effects of the prime based on gender; women who wrote about the formal event (versus geography) subsequently chose more unique items whereas men who wrote about the formal event tended to choose more common items.

In the final experiment, introverts and extroverts were instructed to write about attending a party (or geography) before selecting different items they would like to receive in a drawing. Previous research has demonstrated that introverts and extroverts have different optimal levels of arousal. Introverts are aroused more easily than extroverts. As a result, they prefer lower-arousal situations and tend to be more easily over-aroused than extroverts. Consequently we predicted that thinking about a party would affect the subsequent choice of introverts and extraverted differently; introverts should be subsequently more likely to choose more low-arousal prizes, consistent with their desire to lower arousal at parties, whereas extraverts should be less affected by the prime. Results confirmed this hypothesis. Further, additional analyses showed that these different effects were mediated by the different associations (i.e. level of stimulation) that introverts and extraverted have with parties.

“Nonconscious Relationship Reactance: When Significant Others Prime Opposing Goals”

Amy Dalton, Duke University
Tanya Chartrand, Duke University

Numerous empirical investigations demonstrate that goals can be activated by the environment and pursued outside of individuals’ conscious awareness and intent (for a review, see Chartrand, Dalton, & Cheng, in press). Recent research demonstrates that one environmental antecedent of nonconscious goal pursuit is “significant others.” Fitzsimons and Bargh (2003) reported that filling out a questionnaire about a friend led participants to nonconsciously pursue an interpersonal goal to help others. Likewise, Shah (2003) found that subliminally priming the name of a significant other led participants to nonconsciously pursue a goal that a significant other had for them. These and other studies (Aarts, Gollwitzer, & Hassin, 2004; Anderson, Reznik, & Manzella, 1996) demonstrate that unobtrusively activating significant other representations can put associated goals into operation automatically. But do individuals always assimilate to the goals they associate with significant others? Can goal contrast occur, even at a nonconscious and automatic level?

Despite the importance of preserving social relationships (Shah, 2003; Fitzsimons & Bargh, 2003) and the strength of social influences in general (e.g., Milgram, 1963; Rosenthal, 1985), sometimes individuals behave in opposition to social influences. For instance, when individuals feel that social forces threaten their autonomy, they are compelled to behave in oppositional ways. This motivational state and the resulting behavior have been labeled reactance (Brehm, 1966). We reason that the motivational state of reactance is not unlike other motivational states: the frequency and consistency with which one has experienced it in a particular situation will determine whether it can be nonconsciously activated. Therefore, individuals who have habitually experienced reactance while interacting with a significant other should come to have this motivational state automatically evoked upon exposure to the significant other. Following from this view, we conjecture that whether individuals’ goal pursuit as automatically assimilate to, or contrast away from, their significant other’s wishes will depend on whether or not individuals perceive their significant others as threats to their personal freedoms. We test this hypothesis in two experiments.

Experiment 1

Embedded in a large mass testing session, students completed a Significant Others Questionnaire. In it, students indicated the first names of the people who most want them to work hard, have fun, and 8 other goals (included to hide the purpose), and then rated these people on various dimensions. Students were later recruited for the main experiment if they listed different people for the work hard and have fun goals, and if their ratings for those two people fell within the upper quartile of responses to the questions, “how much does that person trigger that motive or emotion in you?” and “how much does that person want to control you?”.

When they arrived for the experiment, participants were randomly assigned to be subliminally primed with the name of the significant other who wanted them to work hard or have fun, under the guise of a “visual acuity task.” Next, participants completed a 17-item anagram task, followed by a funnelled debriefing that probed for suspicions about the experimental procedures.

We predicted that subliminal exposure to the name of a controlling significant other would produce automatic reactance, such that participants primed with the name of a controlling significant other would answer fewer anagrams correctly when that significant other wanted them to work hard compared to when that significant other wanted them to have fun. This is precisely what we found. Moreover, participants (in both Study 1 and 2) were not suspicious of the true relation between the experimental tasks or aware of the nature of the primes, suggesting that the significant other primes affected participants’ anagram performance nonconsciously. These results suggest that people who perceive a significant other as highly controlling automatically and nonconsciously reject the wishes of that significant other and instead pursue goals that oppose those wishes.

Experiment 2

We reasoned that people’s perceptions that their relationship partners are controlling might often be related to a more habitual tendency to believe that people in general wish to control them. Thus, rather than measuring the extent to which individuals perceived significant others as controlling, in Study 2 we measured trait reactance. In addition, we sought to examine the role of trait reactance as a moderator of the influence of significant other primes on goal-directed behavior, so we included participants who expressed reactant tendencies to varying degrees on an individual difference measure.

In the experiment, participants first completed the Significant Others Questionnaire. Next, in a so-called “divided attention task,” participants were subliminally primed with the name of the significant other who wanted them to work hard, relax, or an 8-letter string that did not resemble a word (control condition). Participants then...