Aziza Jones, Doctoral Student, Rutgers School of Business

Conspicuous Self-Control: When Status Motives Lead Consumers to Signal Restraint

**Synopsis**

Extant research suggests that consumers associate high status with wealth, which leads them to behave indulgently by purchasing expensive (vs. less expensive) products when status-signaling motives are activated. We propose that consumers also associate high status with being goal-oriented, which leads them to conspicuously engage in self-control (vs. indulgence). A series of six studies finds that status motives lead consumer to choose products that signal self-control (e.g., healthy vs. unhealthy food, educational vs. entertainment programming) because status motives increase the desire to appear goal-oriented. The effect of status motives on conspicuous self-control is particularly apparent in contexts where the opportunity to signal wealth is absent. For example, the effect of status motives on conspicuous self-control is moderated by the variance in price among product options. Additional findings demonstrate that consumers with active status motives are more willing to conspicuously save (vs. spend) their money when they are reminded that saving behavior is a signal of self-control. This research has important implications for marketers and consumers regarding how and when status motivations can be harnessed to enhance self-control.
I am a Person, But They Are a Condition: The Role of Language Choices on Consumer Behavior for Stigmatized Groups

Synopsis

Although millions of consumers deal with various stigmatized identities such as obesity, homelessness, and substance use disorders, little is known about 1) whether stigmatized identity language within the marketplace matches consumer preferences and 2) the psychological factors that impact the use of these language choices towards stigmatized groups. While there is some evidence that people dealing with stigmatized conditions prefer person-first language (e.g., person with obesity) instead of identity-first language (e.g., obese person), the use of person-first language is not universal by brands. This talk first addresses research that uses health ads and voice-over lab studies. We find that people dealing with weight issues are more interested in engaging with nutrition brands that use person-first language to describe their weight identity. However, data scraping weight and nutrition brand websites reveals that brands are more likely to use identity-first language to describe weight identities. This talk then explores what drives the use of identity vs. person-first language for stigmatized groups. Using textual analysis of 1326 nonprofit organizations and academic literature as well as follow-up lab experiments, we find that for conditions perceived to be more changeable, organizations and people are more likely to use identity-first language. The relationship between people’s use of identity-first language for conditions viewed as changeable is mediated by perceptions of onset or personal responsibility for stigmatized others. Our results suggest that if person-first language is helpful in empowering stigmatized groups, it will be necessary to point out the multi-faceted nature of the systems that support the stigmatized condition, such that individuals are not saddled with the type of responsibility that hides their personhood behind their condition.

Video Influencers: Unboxing the Mystique

Synopsis

Influencer marketing is being increasingly used as a tool to reach customers. This is because of the increasing popularity of social media stars who primarily reach their audience(s) via custom videos published on a variety of social media platforms (e.g., YouTube, Instagram, Twitter and TikTok). Despite the rapid growth in influencer marketing, there has been little research on the design and effectiveness of influencer videos. Using publicly available data on YouTube influencer videos, we implement novel interpretable deep learning architectures, supported by transfer learning, to identify significant relationships between advertising content in influencer videos (across text, audio, and images) and video views, interaction rates and sentiment. This is followed up with a second study to investigate whether influencers “learn” these relationships over time. By avoiding ex-ante feature engineering, and instead using ex-post interpretation, our approach avoids making a trade-off between interpretability and predictive ability. We filter out relationships that are affected by confounding factors unassociated with an increase in attention to video elements, thus facilitating the generation of plausible causal relationships between video elements and marketing outcomes which can be tested in the field. A key finding is that brand mentions in the first 30 seconds of a video are on average associated with a significant increase in attention to the brand but a significant decrease in sentiment expressed towards the video. We illustrate the learnings from our approach for both influencers and brands.
Bayesian Deep Learning for Small Datasets: Leveraging Information from Product Pictures

Synopsis

Marketers are often confronted with datasets that contain many variables but are limited in the number of observations, leading to a "large P, small N" problem. With unstructured data, such as product pictures, commonly used deep learning models require the estimation of a large number of parameters, also resulting in a "large K" problem. In this research, we propose a pipeline to process and exploit such unstructured data. We apply it to a novel dataset aggregating all retail sales of distilled spirits in Pennsylvania. We first reduce the high pixel-based dimensionality of the product pictures using a Conditional Generative Adversarial Variational Auto-Encoder (CGAVAE). We then use the result in a deep learning model to predict sales volumes, using Bayesian estimation to mitigate overfitting issues. We show that using the product pictures' information, in addition to traditional variables such as price and product characteristics, increases the out-of-sample prediction performance for sales volumes by nearly half its base value (R² increasing from 0.24 to 0.35). We also propose a method to interpret the results and identify relevant product features, potentially allowing for the creation of new theories. Lastly, we use our model in a design optimization exercise, where we identify classes of bottle designs that are predicted to maximize expected revenue.

Christopher Bechler, Doctoral Student, Stanford Graduate School of Business

Perceiving attitude change: How qualitative shifts augment change perception

Synopsis

Attitude change and persuasion are among the most studied topics in social psychology. Surprisingly, though, as a field we have virtually zero insight into perceived attitude change—that is, how people assess the magnitude of a shift in someone's attitude or opinion. The current research provides an initial investigation of this issue. Across 6 primary experiments and a series of supplemental studies (total N = 2880), we find consistent support for a qualitative change hypothesis, whereby qualitative attitude change (change of valence; e.g., from negative to positive) is perceived as greater than otherwise equivalent non-qualitative attitude change (change within valence; e.g., from negative to less negative or from positive to more positive). This effect is mediated by ease of processing: Qualitative attitude change is easier for people to detect and understand than non-qualitative attitude change, and this ease amplifies the degree of perceived change. We examine downstream consequences of this effect and discuss theoretical, methodological, and practical implications.

Choosing persuasion targets: How expectations of qualitative change increase advocacy intentions

Synopsis

Advocacy is a topic of increasing import in the attitudes literature, but researchers know little to nothing about how people (i.e., persuaders) choose their targets (i.e., the recipients of their advocacy). Four main experiments and six supplemental studies (total N = 3684) demonstrate that people prefer to direct persuasion efforts toward individuals who seem poised to shift their attitudes qualitatively (e.g., from negative to positive) rather than non-
qualitatively (e.g., from positive to more positive). This preference stems from the fact that qualitative attitude change is perceived as greater in magnitude and expected to have a larger impact on behavior. These findings provide initial insight into the factors that drive persuasion target selection, and are inconsistent with what past persuasion research, conventional marketing wisdom, and our empirical evidence suggests persuaders should do. People tend to select persuasion targets they believe they can change qualitatively, but at least sometimes can have greater persuasive impact by targeting individuals who are already leaning in their direction.

MISDIRECTING PERSUASIVE EFFORTS DURING THE COVID-19 PANDEMIC: THE TARGETS PEOPLE CHOOSE MAY NOT BE THE MOST LIKELY TO CHANGE

Synopsis

Persuading people to engage in specific health behaviors is critical to prevent the spread of and mitigate the harm caused by COVID-19. Most of the research and practice around this issue focuses on developing effective message content. Importantly, though, persuasion is often critically dependent on choosing appropriate targets—that is, on selecting the best audience for one’s message. Three experiments conducted during the COVID-19 pandemic explore this target selection process and demonstrate misalignment between who persuaders target and who will display the greatest attitude and behavior change. Although people prefer to send messages encouraging COVID-19 prevention behaviors to targets with slightly negative attitudes toward the behaviors in question, their messages can often have more impact when sent to targets whose attitudes are slightly favorable. Recent insights in categorical perception and message positioning effects in persuasion help explain this misalignment.

David Holtz (Dave), Doctoral Student, MIT Sloan School of Management

The Engagement-Diversity Connection: Evidence from a Field Experiment on Spotify

Synopsis

We present results from a randomized field experiment on approximately 900,000 Spotify users across seventeen countries, testing the effect of personalized recommendations on consumption diversity. In the experiment, users were given podcast recommendations, with the sole aim of increasing podcast consumption. However, the recommendations provided to treatment users were personalized based on their music listening history, whereas control users were recommended the most popular podcasts among their demographic group. We find that the treatment increased podcast streaming, decreased individual-level podcast streaming diversity, and increased aggregate podcast streaming diversity. These results indicate that personalized recommendations have the potential to create consumption patterns that are homogeneous within and diverse across users, and provide evidence of an “engagement-diversity trade-off” when optimizing solely for consumption: while personalized recommendations increased user engagement, they also affected the diversity of consumed content. This shift in consumption diversity can affect user retention and lifetime value, and impact the optimal strategy for content producers. Additional analyses suggest that exposure to personalized recommendations can also affect the content that users consume organically. We believe these findings highlight the need for both academics and practitioners to continue investing in personalization techniques that explicitly take into account the diversity of content recommendations.

Mengxia Zhang, Doctoral Student, USC Marshall School of Business
Can User-Posted Photos Serve as a Leading Indicator of Restaurant Survival? Evidence from Yelp

Synopsis
Despite the substantial economic impact of the restaurant industry, large-scale empirical research on restaurant survival has been sparse. We investigate whether consumer-posted photos can serve as a leading indicator of restaurant survival above and beyond reviews, firm characteristics, competitive landscape, and macro conditions. We employ machine learning techniques to analyze 755,758 photos and 1,121,069 reviews posted on Yelp between 2004 and 2015 for 17,719 U.S. restaurants. We also collect data on these restaurants' characteristics (e.g., cuisine type; price level), competitive landscape, and their entry and exit (if applicable) time based on each restaurant’s Yelp/Facebook page, own website, or the Google search engine. Using a predictive XGBoost model, we find that photos are more predictive of restaurant survival than are reviews. Interestingly, the information content (e.g., number of photos with food items served) and helpful votes received by these photos relate more to restaurant survival than do photographic attributes (e.g., composition or brightness). Additionally, photos carry more predictive power for independent, mid-aged, and medium-priced restaurants. Assuming that restaurant owners do not possess any knowledge about future photos and reviews for both themselves and their competitors, photos can predict restaurant survival for up to three years, while reviews are only informative for one year. We further employ causal forests to facilitate interpretation of our predictive results. Our analysis suggests that, among others, the total volume of user-generated content (including photos and reviews) and helpful votes of photos are both positively related to restaurant survival.

Ishita Chakraborty, Doctoral Student, Yale School of Management

Attribute Sentiment Scoring with Online Text Reviews: Accounting for Language Structure and Missing Attributes

Synopsis
The authors address two significant challenges in using online text reviews to obtain fine-grained attribute level sentiment ratings. First, they develop a deep learning convolutional-LSTM hybrid model to account for language structure, in contrast to methods that rely on word frequency. The convolutional layer accounts for the spatial structure (adjacent word groups or phrases) and LSTM accounts for the sequential structure of language (sentiment distributed and modified across non-adjacent phrases). Second, they address the problem of missing attributes in text in constructing attribute sentiment scores—as reviewers write only about a subset of attributes and remain silent on others. They develop a model-based imputation strategy using a structural model of heterogeneous rating behavior. Using Yelp restaurant review data, they show superior accuracy in converting text to numerical attribute sentiment scores with their model. The structural model finds three reviewer segments with different motivations: status seeking, altruism/want voice, and need to vent/praise. Interestingly, our results show that reviewers write to inform and vent/praise, but not based on attribute importance. Our heterogeneous model-based imputation performs better than other common imputations; and importantly leads to managerially significant corrections in restaurant attribute ratings.