Energy Information Engagement Among the Poor

2014 LIFE Statewide Conference
Albany, NY

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Collaborators

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Energy, the environment, and public engagement

- Crucial area of concern for society
- Yet low salience in public discourse

Public discourse on energy use?

- Summer 2013: Twitter activity regarding Prince George outpaces climate change chatter by more than 10 to 1.

http://jhupressblog.com/2013/08/14/climate-change-prince-george-and-chatter-that-matters/

Household energy as conversation topic?

- How often do we talk about household energy use with other people?
- Only small minority of Americans report sharing energy tips or news among friends and family.

Source: Southwell, B., Murphy, J., DeWaters, J., LeBaron, P. *Energy information sharing in social networks: The roles of objective knowledge and perceived understanding*. Presented at Behavior, Energy, & Climate Change Conference. Sacramento, CA. November 2012.

Americans' understanding of energy

- There is gap between perceived and actual energy knowledge among Americans.

- Most think energy is topic they can understand.
- Yet majority also failed energy knowledge test.
  - Majority answered < 60% of 11-item test correctly.

Source: Southwell, B. G., Murphy, J. J., DeWaters, J. E., & LeBaron, P. A. (2012). *Americans' perceived and actual understanding of energy* (RTI Press peer-reviewed publication No. RR-0018-1208). Research Triangle Park, NC: RTI Press.

Energy knowledge

- Southwell et al. (2012)

e. Geothermal

Example question 2:

Which of the following choices always saves energy?

a. Using portable electric heaters for added space in oil or gas heated homes
b. Buying a more fuel-efficient car and driving that instead of riding the bus
c. Leaving fluorescent lights on instead of turning off for a short period when not in use
d. Using your computer's screen saver in between use
e. Turning off the car engine when the car is stopped for 15 seconds or more

So…

- Energy is not salient conversation topic for many.
- Many people think they understand energy and yet misunderstand basic facts.
- What factors actually predict household *behavior*?
- Do people not want household energy tips?

Predicting weatherization: U.S. national survey data

Over and above factual knowledge and other factors, **home ownership**, **age of property**, and **social interaction** regarding energy appear to matter.

Source: Southwell, B. G., & Murphy, J. (in press). Weatherization behavior and social context: The influences of factual knowledge and social interaction. *Energy Research & Social Science*.

Weatherization and low-income populations?

- Is behavior driven by *lack of interest* or other factors?

- Consider:
  - Fewer educational opportunities
  - Poorer housing infrastructure
  - Fewer resources for weatherization
  - Perhaps less "social capital," available network resources, relevant to energy efficiency information

Do *neighborhood networks* matter?

POLITICS | WHO'S WINNING, WHO'S LOSING, AND WHY. | APRIL 3 2014 5:53 PM

Down and Out

The single fact that powerfully explains why black Americans have such a hard time climbing the economic ladder.

By Jamelle Bouie

Slate

Weatherization education and poverty in North Carolina

- Clean Energy Durham has developed energy education workshop materials.
- Why aren't low-income residents leveraging this information?
- *What predicts willingness to attend an energy education workshop among low-income populations?*

Pilot study: Low-income residents in Durham, NC

- Face-to-face interviews (n = 61) with applicants to Durham County (NC) Department of Social Services Low Income Energy Assistance Program

- Applicants interviewed separately from application process and not necessarily eligible for funding

Pilot study: Demographics

- Age ranged from 24 to 78
  - Median age 43
- Mostly female and African-American
  - 90% female and 96 % African-American
- Median annual household income < $20,000
  - 64 % reported less than $20,000

Pilot study: Home experiences

- Majority (57%) of participants reported homes ***drafty most or all of the time*** during most recent winter

- Most (75%) reported no weatherization at residence since they moved in

Pilot study: Home experiences

- 87 % currently rent their residence
  - Nearly half of all participants live in standalone house
- 66 percent of participants reported electric or gas bill greater than $150

Pilot study: Home experiences

- Heating inefficiency partially function of income
- Those reporting < $20,000 annual household income more likely to live in drafty home than those with $20,000+ in income, $\chi^2 = 6.2$, $n = 56$, $p < .05$.

Interest in energy tips and ideas?

- 74% agreed they would attend free workshop if available near home.
- Same number would attend community meeting if near home.
- At same time, 59% report energy use meeting somewhat uncommon or not at all common among people important to respondents.

What predicts energy education interest?

- Prediction of agreement to attend
  - "free workshop" on energy use tips and ideas
  - "community meeting" on energy use tips and ideas

- Different predictors emerged for each opportunity.
- General *attitude* toward household energy education didn't matter in either case, however.

Predictors of energy education openness

- Home ownership
- Sex
- Age
- Household income
- Average heating bill
- Attitude toward meeting/workshop
  - 2-item scale (Useful/not useful and important/unimportant)
- Descriptive social norm
  - Others tend to attend energy workshops
- Injunctive norm
  - Others think you should
- Future planning agency
  - 3-item index, e.g., agree/disagree with "I complete projects on time by making steady progress"
- Perceived understanding of energy

Predicting agreement to attend community meeting

- R-squared = .43

- Predictors
  - **Future planning agency: beta = .34, $p < .05$**
  - **Average heating bill: beta = .53, $p < .01$**
  - **Descriptive social norm: beta = .31, $p < .05$**
  - Attitude toward meeting/workshop: NS
  - Injunctive norm: NS
  - Perceived understanding: NS
  - Home ownership: NS
  - Sex: NS
  - Age: NS
  - Household income: NS

Predicting agreement to attend free workshop

- R-squared = .40

- Predictors
  - Future planning agency: NS
  - **Average heating bill: beta = .52, $p < .01$**
  - Descriptive social norm: NS
  - Attitude toward meeting/workshop: NS
  - Injunctive norm: NS
  - **Perceived understanding: beta = .33, $p < .05$**
  - Home ownership: NS
  - Sex: NS
  - Age: NS
  - Household income: NS

Education for weatherization?

- Among the poor, considerable need for weatherization and *interest* in weatherization education
- *Actual engagement* with weatherization education, however, likely constrained by personal circumstance

Constraints on education-based behavior interventions

Consider the roles of:

- Future planning agency
- Perceived accessibility of information
- Social norms
- Utility bill pressures as motivator over and above environmental concerns

Opportunities and connections

- Empirical opportunities for collaboration in NY or elsewhere?
- Growing program at RTI: *Science in the Public Sphere*
- Email me at **bsouthwell@rti.org**.