

2012 Russell Ackoff Doctoral Student Fellowships Proposal for  
Research on Human Decision Processes and Risk Management

**Social Diffusion of Health Risk Information:  
The Roles of Message Characteristics, Message Tailoring, and Social Influence**

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Descriptive Summary

Why and in what ways certain health risk messages draw attention and go viral, while others do not? Identifying determinants of social epidemics of health risk information is crucial to our understanding of its effectiveness in increasing risk awareness and/or promoting healthy behaviors. Achieving an adequate level of exposure is a prerequisite to successful public health campaigns (McGuire, 1989). Social diffusion of health risk information can be achieved via two *individual-level* decision-making processes (Katz & Lazarsfeld, 2006): (1) Exposure to risk information, and (2) social transmission of risk information (word-of-mouth) given the exposure to the information. In other words, the diffusion process at the individual level essentially involves two-step selectivity mechanism – *selective exposure* to and *selective transmission* of health risk information.

Studies of diffusion (of news, ideas, products, innovations, behaviors, information, etc.) have made an important contribution to our understanding of *how* and *why* social epidemics occur (Rogers, 2003). Diffusion research has identified the critical roles of interpersonal relations (e.g., influential and imitators) and the individual-level process of social influence (or social contagion) in diffusion processes (Coleman et al., 1966; Iyengar et al., 2011; Van den Bulte & Joshi, 2007). Another stream of diffusion research has examined why certain diffusing items are more viral than others by focusing on their content characteristics (Berger & Milkman, in press; Heath et al., 2001).

However, little attention has been paid to investigating how content characteristics drive diffusion, in conjunction with (1) the social influence process and (2) its compatibility with individuals (i.e., potential adopters). There is also little research focusing on both selective exposure and selective transmission behaviors simultaneously as individual-level decision-making processes that underlie collective-level diffusion outcomes. In an effort to fill this gap, the proposed research attempts to examine how (1) *message characteristics* (e.g., emotionality and persuasiveness), (2) *message tailoring*

(compatibility between contents and individuals), and (3) *social influence cue* (popularity indicator; e.g., “most-emailed list”) combine to affect the diffusion of health risk information in the Internet. While there is clear evidence that each factor has an impact on diffusion (e.g., Berger & Milkman, in press; Salganik et al., 2006), little is known about whether and how the three factors jointly affect diffusion.

Specifically, I am proposing to conduct a web-based social experiment with a 2 (message tailoring: tailored vs. non-tailored)  $\times$  3 (social influence cue: None vs. consistent popularity indicator vs. inconsistent popularity indicator) between-subjects design. A pilot study will be conducted to evaluate health risk messages in terms of their message properties (e.g., emotionality and persuasiveness) that have been shown to be predictive of selective exposure and social transmission, and their popularity (e.g., likelihood of receiving selective exposure and of getting shared). A final sample of health risk messages will be carefully chosen to represent a wide range of message characteristics and popularity.

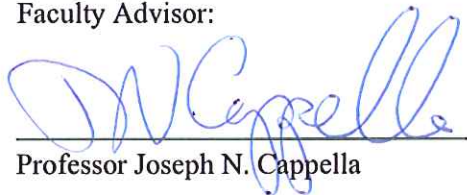
Participants will be invited to a study website, and asked to freely *consume* and *share* health risk information in each condition. The same set of health risk messages will be shown to all participants across all six conditions. Message tailoring will be based on participants’ responses to pretest questions. For participants in the tailored-content condition, tailored messages will be placed higher in position of the study website, whereas the position of all messages will be randomized to each participant in the non-tailored condition. In the “consistent” popularity indicator condition, participants will be exposed to a “most popular” list that reflects the actual popularity scores obtained from the pilot study, while those in the “inconsistent” popularity indicator condition will be exposed to a list which shows an inverted order of the actual popularity (see Salganik & Watts, 2008). Detailed click-stream data on participants’ responses to health risk information (e.g., consumption and social transmission) will be recorded.

The current study predicts that the use of message tailoring and the presentation of the “most popular” list will interact to increase the amount of exposure to and social sharing of health risk information. The study also predicts that emotionally evocative health risk messages will be more likely to be consumed and shared when they are tailored to participants and when they make the “most popular” list, compared to those with low emotionality. Finally, the study predicts that this general trend will be stronger when the “most popular” list is consistent with actual popularity than when it is not.

### Budget Information and Funding Sources

I hope to utilize the support of the Ackoff Fellowship to fund data collection. The financial support of \$4,000 that I am seeking will be used for participant recruitment and compensation. Based on prior price quotes from online survey companies that my research team has worked with, experiment participants are expected to cost about \$10 per person. It is estimated that a total sample size of 400 (approximately 60 to 70 participants per each of the six experiment groups) will have sufficient statistical power to test my research hypotheses. The current research project was developed under the supervision of Dr. Joseph N. Cappella, and will be part of my dissertation. Theoretical and methodological development for the project was funded by the Center of Excellence in Cancer Communication Research (CECCR) at the Annenberg School for Communication in 2011. The Annenberg School provides \$1,200 per fiscal year for travel funding.

Faculty Advisor:



Professor Joseph N. Cappella

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