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Enhancing self-protective behavior in times of crisis: The effect of efficacy beliefs and peer feedback*

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Abstract

In times of crisis, a government will try to protect involved citizens through effective crisis communication in which relevant precautionary measures are communicated. Nowadays, this crisis communication is supplemented by peer feedback through the use of social network sites. Based on the strong influence of both communication flows, an interaction effect can occur. This research focuses on the effect of efficacy beliefs and peer feedback from SNS messages on the intention to engage in self protective behavior and the interaction effect between these two. The study was a 2 (efficacy beliefs: high vs low) x 2 (peer feedback: positive vs negative) between participant experiment in which 242 respondents participated. Results indicate a highly significant interaction effect between efficacy beliefs in a news article and peer feedback from SNS messages on both the intention to engage in self protective behavior and levels of involvement. When confronted with a low efficacious news article, the effect of peer feedback on these two variables was significantly stronger. Finally, implications for theory and government crisis communication are discussed.

Keywords: Efficacy Beliefs; Peer feedback; Crisis Communication; Risk perception; Involvement; Social Media

Introduction

On the 5th of January, a large fire destroyed a chemical production facility in Moerdijk, 25 kilometers from Rotterdam in the South-West of the Netherlands. The National Crisis Centre facilitated a website and a news channel for the citizens within the crisis area to keep them informed about the fire. Although there were no immediate casualties or injuries due to the fire, health concerns arose about the spread of toxic chemicals that were used and stored at the facility. In reaction to these concerns, the government stated that they continuously took samples from the surrounding area which showed no direct threat to health and safety. Despite the governmental statement that there was no direct threat to health and safety, residents in the nearby area were advised to stay indoors and to keep their doors and windows closed as a precautionary measure due to the chemicals stored at the facility (Blik op Nieuws, 2011). Additional to the official crisis communication, residents made widely use of Social Network Sites (SNS) to stay informed about the crisis (BN de Stem, January 2011). On these sites, involved citizens exchanged experiences and gave feedback on each other. They broadly speculated about the potential consequences of the fire with regard to the stored chemicals. As a result of these interactive speculations, the official governmental statement about the low risk for

health and safety was debated. Involved citizens were left confused and uncertain about the combination of both the official governmental statement about the low risk for health and safety in combination with the contradicting information found on Twitter (*Wijsheid van de massa – 10 dagen Moerdijk, 2011)*. Moreover, doubts arose whether the advised self-protective behaviors like staying indoors and avoiding the ashes, were adequate.

The above example illustrates that nowadays the official governmental crisis communication is faced with a new 'information source'; users on SNS. Governmental crisis communication aims at reducing risks and protecting citizens in times of crisis. It is of most importance that citizens will adopt the self-protective behaviors advised by the government. However, the widely used social media messages might affect the interpretation of (effective) official governmental crisis communication among citizens. When feedback and opinions of peers posted on SNS cause confusion or hesitation, this can negatively influence the adaptation of relevant behavior. Therefore, insights in the effect of social media messages on the interpretation of governmental crisis communication are needed. This study will try to give these insights using an experimental design to test which crisis communication message is most effective in promoting self protecting behavior among citizens, the effect of peer feedback on the adoption of self-protective behaviors, and the interaction between these two.

The elements of effective crisis communication

In times of crisis like the one in Moerdijk, a government will distribute information about cause, casualties and implications of the crisis to the involved citizens. In addition to this, the government tries to protect its citizens against the risks deriving from the crisis. One way of protecting citizens and reducing the risks citizens face, is through effective crisis communication in which relevant precautionary measures are communicated. In the case of Moerdijk, the government advised citizens in the involved surrounding area to stay inside and shut down the ventilation as a precautionary measure. Citizens had to take relevant actions to protect themselves against the risk at hand. Because not every citizen is prepared for such measures, crisis information should aim at providing the public perspectives on how to cope with the threats they face. By motivating citizens to engage in self protective behaviors, the risks citizens face is reduced.

Recent research on health behaviors suggests guidelines that can be used in establishing an effective communication message. The Extended Parallel Process Model (EPPM) (Witte, 1992), posits

that risk perception and efficacy beliefs are key elements in enhancing self-protective actions. The health promotion model states that individuals need some sort of perception of the risk at hand before they are willing to protect themselves against danger. They should perceive a risk as severe, and the probability of being exposed to that risk as likely, before engaging in self-protectiveness (Witte, 1992; Witte and Allen, 2000). That is, without the idea of being vulnerable to a risk and the insight that the consequences or that risk are not severe, respondents will not likely try to protect them against that threat (Martin, Bender & Raish, 2007). However, only experiencing a risk as threatening or likely to occur is not enough to engage in self-protectiveness (Ruiter, Abraham & Kok). To engage in self-protective behavior, one should also experience high levels of efficacy beliefs (Rimal and Real, 2003; Kievik and Gutteling, 2011; Witte, 1992). People have to perceive that they are capable of performing the self-protective behaviors (self efficacy). Furthermore, they should also perceive that the performed action is effective in reducing the threat (response efficacy). Both elements are necessary to enhance self-protectiveness. This means, in order to enhance self-protectiveness through governmental crisis communication, citizens must 1) be aware of the crisis, 2) perceive the risk or crisis at hand as severe and feel vulnerable to that risk. Furthermore, they must 3) perceive themselves as able to perform the advised behaviors, and perceive that behavior as effective to reflect the threat (Witte, 1992; Smith et al., 2007).

Research on safety issues show promising results with regard to the applicability of this model within a risk domain. In research done by Kievik and Gutteling (2011), risk perception and efficacy beliefs proved to be strong predictors of the intention to take self-protective actions among respondents. In their research on the risk of flooding, different communication messages were created. These messages differed in the level of risk perception and the level of efficacy beliefs. After being exposed to the manipulation, respondents were asked whether they would take precautionary measures in order to protect themselves against the risk of flooding. Results showed that respondents that were exposed to the high risk – high efficacy manipulation were significantly more willing to engage in self-protective actions than respondents in any of the other conditions. Within a crisis situation, respondents usually show high levels of risk perception (Pennings, Wansink & Meulenberg, 2002). Therefore, the communication message provided should aim at enhancing the efficacy beliefs of the residents. By giving clear and distinct prospects for action, and by providing clear guidelines on

how these actions can be undertaken, respondents might be more willing to follow these recommendations.

The impact of Peer Feedback

Creating effective crisis communication messages that motivates citizens to engage in self-protective behavior seems to be a challenge at itself. Nowadays, crisis communication experts are confronted with an even bigger challenge. Not only do they need to effectively communicate about risks and crisis through official information channels; they are also faced with new media sources. With the use of SNS, citizens are confronted with the feedback and opinions of other users. These citizens use the new media to independently discuss the faced threats and risks with involved others.

Information gathering When confronted with a crisis situation, involved citizens are eager to look for relevant risk information (Ter Huurne, 2008). They need information about the risk at hand in order to make adequate decisions. Since the foundation of the World Wide Web, citizens can search for relevant risk information themselves in addition to the crisis communication provided by the government. Whereas in the "old days" only static information was available, nowadays the information is more (socially) interactive. In the search for relevant information about a crisis, people rely heavily on the opinion and feedback from friends, family and neighbors (Mileti et al., 2006). Nowadays, this peer feedback also takes place on SNS. Based on a recent research in the Netherlands, 65% of the population has an active Twitter account. From them, 45% mostly reads the messages, 18% occasionally reads and places messages and 2% actively starts and joins discussions. Moreover, 84% of the Twitter users did agree that Twitter can contain official news (Newcom Research & Consultancy, 2011). SNSs are an easy accessible way to stay informed about the ensuing crisis event (Yates & Paquette, 2011; Palen, Vieweg, Liu & Hughes, 2010; Vieweg, Hughs, Starbird & Palen, 2010). With the ongoing developments in the information and communication technology (ICT), SNSs are getting more approachable as a source of news for involved members of the public (Palen & Liu, 2007).

The use of SNS as information source has several advantages. The provided information is often distributed very quickly, and provides situational updates from peers in a local context (Palen, Vieweg, Liu & Hughes, 2010). These quick responses from peers with eyes-on-the-ground seem to be very valid to most members of the public that need to make a decision on whether and how to engage

in self-protective actions (Shklovski, Palen, & Sutton, 2008). Moreover, depending on the used media (e.g Twitter), residents can see the spatial distance between distributed information and the own location, leading to more relevant information (Vieweg, Hughs, Starbird, & Palen, 2010).

Peer feedback With the use of SNS as a source of information in times of crisis, citizens are confronted with user generated messages containing questions, feedback and opinions. Based on recent research regarding two crisis events, citizens perceived these messages and feedback from other Twitter users reliable and useable (Vieweg, Hughs, Starbird, & Palen, 2010). Furthermore, citizens not always rely solely on the communication of the government. In a recent case regarding child vaccination, the majority of parents did not engage in vaccination due to the feedback of suspicious peers (Volkskrant, November 2009). Peer feedback and the information from significant others is important in people's decision making-processes (Bandura, 1978; Fishbein & Ajzen, 1980; Ajzen, 1985; Ter Huurne, 2008; Eagly & Chaiken, 1993). When deciding on how to act in a crisis situation, one will reflect on the opinion of others before deciding on whether to engage in a specific type of behavior. As seen in the study from Ter Huurne (2008), when people receive advice from relevant others while trying to keep informed about a crisis, one is likely to be directly motivated to engage in that advised behavior. Moreover, on SNS, people observe how other deal with a crisis situation. They receive clear guidelines on how to act in that situation. When confronted with positive or negative outcomes of actions taken by others, the intention to engage in these particular tasks is increased (Rogers, 1983; Ajzen, 1985; Witte, 1992).

This peer feedback does not always lead to the healthiest or 'ethically desired' behavior. When confronted with negative and/or opposing peer feedback, one is more likely to engage in that unhealthy behavior than without that social feedback (Bandura, 1978). Feedback and opinion of peers play an important role in the negative behavior of citizens in health related risks such as criminal behavior (Bandura, 1978), alcohol consumption (Carter & Kahnweiler, 2000), eating and body image (Mintz & Betz, 1988) and condom use (Albarracin, Johnson, Fishbein, Muellerleile, 2001). Therefore, within a crisis situation, it is important what type of feedback citizens receive. When confronted with a negative and opposing opinion against the advised self protective behavior, one is not likely to engage in that behavior.

Interaction effect In times of crisis, citizens are faced with different information sources. As stated above, it is of importance that citizens engage in adequate risk related behaviors in order to minimize the confronted risks. In order to do so, governmental crisis communication messages should be followed and advised behaviors should be outperformed. With regard to the high impact of peer feedback on the intention of behavior, an interaction with the governmental crisis messages may occur. When official crisis messages leave room for uncertainty on how to behave among involved citizens, it is likely that one will rely more on the feedback of peers. Depending on the ambience of the peer feedback (e.g. positive of negative) this will have implications on the intention to engage in the self protective behaviors advised by the government. With the use of efficacy beliefs in crisis communication, citizens receive clear guidelines on how to act and how effective this is. Therefore, they do not have to rely solely on the peer feedback. In a crisis situation wrong decisions can result in serious harm to members of the public, therefore it is relevant to gain more insights in the interaction effect of efficacy beliefs and peer feedback from SNS messages on the adaption of relevant self-protective behavior.

Hypothesis

In this research, an experiment is conducted based on the results found in Kievik and Gutteling (2011), to test the effectiveness of the EPPM with regard to an official crisis communication message. Indications are that respondents will have more intention to follow recommendations from the government with regard to self-protective behavior when these recommendations enhance efficacy beliefs. Therefore, we state the first hypothesis:

H1: High levels of efficacy beliefs in a news article will result in a higher intention to engage in self-protective behavior than low levels of efficacy beliefs

Secondly, the influence of peer feedback from SNS messages to adopt self-protective actions should be tested in order to see whether peers have an effect on citizens' intentions in times of crisis. Roughly one can state that there are two situations relevant within the domain of crisis communication, positive peer feedback, which reinforces and is in line with the official crisis communication and negative peer feedback which is opposing and not in line with the official crisis communication. Because positive peer feedback is in line with the news article, we expect this feedback to result in

higher intention to engage in self protective behavior. Therefore we state the second hypothesis as follow:

H2: A positive peer feedback from SNS messages will result in a higher intention to engage in self-protective behavior than a negative peer feedback.

Finally it is important to gain insights in the interaction of both governmental crisis communication and peer feedback from SNS messages. Based on the assumption that involved citizens in a crisis situation who experience high levels of risk perception need guidelines on how to act, we expect that the effect of peer feedback is higher when low levels of efficacy beliefs are used in the crisis news article. Moreover, when high levels of efficacy beliefs are perceived in the news article, clear guidelines on how to act in the crisis situation are present and the effect of peer feedback is less strong. Therefore, the third hypothesis is:

H3a: The effect of peer feedback from SNS messages on the intention to engage in self protective behavior is stronger when low levels of efficacy beliefs are used in a news article than when high levels of efficacy beliefs are used.

Method

Pilot Prior to the final experiment, the manipulations were pretested. Respondents in the pilot test were either exposed to the newspaper article that manipulated levels of efficacy beliefs, or the manipulation of the peer feedback that manipulated whether respondents perceived the presented messages as positive or negative. Results showed a main effect for efficacy beliefs based on the two conditions ($F(1,29) = 5.27$, $p = .05$). Respondents in the high efficacy beliefs condition scored higher on these variables than the low efficacy beliefs group. Therefore, we can conclude that the manipulation of efficacy beliefs was successful. Secondly, results show a main effect for the peer feedback on levels of perceived positivity ($F(1,29) = 20.38$, $p = < .01$) and did not significantly differ on levels of importance ($F(1,29) = 2.23$, $p =$ n.s.). Therefore, we can conclude that the manipulation using the peer feedback from SNS messages was successful as well.

Design and participants The study is a 2 (efficacy beliefs: high vs low) x 2 (peer feedback: positive vs negative) between participant experiment. In total, 242 respondents took part in the experiment. Respondents were invited per e-mail to participate in the experiment. In order to start the

questionnaire, respondents had to click on a hyperlink in the e-mail body, which redirected them to the questionnaire. An underlying script was used in this process to randomly assign each participant to one of the four conditions. After completing the questionnaire, all respondents received a debriefing. No differences were found between the groups in gender (χ^2 (3) = 4.79, n.s.), age (F (3,241) = .44, n.s.), education (F (3,241) = .60, n.s.), social media usage (χ^2 (12) = 13.3, n.s.)= .53, n.s.), closeness to a highway (χ^2 (3) = 3.87, n.s.) and closeness to a bus or train station (χ^2 (3) = 1.95, p n.s.). Based on these results, the randomization was successful. Furthermore, none of the participants deviated more than 2.5 standard deviation from the mean scores of the different variables.

Procedure In June 2011, randomly chosen citizens living in the east of the Netherlands were invited by e-mail to participate in the study. Participants were randomly assigned to one of the four conditions (table 1). After entering the questionnaire, respondents were told that they participated in a study regarding the role of road safety in their hometown. In order to experience high levels of risk perception, one needs to be involved within the (crisis) situation. Therefore, within this experiment, all respondents receive the same manipulation of involvement and risk perception in order to establish high levels of involvement and risk perception.

Involvement and risk perception In order to let the participants experience a high level of involvement and risk perception, a proven manipulation was used (Kievik & Gutteling, 2011). All participants were asked to fill in their postal code and their estimation of risks regarding the transportation of chemical substances in their surroundings. After answering these questions, respondents were asked to wait a few seconds in order to let the computer indicate the amount of risk in their environment. After a few seconds, respondents received a manipulated 'result' on the postal code and a risk estimation based on the governmental website "www.risicokaart.nl". This result stated that their postal code indicates that in their direct surrounding large numbers of rail or truck transportation of hazardous substances takes place. Furthermore, information was given about the potential risks (risk perception) and possibility in their direct surroundings (involvement). The message can be found in Appendix A. Also, a fear appeal was added to the message in order to enhance the perceived level of risk even more, as proved to be successful in a study of Kievik & Gutteling (2011). After reading the 'risk perception message', respondents were asked to read a newspaper article

about a large fire at a train station in the east of the Netherlands. The newspaper article contained a fear appeal picture in form of a large fire in a freight train (Appendix B and C).

News article To manipulate the levels of efficacy beliefs in the news article, an official crisis message regarding a large fire at a train station was used and rewritten in two versions. In both versions, the article described a large fire at a shunting yard in the east of the Netherlands. As a result, several waggons with hazardous substances like ammonia and ethanol caught fire. In response to this dangerous combination of substances, the government put a warning out to the nearby living citizens. The three official self-protective actions regarding a crisis with the outbreak of dangerous substances (based on www.nederlandveilig.nl) were advised. The self-protective actions are:

1) Stay or go inside and close doors, windows and everything for ventilation, such as extractor hood, exhaust duct, wall and toilet vents.
2) Stay inside a room that you can seal off tight, preferably in the middle of the house or building.
3) Are you outside? Walk perpendicular to the wind with a handkerchief to your nose and mouth.

Manipulation of self efficacy and response efficacy As described, the three official self-protective actions regarding the dangerous substances were advised. Within this message the levels of both self efficacy and response efficacy were manipulated. Half of the respondents received a message containing information about the fire, with several added aspects to increase the perceived levels of efficacy beliefs conform Kievik & Gutteling (2011). For instance, to manipulate self efficacy, the article contained the following text: “There are several easy to take precautions that will decrease the risks regarding ammonia to a minimum”. Furthermore, regarding the response efficacy, the following manipulation was added: “The following self-protective actions have proven to be very effective”. The entire article is added in Appendix B (and C). The other half of the respondents received a similar article, but without the several added aspects to enhance levels of perceived efficacy beliefs. They only received a description of the self-protective behaviors as stated on www.nederlandveilig.nl , without any comments on the ease or effectiveness.

Peer Feedback After reading the article, half of the respondents received positive, reinforcing Twitter messages from peers regarding the self-protective behaviors within the news article. These

messages were created to reflect a positive peer feedback. Ten Twitter-like messages were shown, all written by peers as if they were in line with the previous news article. The purpose of these messages is to give a positive way of dealing with the given advice from a peers' perspective. For instance, with regard to the first action (closing ventilation) clear guidelines were given on the location and effectiveness of this action. For example a Twitter message was "Closing the doors and ventilation?? Did it, and it was easy!!!" and "Doors were closed already and found the ventilation grids! They are above the windows!!!" The other half of the conditions received negative, opposing Twitter messages from peers. These messages were created to reflect a negative peer feedback. The purpose of these messages was not to amplify the nature of the crisis, but to reflect peers who find it hard to deal with the self-protective behaviors or who think that these behaviors are unnecessary or ineffective. For instance "Yeah right, closing the windows as coping strategy? What about my ventilation system, the grids are impossible to find?!!" and "Closing the ventilation grids...as if that would make any difference to ammonia smoke!!" The SNS messages can be found in Appendices D and E.

Measures When the respondents finished reading the news article and social media messages, they were presented a questionnaire (Appendix F). The questionnaire was mostly based on a previously validated questionnaire (Kievik & Gutteling, 2011; Ter Huurne, 2008). All questions were measured using a five-point-Likert scale, mostly in the form of: 1 (strongly disagree) to 5 (strongly agree). Based on the reliability analyses, all the questions were used in the analysis.

Dependent variables

Intention to perform self-protective behavior The motivation of respondents to engage in self-protective behaviors was measured using a six-item scale. Respondents were asked how likely they are to adopt the self-protective behaviors (for these behaviors see 'News Article') and adhere to given instructions. The questions scored high on reliability (α=.80).

Efficacy Beliefs To measure efficacy beliefs, items of both self efficacy and response efficacy were added. To determine the extent to which respondents felt capable of engaging in self-protective behaviors (self efficacy), a five-item scale was used. Questions were for example: "When I am outside during a crisis with ammonia, I know how to act". The self efficacy scale had a high reliability (α=0.78).

Furthermore, levels of response efficacy were measured using a five-item scale. All questions tapped into the perceived effectiveness of the advised (official) governmental self-protective behaviors. This scale also proved to be highly reliable (α=0.74). When items of both self efficacy and response efficacy were taken together to reflect efficacy beliefs, the scale proved to be highly reliable (α=0.84). Moreover, a positive and significant correlation was found between self-efficacy and response efficacy (*r*= 0.59), allowing us to combine the two factors into one concept for further analysis: efficacy beliefs.

Peer feedback In order to measure whether the manipulation of the SNS messages had worked, two sets of questions were added to compare the two conditions. The first set of questions consisted of two variables and asked respondents about how positive and reassuring the social media messages were perceived. The questions showed a significant correlation (r=.38). The second set of questions indicated the importance and level of usability of the messages (α=0.87). In order for the manipulation to be successful, respondents in the high and low conditions should differ on the first set of questions, but not on the second set of questions.

Independent variables

Risk Perception To measure the perceived vulnerability questions were added regarding the transportation of toxic substances in the direct surrounding of the respondents. The questions indicated the chance of risk of toxic substance transportation as perceived by respondents. Besides the chance of being involved in a serious crisis (vulnerability), Witte (1992) stated that perceived consequences of that crisis are an important factor in the adaptation of self-protective behavior. Therefore, questions were added to measure the perceived severity. In total, a 15-item was used to measure the perceived risk perception of respondents. This scale had a high reliability (α=0.92).

Involvement Measurements regarding involvement were conducted using a five-item scale. Respondents were asked to what level they felt involved in the transportation of hazardous, toxic substances in their surroundings. The scale had a high reliability (α=0.87).

Other variables

Knowledge In order to whether the respondents remembered enough information about the news article and the SNS messages, a small information retention test was conducted using 9 items. On

average, respondents remembered 80% of the information presented in the news article and social network sites. Based on the amount of information, this is plausible.

Demographic variables At the start of the experiment, respondents were asked to fill in some demographic variables in order to check for group differences. Variables that were in included were gender, age, and highest completed (Dutch) education. Furthermore, respondents were asked whether they engaged in social media. With regard to this, respondents could choose from 1) sometimes active, 2) sometimes passive, 3 regularly active, 4 regularly passive and 5) no. Moreover, respondents were asked whether they lived in close proximity to a highway or bus or train station. With regard to the manipulation or risk perception, questions were added about the postal code and perceived threat with regard to the transportation of hazardous substances.

Results

Manipulation Check To test whether the manipulations were also successful in the actual experiment a second manipulation check was conducted. Results show a main effect of efficacy beliefs based on the two conditions ($F(1,241) = 5.89$, $p = .01$). Results also showed a main effect for the peer feedback condition on levels of perceived positivity ($F(1,241) = 34.40$, $p = <.01$) and did not significantly differ on levels of importance ($F(1,241) = 1.05$, $p =$ n.s.).Therefore, we conclude that both manipulations proved to be successful.

Self-protective behavior ANOVA was used to test for the main effects and interaction effect of efficacy beliefs and peer feedback on self-protective behavior. With regard to hypothesis 1, no significant main effect of efficacy beliefs on the intention to engage in self-protective behavior was found (F (1,241) = 1.18, n.s.). Considering hypothesis 2, also no significant main effects between the positive or negative peer feedback messages on the intention to take self-protective behaviors was found (F (1,241) = 2.2, n.s.).The interaction effect between efficacy beliefs and peer feedback however was highly significant (F (1,241) = 6.39, p = .01) (see figure 1).

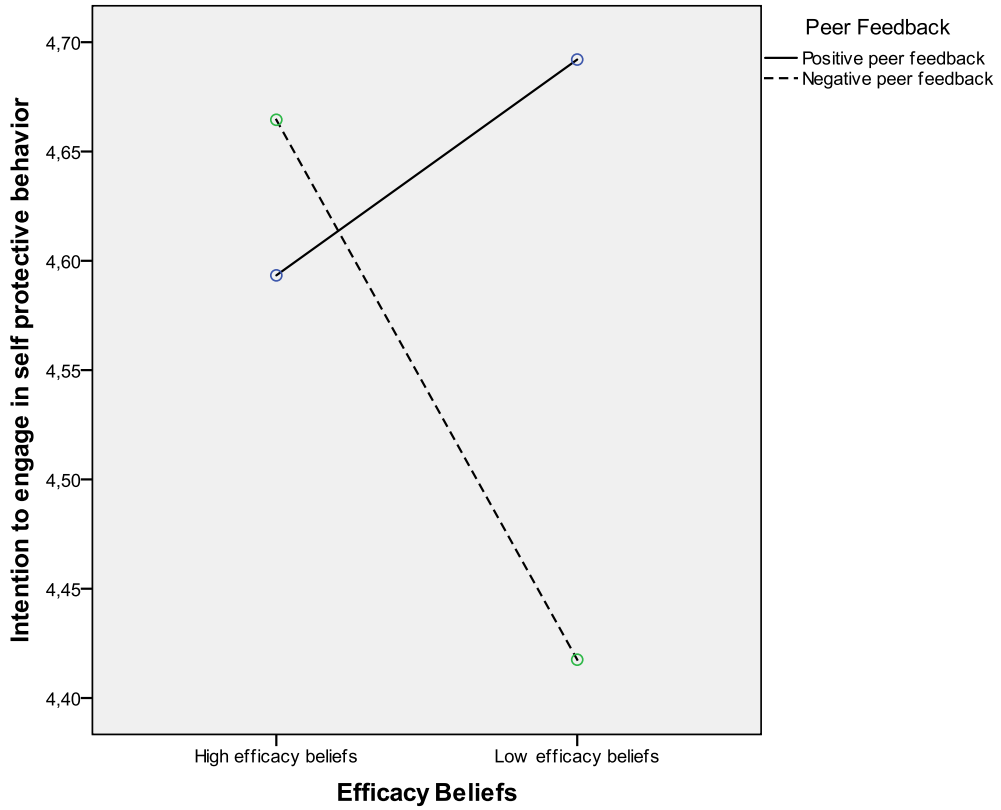

Figure 1: Interaction effect between efficacy beliefs and peer feedback on the intention to engage in self protective behavior

Table 1 describes the mean scores and standard deviations of the dependent and independent variables per condition.

Table 1. Mean score, standard deviations per condition

	High EB – Pos PF **n = 60**		High EB – Neg PF **n = 62**		Low EB – Pos PF **n = 63**		Low EB – Neg PF **n = 57**	
	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
Int self protect. behav.	**4.59**	.48	**4.66**	.57	**4.69**	.35	**4.42**	.68
Efficacy Beliefs	**3.48**	.64	**3.39**	.65	**3.27**	.77	**3.17**	.69
PF Importance	**2.96**	.94	**3.05**	.90	**3.16**	.84	**2.82**	.80
PF Positivity	**2.90**	.82	**2.36**	.81	**3.06**	.82	**2.41**	.71
Risk perc.	**2.95**	.75	**2.92**	.70	**3.13**	.76	**2.91**	.68
Involvem.	**3.53**	.85	**3.69**	.87	**3.91**	.78	**3.50**	.98

Scale: 1 strongly disagree to 5 = strongly agree; scores reflect an average score of variables
EB – Efficacy beliefs; PF – Peer Feedback; Pos – Positive; Neg – Negative

Comparisons showed that in the high efficacy condition, participants did not respond to differences in peer feedback on the intention to engage in self-protective behavior ($M_{\text{pos. peer feedback}}$ = 4.59, SD = 0.48 versus $M_{\text{neg. peer feedback}}$ = 4.67, SD = 0.57; $F < 1$). In the low efficacy beliefs condition, the difference between the peer feedback conditions on the intention to engage in self-protective behavior was significant ($M_{\text{pos. peer feedback}}$ = 4.69, SD = 0.35 versus $M_{\text{neg. peer feedback}}$ = 4.42, SD = 0.68; F (1, 238) = 11.77, $p < .005$). Based on this, one can state that when one receives a low efficacious message, the effect of peer feedback on the levels of intention to engage in self-protective behavior are stronger than when a high efficacious message is presented.

Additional Analysis Additional analyses were conducted in order to verify if other main effects or interactions exist between efficacy beliefs and peer feedback. No additional results were found with most of the variables. On involvement however, an interesting result was found. Even though no main effects of efficacy beliefs (F (1,241) = 0.66, n.s.) or peer feedback (F (1,241) = 1.23, n.s.) was found for the level of involvement, the interaction of both variables was significant (F (1,241) = 6.28, p =

.013). Comparisons showed that in the high efficacy condition, respondents did not respond to differences in peer feedback with regard to the perceived levels of involvement to the crisis at hand ($M_{\text{pos. peer feedback}}$ = 43.53, SD = 0.84 versus $M_{\text{neg. peer feedback}}$ = 3.69, SD = 0.87; F < 1). On the other hand, in the low efficacy beliefs condition, the difference between the peer feedback conditions on the perceived level of involvement with regard to the crisis was significant ($M_{\text{pos. peer feedback}}$ = 3.90, SD = 0.78 versus $M_{\text{neg. peer feedback}}$ = 3.50, SD = 0.98; F (1, 238) = 6.47, p < .012), see figure 2.

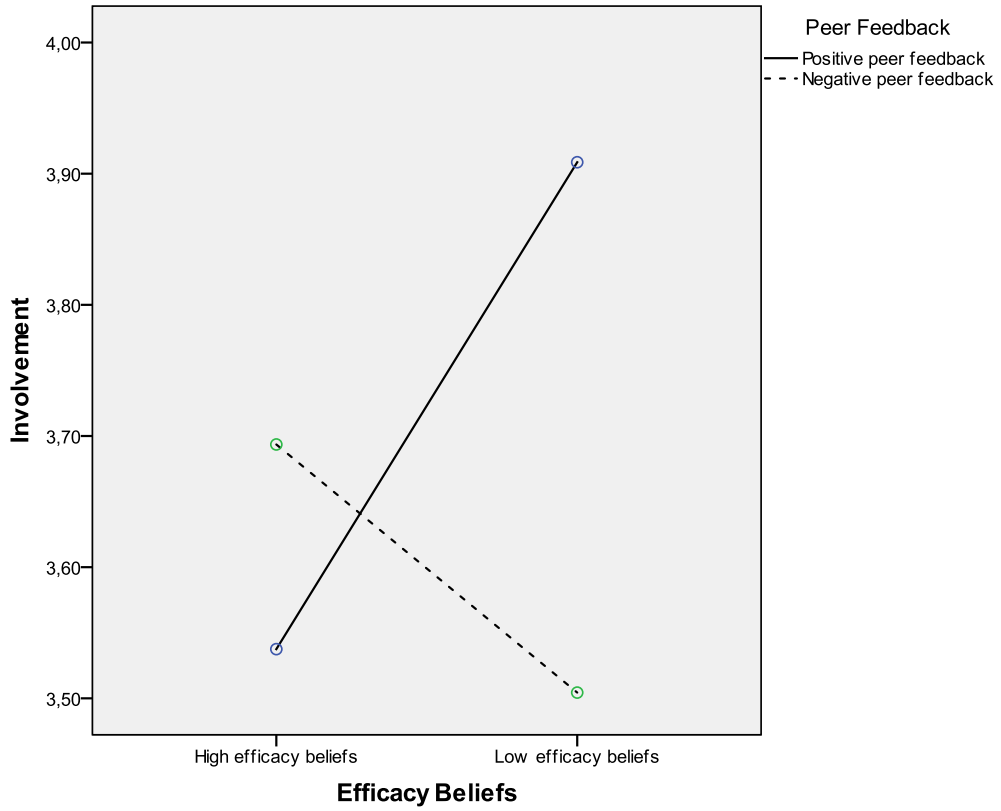

Figure 2: Interaction effect between efficacy beliefs and peer feedback on involvement

Based on this interaction effect, when one receives a low efficacious news paper article, the effect of peer feedback on involvement is stronger than when confronted with a high efficacious message.

Discussion

This study tried to give insights in the relation between (efficacious) crisis communication and peer feedback through social network site messages. Using the case of the large fire at Moerdijk as an example, SNS are becoming an important news source for citizens. Information on SNS is distributed very quickly and updated regularly, leaving it an attractive source for information

in times of crisis. An interaction may occur between official governmental crisis communication and peer feedback on SNS, conflicts could arise due to the possibility that opposing information may be provided by both information sources. By manipulating levels of perceived efficacy through a newspaper article and by providing peer feedback from SNS messages that reflected positive reinforcing peer feedback or negative opposing peer feedback, this study tried to gain insights in the intentions of citizens to engage in self-protective behavior when both information sources are presented.

The above results show that the used manipulations for efficacy beliefs and peer feedback were successful. Although no significant main effects were found, an interesting significant interaction effect was found between efficacy beliefs and peer feedback. Based on this result, when respondents received a high efficacious message, no significant effect of peer feedback from SNS messages on the intention to engage in self protective behavior was found. When confronted with a low efficacious message, strong effects of peer feedback appear. Similar effects were found with the levels of involvement. Respondents who perceived a news article without efficacy beliefs deviated strongly on involvement due to the peer feedback, whereas this effect was not found when a high efficacious message was presented.

Theoretical implications This research gives important insights in the interaction between efficacy beliefs in a news article and peer feedback from SNS. At first, this indicates that the role of efficacy beliefs is strong in times of crisis. Within a crisis situation, several aspects are of influence on how citizens behave and whether or not they will engage in self protective behavior. Not only are efficacy beliefs useful to promote the intention to adopt self protective behaviors (Kievik & Gutteling, 2011), this research also shows a positive effect on peer feedback from SNS messages on these intentions. Furthermore, the presence of high efficacy beliefs results in a less strong effect on the levels of involvement due to peer feedback. Future research should be aimed at the effect of efficacy beliefs on other variables that may have influence on the behavior of citizens in times of crisis.

Furthermore, these results indicate the potential influence of peer feedback from SNS messages in a crisis situation. Without the presence of efficacy beliefs, positive peer feedback significantly deviates in a positive direction from negative peer feedback, with regard to the intention to engage in self protective behavior and involvement. Citizens receiving low levels of efficacy beliefs

and negative peer feedback tend to score lowest on involvement and show the lowest intention to engage in self protective behavior (see figure 1 and 2). Because peer feedback from SNS messages shows such a strong effect, the results of this study are essential. Future research should try to gain information on how this peer feedback behaves in times of crisis and especially how a negative peer influence is formed. With these insights, communication experts can aim at maintaining a positive peer feedback on SNS.

Practical implications These findings also provide some practical implications on how to motivate the general public to engage in self-protective behavior. Nowadays, news networks and/or governments do not make use of efficacy beliefs on a large scale in their risk and crisis communication. However, the current study shows a highly significant interaction effect between efficacy beliefs and peer feedback. Not only are high efficacy beliefs able to enhance the intention to engage in self protective behavior in a crisis situation (Kievik & Gutteling, 2011), results also show that when high levels of efficacy beliefs are presented in a news article, the effects of peer feedback is not significant. Therefore, crisis and risk communication experts should try to enhance levels of efficacy beliefs in their (governmental) communication messages. This will on the one hand result in more self-protectiveness among citizens and on the other hand will temper the effect of peer feedback from the SNS.

Furthermore, the attitude of peers with regard to crisis and risk communication expressed in SNS messages might have a strong influence on citizens' behavior when efficacy beliefs are low. That is, when a negative and opposing attitude towards government or governmental communication is expressed, citizens may become suspicious about the presented communication messages. In Moerdijk, citizens became uncertain about the statement of the mayor of Moerdijk that there was no risk for the wellbeing of nearby residents. These statements were debated on the SNS, resulting in a hesitating attitude towards the effectiveness of self-protective behaviors. Current results show that when citizens receive a low efficacious message, a negative peer feedback will lead to a low intention to engage in self protective behavior. Besides changing the official crisis communication, until now, risk and crisis communicators do not actively participate in SNSs. Therefore, the judgments and claims about the crisis and risks at hand are not directly refuted or otherwise explained. In doing so, a negative opposing opinion could be turned into a more understanding one. Future research is necessary to give more insights in the role of participation on SNS in times of crisis.

Some practical and procedural limitations of this study have to be mentioned. In this research no main effect of efficacy beliefs on the intention to engage in self protective behavior was found. Witte (1992) indicates, in order to enhance self-protective behavior among respondents, high levels of risk perception and efficacy beliefs are desired. Although efficacy beliefs should always reflect some effect on self-protective behavior, this effect is stronger in combination with high levels of risk perception (Kievik & Gutteling, 2011). All respondents received the same risk perception message and scored on average 2.5 on a five point Likert type scale. This could indicate that respondents did not perceive the transportation of hazardous substances as a potential threat to them. Therefore, the chosen risk might not be frightening enough in order to increase the perceived levels of risk among respondents. Therefore, in future research another risk topic or manipulation should be used that might induce higher levels of risk perception on respondents. Moreover, to measure the levels of positivity and reassurance in peer feedback only two questions were used. The use of only two items might result in biased conclusions about whether respondents felt that the social media messages were either positively reinforcing or negatively opposing. Therefore, using more items seems advisable.

In conclusion, to end this article close to its original topic, a ‘high efficacious’ advice: There are very easy and effective ways to limit the effect of peer feedback from SNS messages in times of crisis. Simply add sentences regarding efficacy beliefs into your (official, governmental) crisis message and the effect of peer feedback will be less strong. This strategy has proven to be very simple and useful!

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Appendices

Appendix A

“Op basis van het door u ingevulde postcodegebied is gebleken dat u een **hoog risico** loopt wat betreft het transport van gevaarlijke stoffen.

Er worden veel soorten gevaarlijke stoffen vervoerd. Vervoer vindt binnen uw regio plaats over de weg en over het spoor, zowel binnen als buiten de bebouwde kom. Er zijn een groot aantal stoffen die een ernstig gevaar voor de volksgezondheid kunnen veroorzaken.

In het geval van een ongeluk met gevaarlijke stoffen is meestal een *groot gebied rondom de ramp betrokken*. Ook kan er een gevaarlijke situatie ontstaan wanneer verschillende stoffen met elkaar in contact komen. Bij elke stofgroep hoort een ander soort risico voor de omgeving. Ammoniak hoort bijvoorbeeld bij de stofgroep ‘giftige vloeistoffen’.

Risico’s
Transport van gevaarlijke stoffen geven deze risico’s voor de omgeving:
• een grote brand door een brandbare vloeistof, bijvoorbeeld benzine;
• een grote brandende gaswolk, bijvoorbeeld LPG;
• een giftige gaswolk, bijvoorbeeld chloor;
• een verdampende giftige vloeistof, bijvoorbeeld ammoniak; • een explosie van bijvoorbeeld springstoffen.”

Appendix B

News paper article containing high efficacy beliefs

DE TWENTSCHE COURANT
Tubantia

Treinwagons met ammoniak en ethanol in brand

Treinwagons met ammoniak in de brand
foto: ANP (2011)

Op een rangeerterrein in het oosten van Nederland, staan drie wagons van een goederentrein in brand. Woningen in een straal van 2 kilometer om de brand zijn na middernacht ontruimd uit voorzorg voor een mogelijke explosie en vrijgekomen gevaarlijke stoffen. Door de harde wind loopt ook omliggende dorpen het risico blootgesteld te worden aan de gevolgen van de brand.

Het gaat om twee wagons met ammoniak en een wagon met ethanol. De brandweer is sinds negen uur gisteravond bezig met blussen.
Rond de brandende treinstellen staan veel andere wagons waarin ook ethanol zit. Omliggende wagons worden door de brandweer koel gehouden. De brandweer vreest dat het vuur overslaat.

Uit de voorlopige resultaten van de luchtmetingen van het RIVM en de milieuongevallendienst is gebleken dat er zich verhoogde concentraties ammoniak bevinden in de vorm van damp en rook rondom de brand. Er zijn verschillende voorzorgsmaatregelen te treffen waardoor men op een gemakkelijke manier de risico's van ammoniak tot een minimum kan beperken. De volgende handelingen zijn het meest effectief gebleken; 1) Ga naar binnen en sluit alle ramen en ventilatieroosters (deze bevinden zich vaak boven uw ramen) 2) Ga bij voorkeur op een kamer zitten waar het niet tocht. Wanneer u zich buiten bevindt, 3) loop dan met de wind in uw zijde met een zakdoek of de mouw voor uw neus, op die manier ademt u zo min mogelijk schadelijke stoffen in. Uit voorgaande branden met ammoniak is gebleken dat deze handelingen zorgen voor een sterke vermindering van het gevaar van uw gezondheid.

Twitter

Er is een gratis informatienummer opgesteld voor het publiek: 0800-28032011. Daarnaast kan men ook informatie verkrijgen via Twitter. Het account wat is geopend heeft de naam @ammoniakbrand

Appendix C

News paper article containing low efficacy beliefs

DE TWENTSCHE COURANT
Tubantia

Treinwagons met ammoniak en ethanol in brand

Treinwagons met ammoniak in de brand
foto: ANP (2011)

Op een rangeerterrein in het oosten van Nederland, staan drie wagons van een goederentrein in brand. Woningen in een straal van 2 kilometer om de brand zijn na middernacht ontruimd uit voorzorg voor een mogelijke explosie en vrijgekomen gevaarlijke stoffen. Door de harde wind loopt ook omliggende dorpen het risico blootgesteld te worden aan de gevolgen van de brand.

Het gaat om twee wagons met ammoniak en een wagon met ethanol. De brandweer is sinds negen uur gisteravond bezig met blussen.
Rond de brandende treinstellen staan veel andere wagons waarin ook ethanol zit. Omliggende wagons worden door de brandweer koel gehouden. De brandweer vreest dat het vuur overslaat.

Uit de voorlopige resultaten van de luchtmetingen van het RIVM en de milieuongevallendienst is gebleken dat er zich verhoogde concentraties ammoniak bevinden in de vorm van damp en rook rondom de brand. Er zijn enkele maatregelen te treffen tegen de risico's van ammoniak die deze risico's enigszins kunnen verminderen. Zo kunt u bijvoorbeeld naar binnen gaan en ramen, deuren en ventilatieroosters sluiten. Daarnaast is het verstandig om in een ruimte zonder tocht te verblijven. Indien u buiten bent, blijf dan uit de wind, of houdt de wind in uw zijde en houdt een zakdoek voor uw mond.

Twitter

Er is een gratis informatienummer opgesteld voor het publiek: 0800-28032011. Daarnaast kan men ook informatie verkrijgen via Twitter. Het account wat is geopend heeft de naam @ammoniakbrand

Appendix D

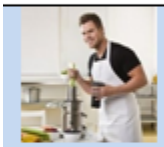
Social Network Messages containing a positive, reinforcing opinion

Monique1242 zegt: via Iphone

Ventilatieroosters zitten inderdaad boven de ramen... Van die rook heb ik nu geen last meer gelukkig ☺!!

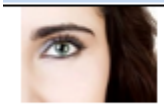
MooiWark zegt: via Twitter.com

Volg de laatste tweets over de brand op #treinbrand #ammoniakbrand



RonalddeB zegt: via Blackberry

Wat een goed bericht in de Tubantia!!!! Goede en makkelijke tips en geen last van rook of brand ☺☺!!



MilouOnline zegt: via Android

Info gezocht en snel gevonden! Veel en rappe updates @ http://www.crisis.nl ..!! Superr handig en gemakkelijk ☺!!

StephanTwitter zegt: via Android

BAM ZO'NE GROTE VUURBAL, JONGE!! #newkids #treinvuurbal #haha

Martine001 zegt: via Tweetdeck

Ramen en deuren heb ik gelukkig altijd dicht (KOUKLEUM!) ventilatie uit gedaan, ben blij dat dit werkt! #geenzorgen hier!!

Johan27 zegt: via web

RT @MilouOnline crisis.nl werkt perfect..!! Super handig en bruikbaar ☺!! Daar heb je iig iets aan...!

LindaBorne zegt: via Android

Ventilatie en ontluchtingsroosters zijn dicht!!!! Die tips zijn echt easy om uit te voeren ☺☺!!

Gerard1978 zegt: via TweetDeck

Ik zit midden in huis (@studeerkamer *TIP*)...!! Alle ventilatie is dicht... mkkelijk te doen!!

WJansen zegt: via Android

Liep zojuist langs #ammoniakbrand . Mouw voor je mond en neus is makkelijker dan een doek!!! #helpjemedemens

Appendix E

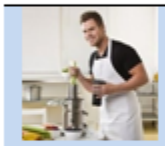
Social Network Messages containing a negative, opposing opinion

Monique1242 zegt: via Iphone

Ventilatieroosters boven de ramen...? En daarmee ben ik beschermd tegen alle gevaarlijke stoffen?? Daar geloof ik echt helemaal niets van!!

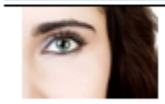
MooiWark zegt: via Twitter.com

Volg de laatste tweets over de brand op #treinbrand #ammoniakbrand



RonalddeB zegt: via Blackberry

Wat een slecht bericht in de Tubantia!!!! Net alsof je met die tips geen last van de rook of brand hebt ☹☹!!



MilouOnline zegt: via Android

Info gezocht en na lang zoeken ook wat gevonden... helaas oud nieuws en weinig updates @ http://www.crisis.nl..!! Heel omslachtig en lastig allemaal ☹!!

StephanTwitter zegt: via Android

BAM ZO'NE GROTE VUURBAL, JONGE!! #newkids #treinvuurbal #haha

Martine001 zegt: via Tweetdeck

Ramen en deuren zaten al dicht (KOU!) ventilatie uit gedaan, maar dat werkt toch niet!! #kopzorgen hier!!

Johan27 zegt: via web

RT @MilouOnline crisis.nl werkt beroerd..!! Super onhandig en onbruikbaar ☹!! Daar heb je inderdaad niets aan...!

LindaBorne zegt: via Android

Ventilatie en ontluchtingsroosters dicht???? Die tips zijn echt **NIET** easy uit te voeren ☹☹!!

Gerard1978 zegt: via TweetDeck

Ik zit midden in mijn huis (@Studeerkamer??!!) En ik probeer alle ventilatie te sluiten.... Hoe moet dat???? HELP!!

WJansen zegt: via Android

Liep zojuist langs #ammoniakbrand . Uiteraard geen doek bij me, wat moet ik nu doen??!!! #helpjemedemens

Appendix F

Questionnaire

Knowledge Questionnaire

		Juist	Onjuist
1	Het eventuele risico dat u loopt had betrekking op gevaarlijke stoffen	(X)	
2	Binnen de Social Media berichten was er een verwijzing naar www.omroeptwente.nl		(X)
3	In het krantenbericht was een afbeelding van een brandende trein te zien	(X)	
4	In het krantenbericht werd verteld hoe bruikbaar de voorzorgmaatregelen waren	(X)	
5	De Social Media berichten hadden betrekking op het krantenartikel	(X)	
6	In het krantenartikel ging het om een brand in Oost-Nederland	(X)	
7	Een van de voorzorgsmaatregelen gaf aan wat u kon doen als u zich buiten bevond dicht bij een ammoniakbrand	(X)	
8	In het krantenbericht stond dat er een speciaal Twitter account was gemaakt voor de brand	(X)	
9	In het krantenartikel ging het om een brand waarbij ammoniak vrij was gekomen	(X)	
10	In de Social Media berichten werd er gesproken over www.crisis.nl	(X)	

Involvement

Nu volgen een aantal vragen

Kunt u aangeven in hoeverre u het eens bent met de volgende stellingen?

Vraag		Helemaal niet	Nauwelijks	Enigszins	Nogal	Heel erg
1 *(betr)*	Ik vind het belangrijk om op de hoogte te zijn van de ontwikkelingen rondom transport van gevaarlijke stoffen bij mij in de buurt	1	2	3	4	5
2 *(betr)*	Ik ben geïnteresseerd in de gevolgen van een ongeluk waarbij gevaarlijke stoffen vrij kunnen komen	1	2	3	4	5

3 *(betr)*	Ik voel mij betrokken bij het risico die samengaat met het transport van gevaarlijke stoffen	1	2	3	4	5
4 *(betr)*	Een ongeluk met transport van gevaarlijke stoffen zal invloed op mij hebben	1	2	3	4	5

Risk Perception

Daarnaast willen wij graag weten hoe u denkt over de risico's van het transport van gevaarlijke stoffen. Kunt u aangeven hoe u denkt over de risico's van het transport van gevaarlijke stoffen?						
Vraag		Helemaal niet	Nauwelijks	Enigszins	Nogal	Heel erg
1 *(sev.)*	Hoe RISKANT vindt u een ongeluk met het transport van gevaarlijke goederen	1	2	3	4	5
2 *(sev.)*	Hoe ERNSTIG vindt u een ongeluk met treintransport van gevaarlijke goederen	1	2	3	4	5
Kunt u aangeven hoe u denkt over KANS op een ongeluk met de transport van gevaarlijke stoffen?						
		Zeer klein	Nogal klein	Niet klein/ Niet groot	Nogal groot	Zeer groot
3 *(vul.)*	Hoe groot acht u de KANS op een ongeluk met het transport van gevaarlijke stoffen in Nederland?	1	2	3	4	5
4 *(vul.)*	De KANS dat er in mijn leefomgeving een ongeluk met transport van gevaarlijke stoffen plaatsvindt acht ik	1	2	3	4	5
5 *(vul.)*	De KANS dat ik schade oploop door een ongeluk waarbij gevaarlijke stoffen vrijkomen acht ik…	1	2	3	4	5
6 *(vul.)*	De KANS dat ik zelf te maken krijg met een ongeluk met transport van gevaarlijke stoffen acht ik…	1	2	3	4	5

Kunt u daarnaast aangeven hoe u denkt over de GEVOLGEN van een ongeluk met het transport van gevaarlijke stoffen?						
		Helemaal niet ernstig	Niet echt ernstig	Enigszins ernstig	Nogal ernstig	Zeer ernstig
7 *(sev.)*	Als er een ongeluk met transport van gevaarlijke stoffen plaatsvindt, dan zijn de gevolgen voor mij…	1	2	3	4	5
		Helemaal oneens	Enigszins oneens	Niet eens/ niet oneens	Enigszins eens	Helemaal eens
8 *(sev.)*	Een ongeluk waarbij gevaarlijke stoffen vrijkomen, zal het leven van slachtoffers enorm ontwrichten	1	2	3	4	5
9 *(sev.)*	Een ongeluk met transport van gevaarlijke stoffen treft een groot aantal mensen in de omgeving…	1	2	3	4	5
10 (vul.)	Als er een ongeluk plaatsvindt waarbij gevaarlijke stoffen vrijkomen, ondervind ik hier zeker hinder van	1	2	3	4	5
11 (sev.)	Hoe voelt u zich wanneer u denkt aan de mogelijkheid dat u te maken krijgt met de gevolgen van een ongeluk waarbij gevaarlijke stoffen vrijkomen? Dan voel ik mij…					
		Helemaal niet	Nauwelijks	Enigszins	Nogal	Heel erg
12	Gespannen	1	2	3	4	5
13	Angstig	1	2	3	4	5
14	Nerveus	1	2	3	4	5
15	Bezorgd	1	2	3	4	5
16	Boos	1	2	3	4	5

Efficacy Beliefs

General

Kunt u aangeven hoe u omgaat met de risico's van het transport van gevaarlijke stoffen?						
		Helemaal oneens	Enigszins oneens	Niet eens/ Niet oneens	Enigszins eens	Helemaal eens
1 (self.)	Ik heb er vertrouwen in dat ik mijzelf kan beschermen tegen de gevolgen van een ongeluk waarbij gevaarlijke stoffen zijn vrijgekomen.	1	2	3	4	5
2 (self.)	Ik ben in staat om de voorgeschreven noodmaatregelen op te volgen.	1	2	3	4	5
3 (resp.)	Ik vind dat de meeste voorgeschreven noodmaatregelen nut hebben.	1	2	3	4	5
4 (resp.)	Ik denk dat ik minder gevaar loop tegen vrij gekomen gevaarlijke stoffen wanneer ik de noodmaatregelen opvolg.	1	2	3	4	5

Specific

Als er een ongeluk met het vervoer van gevaarlijke stoffen bij mij in de buurt plaatsvindt...						
		Helemaal oneens	Enigszins oneens	Niet eens/ Niet oneens	Enigszins eens	Helemaal eens
5 (self.)	weet ik wat de meest veilige plek is in mijn huis om mij te beschermen tegen de vrij gekomen gevaarlijke stoffen.	1	2	3	4	5
6 (self.)	Ben ik in staat om te zorgen dat er geen gevaarlijke stoffen in mijn huis komen.	1	2	3	4	5

7 (self.)	Kan ik mijzelf beschermen tegen de vrijgekomen gevaarlijke stoffen, wanneer ik tijdens het ongeluk buiten ben.	1	2	3	4	5
Wat is volgens u het resultaat van de volgende handelingen, wanneer er in uw buurt een ongeluk met transport van gevaarlijke stoffen plaats heeft gevonden?						
		Helemaal oneens	Enigszins oneens	Niet eens/ Niet oneens	Enigszins eens	Helemaal eens
8 (resp.)	Wanneer ik buiten met de wind in mijn rug loop met een zakdoek voor mijn neus, ben ik voldoende beschermd tegen de gevaarlijke stoffen.	1	2	3	4	5
9 (resp.)	Wanneer ik alle ramen, deuren en ventilatieroosters in mijn huis sluit, ben ik goed voorbereid tegen de gevolgen van het ongeluk met gevaarlijke stoffen.	1	2	3	4	5
10 (resp.)	In een kamer zonder ventilatie of tocht, loop ik minder gevaar voor de vrijgekomen gevaarlijke stoffen.	1	2	3	4	5

Social Network Site influence

In tijden van een ramp of crisis maken mensen steeds vaker gebruik van Social Network Sites zoals Facebook, Twitter en Hyves. Dit doen zij om informatie te lezen van anderen, of om informatie te delen over de ramp of crisis.

Wat zijn voor u de belangrijkste redenen om gebruik te maken van Social Media zoals Facebook of Twitter in tijden van een crisis?

Kunt u aangeven in hoeverre u het eens bent met onderstaande stellingen?

		Helemaal oneens	Enigszins oneens	Niet eens/ Niet oneens	Enigszins eens	Helemaal eens
1	De informatie van ooggetuigen kan mij helpen om te gaan met de gevolgen van de ramp.	1	2	3	4	5
2	Ik krijg snelle updates over de ramp of crisis via Social Media.	1	2	3	4	5
3	Ik vind het belangrijk om informatie van ooggetuigen te krijgen wanneer er een ramp heeft plaatsgevonden	1	2	3	4	5
4	Ik zoek geruststelling bij medebetrokkenen	1	2	3	4	5
5	De berichten geven mij inzicht in de omvang van de ramp.	1	2	3	4	5
6	Ik kan zelf actief meedoen binnen de discussie over de ramp of crisis (vragen stellen, vragen beantwoorden).	1	2	3	4	5

Manipulation Check SNS

Kunt u verder aangeven in hoeverre u het eens bent met onderstaande stellingen?

Ten tijde van een crisis of ramp zijn de berichten op Social Network Sites zoals Twitter of Facebook…

		Helemaal niet	Nauwelijks	Enigszins	Nogal	Heel erg
7	Betrouwbaar	1	2	3	4	5
8	Nuttig	1	2	3	4	5

9	Interessant	1	2	3	4	5
10	Belangrijk	1	2	3	4	5
11	Informatief	1	2	3	4	5
12	Geruststellend	1	2	3	4	5

Intention to engage in self-protective behavior

Kunt u aangeven in hoeverre u het eens bent met onderstaande stellingen

Wanneer er zich een ramp of crisis voordoet met transport van gevaarlijke stoffen, dan zou ik…

		Helemaal oneens	Enigszins oneens	Niet eens/ Niet oneens	Enigszins eens	Helemaal eens
1	De adviezen van de overheid opvolgen	1	2	3	4	5
2	Informatie zoeken via radio, televisie of internet	1	2	3	4	5
3	Mijn ramen, deuren en ventilatieroosters sluiten	1	2	3	4	5
4	Zoveel mogelijk binnen blijven	1	2	3	4	5
5	Wanneer ik toch naar buiten moet (of mij buiten bevind), met de wind in mijn rug lopen met een zakdoek voor mijn neus	1	2	3	4	5
6	Mijn gezin en/of huisgenoten waarschuwen voor de ramp.	1	2	3	4	5

Geloofwaardigheid

Ten slotte nog enkele vragen over de GELOOFWAARDIGHEID van het advies dat u aan het begin van deze vragenlijst heeft gekregen, het artikel wat u hierna heeft gelezen en de Social Media berichten.

Hoe geloofwaardig vond u…

		Helemaal niet	Nauwelijks	Enigszins	Nogal	Heel erg
1	Het advies wat u hebt gekregen op basis van uw postcode	1	2	3	4	5
2	Het gelezen krantenbericht	1	2	3	4	5

3	De Social Media berichten	1	2	3	4	5

Manipulation check SNS 2

De volgende vragen hebben alleen betrekking op de inhoud van de getoonde social media berichten. *Kunt u aangeven in hoeverre u het eens bent met de onderstaande stellingen?*						
		Helemaal oneens	Enigszins oneens	Niet eens/ Niet oneens	Enigszins eens	Helemaal eens
1	De berichten waren afkomstig van Social Media zoals Facebook of Twitter.	1	2	3	4	5
2	De berichten hadden betrekking op een ramp met het transport van gevaarlijke stoffen.	1	2	3	4	5
De getoonde berichten waren...						
		Helemaal oneens	Enigszins oneens	Niet eens/ Niet oneens	Enigszins eens	Helemaal eens
3	Positief	1	2	3	4	5
4	Betrouwbaar	1	2	3	4	5
5	Informatief	1	2	3	4	5
6	Levensecht	1	2	3	4	5