Retailers try to manage large assortments by arranging their assortments in different types of categories. Our research investigates how different types of externally provided category structures (taxonomic or goal-based) impact the decision process. We provide process evidence that taxonomic groupings prompt consumers to create contrast effects among alternatives, while goal-based groupings cause consumers to engage in assimilative processes. As a result, participants selecting from goal-based groupings report higher similarity among specific options (local similarity) as well as the assortment as a whole and are less willing to pay higher prices compared to those choosing from taxonomic sets.

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SESSION OVERVIEW
More than 20 years of consumer research have demonstrated how changes in the assortment affect variety perceptions, satisfaction and choice. This session adds to our understanding of the psychological processes leading to these outcomes by revealing: 1) How variations in the structure and organization of assortments change psychological processes, and, 2) How these decision processes are linked to important outcomes such as assortment perceptions and WTP. Specifically, the papers focus on two mechanisms that underlie different reactions to assortments: similarity vs. dissimilarity processing and consumers’ beliefs regarding their ability to preference match.

Poynor and Diehl investigate how different types of externally provided category structures (taxonomic or goal-based) impact the decision process. They demonstrate that taxonomic groupings cause consumers to focus on dissimilarities among items, while goal-based groupings increase the focus on similarities. As a result, participants selecting from goal-based groupings perceive the items in the assortment to be more similar and choose less expensive items from goal-based than from taxonomic sets.

SCHLOSSER AND WHITE examine how removing items from a choice set affects opinions of the remaining items. Contrary to predictions based on reactance theory and halo effects, they show that consumers’ reactions to available items depend on the reasons provided for the unavailability and on whether assortment characteristics highlight the similarities among items within the assortment. If similarities are focal, judgments of the remaining items are more favorable when unavailable items were sold out rather than discontinued, but the opposite is true when dissimilarities are focal. Further, choice process satisfaction mediates and individual differences in market knowledge moderates these effects.

Griffin and Broniarczyk investigate the effect of alignable versus nonalignable options on search effort and satisfaction. Nonalignable compared to alignable options trigger greater search. Initially such heightened search effort increases satisfaction because consumers feel they are more likely to find a good preference match. However, further search among nonalignable options makes necessary trade-offs salient, decreasing perceptions of preference match and reducing satisfaction.

These three papers focus on 1) similarity vs. dissimilarity processing and 2) consumers beliefs about preference match as drivers of consumers’ reactions to assortments. Their findings demonstrate that 1) Similarity vs. dissimilarity-based processing alters consumers’ reactions to assortments. Engaging in greater dissimilarity testing decreases perceived substitutability among items which affects perceptions of the assortment (P&D), leads to higher WTP (P&D) but also to more negative reactions to stock-outs (S&W). 2) Further, consumers’ beliefs about their ability to preference match also affect reactions to assortments. How consumers react to stock-outs is affected by whether they believe they will be able to choose advantageously from the remaining items (S&W). In addition, consumers’ beliefs about their ability to preference match determine whether an increase in search effort increases or decreases satisfaction (G&B).

These three papers investigate consumers’ reactions to assortments from very different perspectives; however, their findings converge on a few common psychological mechanisms that help improve our understanding of the psychological processes that drive substantive outcome reactions to assortment differences.

EXTENDED ABSTRACTS

“The Psychology of Category Design: The Impact of Goal-Derived Structures on Consumer Information Processing and Choice”
Cait Poynor, University of South Carolina
Kristin Diehl, University of Southern California

The enormous variety available in retail settings has alternately fascinated and frustrated both consumers and researchers (e.g. Iyengar and Lepper 2000, Schwartz 2004). Recent trends in retailing suggest that major retailers hope to manage such large assortments through reorganization rather than reduction of their stock (Anderson 2005). Our research investigates how different types of externally-provided categories (taxonomic or goal-derived) impact choice by prompting the consumer to adopt different information processing strategies. Particularly, we compare the information processing strategies adopted in taxonomic groupings, which are organized around shared attributes of the alternatives, to the strategies adopted in “goal-derived categories” (Medin and Barsalou 1981) which group items sharing benefits or occasions of use (Desai and Ratneshwar 2003). In one pilot study and two lab experiments, implicit and explicit measures provide evidence for the proposed shift in processing strategies, as well as effects on variety perceptions and prices paid.

Since taxonomic groupings highlight structural similarities among options, we propose that consumers adopt an information processing strategy which facilitates discrimination among seemingly similar alternatives. Thus, we expect that consumers will accentuate existing differences and, in line with the classic model of contrast (Mussweiler 2003; Schwartz and Tversky 1980) will create both local and global contrast among these items when options are organized in taxonomic groupings.

In goal-based groups, however, consumers face a different processing task: Goal-grouped items do not highlight structural similarities and may even be characterized by attribute dissimilarities. We expect that consumers will first determine a basis for comparison in goal-based groups, by engaging in similarity testing. That is, they will ask themselves, “In what way are these alternatives similar, and therefore, on what basis can I make my decision?” (Johnson 1989). With the identification of each additional basis of comparison, alternatives should become progressively assimilated to one another (Mussweiler 2003). As such, even if the underlying assortment from which choices are made is identical, inter-item as well as overall assortment similarity should be perceived as higher in goal-based groups (assimilation) but lower in taxonomic (contrast) groupings.

Prior research also demonstrates that as perceptions of similarity and product parity increase, individuals are less willing to pay higher prices. Therefore, we predict that as a consequence of the assimilative processing in goal-derived sets, participants will pay lower prices than will participants who make choices from taxonomic sets.
Pilot study In a pilot study, undergraduates imagined that they had a job interview and were shopping for a new pair of shoes. We then directed them to an actual online shoe retailer, Zappos.com, where they browsed the shoe selection organized either in terms of taxonomic identifiers (e.g., high heels, flats, sandals) or occasions of use (e.g., “The Office”, “Rodeo Drive”, “Country Club”). After browsing as long as they wished, participants chose their first and second choice of shoes. They then rated the variety of the website’s overall assortment and the similarity between their first and second choice shoes. Controlling for age and gender, participants who made their selections from the taxonomically-organized site reported significantly higher variety in the set as a whole, as well as less similarity between their first and second choice shoes, than did those who browsed the goal-derived sets. Since this pilot was undertaken in an ecologically valid yet noisy environment, where little control could be exerted over the actual similarities of products viewed, study 1 further investigates our predictions in a very controlled setting.

Study 1 In this study, students chose teas from a simulated online retailer. Participants were randomly assigned to one of three between-subjects conditions. Teas were organized either by taxonomic characteristics (Black, Green, Mint, and Rooibos), by the goal they help achieve (Energy-Boost, Stress-Relief, Cardio-Health, and Weight-Loss), or, for the control condition, grouped randomly into four pages (Page 1, Page 2, Page 3, Page 4). Importantly, the same 32 teas appeared in all conditions and were available to all participants.

After reading basic information about tea, participants browsed the site, selected at least 4 teas which interested them for consideration, and identified a first and second choice from their consideration set. They then rated the perceived similarity of items in the assortment and the perceived similarity of their first and second choice. We used two implicit measures to investigate the underlying decision processes. As such, participants were presented with their consideration set and asked to sort the set into two groups as they saw fit. Assimilation processes triggered by goal-derived groupings should create closer associations among options resulting in greater psychological cohesion. When assortment are organized along goal-derived categories it should therefore take longer to sort items and the proportion of items sorted into the two groups should deviate from a 50-50 split.

As predicted, assimilation processes in goal-derived groups are found both relative to taxonomically-organized sets and relative to the control group of randomly-organized alternatives. Participants in the goal-derived condition reported greater similarity between their first and second choice items as well as among all the items in the assortment, compared to participants who chose from taxonomic organizations and participants who chose from the randomly-ordered sets. In addition, analyses of the time taken to sort the individuals’ consideration sets and the balance of the sorted groups suggest that choosing from goal-derived sets results in higher levels of psychological cohesion among alternatives than choosing from taxonomically-grouped sets, supporting the proposed psychological process.

Study 2 Study 2 adapted the basic experimental paradigm used in Study 1, adding a within-subjects covariate trial, prices for each tea and an incentive compatible payment scheme. This adaptation allows us to examine the effect of external categorization on prices paid. In this study, all participants first selected a tea from a randomly-ordered set, providing us with an individual-level willingness-to-pay measure. They were then assigned to either the goal-derived or taxonomic condition. As anticipated, participants choosing from the taxonomic organizations chose options at a significantly lower price than participants choosing from the goal-derived sets.

This research demonstrates that different external category structures can generate both theoretically interesting and managerially important effects. We demonstrate that taxonomic and goal-based organizations alter the way in which consumers process information, and thus that differences in category structures impact perceptions of inter-item similarity, change perceptions of assortment variety and prompt consumer to pick lower priced products. Future research may compare these findings to situations where preferences are held more strongly and in particular consider how other types of groupings, such as those based on brands, may impact consumers’ perceptions and choices.

“The Company They Keep: The Influence of Reasons for Option Limitation on Assortment Judgments”
Ann Schlosser, University of Washington
Tiffany White, University of Illinois

Prior research has demonstrated that adding alternatives to existing choice sets can influence judgments of original items in the set (e.g., Huber, Payne and Puto 1982; Simonson 1989). Receiving far less direct attention is the effect of removing alternatives from a set on judgments of the remaining items in the set (Zhang and Fitzsimmons 1999). Research has shown that compared to having all alternatives available to choose from, removing items from a choice set (option limitation) can negatively affect satisfaction with the choice process (Zhang and Fitzsimmons 1999) and can increase store-switching behavior (Fitzsimons 2000; Broniarzycz, Hoyer and McAlister 1998). Yet, option limitation can have positive effects as well. For instance, option limitation can lead to higher decision satisfaction when the consideration set is large than small, presumably because it reduces the difficulty in making a choice by decreasing the number of alternatives that need to be compared (Fitzsimmons 2000). We argue that the effect of option limitation on assortment judgments also depends upon the reasons firms provide for item unavailability, namely whether unavailability is attributed to high demand (sold out) or low demand (discontinued), as well as characteristics of the assortment that highlight similarities between items in the assortment. Specifically, if the reasons for unavailability are favorable due to high demand (sold out), then judgments of the remaining items should be higher to the extent that the assortment is perceived as likely to contain other similar items. This can occur when the assortment is large or when the assortment is organized in a way that causes individuals to process the choice options in terms of their similarities rather than differences. However, the reverse should occur when the reasons for unavailability are less favorable due to low demand (discontinued).

Our predictions qualify those of reactance theory. Brehm’s (1966) framework suggests that when one’s freedom to choose is threatened (e.g., items from an assortment are no longer available to choose), individuals experience a strong motivation to restore that freedom, often by derogating the source of the restriction (Fitzsimons and Lehmann 2004). Moreover, reactance is often greater to the extent that the removed item is preferred (Clee and Wicklund 1980). Hence, consumers may feel greater reactance when the reason for the removed item suggests that it would have been preferred (it was in high demand) than when it would not be preferred (it was in low demand). Consequently, judgments of the available items may be lower when the reason for option limitation suggests that the unavailable alternatives would have been preferred (sold out) than not preferred (discontinued).

Alternatively, responses to option limitation may exhibit a halo effect (Thorndike 1920). Specifically, the favorableness of the
reasons for option limitation may spill over to affect the judgments of the remaining items in the assortment. Existing research suggests individuals’ general impression about a target causes them to judge the target similarly on other dimensions (Solomonson and Lance 1997). As a result, individuals’ general impressions are relatively homogeneous across their evaluations. Likewise, the reasons for option limitation may influence individuals’ general impressions of the assortment such that consumers’ opinions of the remaining items in the set should reflect the favorability of the reason for option limitation. That is, judgments of the remaining items in an assortment should be higher when the reasons for option limitation are favorable than unfavorable (i.e., sold out vs. discontinued).

We test our predictions against these contrasting accounts in three experiments in which we vary the reasons for option limitation (i.e., sold out or discontinued) and assortment characteristics (i.e., assortment size and organization). In study 1, we reasoned that individuals would perceive greater similarity among items when the assortment size is large than small. In study 2, we held fixed assortment size and manipulated assortment organization, specifically the extent to which assortment items were organized in a manner that facilitated item-specific (i.e., attending to the differences between alternatives) or relational (i.e., attending to the similarities between alternatives) processing. Finally, in study 3, we tested an important moderator of these effects. Specifically, if our findings are indeed driven by consumers’ intuitions about relative demand for sold out versus discontinued items, then our effects should hold only for those with relatively high versus low knowledge about market forces (e.g., the economic logic of supply and demand). Across these studies, we find that judgments of the available items depended not only on the reasons provided for option limitation but also upon factors influencing the likelihood that assortment items were similar. Specifically, when assortment was perceived as containing similar items, judgments were more positive when the unavailable items were labeled as sold out versus discontinued. However, when the assortment was perceived to contain dissimilar items, judgments were more favorable when unavailable items were discontinued versus sold out (study 3). Furthermore, we find that this interactive effect is mediated by participants’ beliefs that they were able to choose the best option from the remaining items (study 2) and moderated by individual differences in market knowledge (study 3).

Theoretically, we contribute to the choice literature, which has examined the influence of adding items to a choice set on attitudes towards existing items in the set, but has devoted far less attention to understanding the impact of removing items from the choice set on evaluations of the existing choice items. We also contribute to the choice reduction literature by demonstrating that the influence of option limitation on judgments of the available assortment is moderated by the reasons for the reduction and whether other similar items are likely to exist in among the remaining alternatives.

“Search Paradox: The Role of Feature Alignability in the Rise and Fall of Satisfaction”

Jill Griffin, University of Evansville
Susan Broniatczyk, University of Texas at Austin

“Man is the only animal whose desires increase as they are fed; the only animal that is never satisfied.”

Henry George (1839-1897)

This research seeks to identify situations where people are compelled to search further in spite of diminishing satisfaction. Specifically, we examine the role feature alignability plays in search quantity and search outcomes. A set of options can be considered alignable when it contains options that vary along a comparable feature. In contrast, a nonalignable set contains options that vary along non-comparable or unique features (Markman 1999; Gourville and Soman, 2005).

Searching among nonalignable options can increase learning about different features and benefits, whereas searching among alignable options provides information on just a single dimension. Consequently, it is argued that search among nonalignable options is more informative and engaging than is search among alignable options. Therefore, we expect greater search among nonalignable options than among alignable ones.

The impact of search on satisfaction is subject to a dual effect. Considering more options increases the chances of finding a close match to preferences (Baumol and Ide 1956). This is the basic argument for the cost-benefit tradeoff to search (Stigler 1961) where more effort leads to greater reward, in this case higher satisfaction. However, increased search can also increase desires for various features of a product. When physical product constraints or budget constraints require difficult tradeoffs to be made, an increase in desires can increase the psychological cost of choosing, decreasing satisfaction. We anticipate that both effects occur simultaneously. Which effect will dominate depends on the type and the number of options considered.

Regardless of alignability, we expect an initial increase in satisfaction from search as a person finds the feature or level of the feature that is most appealing. Nonalignable options are inherently more dissimilar than alignable ones, so we would expect a greater initial increase in satisfaction as the chance of finding a good match to personal preferences increases substantially with the first few nonalignable options searched.

As search continues, desires increase and the psychological cost of choosing begins to mount as tradeoffs must be made. When choosing among alignable options, a person receives some level of the alignable feature regardless of the choice, so the psychological cost of choice is not too great. In contrast, a choice among nonalignable options is inherently associated with feelings of loss as people pre-attach to various features of the options during search (Carmon, Wertebroch, and Zeelenberg 2003) but cannot have them all. This would predict a greater decrease in satisfaction resulting from search among nonalignable than among alignable options.

The results of two studies support this dual effect of search on satisfaction for nonalignable but not for alignable options. Specifically, people experience an initial increase and then decline (inverted U shape) in satisfaction with continued search among nonalignable options, whereas satisfaction remains fairly flat for alignable options.

Study 1 is a mixed design: 2 (feature alignability) x 2 (category). Feature alignability is a between-subjects factor with features being either alignable or nonalignable. Number of options is a between-subjects factor with participants viewing 3, 9, or 15 options in a category with negative attribute correlation. Category is a within-subjects factor including the categories of computers and mp3 players with order counterbalanced. Participants are directed to a website and instructed to examine options and select the one they would be most likely to purchase.

The results demonstrate that people are inclined to search further among nonalignable than among alignable options. Furthermore, alignability of options moderates the impact of search on desires congruency. An inverted U shape for satisfaction with respect to search is found for nonalignable options but not for