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Department of Communication  
University of Maryland



# Emotion, Cognition, and Risk Communication

**Monique M. Turner**

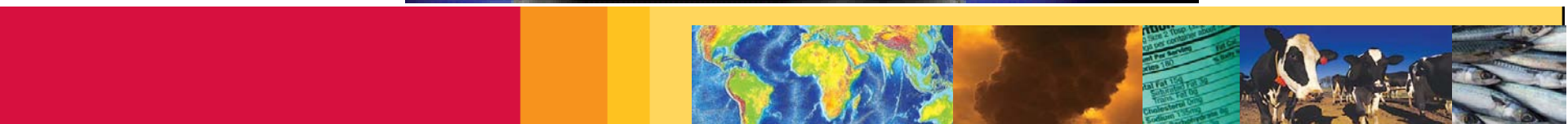
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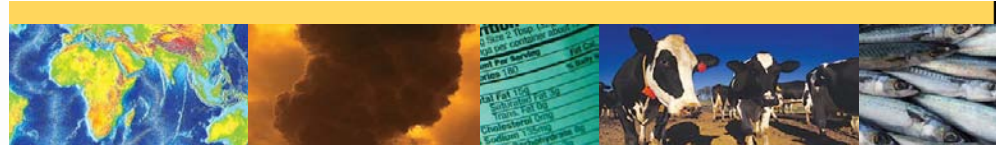
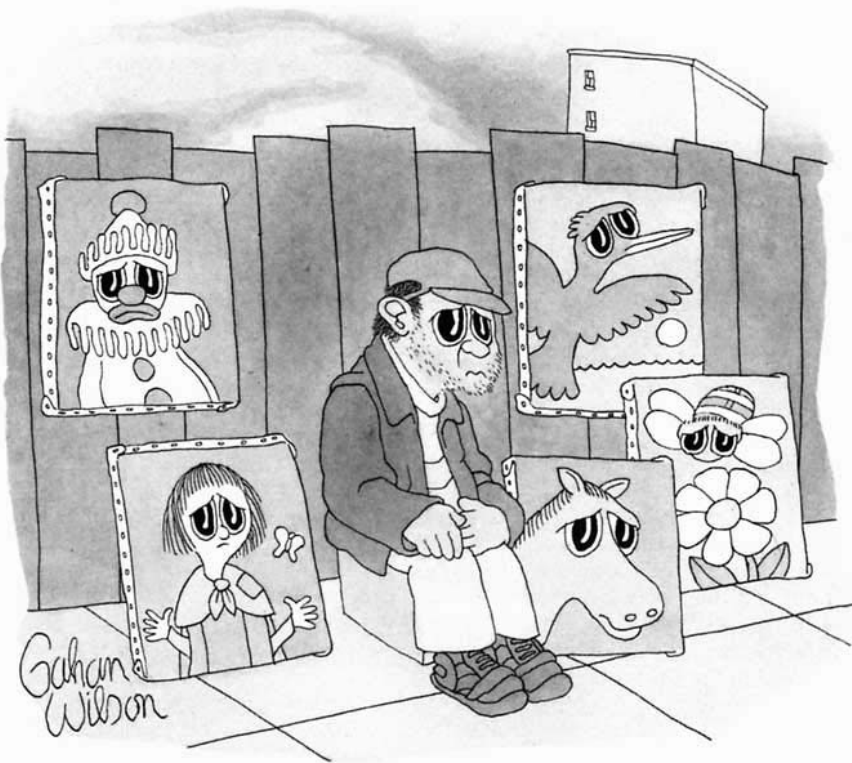




## Brief Review: Emotion in Decisions, Attitudes, Risk Perceptions

- Currently, affect & emotion attracts considerable attention.
  - JDM models rely on valence and/or arousal.
  - Same is true in risk (e.g., affect heuristic)

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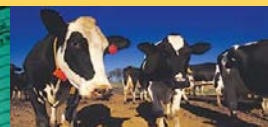
# Cognitive Appraisal Theories





# The Appraisal-Tendency Framework

- **Appraisal Tendency:**
  - (Def.) A proclivity to perceive new information in ways that are consistent with the original appraisal themes of an emotion (Lerner & Keltner, 2000)
  - **Cognitive effects:**
    - Process – *how* decision makers think
    - Content – *what* decision makers think

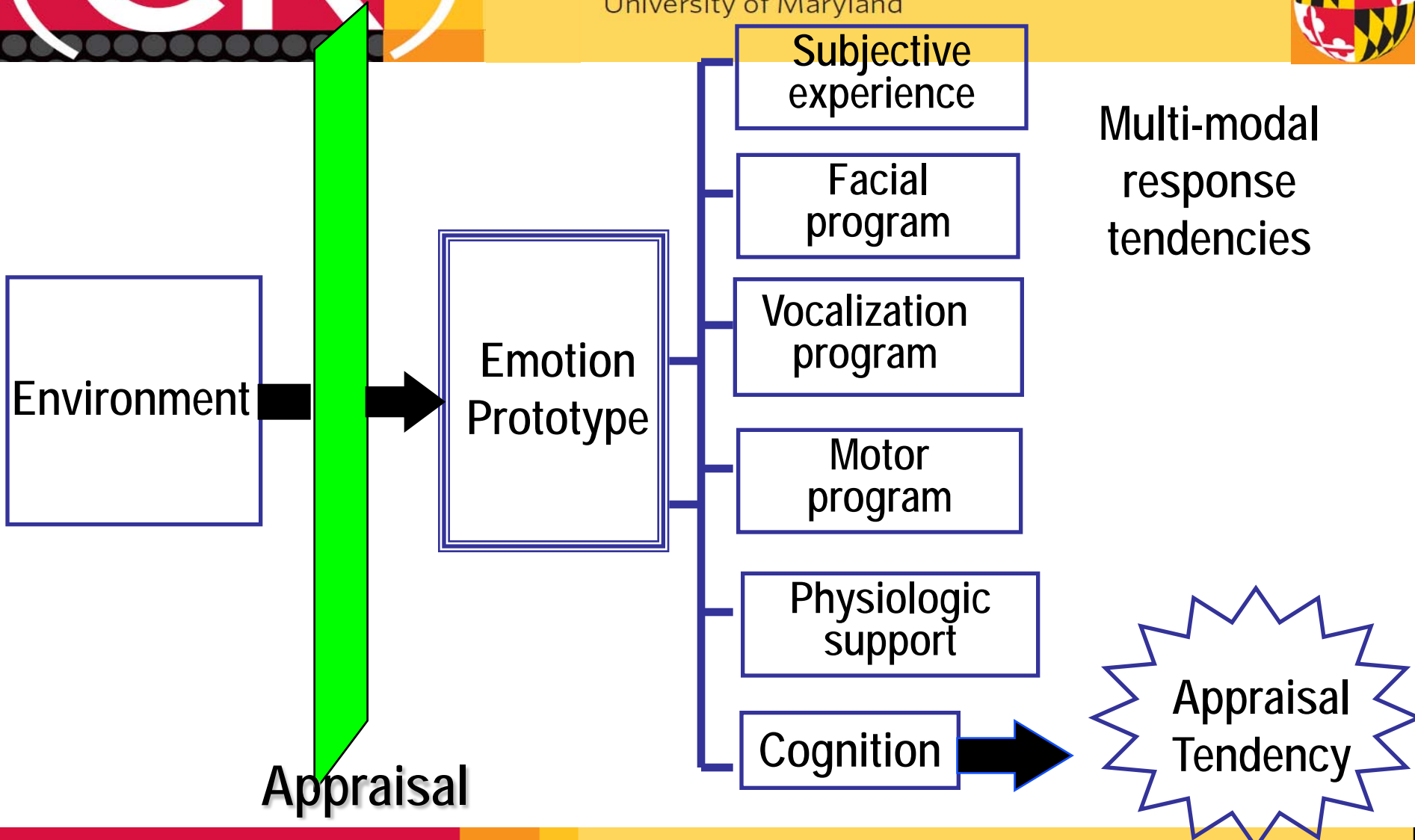






- **Specific emotions are defined by their variation along cognitive appraisal dimensions** (Smith & Ellsworth, 1985; Ortony, Clore, & Collins, 1988):
  - **Certainty** (*of outcome*; **low, high**)
  - **Control** (*who controls the stimulus?*; **individual, situational**)
  - **Responsibility** (*whose fault is it?*; **self, other**)
  - **Attention** (*should I attend to, ignore, or avoid the stimulus?*; **low, high**)
  - **Pleasantness** (*is this enjoyable?*; **pos., neg.**)
  - **Effort** (*how much effort does this situation require of me?*; **low, high**)
- Each emotion has **core appraisal themes**





(adapted from Levenson, 1994)



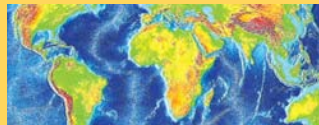


## Types of Emotion

- Anticipated Emotion
- Integral Emotion
- Incidental Emotion

Emotion that exerts normative influence—*related to the judgment at hand*

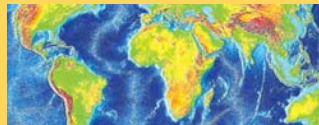
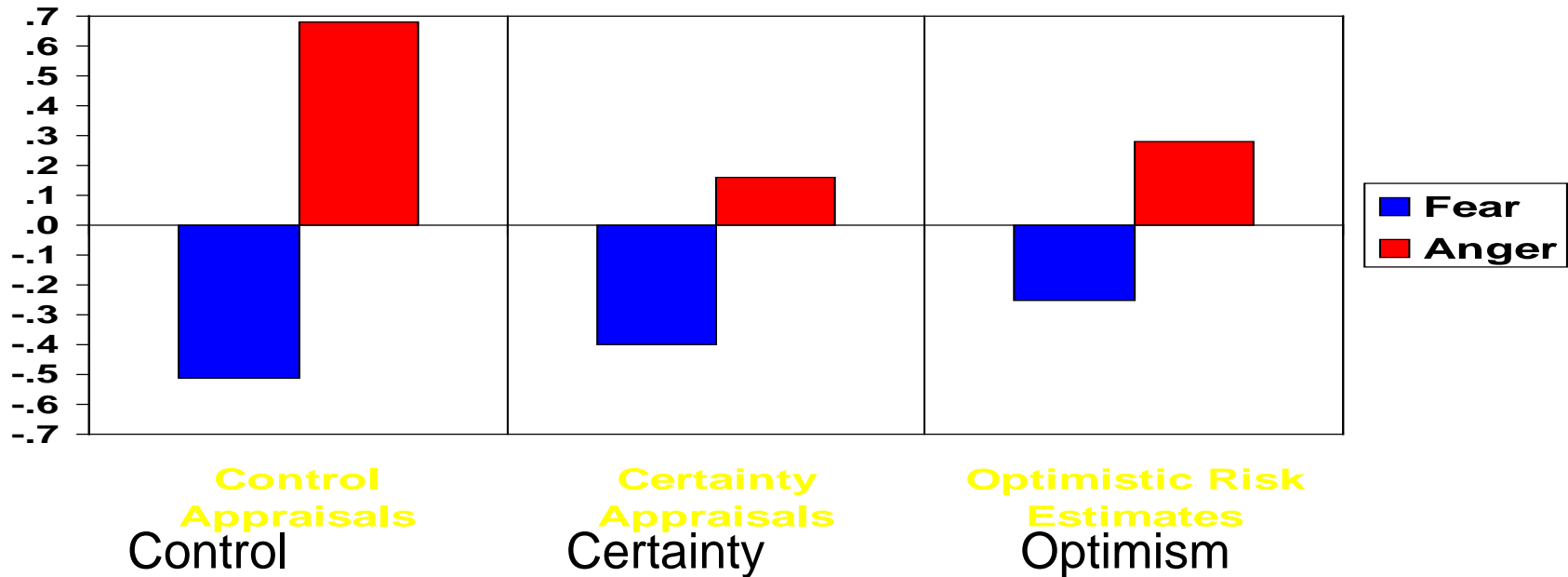
Emotion felt at time of decision—*not related to decision*







## Fear & Anger Have Opposite Effects





## Something is missing.

- Message induced emotions?
  - Anger?
  - Guilt?
- Does communicating emotion elicit similar effects?
  - Intensity matters



TRAVELING WITH GUILT-TRIP AIRLINES



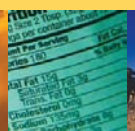
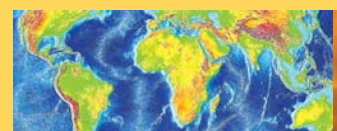


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# Anger

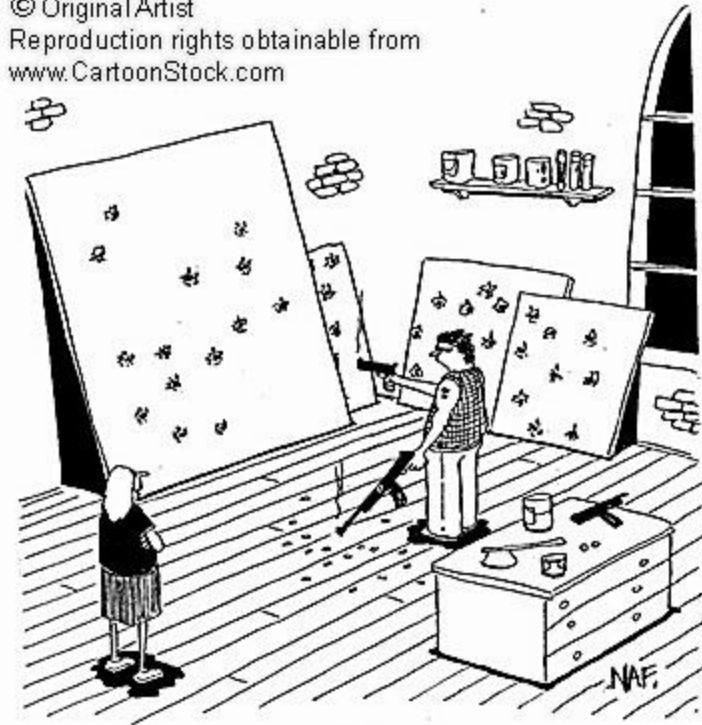






- Anger appraisals:  
**RESPONSIBILITY, CONTROL,  
CERTAINTY**
- Anger's core theme: demeaning  
offense / goals impeded
- Action tendency: revenge—fix  
the situation (energizing!)
- Anger leads to more:
  - Systematic processing
  - Optimistic risk perceptions
  - Positive attitudes and intentions

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"Your work is so full of anger, George."





## The Anger Activism Model

- But, the ultimate effect of anger on processing information and behavior changes depends on:



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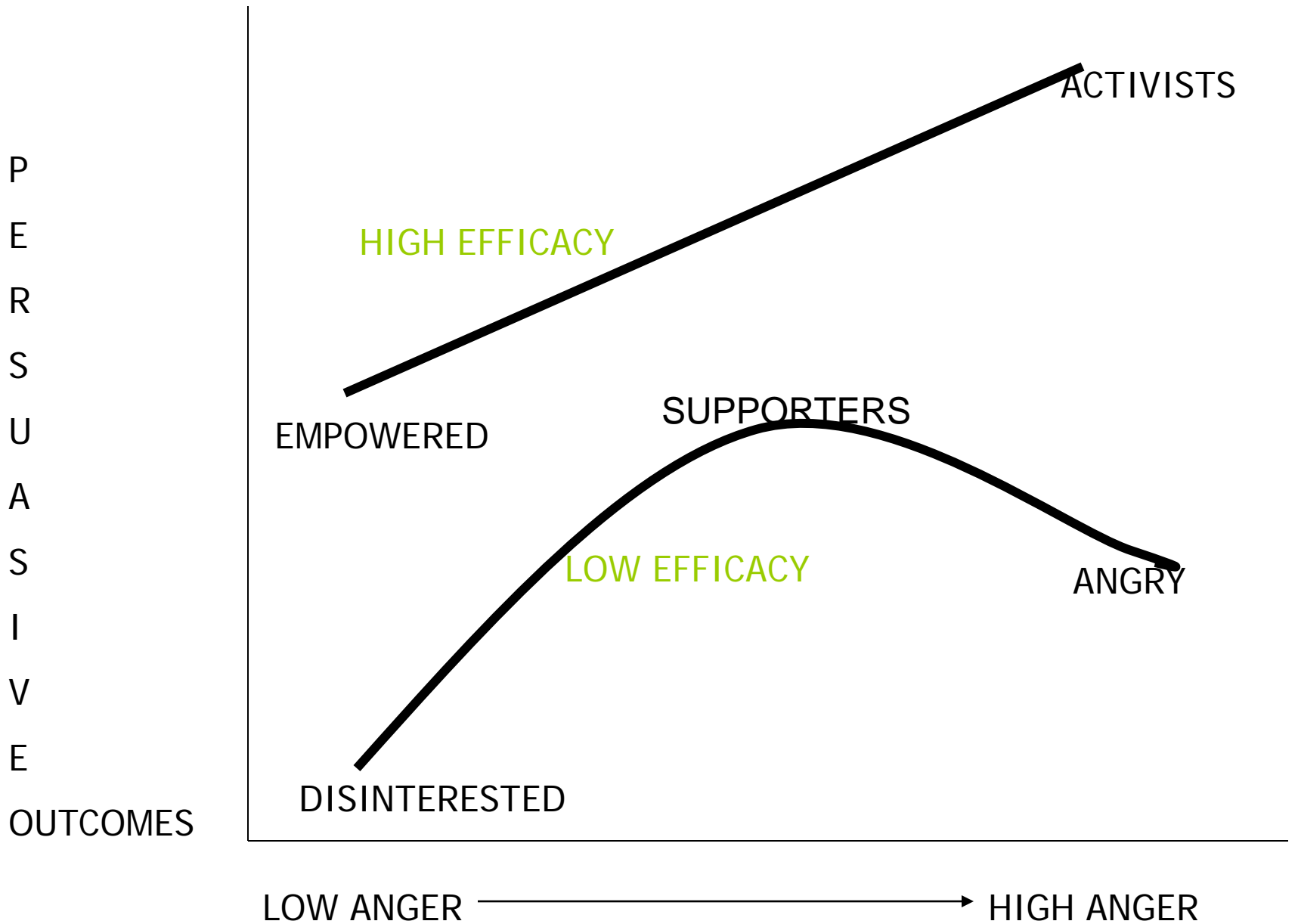






- Intensity of angry feelings
  - Moderate anger can be constructive
  - Detrimental effects when anger is too intense
- Efficacy (self and response)
  - Anger does create heightened self-efficacy
    - But also interacts with response-efficacy
  - To be energized AND feel the issue is fixable is a “magical” combination
- Target of the anger
  - Pro- vs. Counter-attitudinal
    - Reactance







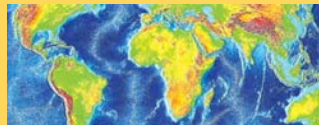
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# Study 1:

## The energizing component of anger: What happens when you try to stop them?

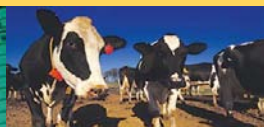




- **PARTICIPANTS**

- N=165 (~28 per cond)
- M age = 19.33 (s=2.67)
- Evenly distributed across 4 class groups (fresh, soph, jun, sen)

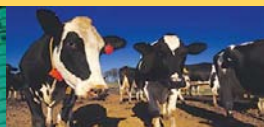
- 3 (anger: low, mod, high) X efficacy (nothing can be done, you can do it!)
- Message was a brochure sent by a “new student group: Maryland Students Against Unfair Policies”
- Anger, efficacy, intent, cognitive processing measured on 0-100 scales then summed as scales, then transformed to z





## Method

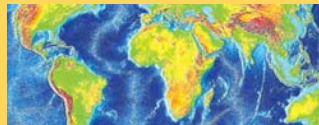
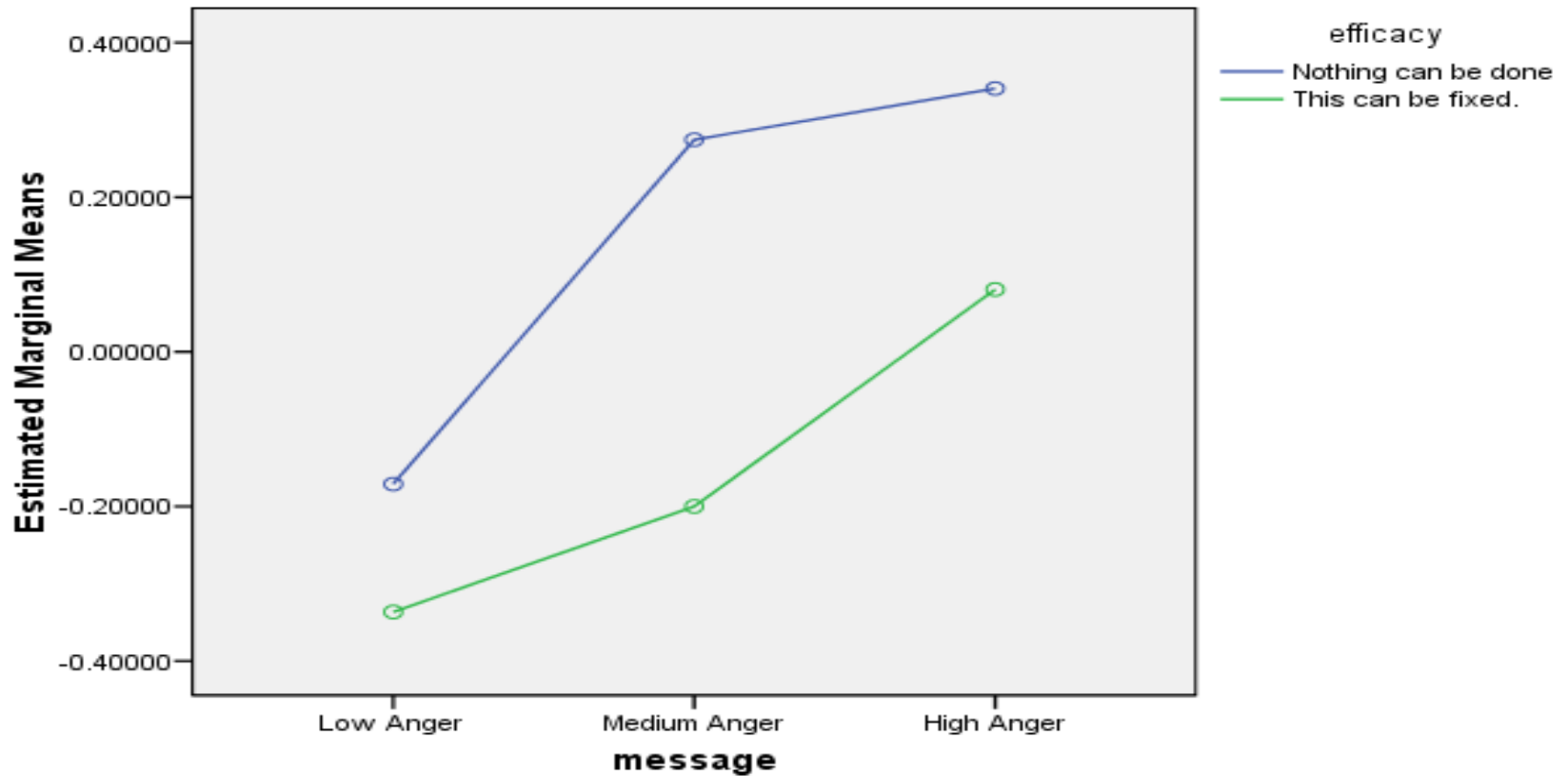
- 3 (anger: low, mod, high) X 2 (efficacy: this will be very difficult / maybe nothing can be done vs. you can do it!)
  - Message was a brochure sent by a “new student group: Maryland Students Against Unfair Policies”
- Anger, efficacy, intent, cognitive processing measured on 0-100 magnitude scales then averaged, then transformed to z
- Behavioral intent measured with a Guttman scale—not transformed to z, not averaged





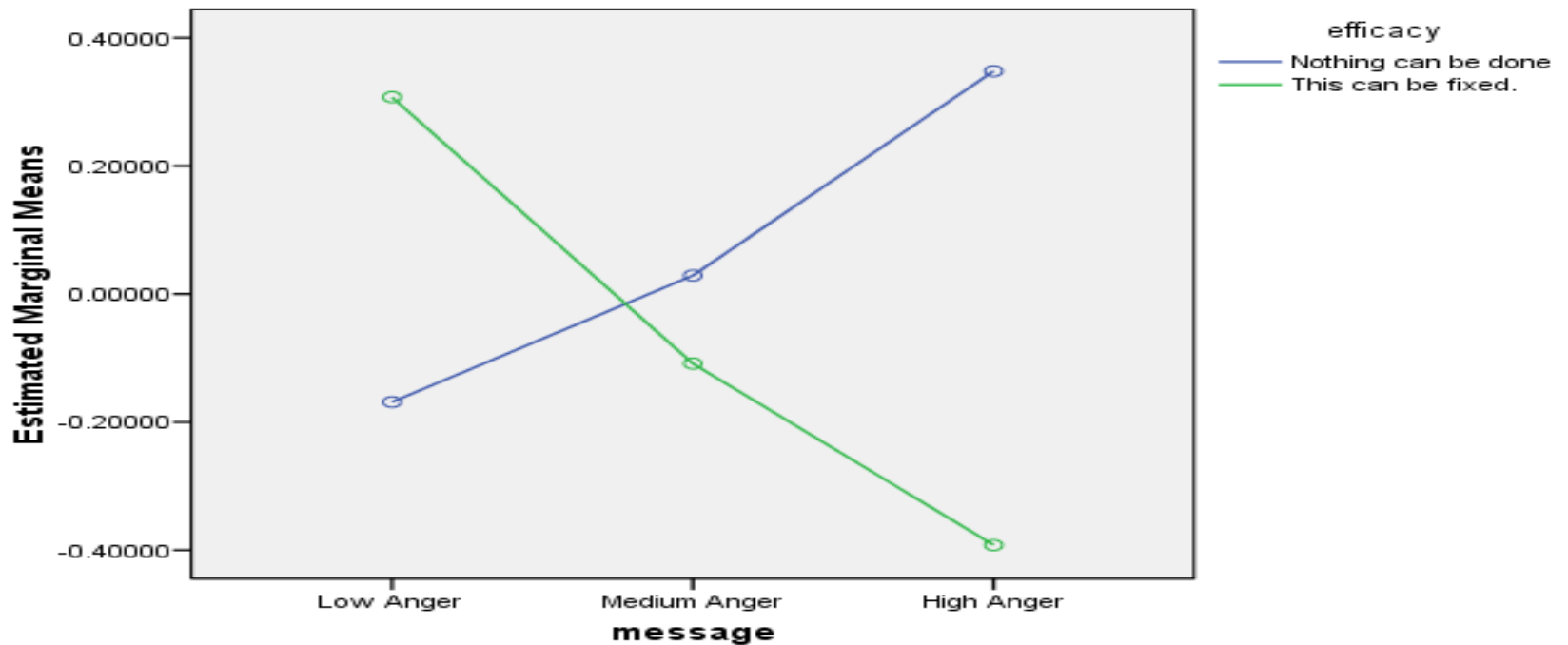


### Estimated Marginal Means of Zscore: average of anger and madness





**Estimated Marginal Means of Zscore: average of self efficacy**



•  $r = .37, p < .000$  (2-tailed)



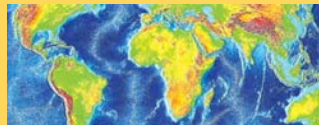


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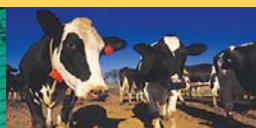
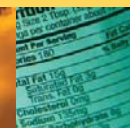
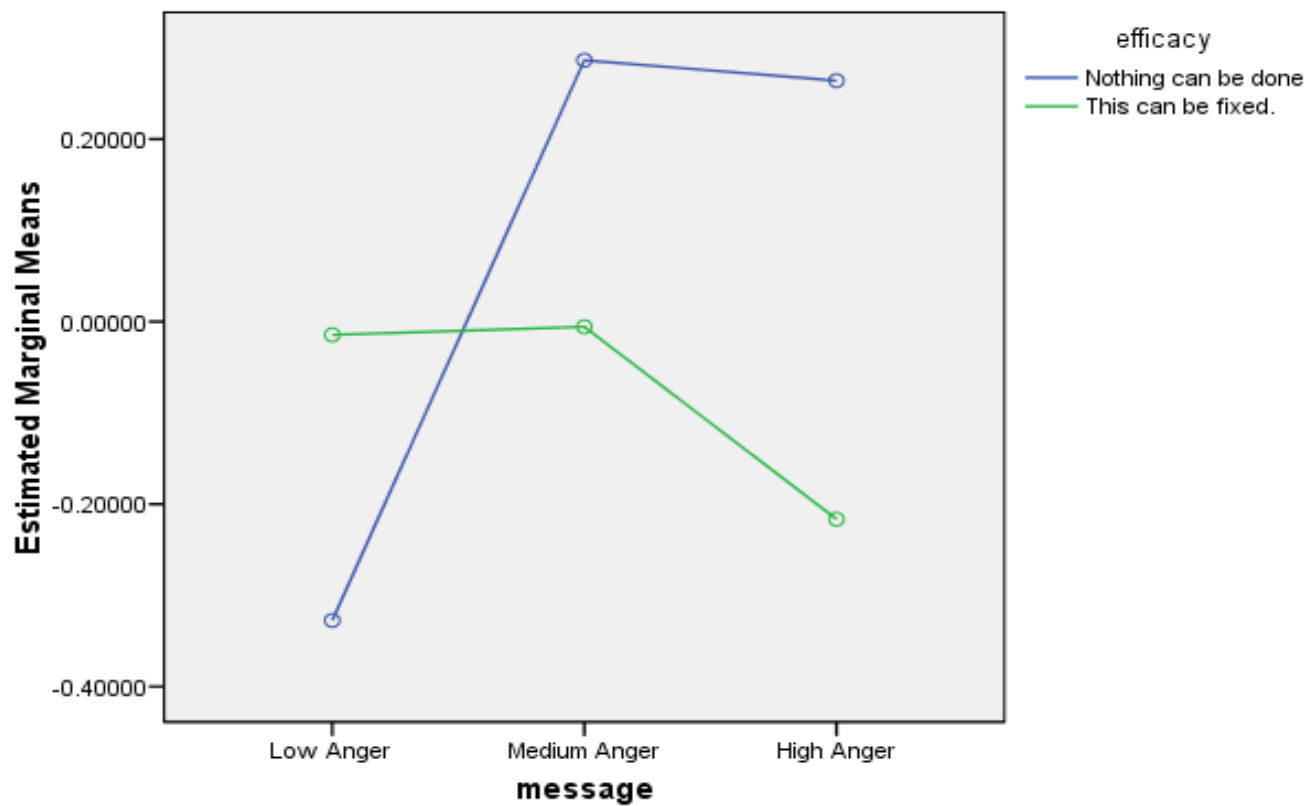


# Relationship between angry feelings and efficacy





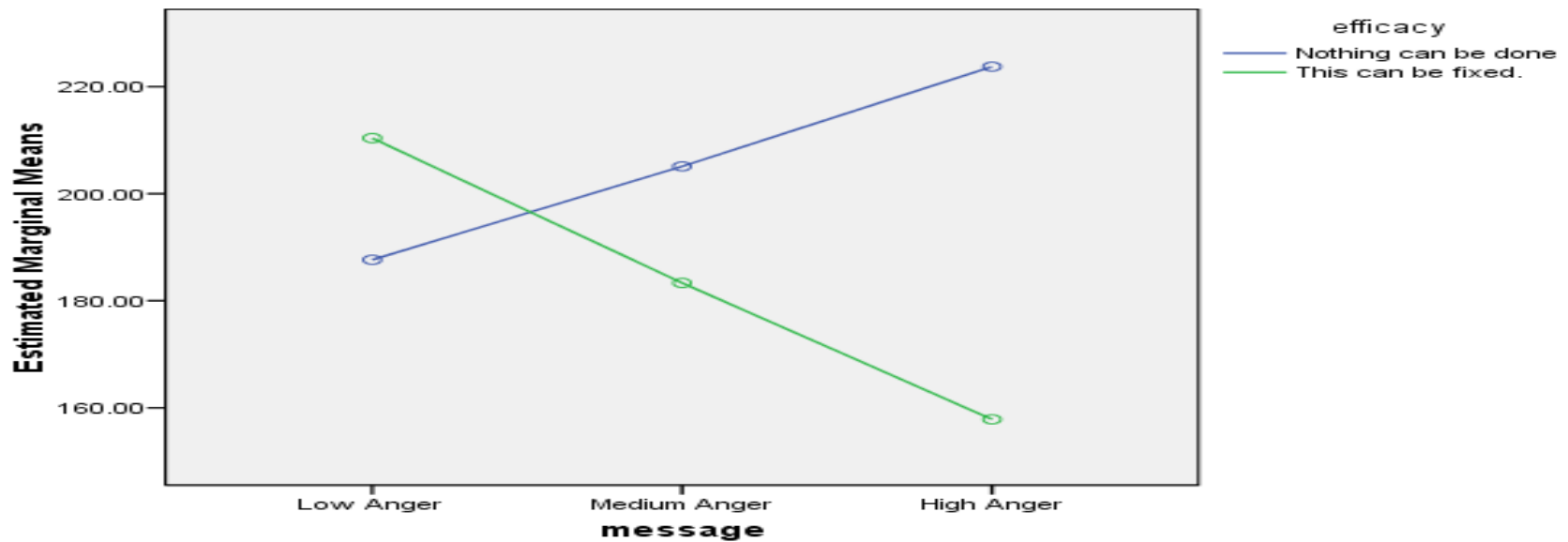
### Estimated Marginal Means of Zscore(sysprocess)





# interaction of messages with low difficult behaviors

Estimated Marginal Means of lowdifficultybehavi

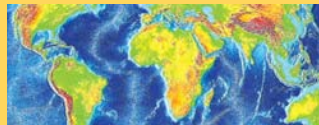
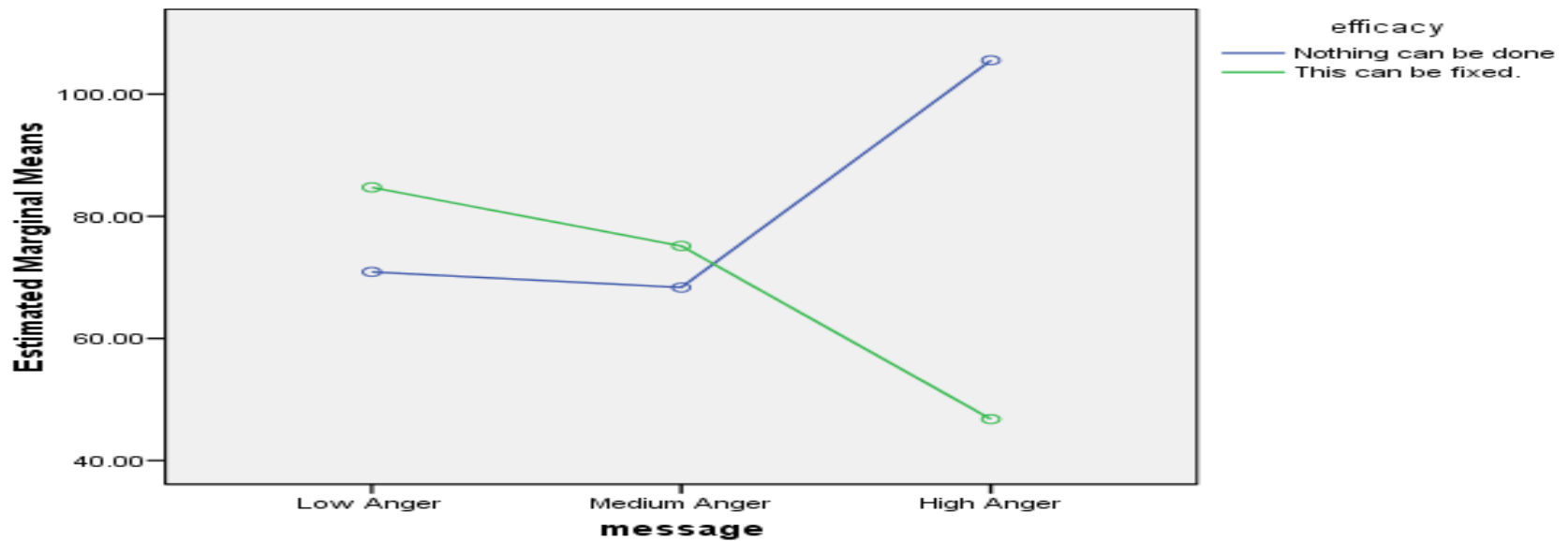






# high difficulty behaviors

Estimated Marginal Means of highdiffbehav





## Study 2: Perceptions of Political Ads

- Participants
  - 1100 “real” people collected via snowball sample
  - ~50 people per cond
  - MD and non-MD residents
  - 1 month prior to Gubernatorial and Senate elections
- Experimental design with 20 different conditions
- Pretest/posttest control group design
- Survey monkey
- Today: O’Malley vs. Ehrlich





## Do political ads generate anger?

- Especially in 2006 people mentioned the
  - “angry voter”
  - “Angry and energized voters retain the capacity to hold their government accountable and throw the rascals out” (Mann, 2006)

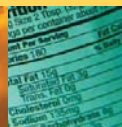




*Average feelings of anger (and standard deviations)  
as a function of the O'Malley ads studied.*

	<b>Reach</b>	<b>Record</b>	<b>Believe</b>	<b>Tough</b>	<b>Control Group</b>
<i>n</i>	<b>52</b>	42	41	38	<b>26</b>
Angry at issues facing Maryland	<b>3.00<sup>a</sup> (1.97)</b>	2.07 <sup>b</sup> (1.55)	2.20 <sup>ab</sup> (1.54)	1.87 <sup>b</sup> (1.32)	<b>2.27<sup>ab</sup> (1.64)</b>
Angry at opposing candidate	<b>2.21<sup>a</sup> (1.56)</b>	1.67 <sup>ab</sup> (1.28)	1.56 <sup>ab</sup> (1.05)	1.47 <sup>b</sup> (0.97)	<b>2.08<sup>ab</sup> (1.55)</b>
Angry at the candidate	<b>1.90 (1.64)</b>	1.57 (1.01)	1.73 (1.32)	1.61 (1.26)	<b>2.08 (1.35)</b>

*Note: Different superscripts indicate means are statistically different from each other,  $p < .05$*



Correlations between angry feelings and persuasive outcomes. Correlations in bold are for State of Maryland residents.

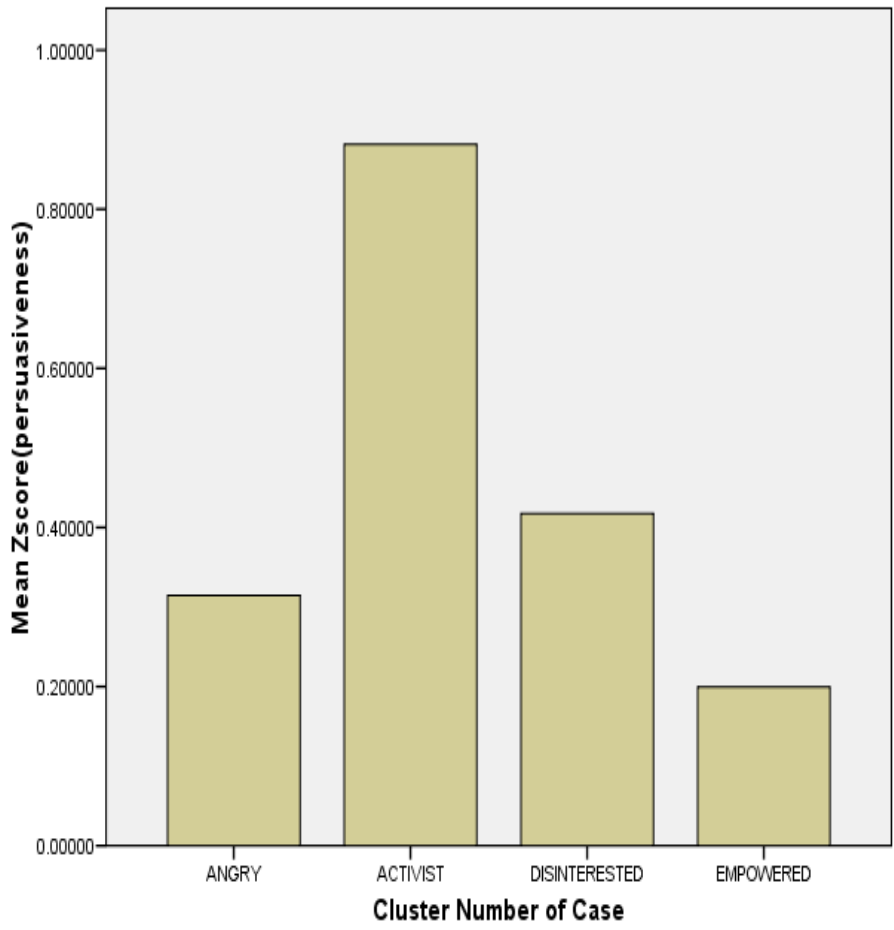
	Angry at issues facing Maryland	Angry at opposing candidate	Angry at the candidate
Attitude toward candidate	-.11** <b>-.16**</b>	.10** <b>.13**</b>	-.41** <b>-.47**</b>
Attitude toward opponent	.15** <b>.18**</b>	-.11** <b>-.12**</b>	.28** <b>.35**</b>
Persuasiveness of message	-.04** <b>.07**</b>	.15** <b>.20**</b>	-.36 <b>-.39**</b>
Intentions to vote for candidate	-.02 <b>-.12**</b>	.16** <b>.18**</b>	-.27** <b>-.40</b>
Intention to vote for opponent	.18** <b>.17**</b>	-.07 <b>-.14**</b>	.33** <b>.38**</b>
Intention to contact a campaign for more information	.15** <b>.16**</b>	.09* <b>.12**</b>	.09* <b>.13**</b>
Intention to volunteer to help a campaign	.17** <b>.19**</b>	.11** <b>.13**</b>	.14** <b>.17**</b>



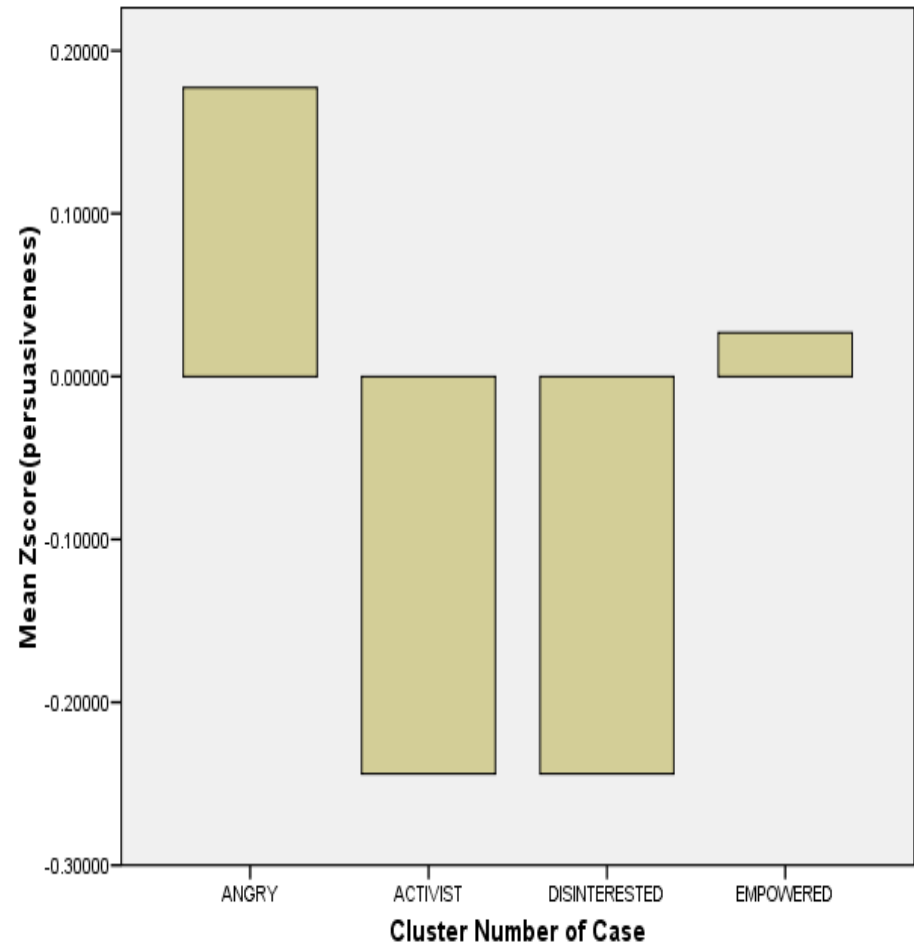


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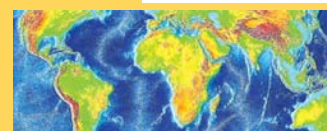
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DEMOCRATS



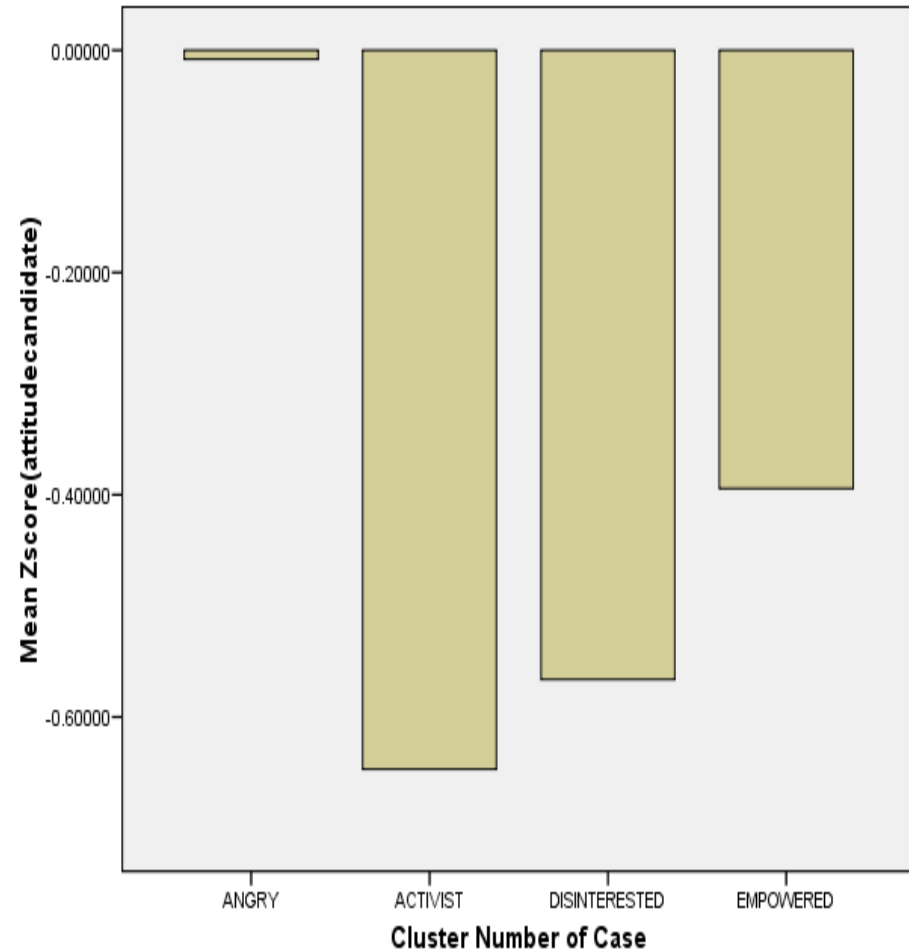
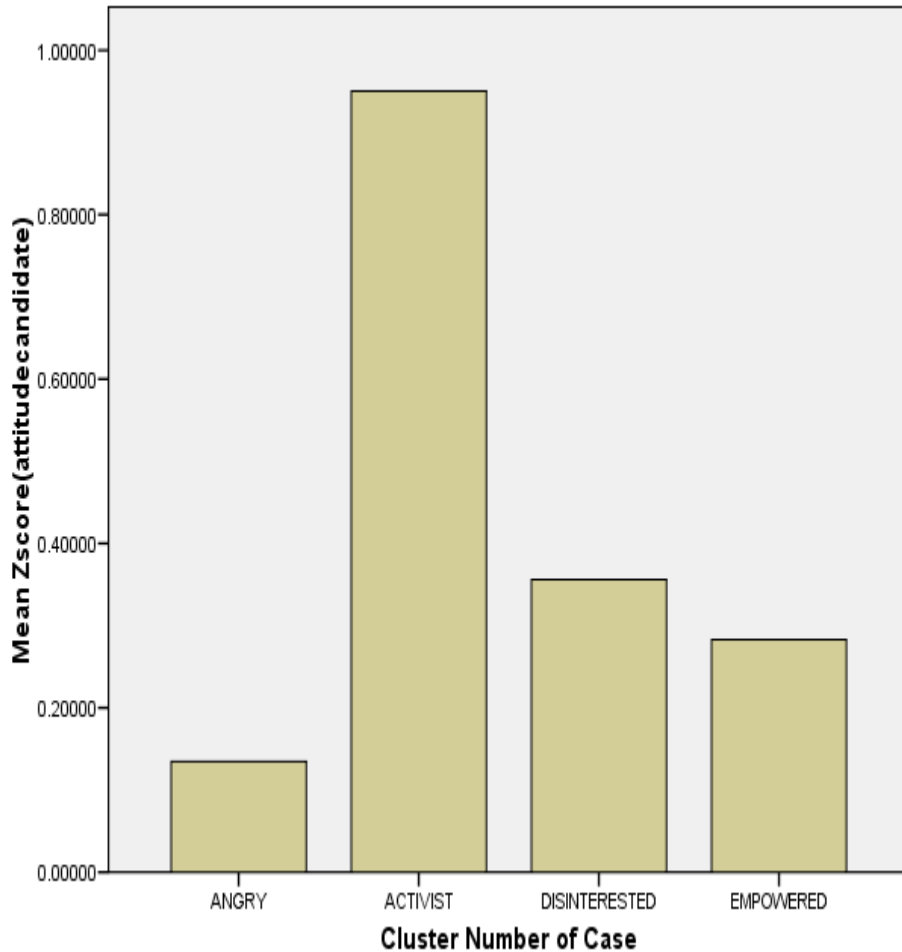
REPUBLICANS





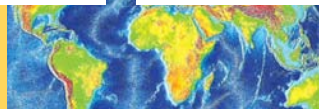
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DEMOCRATS

REPUBLICANS



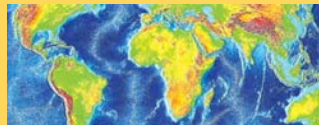


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Now let's compare multiple emotions...





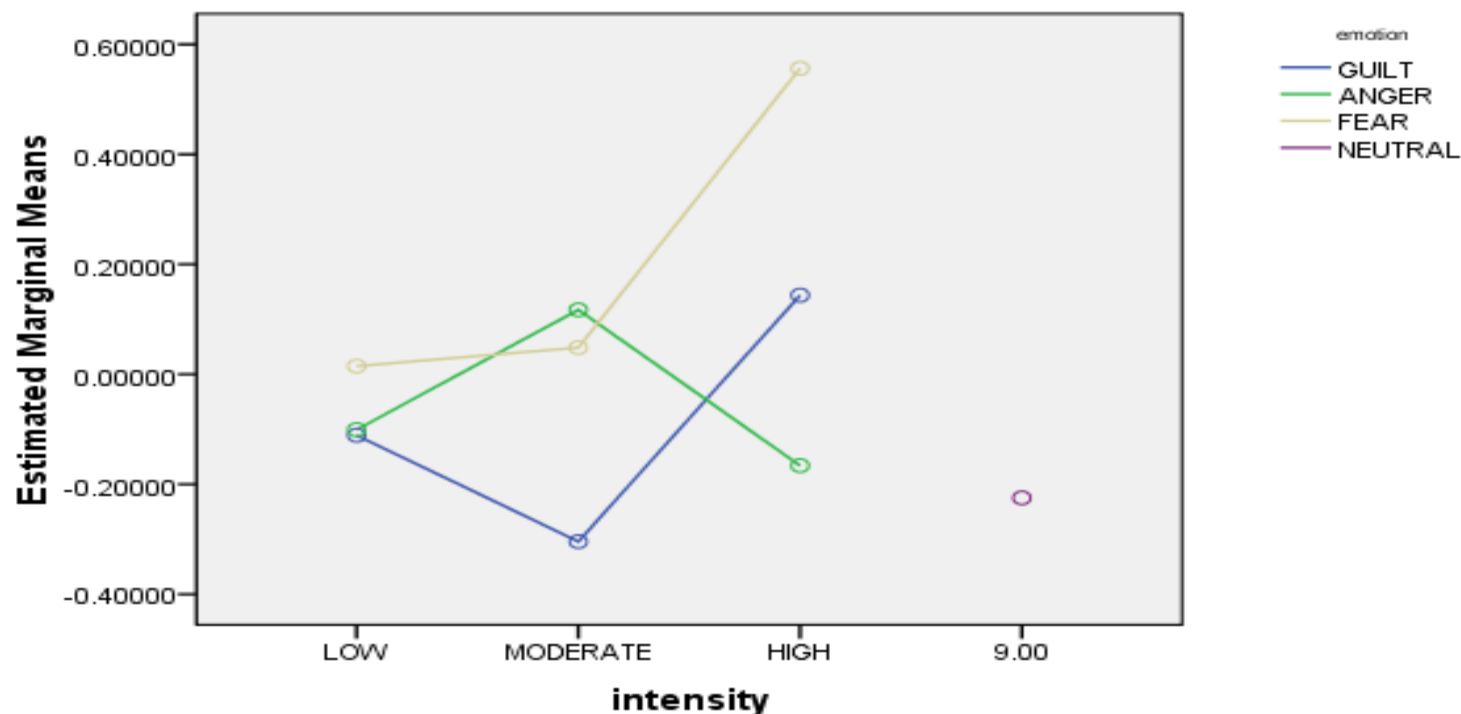
## Method

- Mechanism: TESS
- Topic: emergency preparedness
- Participants: Nationally representative sample ( N = 544) of heads of households with at least 1 child in the home
  - n ranged from 45-60
  - Demographics closely matched the census
- Listened to a radio PSA
- Emotion (fear, guilt, anger, neutral) x (low, mod, high intensity)
  - Included biological sex as a factor
  - Key DV: risk perceptions

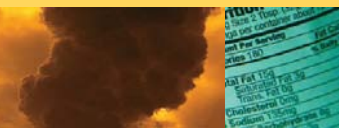




### Estimated Marginal Means of Zscore: T6: How likely is it that your community will experience a terrorist attack in the future?



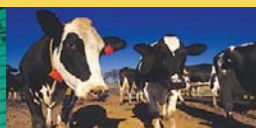
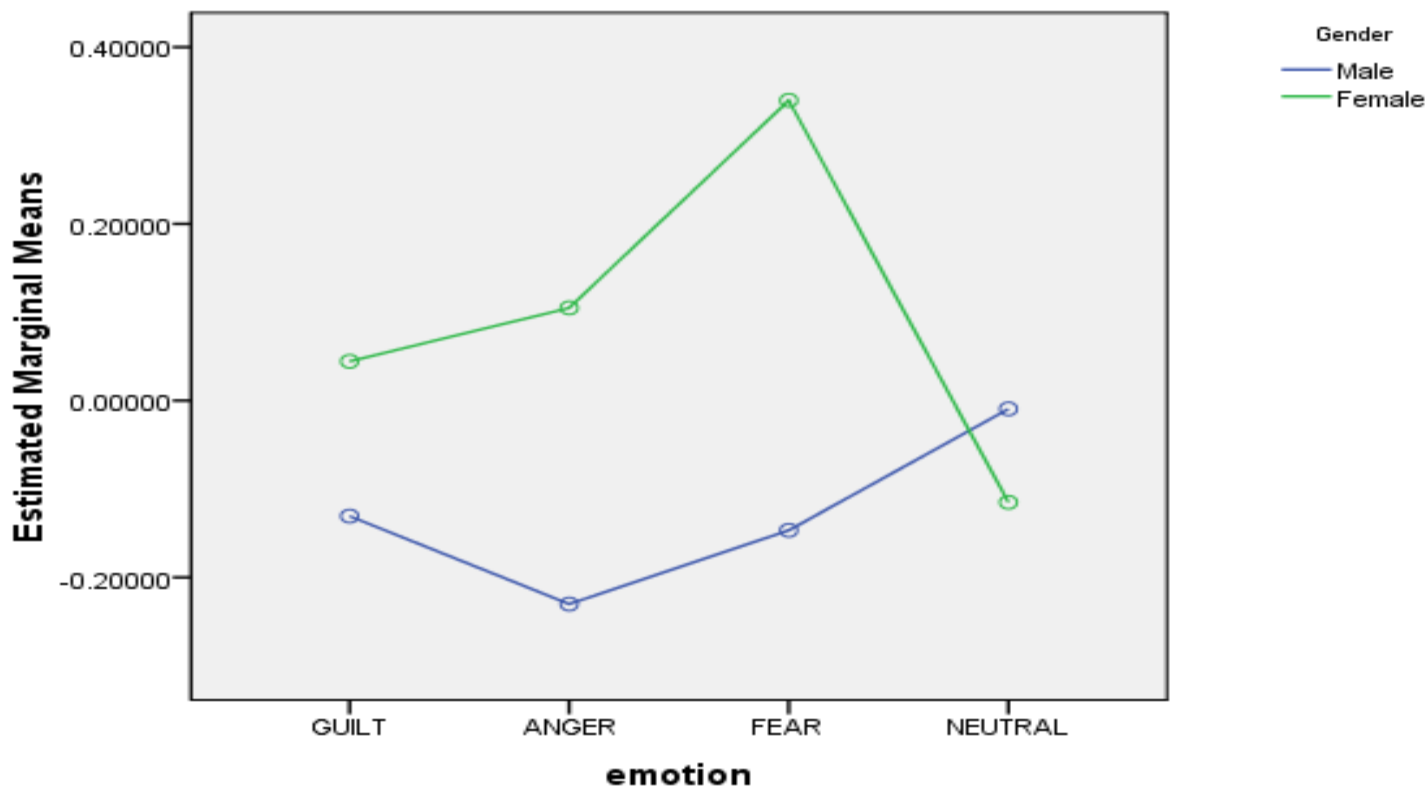
Non-estimable means are not plotted





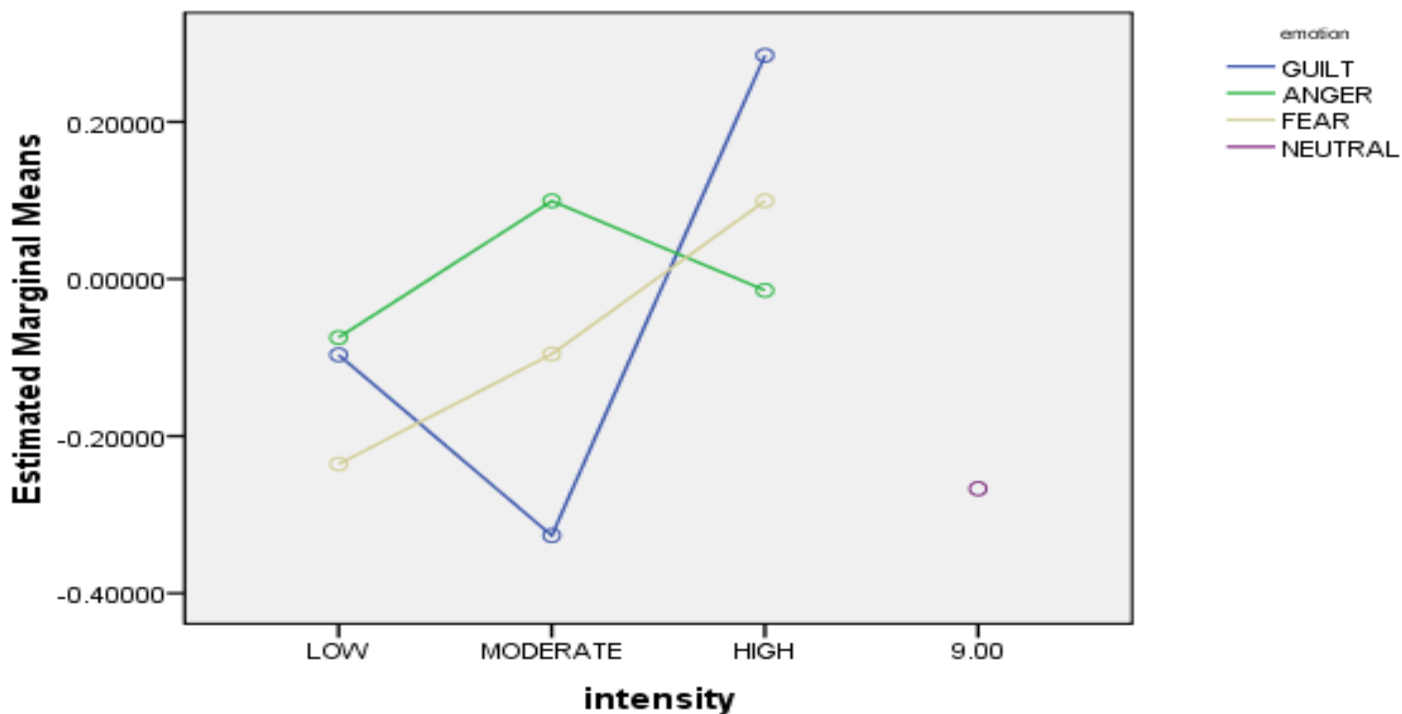


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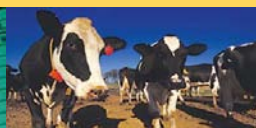
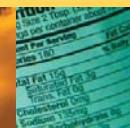




### Estimated Marginal Means of Zscore: T7: How likely is it that the U.S. will experience a terrorist attack in the future?

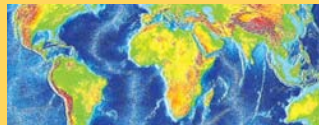
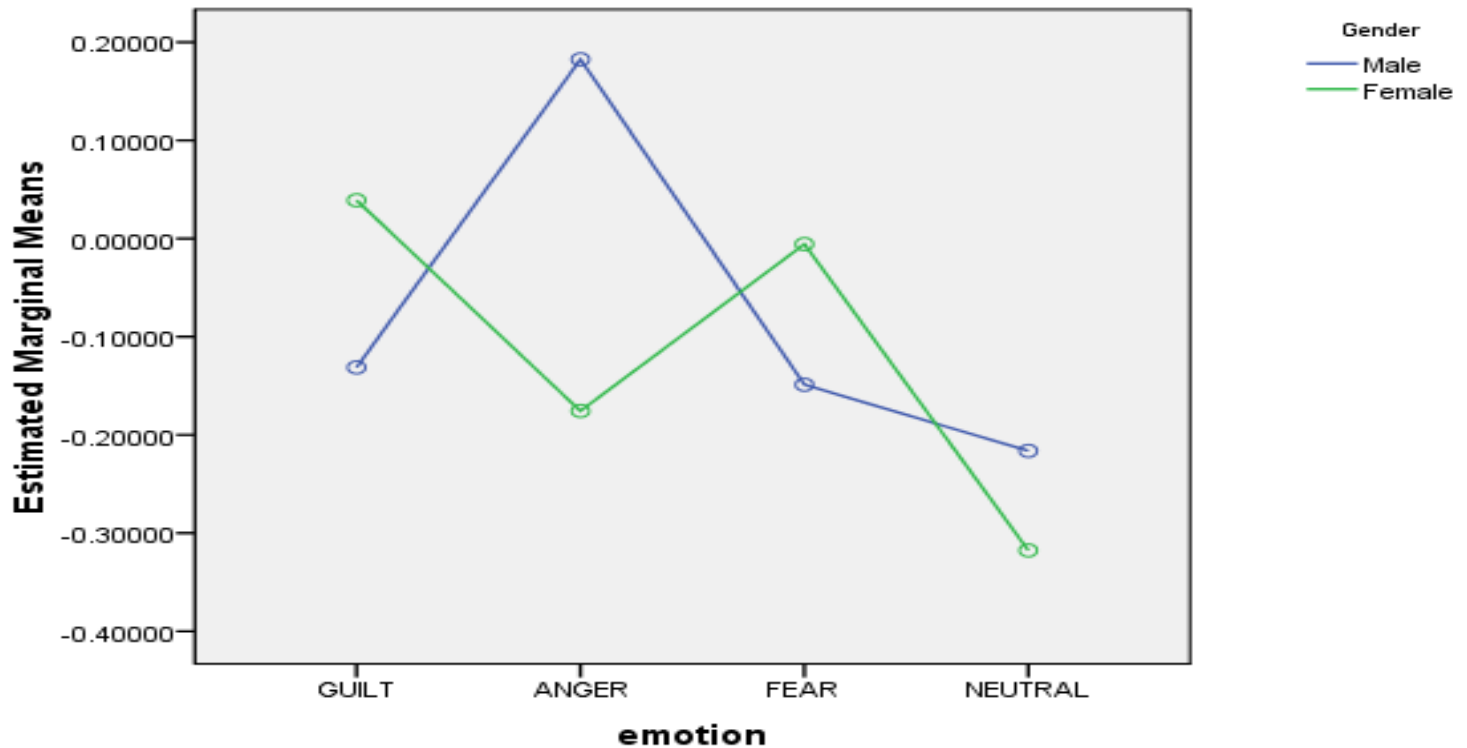


Non-estimable means are not plotted





### Estimated Marginal Means of Zscore: T7: How likely is it that the U.S. will experience a terrorist attack in the future?





## Future directions: The dependent variables

- Accuracy in risk assessments
- Biological feedback
- Reaction time
- Information seeking tendencies

