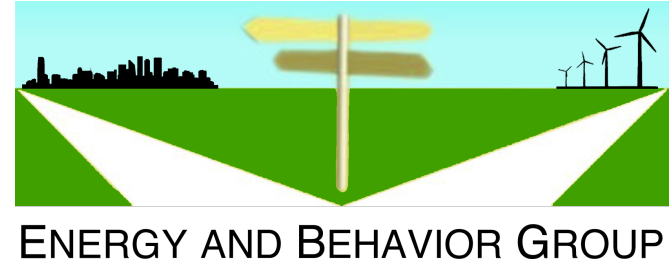# Lay Theories for Prediction and Program Design

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The Problem

Programs need to appeal to customers and reduce barriers to enrollment.

It is hard, *a priori*, to accurately predict the drivers and barriers for a new program.

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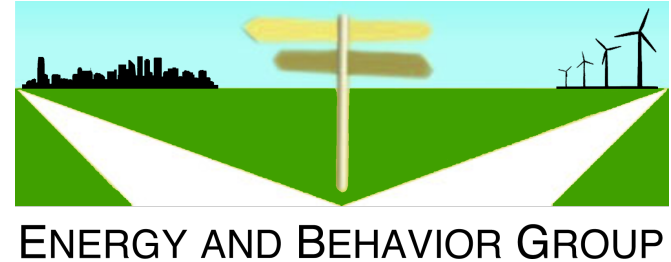
The Conventional Solution

Interview and survey customers to see what their barriers and drivers are.

Assumes they have insight and self-knowledge that can be used to predict their own behavior, and the behavior of others.
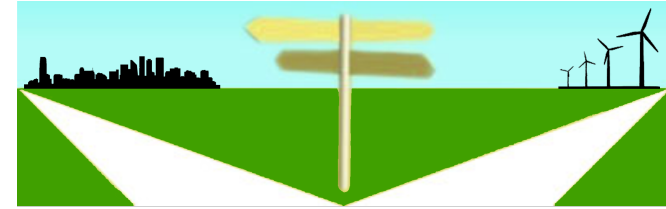
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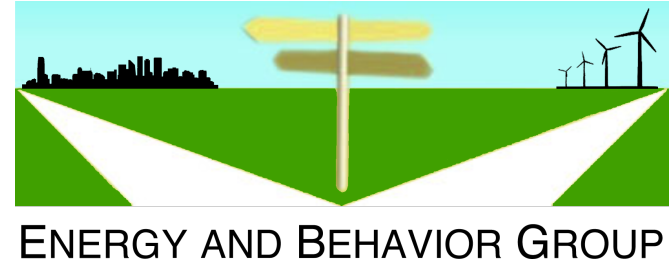
Research Question

Can customers accurately identify the factors related to program enrollment?

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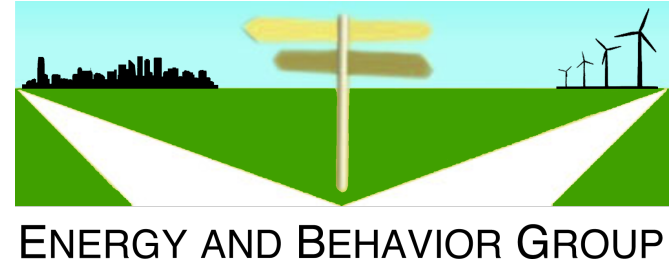
Study 1

- 274 online customers
- Stated their intention to enroll in an in-home display program
- Completed survey with items previously associated with volunteering

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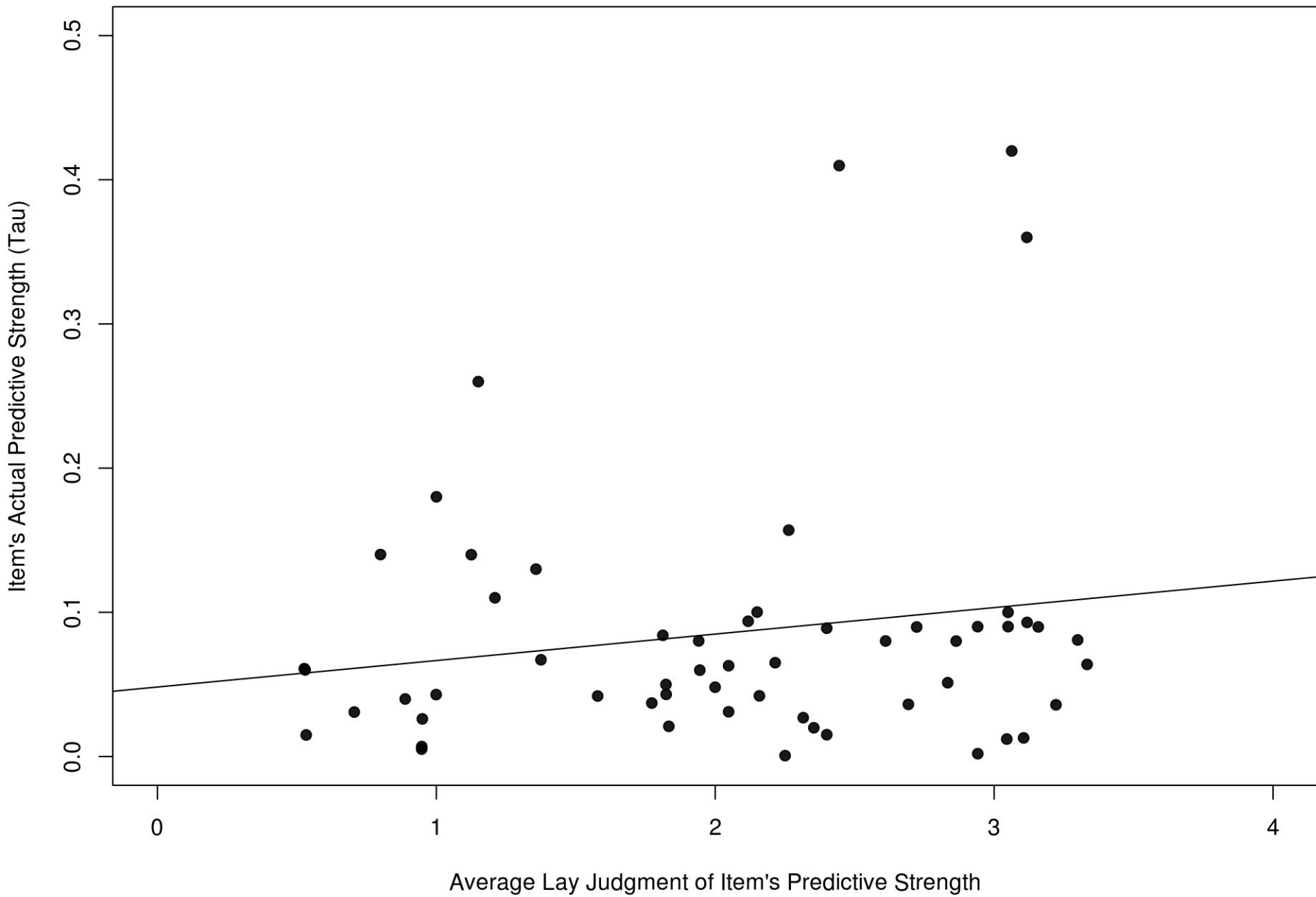
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Table 1

Univariate relationships between constraints on study participation and intentions to volunteer. Principal Components Analysis and reliability are presented for each scale.[a]

| Item	χ^2 (p)	Mean	SD
Time at home			
6–10 am	**10.44 (0.01)**	0.63	0.48
10 am to 2 pm	**3.92 (0.05)**	0.41	0.49
2–6 pm	**3.82 (0.05)**	0.49	0.50
6–10 pm	**3.12 (0.08)**	0.86	0.35
10 pm to 2 am	**2.92 (0.09)**	0.88	0.33
2–6 am	2.05 (0.15)	0.88	0.32
Item	τ (Z)	Mean	SD
Aggregate time periods			
Total hours	**0.19 (3.47)**	16.61	6.34
Morning hours (6 am to 2 pm)	**0.18 (3.21)**	4.16	3.34
Evening hours (6 pm to 2 am)	**0.13 (2.22)**	6.95	2.26
Item	τ (Z)	Loading	α
Trust			
Your local government.	0.07 (1.20)	0.51	
Scientists.	**0.14 (2.57)**	0.51	
Your utility company.	**0.15 (2.51)**	0.53	
Your co-workers.	0.07 (1.17)	0.45	
Trust factor	**0.14 (2.87)**	53%	0.78
Self-efficacy			
If something looks too complicated I will not even bother to try it.	**−0.14 (2.43)**	0.49	
I do not seem capable of dealing with most problems that come up in my life.	−0.05 (0.89)	0.60	
When unexpected problems occur I do not handle them very well.	0.02 (0.43)	0.58	
When I make plans, I am certain I can make them work.	0.08 (1.36)	0.23	
Self-efficacy factor	0.07 (1.37)	52%	0.74

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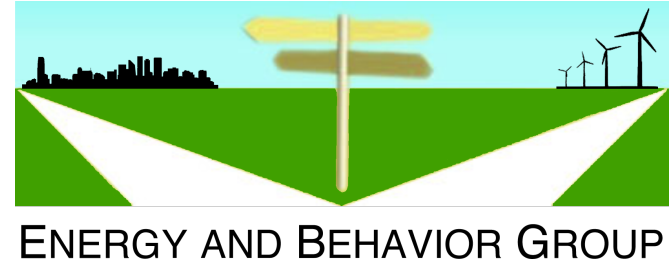
Study 2

- 30 online customers
- Judged the ability of items in study 1 to predict enrollment intentions
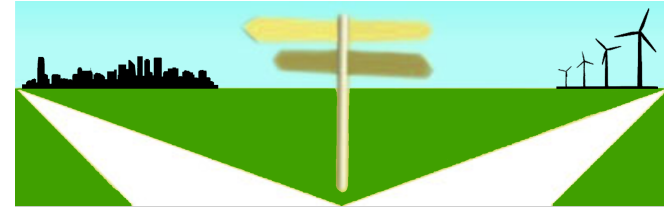- 2370 total judgments of 79 items
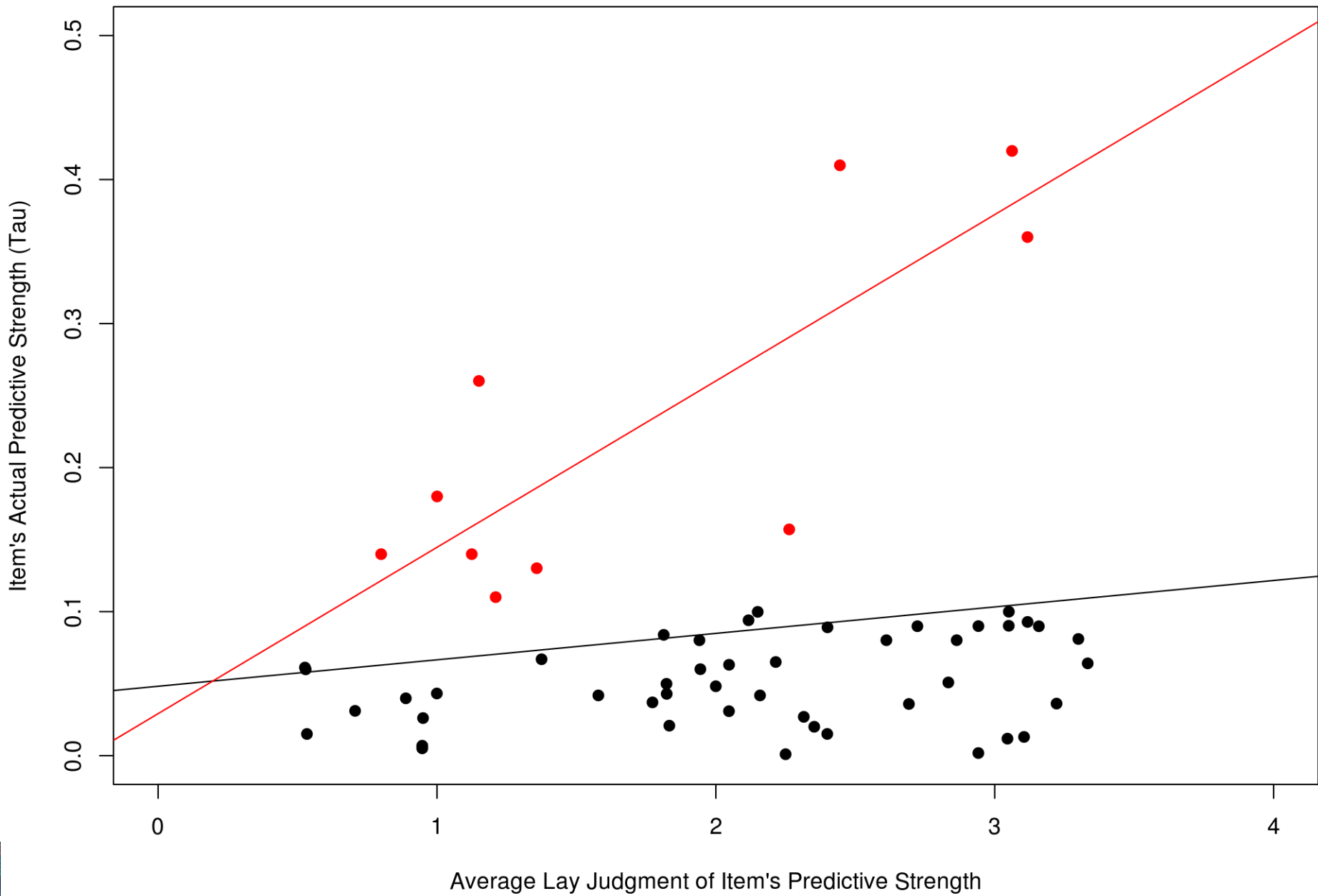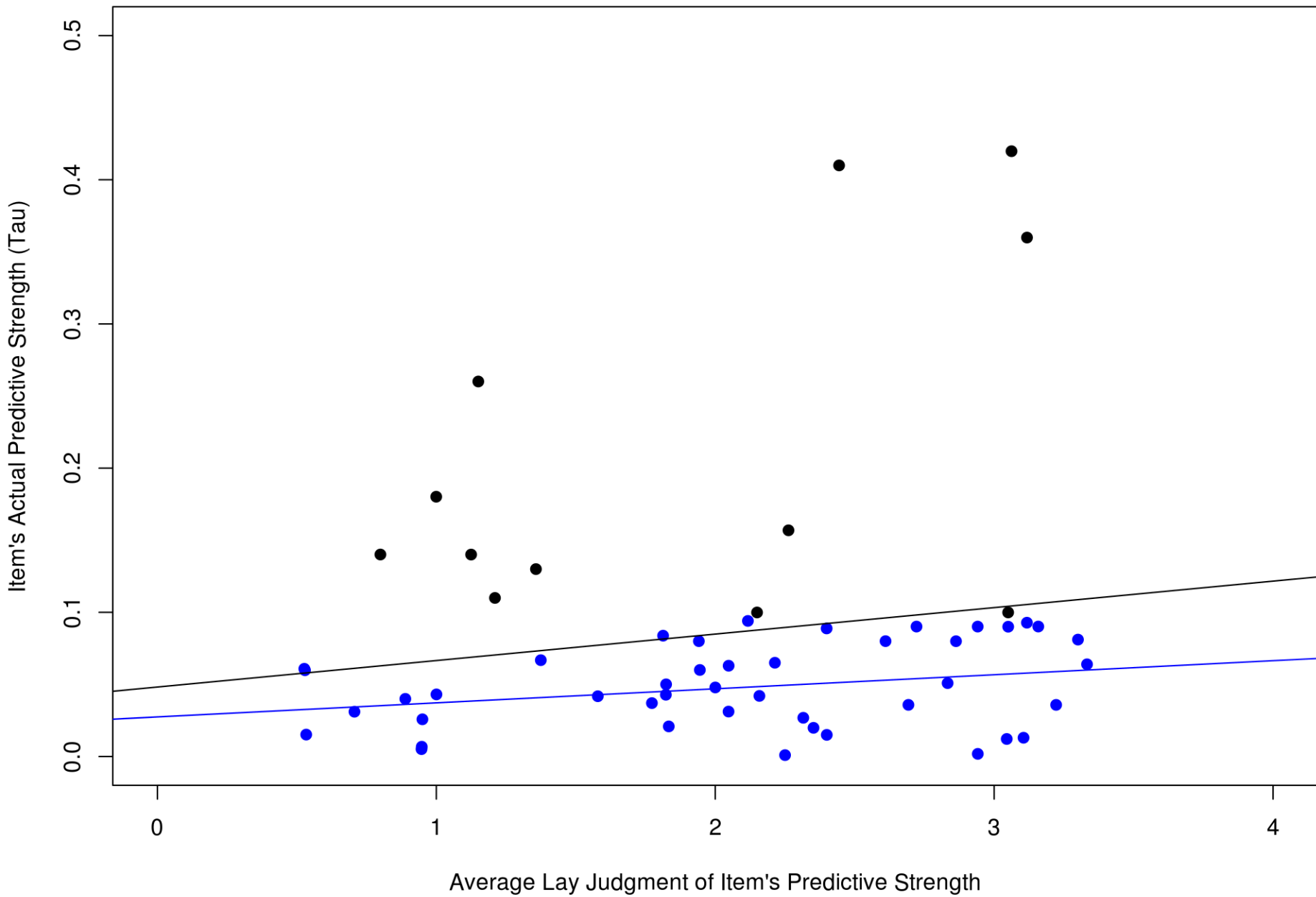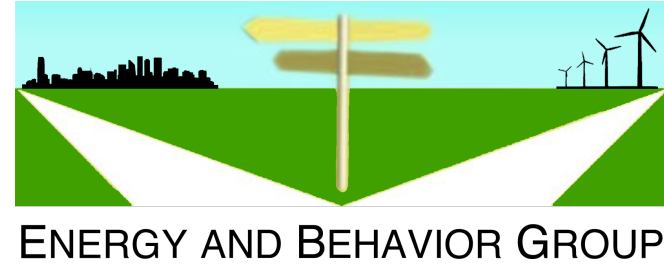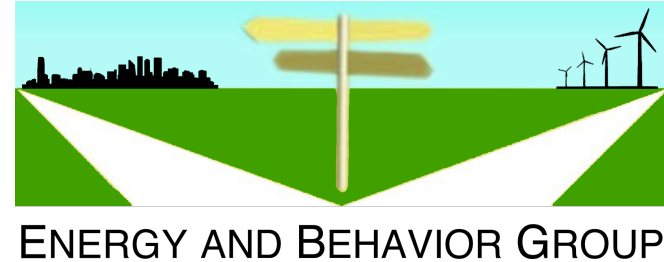
Correct Lay Theories

- The customer's expectation of learning from the display was a great predictor.

- Trust in family/coworkers, and social integration were poor predictors

Incorrect Lay Theories

- ## Mispredicted that attitude/trait variables would be important
  - Frugality scale, personal control, environmental attitudes, eco-purchasing behavior

- ## Believed that an important barrier wasn't important
  - Whether the person is home during the day

Conclusions

- Small benefit of lay judgments for all items
  - Tau ~ .06 among items judged least predictive
  - Tau ~ .11 among items judged most predictive
  - More incorrect than correct lay theories

- However, their task was hard:
  - Most items had small correlations
  - High discrimination was required

- Using real enrollment decisions would help validate results