Zika 2016: A 3-Phase Longitudinal Study of the Media Impact on Public Attitudes and Behavioral Response Characteristics

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2016 Zika Virus outbreak and the Extended Parallel Processing Model
Karly Kownslar
Question

- How do people process risk messages during disease outbreaks?
- What can we learn from surveying people in real-time during the 2016 outbreak?
- What does theory tell us?
Zika

- Spread by mosquitos and human-to-human through bodily fluids
- Majority of cases lead to flu-like symptoms and rash
- In 2016, officials connected Zika infection to more serious disorders:
  - Microcephaly in fetuses and newborns
  - Guillain-Barre syndrome – temporary paralysis
Literature Review

- Media inflates negative health outcomes (Goodall et al., 2012)
- News reports use panic-inducing words that indicated themes of threat, susceptibility, fear, and uncertainty (Adeyanju & Neverson, 2005)
- When health agencies make mistakes during epidemics it impacts their credibility (Rosenbaum, 2015)
- People typically think others are more susceptible to negative messages or media contact, called the third person effect (Wei, Lo & Hu, 2008).
- All these things can impact how the public deal with health threats
Extended Parallel Processing Model (EPPM)
Research Questions

- **RQ1.** How does consumption of media content about Zika impact perceptions of severity?
- **RQ2.** How does consumption of media content about Zika impact perceptions of susceptibility?
- **RQ3.** Did consumption of Zika-related media impact participants’ perceived self-efficacy over time?
- **RQ4.** Did consumption Zika-related media content impact participants’ perceived response efficacy over time?
- **RQ5.** Does consumption of Zika-related media affect third person perception?
Hypothesis

- Consumption of messages from health agencies will lead to higher intent to adopt the preventative behaviors compared to consumption of Zika-related media from the other channels.
Method

- Quantitative study
- Participants answered surveys on the variables of the EPPM and media consumption
- Participants were recruited through Amazon Turk and Turk Prime to ensure anonymity and a large sample
  - 826 responses over three Time-Phases
    - April, September, and November 2016
  - 794 responses were analyzed
- Study approved by IRB
Participants

Sex
- Female: 51%
- Male: 48%

Age
- 18-34
- 35-39
- 45-64
- 65+

Participants
- TP 1: n=426
- TP 2: n=231
- TP 3: n=169
Messages

- Consumption of Zika-related media
  - How many times did they hear about the global and U.S. Zika outbreak
  - From which sources did they hear about Zika:
    - Friends/Family
    - Traditional Media (TV, radio, newspaper)
    - Social media
    - Government agencies
    - Healthcare workers
Message Processing

- Asked to report their perceptions on perceived threat on a 5-point Likert scale:
  - Severity
  - Susceptibility
Message Processing

- Efficacy (5-point Likert scale)
  - Self
  - Response
  - Third person effects – added to original model
    - Others’ self-efficacy
    - Others’ response-efficacy
Outcomes

- Behavioral intentions
- Avoid Acquisition
  - Avoid traveling to impacted areas
  - Use mosquito nets, repellant
- Avoid transmission
  - Get screening
  - Family planning
  - Consider or obtain an abortion
- Share information
- Seek information
Results & Discussion

- **RQ1. How does consumption of media content about Zika impact perceptions of severity?**
- Participants who heard about Zika more than 10 times had higher perceived severity than participants who had heard of Zika only once.

**Table 1. Media consumption of U.S. Zika Outbreak and Perceived Severity and Susceptibility**

<table>
<thead>
<tr>
<th></th>
<th>Perception of Severity</th>
<th>Perception of Susceptibility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M(SD)</td>
<td>M(SD)</td>
</tr>
<tr>
<td><strong>Not at all</strong></td>
<td>3.88 (.09)</td>
<td>2.35 (.12)</td>
</tr>
<tr>
<td><strong>Once</strong></td>
<td>3.87 (.08)</td>
<td>2.53 (.10)</td>
</tr>
<tr>
<td><strong>2-4 Times</strong></td>
<td>3.94 (.05)</td>
<td>2.73 (.07)</td>
</tr>
<tr>
<td><strong>5-10 times</strong></td>
<td>4.03 (.06)</td>
<td>2.85 (.08)</td>
</tr>
<tr>
<td><strong>10 or more times</strong></td>
<td>4.08 (.06)</td>
<td>3.04 (.08)</td>
</tr>
<tr>
<td><strong>Don’t know</strong></td>
<td>4.60 (.33)</td>
<td>3.53 (.43)</td>
</tr>
</tbody>
</table>

Note: *significant at .01 level; †significant at .05 level*
Results & Discussion

- RQ2. How does consumption of media content about Zika impact perceptions of susceptibility?
- Participants who heard about the U.S. Zika outbreak multiple times had higher perceived susceptibility than those who had heard about Zika only once.

| Table 1. Media consumption of U.S. Zika Outbreak and Perceived Severity and Susceptibility |
|-----------------------------------------------|-----------------------------------------------|
| Severity | Susceptibility |
| M(SD) | M(SD) |
| Not at all | 3.88(.09) | 2.35(.12)* |
| Once | 3.87(.08)* | 2.53(.10) |
| 2-4 Times | 3.94(.05) | 2.73(.07)b |
| 5-10 times | 4.03(.06) | 2.85(.08)* |
| 10 or more times | 4.08(.06) | 3.04(.08)* |
| Don’t know | 4.60(.33) | 3.53(.43) |

Note: *significant at .01 level; bsignificant at .05 level
Results & Discussion

- **RQ3.** Did consumption of Zika-related media impact participants’ perceived self-efficacy over time?
- **RQ4.** Did consumption Zika-related media content impact participants’ perceived response efficacy over time?
- Participants’ self-efficacy and response-efficacy increased over the times surveyed

| Table 2. Severity, Susceptibility, Self-Efficacy, and Response-Efficacy over time |
|----------------------------------------|-------|-------|-------|
| T1 | T2 | T3 |
| Severity | M(SD) | M(SD) | M(SD) |
| 3.98(.74) | 3.99(.75) | 3.99(.76) |
| Susceptibility | 2.81(.95) | 2.87(.95) | 2.64(1.03) |
| Self-Efficacy | 2.82(.86) | 3.20(.77) | 3.34(.73) |
| Response-Efficacy | 3.18(.84) | 3.41(.83) | 3.53(.77) |

Note: 1-5 Likert ranging strongly agree to strongly disagree, higher numbers indicate more positive reactions. $\alpha=.06$, $p<.05$, $p<.001$. 
Results & Discussion

- **H1.** Consumption of messages from health agencies will lead to higher intent to adopt the preventative behaviors compared to consumption of Zika-related media from the other channels.

- Participants who heard about Zika from government agencies did have significant more intentions to share Zika related information online, perhaps because government agencies have more credibility than the other sources.
Implications

- As participants heard more information about the U.S. Zika outbreak, results indicate message acceptance and danger-control processes in the form of intention to do the behaviors listed.
Implications

- Those who reported interpersonal communication about Zika felt others would be more effective dealing with the threat.
Implications

- While perceived severity of Zika remained high, participants who reported hearing about Zika from any source had higher perceptions of self-efficacy and response-efficacy for themselves and others (TPP).
References

References

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