

Trust and responsibility attributions: variations across hazard managers in accidental and intentional food contamination incidents

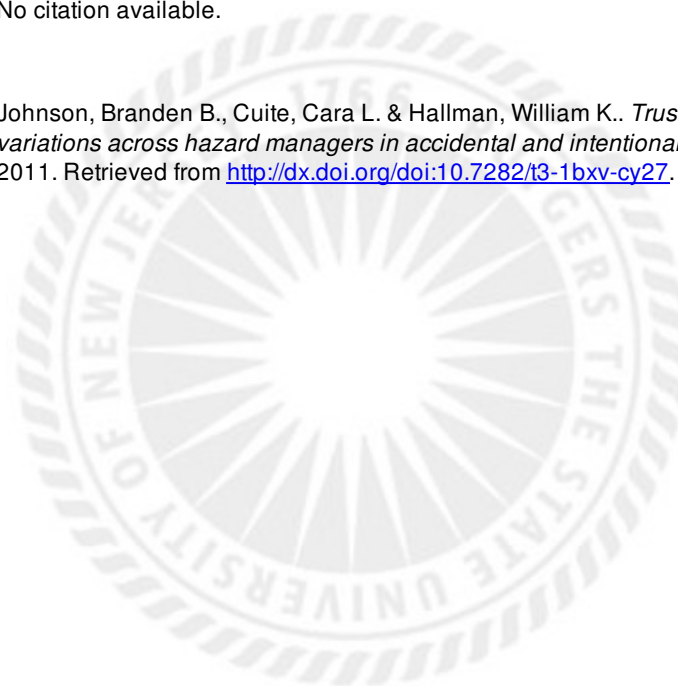
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Trust and responsibility attributions: Variations across hazard managers in accidental and intentional food contamination incidents

Branden B. Johnson, Decision Research; Cara Cuite and William Hallman, Rutgers University

Why trust and responsibility of hazard managers are crucial

Trust can affect whether citizens comply with recommendations to avoid contaminated foods during episodes and resume routine food use afterwards. Attribution of responsibility can affect both individual managers and system performance (e.g., by altering managers' interactions or resources by regulatory or criminal proceedings). Understanding such judgments can be important for both theory and practice.

Our goals were to probe whether :

- different models of trust sources might overlap or merge for a food safety case
- a model of individual responsibility attributions might be extended to institutions
- factors explaining trust and responsibility might be mutually supportive.

Results: Trust models overlap

Correlations, principal components analysis, maximum likelihood factoring, reliability analyses, and multiple regression analysis (below) all suggest: *Salient shared values, response bias, and communication bias cluster together, as expected for an unfamiliar hazard management system.*

SVS/IDT measures cluster ($\alpha=.79-.84$), as do awareness/freedom measures ($\alpha=.72-.78$).

| | Producers | Processors | Watchdogs | Sellers | Preparers |
|-------------------------------|-----------|------------|-----------|-----------|-----------|
| SVS Shared values | +.14*** | +.10** | +.17*** | +.17*** | +.15*** |
| Similar to me | +.03 | -.00 | +.01 | -.02 | +.02 |
| IDT Discrimination ability | -.07* | -.01 | +.01 | -.04 | -.07** |
| Response bias (precautionary) | +.12*** | +.05 | +.02 | +.06† | +.13*** |
| Response bias-expensive | +.30*** | +.37*** | +.38*** | +.30*** | +.30*** |
| Communication bias | +.24*** | +.25*** | +.23*** | +.24*** | +.17*** |
| F | 111.78*** | 124.66*** | 720.25*** | 410.52*** | 382.58*** |
| Adjusted R ² | 37% | 40% | 45% | 33% | 31% |
| N | 1120 | 1125 | 1127 | 1100 | 1106 |

† p < .10 * p < .05 ** p < .01 *** p < .001 or better

How models of trust sources might converge

Salient Value Similarity (SVS) model stresses sense of shared salient values as driving trust in unfamiliar hazard managers, where performance data (e.g., competence) are unavailable (Earle & Cvetkovich, 1995; Siegrist et al., 2003).

Intuitive Detection Theorists (IDT) model stresses discrimination ability (tell danger from safety), response bias (precautionary or reactive response to uncertain danger), and communication bias (honesty) (White & Eiser, 2006, 2007).

Despite differences, SVS and IDT elements may converge for food safety, an unfamiliar system (Eggers et al., 2011) for which a precautionary response bias and honesty may be salient values, explaining variance in trust beyond general SVS measures.

Results: Trust is explained by SVS/IDT index, as predicted.

The situation-specific AW/FR index is rarely significant and not a substantive predictor of trustworthiness for future management of food contamination.

Thus no results here require changing current ideas about sources of trust in hazard managers; general (SVS) impressions, not situation-specific judgments, appear to drive trust for unfamiliar managers.

| | SVS/IDT | AW/FR | F | Adjusted R ² | R ² Change |
|-------------------|---------|---------|-----------|-------------------------|-----------------------|
| <i>Producers</i> | +.56*** | | 507.76*** | 31.7% | |
| Step 1 | | | | | |
| Step 2 | +.57*** | -.07** | 259.73*** | 32.2% | .005** |
| <i>Processors</i> | +.57*** | | 521.69*** | 32.2% | |
| Step 1 | | | | | |
| Step 2 | +.57*** | -.09*** | 270.81*** | 33.0% | .008*** |
| <i>Watchdogs</i> | +.62*** | | 679.90*** | 38.4% | |
| Step 1 | | | | | |
| Step 2 | +.62*** | +.01 | 339.73*** | 38.3% | .000 |
| <i>Sellers</i> | +.51*** | | 372.04*** | 25.8% | |
| Step 1 | | | | | |
| Step 2 | +.51*** | -.03 | 186.45*** | 25.8% | .001 |
| <i>Preparers</i> | +.50*** | | 354.86*** | 24.8% | |
| Step 1 | | | | | |
| Step 2 | +.51*** | -.03 | 178.01*** | 24.8% | .001 |

Extending individual attribution-of-responsibility (AR) model to managers

These models have focused on individuals, as hazard causers or victims (e.g., Alicke, 2001).

Personal capacity and volitional outcome control seem to parallel trust factors (see below).

AR models might thus be extended to institutions as hazard managers, combining elements of trust models with measures of volitional behavioral control.

| | Individual Attributions | Institutional Trust |
|------------------------|--|---|
| Competence | Personal capacity | Discrimination ability (IDT) |
| Situational constraint | Volitional behavioral control (actions are intended) | Freedom to act without another manager's control (proposed, not in any trust model currently) |
| Intentions | Volitional outcome control (results are intended) | Response bias (IDT); salient shared values (SVS) |

Results: Responsibility attribution is explained mostly by awareness/freedom index; SVS/IDT index is secondary

This indicates value of including incident-specific measures and situational constraint in a pilot model of attribution.

As SVS/IDT index adds little to explained variance (results omitted here), the role of trust-source factors in such attributions is uncertain but merits further exploration.

| | Awareness/Freedom | SVS/IDT | Model -2 log likelihood | Nagelkerke R-square |
|-------------------------------|-------------------|---------|-------------------------|---------------------|
| <i>Initial Responsibility</i> | | | | |
| Producers | .21*** | -.12*** | 1535.05*** | .10 |
| Processors | .22*** | -.09* | 1146.09*** | .07 |
| Watchdogs | .17*** | -.13*** | 1339.90*** | .05 |
| Sellers | .19*** | -.14** | 776.15*** | .05 |
| Preparers | .17*** | -.08* | 1011.28*** | .04 |
| <i>Final Responsibility</i> | | | | |
| Producers | .35*** | -.17*** | 1305.65*** | .19 |
| Processors | .23*** | -.14*** | 925.10*** | .07 |
| Watchdogs | .24*** | -.15*** | 1418.33*** | .08 |
| Sellers | .25*** | -.13** | 1095.43*** | .08 |
| Preparers | .26*** | -.07† | 1136.34*** | .09 |

Methods

Knowledge Networks® online panel

Representative of U.S. households; 1200 respondents in September-October 2010

Embedded experiment

Food contamination, *Salmonella* bacteria

Manipulation: intentional, accidental, control (trivial effects, ignored hereafter)

Five food-safety manager types:

Food producers (e.g. farmers)

Food processors (e.g. packaging firms)

Food watchdogs (e.g. government agencies)

Food sellers (e.g. supermarkets)

Food preparers (e.g. restaurants)

Evaluated (11-point scales) for:

Trustworthiness for future Salmonella risks

Responsibility for current contamination; before and after manipulation of intent

SVS (2 measures), IDT (4), situation-specific: aware of contamination

(potential, actual), free to act (prevent, mitigate)

Conclusions

Shared values (including precautionary response bias and honesty) drive trust for unfamiliar hazard managers, as SVS model predicts; testing the model with familiar managers should follow.

IDT's specificity may help generalize value measures, a generalization SVS advocates have declined on grounds of topic-specific salience.

The pilot model of attributions of institutional responsibility, combining awareness and freedom to act with trust factors, offers promise. The lesser explanatory power of the latter may reflect their general rather than situation-specific phrasing in this study, which should be tested.

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