

# Developing and Testing a Framework for Understanding Public Support of “Fracking”

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*AAPOR Conference*  
*May 15, 2015*



**SCHOOL OF PUBLIC AND  
ENVIRONMENTAL AFFAIRS**

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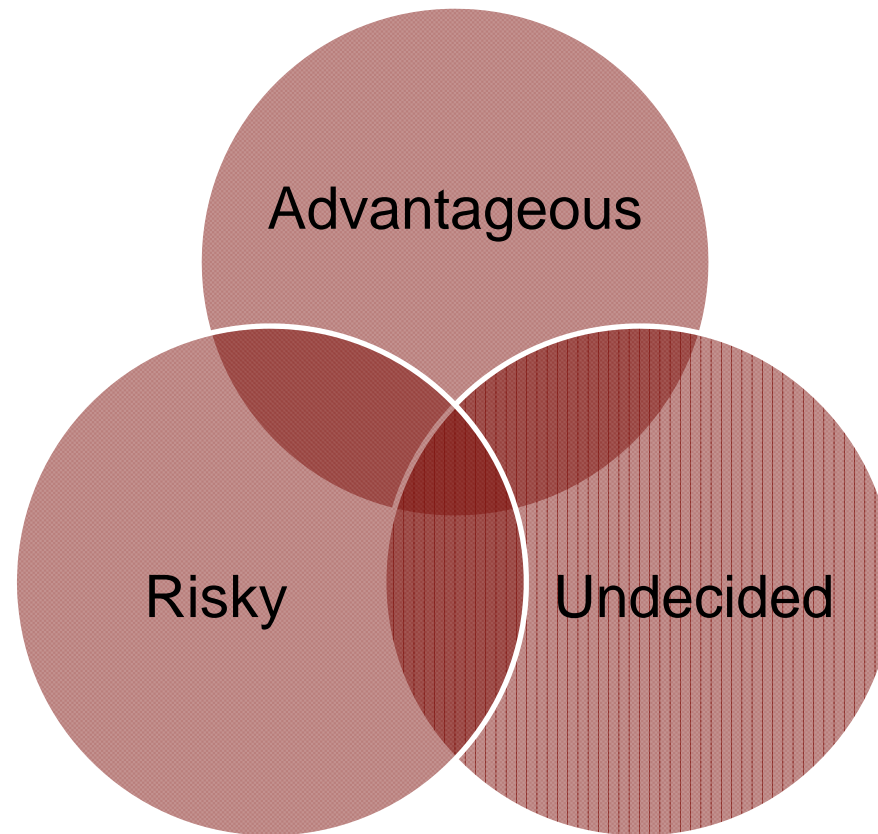
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# Surveys on Attitudes towards Shale Gas Development



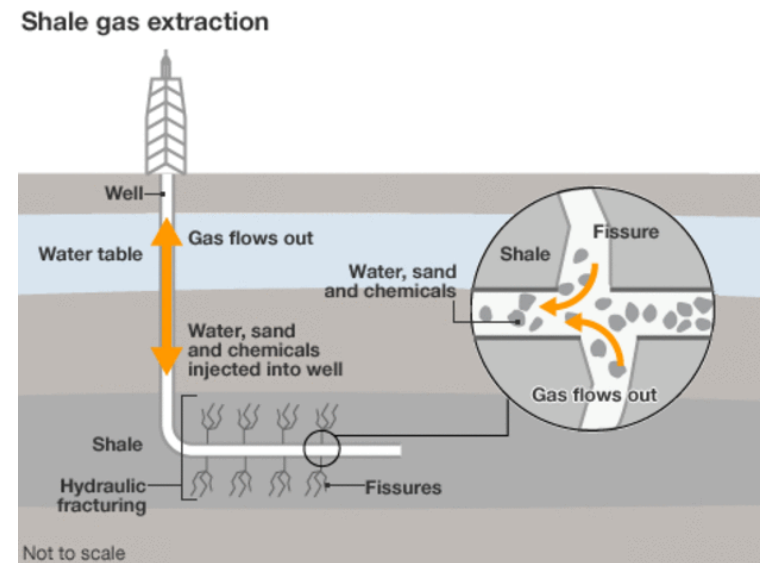
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# Prior Findings

- Undecided regarding UGD
  - Boudet et al. (2014)-58%
  - Davis and Fisk (2014)-15%
- If not provided with an undecided option, most find the benefits outweigh the risks (Wolske and Hoffman, 2013)
- Some respondents associate risks with specific aspects of the process (i.e., water contamination), but are still generally supportive overall
- Boudet et al. (2014) and Davis and Fisk (2014) have also explored the relationship between key sociodemographic characteristics/political affiliation and attitudes

# Primary Research Questions and Contributions

- Exploring a more extensive set of “drivers” of attitudes
- Inclusion of a visual and written prompt briefly defining the process of “fracking”
- Consideration of attitudes as a latent construct in a structural equation model framework
- Comparison of attitudes in states with (PA, OH, TX) and without (IL, NY, CA) active shale gas production



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## Research Design and Key Survey Questions: Advantages

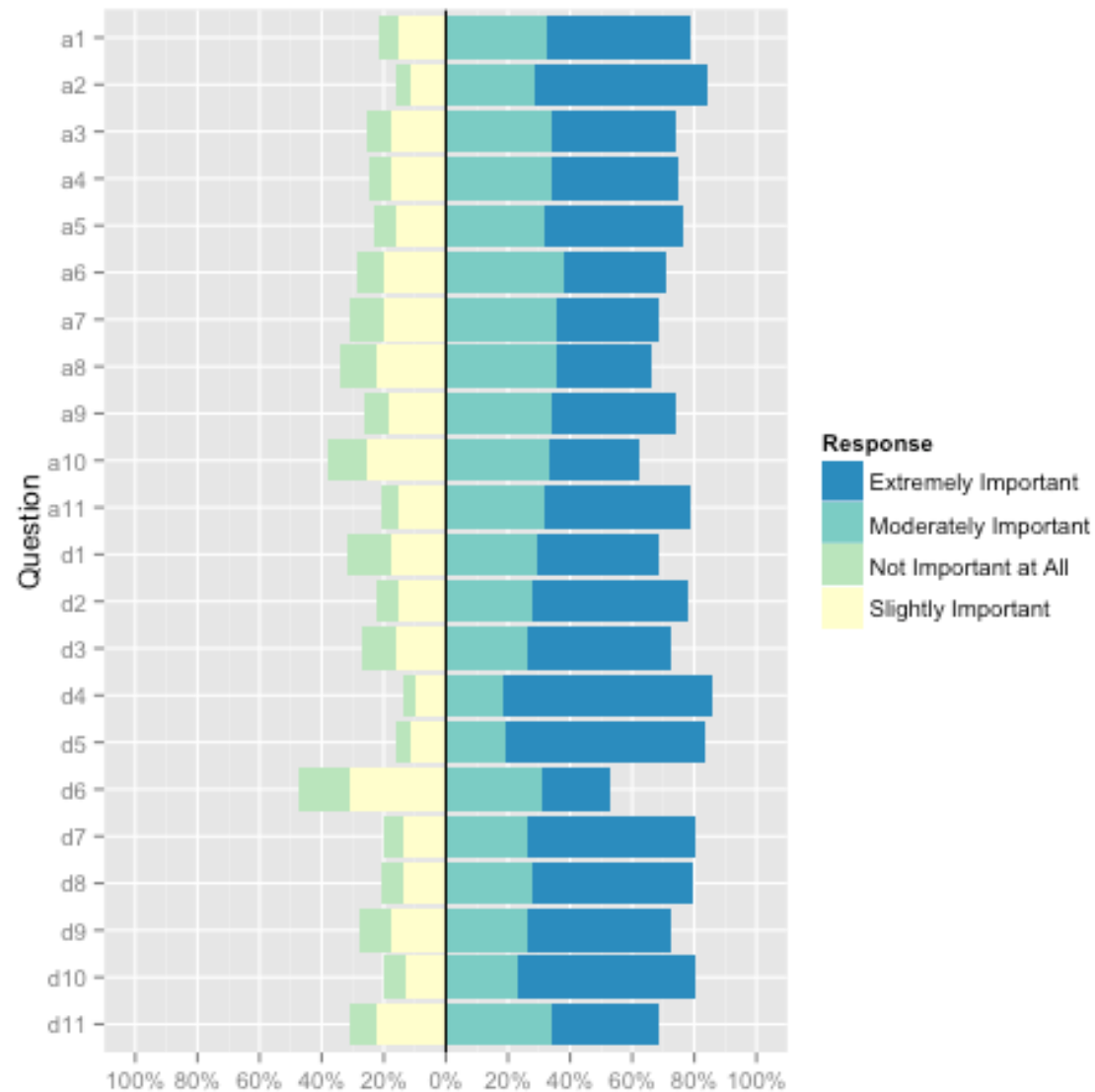
- Reduction of energy prices
- Less reliance on other countries for energy
- Creation of jobs in exploration and drilling
- Creation of jobs in pipelines and transportation
- Keeps gas prices low
- Reliance on less dirty energy sources (i.e., coal)
- Serves as a partner for solar and wind energy
- Results in benefits from exports to other countries
- Tax revenue generation
- Results in benefits to individuals through payment for mineral rights
- Benefits the overall economy

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## Research Design and Key Survey Questions: Disadvantages

- Delays development of renewable energy
- Uses too much water
- Emits methane which contributes to global warming
- Uses chemicals that pollute drinking water
- Damages human health and the environment
- More truck traffic
- Production of unmanageable wastes
- Reduction in quality of life
- Contribution to earthquakes
- Causes toxic air pollution
- Decreases real estate values

# Responses to Questions Related to Advantages and Disadvantages



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# Weighing Advantages and Disadvantages

- *Considering the potential advantages and disadvantages of expanding natural gas production in the United States as a whole, would you say that...*
  - *The potential advantages outweigh the potential disadvantages*
  - *The potential disadvantages outweigh the potential advantages*
  - *The potential advantages and disadvantages weigh about equally*

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# Ordered Probit Model Results

- More likely to state that the **advantages of fracking outweigh the disadvantages** on the aggregate by x% if...
  - Male: 7.4%
  - Higher income grouping: 0.5%
  - Leasing of mineral rights: 7.6%
  - Perceived proximity: 3.9%
- More likely to state that the **disadvantages of fracking outweigh the advantages** on the aggregate by x% if...
  - Affiliate as a Democrat: 5.2%
  - Ecological worldview: 18.2%

Interpretation based on when all other variables are held at their mean values

# SEM Results

*Standardized Coefficient Estimates*

	Advantages	Disadvantages
Age	0.093** (0.019)	-0.039* (0.017)
Royalties	-0.014 (0.023)	-0.023 (0.021)
Mineral Rights	0.021 (0.023)	-0.020 (0.02)
Education	0.011 (0.02)	-0.036** (0.02)
White	-0.075** (0.02)	-0.076+ (0.018)
Male	-0.03 (0.021)	-0.072** (0.018)
House	0.01 (0.024)	-0.034 (0.028)
Metro	-0.015 (0.018)	-0.190** (0.017)
Dem	0.023 (0.022)	-0.041* (0.016)
Perceived Proximity	0.035+ (0.02)	0.025 (0.017)
Income	0.054* (0.024)	-0.071** (0.27)
NEP	-0.419** (0.023)	0.530** (0.02)

State level dummies included in model, but not this slide for visual purposes. Model fit statistics are also included within the full paper

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# Conclusions

- Respondents largely answered that the each advantage and disadvantage were extremely or moderately important
- Respondent characteristics that are typically influential in shaping perceptions of the advantages and disadvantages of UGD and how respondents weigh advantages and disadvantages include: **age, gender, political party affiliation, ecological worldview, income, education, and race**
- We also find a relationship between **perceived proximity** and **area of residence** and attitudes.

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# Thank You!

- If you have additional questions or would like a copy of the manuscript, please contact:

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- We acknowledge the support of the GfK Group in collecting data for this study using their KnowledgePanel®.