

# SIMMONS<sup>®</sup>

ESSENTIAL CONSUMER INTELLIGENCE

## Beyond Demographics

Targeting Likely Consumers through  
Psychographic Traits

Steven Millman, Chief Scientist

[@stevenmillman](https://twitter.com/stevenmillman)





# The challenge

Although the depth and breadth of data have exploded in recent years, most advertisers still target based on simple targets based on known customers and demographics

Analysis of the psychographic traits of consumers offers a powerful new way to understand predictors of consumer choice



# About the Simmons NCS

## Simmons National Consumer Study (NCS)

- Syndicated, commercial research service used by media companies, advertising agencies and marketers
- National study of U.S. consumers
- Surveys approximately 25,000 adults 18+ annually
- Universe is non-Hispanic and Hispanic
- Year-round recruitment and measurement
- Large-scale self-administered mail questionnaire
  - Survey available in both English and Spanish
  - Collects media consumption, product/brand usage, attitudes and lifestyle information



# The approach

**Predictive Consumer Insights (PCI)** targets likely brand users based on both their demographic and psychographic characteristics

Examine brand and TV show choice via data mining on nearly 600 Simmons psychographic attributes and 265 DriverTags™

Focus on variables that are predictive of brand or media choice at the 95% confidence level

Score all respondents on their likelihood to use the brand or watch the programming

**The predictive power of PCI is nearly THREE TIMES greater than targeting on demos alone**



# The methodology



$$y = \frac{1}{1 + e^{-(\beta_0 + \beta_1 x_1 + \dots + \beta_{50} x_{50})}}$$



$$x_2, x_{12}, x_{21}, x_{28}, x_{39}$$



$$y = \frac{1}{1 + e^{-(\beta_0 + \beta_1 x_1 + \dots + \beta_{50} x_{50})}}$$



$$x_7, x_9, x_{15}, x_{41}, x_{42}$$



$$y = \frac{1}{1 + e^{-(\beta_0 + \beta_1 x_1 + \dots + \beta_{50} x_{50})}}$$



$$x_1, x_7, x_{14}, x_{33}, x_{49}$$



$$y = \frac{1}{1 + e^{-(\beta_0 + \beta_1 x_1 + \dots + \beta_{50} x_{50})}}$$



$$x_{11}, x_{18}, x_{26}, x_{30}, x_{35}$$



$$y = \frac{1}{1 + e^{-(\beta_0 + \beta_2 x_2 + \beta_{12} x_{12} + \beta_{21} x_{21} + \beta_{28} x_{28} + \beta_{39} x_{39} + \beta_7 x_7 + \beta_9 x_9 + \beta_{15} x_{15} + \beta_{41} x_{41} + \beta_{42} x_{42} + \beta_1 x_1 + \beta_7 x_7 + \beta_{14} x_{14} + \beta_{33} x_{33} + \beta_{49} x_{49} + \beta_{11} x_{11} + \beta_{18} x_{18} + \beta_{26} x_{26} + \beta_{30} x_{30} + \beta_{35} x_{35})}}$$



$$y = \frac{1}{1 + e^{-(\beta_0 + \beta_{21} x_{21} + \beta_{28} x_{28} + \beta_{39} x_{39} + \beta_9 x_9 + \beta_{15} x_{15} + \beta_{42} x_{42} + \beta_1 x_1 + \beta_{11} x_{11} + \beta_{18} x_{18} + \beta_{30} x_{30} + \beta_{35} x_{35})}}$$

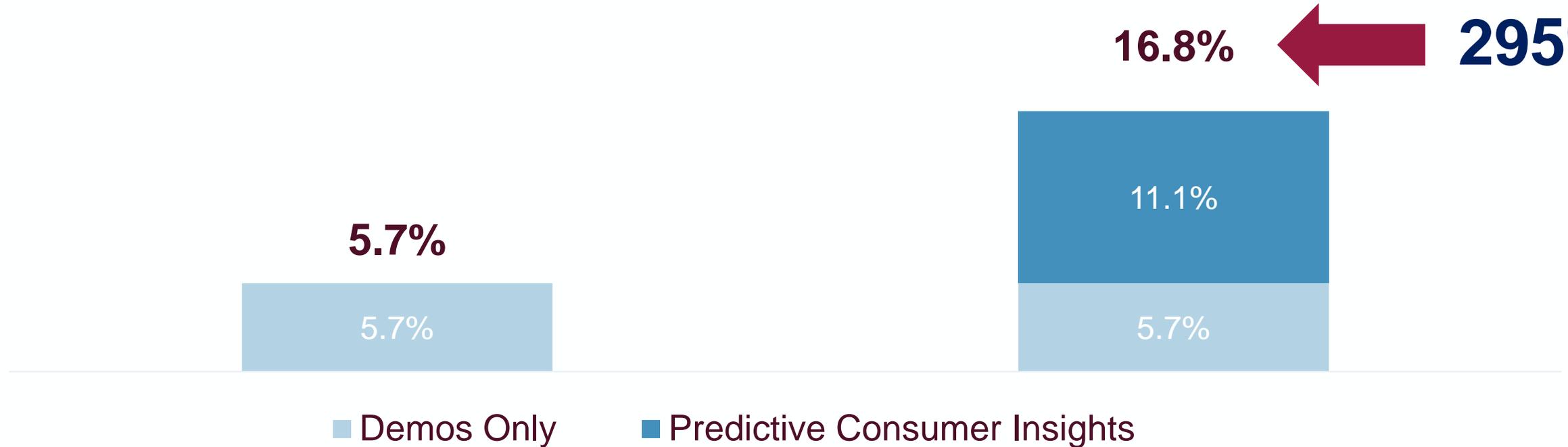




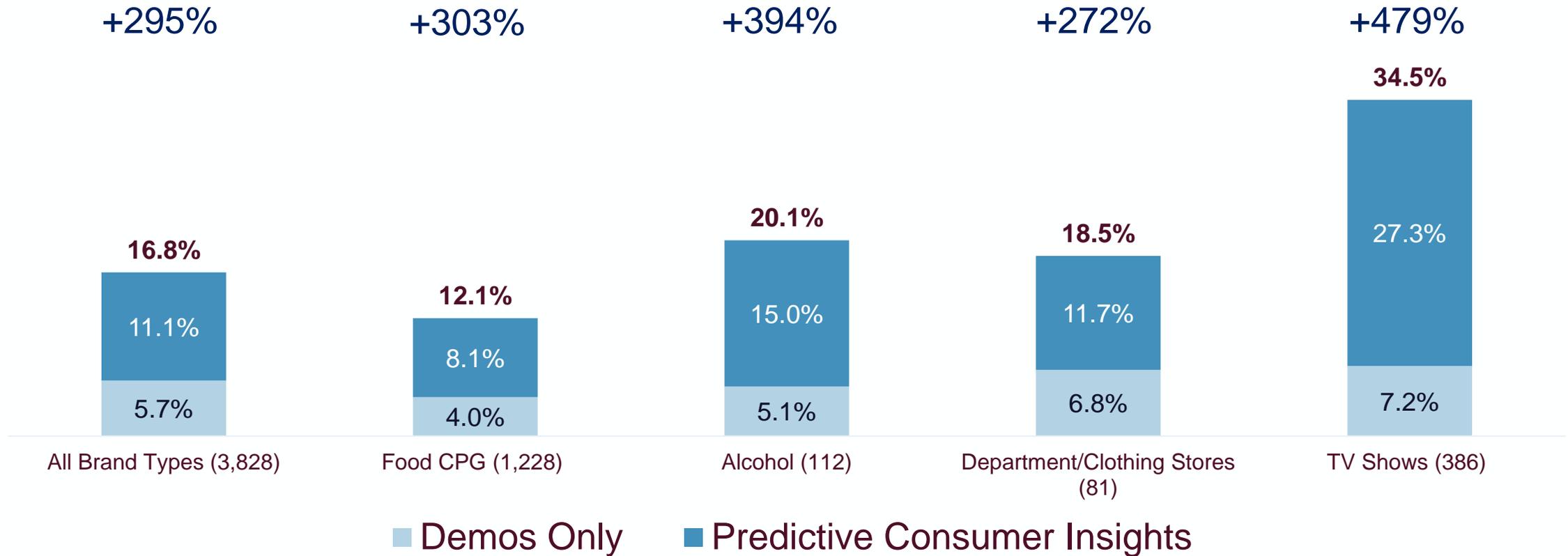
# Significant improvement in predicting brand usage

All Categories (3,828 Brands)

Overall Gain vs Demos Alone



# Consistent performance across brand categories





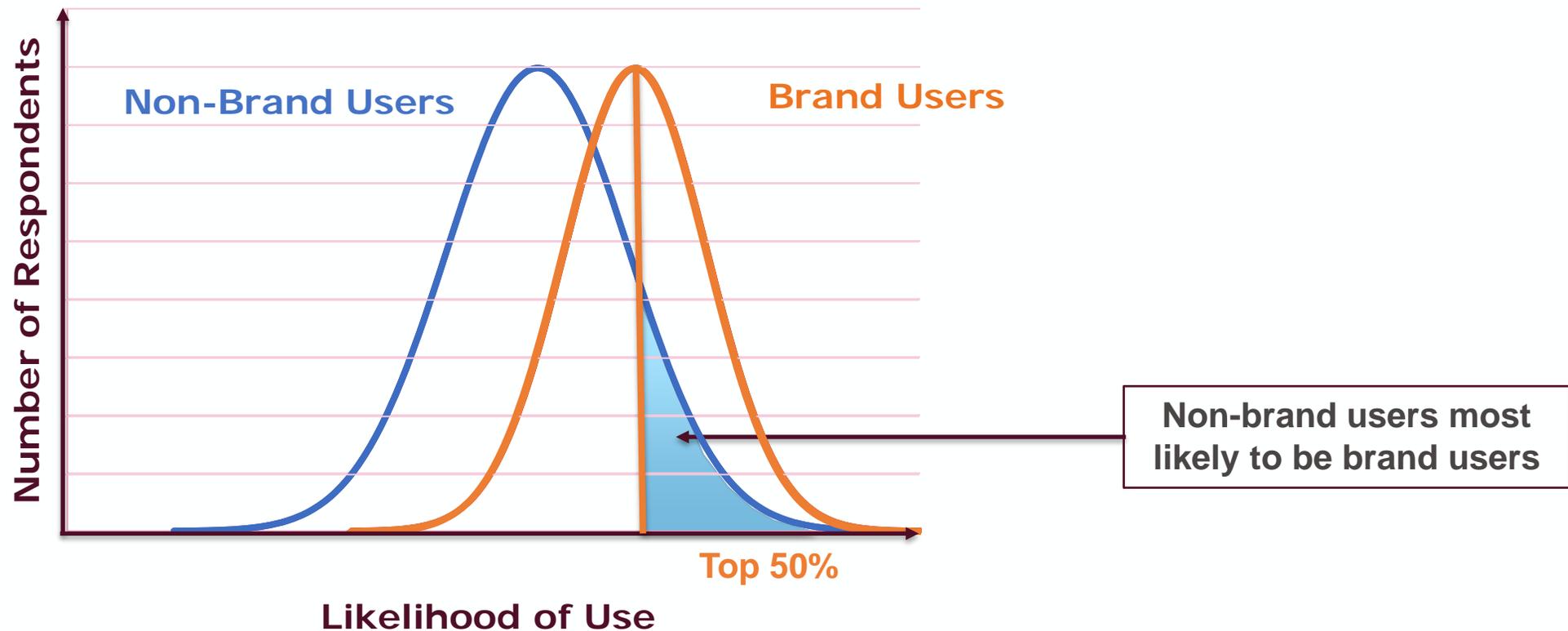
# Use case 1: targeting the most likely prospects

- Once a final predictive model has been generated that estimates the likelihood for any individual to be a brand consumer or TV show viewer, it becomes possible to compare the distribution of those likelihoods among consumers and non-consumers.
- The natural assumption is that the average likelihood of being a consumer is higher than the average likelihood of a non-user, an assumption that is uniformly been reflected in the data.

# Use case 1: targeting the most likely prospects



**Likelihood to Use a Brand**  
among brand users & non-brand users





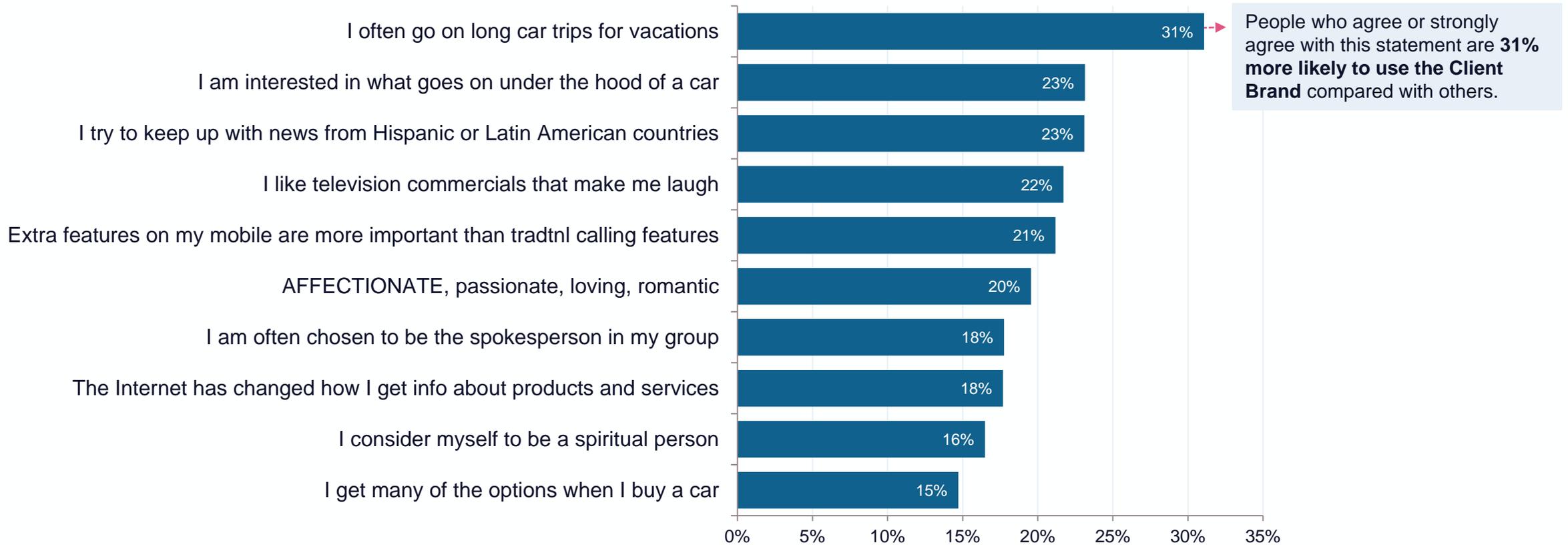
## Use case 2: fine-tuning the message

- The coefficients in a regression model tell you the *independent* effect of each predictive variable, *holding constant* the effect of all of the other variables
- Coefficients in a logistic model are converted to odds ratios – the percent increase in Y for each increase of one in X
- More effective than looking for overindexing variables
  - Automatically finds the psychographics (and demos) that matter most
  - Eliminates irrelevant collinear variables
  - Assigns an independent value for the effect of each statistically significant contributing variable

# Use case 2: fine-tuning the message



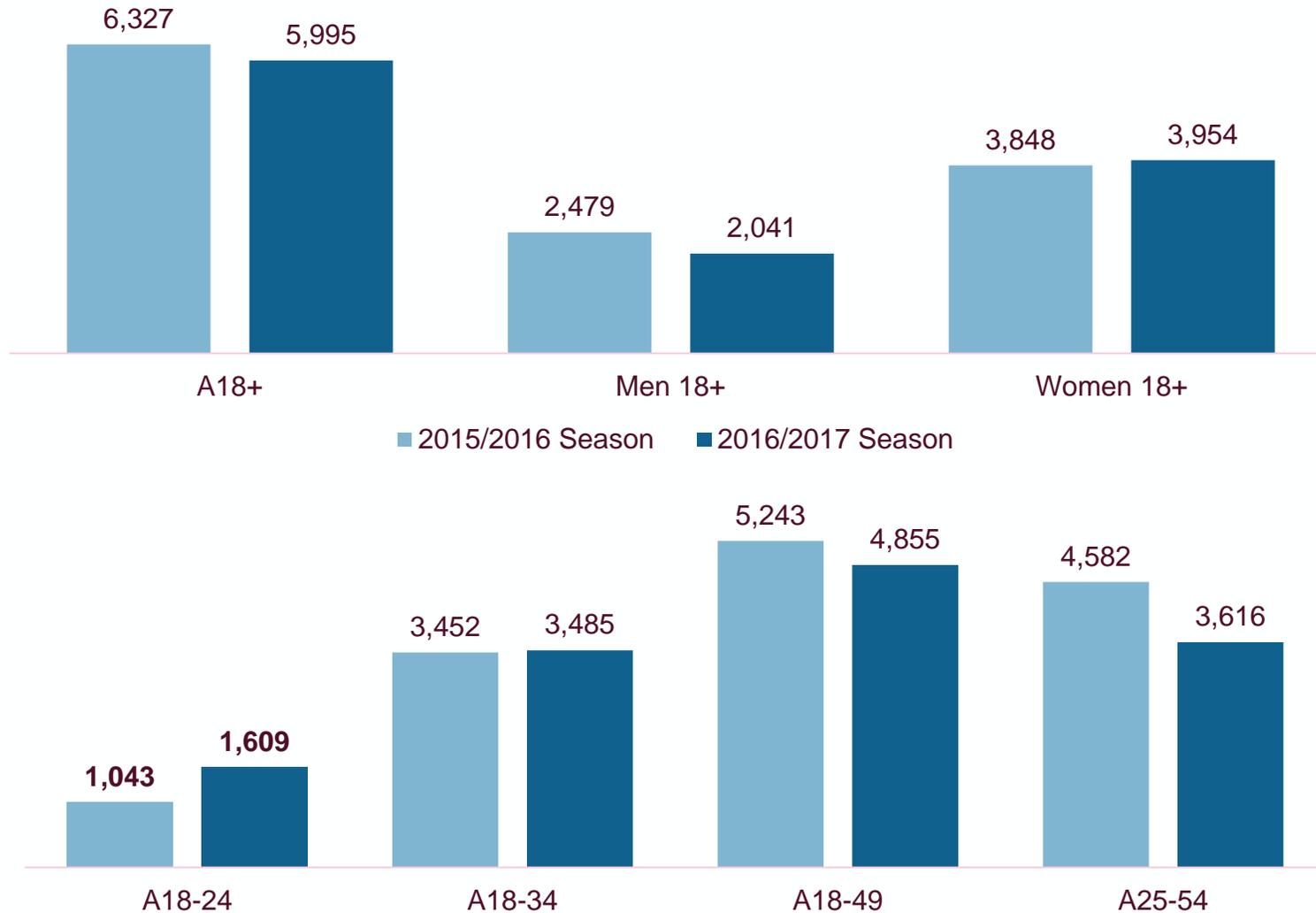
## Top 10 Positive Predictors of an Alcohol Brand



# Use case 3: changes in the psychographic makeup of a show



Viewers (000) of the Program by Demographic



# Use case 3: changes in the psychographic makeup of a show



Attitudes Most Predictive of Show Watching	2015/2016 Rank (35 total predictors)	2016 /2017 Rank (19 total predictors)
I love the idea of traveling abroad	1	--
I rely on magazines to keep me informed	2	--
I spend a lot of money on toiletries and cosmetics for personal use	3	--
I use info from my cell phone to decide where to go or what to do in my free time	4	1
I enjoy watching religious television programs (negative effect)	5	--
When I watch movies, I often notice brand name products used as part of the set	6	10
How I spend my time is more important than how much money I make	7	--
When shopping for food, I especially look for organic or natural foods	8	--
I rely primarily on my doctor to guide me on medical and health matters (negative effect)	9	--
I love to buy new gadgets and appliances	10	--

# Use case 3: changes in the psychographic makeup of a show



2015/2016 Rank (35 total predictors)	2016 /2017 Rank (19 total predictors)	Attitudes Most Predictive of Show Watching
4	1	I use info from my smartphone to decide where to go or what to do in my free time
--	2	I mostly download/stream my entertainment rather than buy a CD or DVD/ Blu-ray
27	3	Whenever commercials come on, I change channels
--	4	Comfort is the most important factor in what clothes I buy (negative effect)
--	5	I like to drive faster than normal traffic
--	6	Because of a coupon, I'd be drawn to a store I normally don't shop at
--	7	It's important for me to have internet access when I am on-the-go (negative effect)
--	8	When shopping for household cleaning products, I especially look for organic or natural products
--	9	I buy goods produced by my own country whenever I can (negative effect)
6	10	When I watch movies, I often notice brand name products used as part of the set

# Conclusion: benefits for advertisers and ad platforms



- ✓ Psychographics greatly increases the explanatory power
- ✓ Modern statistical and data mining techniques on traditional market research data allow the data to speak for themselves
- ✓ Informs creative and content strategies
- ✓ Ad platforms can use the psychographic profile of their audience to appeal directly to brands
- ✓ Address changes in user base or viewing audience over time



Thank you!

