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The person who fell off the escalator and went viral on social media

The role of schadenfreude on video sharing and the influence of envy, deservedness, and expectancy on schadenfreude

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Abstract

Videos of someone who has an accident are frequently shared on social media, but why do people share these? We expected schadenfreude and video sharing to be related, based on the need to share and talk about it. In addition, we expected envy, deservedness, and expectancy to correlate with schadenfreude. We looked at the interaction of warmth and competence, to see in which quadrant of the Stereotype Content Model (Fiske et al., 2002) the most schadenfreude is experienced. We manipulated the conditions using the SCM, resulting in a two (warm, cold) by two (incompetent, competent) model. The results showed that schadenfreude is related to video sharing, envy, and deservedness, but not to expectancy. Besides this, an interaction of warmth and competence has been found on the variable schadenfreude, which shows that the warm incompetent group (e.g. elderly) and the cold competent group (e.g. wealthy people) evoke more schadenfreude.

The person who fell off the escalator and went viral on social media

Someone falls off the escalator in a mall, the person has trouble getting up again but nobody comes to help. A spectator even decides to film the accident. This person decides to share this event on his or her social media channel. This video goes around on social media and several people forward it to their friends and family.

For many people, this event is a normal occurrence in the digital age we now live in. For the person who fell this is a rather unpleasant moment, this person lay helplessly on the floor without anyone to help and someone even decided to film it. After which it was also shared unsolicited on social media, where the person in question could be bothered by unpleasant reactions (e.g. people who find it funny).

The question remains, why do we share videos in which something unpleasant happens to someone else? In this study we reason a potential motive for sharing such videos is due to the experience of *schadenfreude*, where the observer finds it funny that the accident or misfortune happens to the target and experiences pleasure (Feather, 2006). Subsequently, the observer feels the tendency to share this emotion with others (Rimé, 2009), for example on social media. As a reader you do not know who the victim was who fell, was it a man or a woman, was it an old man or a housewife? These are factors that can influence whether the video is perceived as shareable. In this study we classified the victims/targets in one of the four cells of the Stereotype Content Model of Fiske et al., (2002); cold and competent, cold and incompetent, warm and competent, or warm and incompetent. Based on this, we will investigate whether how the person is perceived has an influence on the experience of *schadenfreude* and ultimately influences the sharing of the video.

Schadenfreude and sharing

When you see the video of the falling person, from the example above, passing by on social media, you may find it funny and have to laugh. This can be an example of schadenfreude. Schadenfreude is a social emotion (Parkinson & Manstead, 2015) and occurs when someone experiences pleasure when an accident, failure, or misfortune happens to another (Feather, 2006). When you experience schadenfreude, it does not necessarily mean that you cherish revenge or that you really want the other person to suffer (Dasborough & Harvey, 2017). Nevertheless, several researchers argue that schadenfreude is mainly evoked by envied, resented, or disliked people who experience the misfortunes (Smith et al., 1996; Feather & Sherman, 2002; Hareli & Weiner, 2002). Van Dijk et al. (2006) explain that the joy that comes with schadenfreude comes from comparing yourself with the other person (who is experiencing the misfortune) and this makes you feel better about yourself (self-enhancement). According to Parkinson and Manstead (2015) this can be a function of schadenfreude, to protect one's self-esteem when confronted with social comparisons with others that are not seen as favorable. In addition, people will also experience more joy when the person to whom it happens looks like them on certain social domains (van Dijk et al., 2006).

But why do people share this pleasurable but malicious emotional response with others? When people experience emotions, including socially undesirable ones like schadenfreude, they often feel the need to share and talk about it (Rimé, 2009). This may be because sharing emotions is a type of communication path. You provide the other person with information about intentions, beliefs, and feelings (Dasborough & Harvey, 2017). People often share emotions with people close to them, such as friends, family, or

close classmates (Rimé, 2009). You may also see your followers on social media as close friends and want to share it with them too. Expressing the emotional response of schadenfreude can send a negative signal to the person experiencing the misfortune, such as that they don't deserve help (Rudolph and Tscharaktschiew, 2014). So when you share this emotional response with a friend or family, you show that the behavior that caused this emotion should be avoided and that this behavior falls outside a certain boundary (Dasborough & Harvey, 2017). Based on these findings, our first prediction follows (For a graphical representation of the hypotheses in this study see Figure 1).

Hypothesis 1: We expect schadenfreude to be positively related to video sharing.

Envy and schadenfreude

To investigate what stirs up the feeling of schadenfreude while watching the video, we take a look at envy because van Dijk et al. (2006) state that in several studies schadenfreude has been associated with envy. It is said that schadenfreude mainly occurs when misfortunes happen to envied people (Smith et al., 1996; van Dijk et al., 2006). Envy can be described as an unpleasant emotion, it can include feelings of injustice, inferiority, and hostility (van Dijk et al., 2006). Feather and Nairn (2005, pp. 87-88) provide a clear example when envy occurs "*envy occurs when person (p) holds an inferior position to others (o) and when the social comparison has personal relevance for p, occurring in a domain that p views as relevant to needs and values that are important for themselves.*" Thus, envy is aroused when one person lacks the superior quality, performance, or possession of another and desires the other not to have it (Parrot &

Smith, 1993). Van Dijk et al. (2006, pp. 159) found that "*envy predicts schadenfreude when there is a match between the target of schadenfreude and the envying person.*"

Hypothesis 2: We expect envy to be positively related to schadenfreude.

Deservedness and schadenfreude

In several studies and articles the perceived deservingness of misfortunes is cited as another important predictor of schadenfreude (Dasborough & Harvey, 2017; van Dijk et al., 2005). When the target experiences a misfortune, the observer will experience more joy when he feels the outcome of the target was deserving, earning the misfortune or not earning promotions (Dasborough & Harvey, 2017). Portmann (2000, as cited in Dasborough & Harvey, 2017) explains that this pleasure stems from the hope that the target learns something from its suffering or the hope that the target will correct its mistake. The more the target is responsible for his or her outcome, the more this is seen as a deserved outcome (Feather, 1999). When the outcome of the target is seen as a deserved outcome, this will evoke positive emotions in the observer, namely schadenfreude (Feather, 2006). When the outcome of the target is seen as not deserved, this will actually evoke negative emotions in the observer, such as sympathy (van Dijk et al., 2008).

Hypothesis 3: We expect deservedness to be positively related to schadenfreude.

Expectancy and schadenfreude

Besides that people experience schadenfreude when someone deserves the accident (Feather, 2006), we also expect someone to experience schadenfreude when they expected the accident or misfortune. People have the idea of a just and fair world, introduced by Lerner (1965) the just world belief. This belief is a black-and-white image, in which people are labelled as good or bad (Hayes et al., 2013). People like to believe that the world is just and safe, based on this belief, they can blame the behavior of others (Hayes et al., 2013). Because according to them, each person has a set of choices (e.g. behavior) that someone can make, these choices determine the consequences, so when someone has made a wrong choice, the negative consequences are one's own fault (Hayes et al., 2013). As a result, negative things happen to bad people (Lodewijkx et al., 2001). This belief basically says that people deserve what they get and get what they deserved (Lerner, 1965).

The role of this “black and white” thinking of just world beliefs in schadenfreude becomes evident when looking at intergroup dynamics. Especially when we look at how people perceive others in the in-group and out-group, we can say that the in-group is good and the out-group is bad. This is because the in-group phenomenon is categorized by favoring themselves over other groups to assure themselves of positive identity (Spears & Leach, 2004). When someone from the out-group is seen as "bad", according to the just world belief, it can be expected that something bad will happen (misfortune or accident) to this person. So when something bad happens to a bad person, the observer or in-group can experience pleasure and therefore schadenfreude.

Hypothesis 4: We expect that the expectation of what will happen to the target in the video is positively related to schadenfreude.

Stereotype Content Model

To come back to the example from the introduction, the person falling off the escalator, when we first see this person we often immediately form an opinion about this person, a stereotype. According to the Stereotype Content Model (SCM, as shown in Table 1) of Fiske et al. (2002) this judgement, is determined by warmth and competence. These dimensions can be predicted by means of status and competition, two important variables in intergroup relations (Fiske et al., 2002). When combinations are made with these two dimensions, four groups arise in society, and each of these creates its own intergroup emotion (Fiske et al., 2002). Contempt can arise for the group perceived as not warm and not competent, pity for the group warm and not competent, envy for the group perceived as not warm and competent, and admiration for the warm and competent group (Fiske et al., 2002). We form such a judgment because as an observer we want to know what the intentions (warmth) and the ability to pursue this (competence) of the target are (Fiske et al., 2002). From now on we use "cold" for the group low on warmth and "incompetent" for the group low on competence.

Hypothesis 5a: We expect an interaction between the dimension competence and the dimension warmth on schadenfreude.

Table 1*Stereotype Content Model (Fiske et al., 2002)*

	Low competence	High competence
High warmth	<ul style="list-style-type: none"> ▪ Paternalistic prejudice ▪ Low status, not competitive ▪ E.g., disadvantaged blacks, elderly people, non-standard speakers, disabled people and traditional woman (housewives) 	<ul style="list-style-type: none"> ▪ Admiration ▪ High status, not competitive ▪ E.g. in-group, close allies, middle class, reference groups, Christians and heterosexuals
Low warmth	<ul style="list-style-type: none"> ▪ Contemptuous prejudice ▪ Low status, competitive ▪ E.g. welfare recipients, poor people 	<ul style="list-style-type: none"> ▪ Envious prejudice ▪ High status, competitive ▪ E.g. Asians, Jews, rich people, non-traditional woman (career woman, feminists, lesbians and athletes)

Being perceived in the cold and competent out-group can lead to envious stereotypes (Fiske et al., 2002). This occurs when the group or individuals in that group are doing well for themselves but the intentions towards the in-group are not positive (Fiske et al., 2002). When the out-group is socially economically successful, this can create a competitive threat that leads to another experiencing envy (Fiske et al., 2002). Belonging to a cold and incompetent out-group can lead to the observer experiencing

contempt towards the group (Fiske et al., 2002). These groups are also seen as parasitic due to, for example, freeloading and exploitation, they compete with other groups for resources instead of status (Fiske et al., 2002). Then the warm and competent group, people who could fall into this category are people who look like you and belong to your in-group (Fiske et al., 2002). This group can evoke admiration in the observer (Fiske et al., 2002). Then as the last and fourth, the warm and incompetent group. This group has no intention and is unable to harm the in-group, leading to paternalistic stereotypes (Fiske et al., 2002). Feelings that can arise from this group are pity and sometimes even sympathy, but the in-group usually has no respect for this group (Fiske et al., 2002).

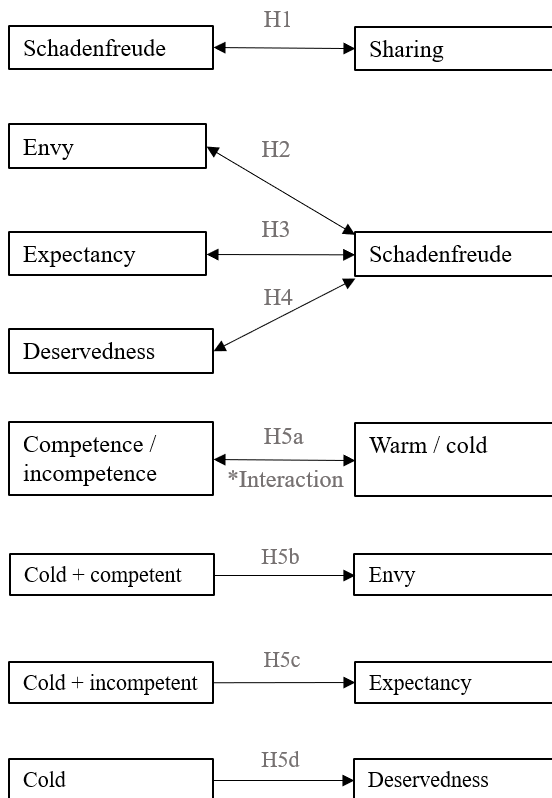
Hypothesis 5b: We expect that perceiving the person in the video as cold and competent will lead to more envy.

Hypothesis 5c: We expect that perceiving the person in the video as cold and incompetent will lead to more expectancy.

Hypothesis 5d: We expect that perceiving the person in the video as cold will lead to more deservedness.

Figure 1

Graphical representations of the hypotheses'



Research objective & Implications

The aim of this study is to investigate why people share videos on social media of others who experience an accident or misfortune and we will investigate whether it matters how the person in the video is portrayed by us (based on the Stereotype Content Model). We will investigate whether this sharing is caused by experiencing schadenfreude. In addition to this, we also want to find out what makes someone experience schadenfreude, what is the role of envy, expectations, and deservedness in this. We will investigate this by means of the Stereotype Content Model, and see if there are differences when the person

in the video is perceived as cold and competent, cold and incompetent, warm and competent, or warm and incompetent.

Method

Participants and design

Participants were recruited through the site Prolific, a site where people can be recruited for online surveys. The total sample consisted of $n = 150$, of which 48 female and 102 male. Our requirement was that the participant must be at least 18 years old to participate in our study. The age of the participants was between 18 and 76 years¹ ($M = 30.02$, $SD = 11.35$). Furthermore, no participants were removed from the study. The participants all had sufficient knowledge of the English language. Subsequently, the participants were randomly assigned to our two (cold vs warm) by two (competent vs incompetent) between subjects ANOVA design. Each condition of this design consisted of 37 or 38 participants.

Measures

During the online survey we had several questions for the participants after each video, namely about the Stereotype Content Model, sharing, schadenfreude, envy, sympathy, deservingness, and expectancy. Finally, they were asked about demographic information.

As a manipulation check we used two questions about the Stereotype Content Model, to see if the manipulation of the description of the video (cold and competent, cold

¹ One participant mistakenly entered the wrong value for age and was only excluded from the age average.

and incompetent, warm and competent, or warm and incompetent) was successful. “How warm or cold did you perceive the person in the video?” and “How incompetent or competent did you perceive the person in the video?” These items were measured on a 7-point Likert scale (Very cold/incompetent [1] to Very warm/competent [7]).

Two statements assessed sharing “How likely is it that I will share this video” and “How likely is it that I would share this video on my own social media”, measured on a 11-point Likert scale (Not likely [0] to Very likely [10]). These items were combined into a reliable measure of sharing ($r[150] = .481, .501, .755, .604$, all significant $p < .001$).

There were five statements that assessed schadenfreude: “I enjoy what happened to the person in the video”, “I’m satisfied with what happened to the person in the video”, “I couldn’t resist a little smile”, “I actually had to laugh a little bit” and “I feel schadenfreude”. These questions were measured on a 5-point Likert scale (Strongly disagree [1] to Strongly agree [5]) and were averaged into reliable scales ($\alpha = .857, .893, .865, .879$).

Three statements assessed envy toward the target and could be answered on a 5-point Likert scale (Strongly disagree [1] to Strongly agree [5]): “I am jealous of the person in the video”, “I would like to be in the shoes of the person in the video” and “I feel less good when I compare my results with those of the person in the video”. These items were averaged into scales, unfortunately the construct of envy is not sufficiently reliably measured by the three items² ($\alpha = .527, .572, .577, .536$). We chose to keep all items because van Dijk et al. (2006) also used these same items and the items were reliable with them.

² Envy may be difficult to measure and may be sensitive to social desirability, Feather and Nairn (2005).

Three items assessed sympathy, measured on a 5-point Likert scale (Strongly disagree [1] to Strongly agree [5]): “I commiserate with the person in the video about what happened”, “I feel sorry for what happened to the person in the video” and “I sympathize with the person in the video”. I didn’t elaborate further on sympathy.

There were three statements that assessed deservingness of the misfortune: “I find it just what happened”, “I find that what happened to the person in the video is deserved” and “I find it right what happened to the person in the video”. These items were measured on a 5-point Likert scale (Strongly disagree [1] to Strongly agree [5]) and were averaged into reliable scales of deservingness ($\alpha = .628, .642, .351, .631$).³

Two items assessed expectancy and could be answered on a 5-point Likert scale (Strongly disagree [1] to Strongly agree [5]): “I expected this to happen in the video” and “I was surprised by what happened in the video”. The second item was reversed and both items were combined into a reliable measure of expectancy ($r[150] = .645, .667, .588, .740$, all significant $p < .001$).

Finally, two questions about demographic information, such as gender (male, female, non-binary/third gender or prefer not to say) and age of the participant.

Procedure

The participants were able to participate in the study through Prolific, a site where people can complete online surveys. The participants could click on the link so they can access our online survey in Qualtrics with the instructions, videos, and questionnaires.

³ The third Cronbach's alpha is very low, we don't do anything with this because the other three times it is measured sufficiently.

Before our research actually started, we provided the participants with information about the research, clarifying the purpose of investigation, compensation, and voluntary participation. When the participants understood this and agreed to the conditions of the research, they received a short education about the Stereotype Content Model. We taught them that psychology research indicated that we see people in two different ways; we see them in terms of cold vs. warm and competent vs. incompetent. According to this model a warm person is described as friendly, approachable, and cooperative and a cold one as someone who is not communicative and approachable. A competent person appears to be assertive and capable and an incompetent one as someone low in power. We had added the model with some examples. We asked the participants to continue the study when they understood the model. When they clicked next, the first video started.

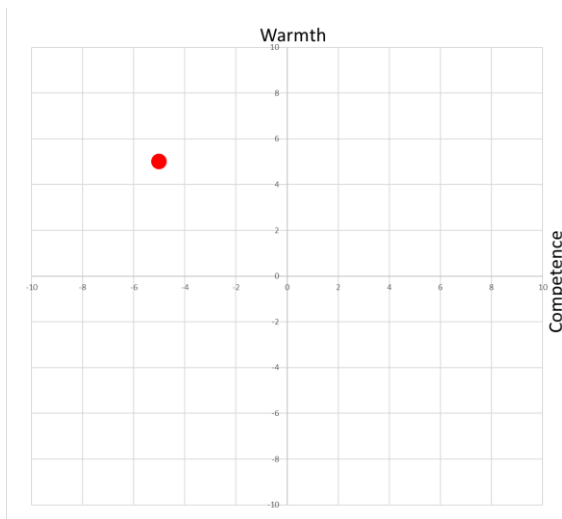
There were four videos in total. In the videos there was always a man who had an accident, we have chosen to show a man in each video to keep this variable constant in all conditions. The accidents seen in the four videos are; a man in a subway who falls from a water flood, a man falling down a mountain into a ravine, a man getting hit by a traffic sign, and a man slipping on an icy road. Each video had a short explanation and a score, indicated by a red dot, in a coordinate system of the person in the video in the SCM (see Figure 2). In each between subjects condition, all targets/victims in the four videos had the same SCM score. The score was either warm and competent, warm and incompetent, cold and competent, or cold and incompetent. For example in the warm and competent condition, the participants saw the four different videos, each with a score of the observed person lying in a warm and competent field. The scores for these four videos were all

slightly different to give the participants the idea that they should look carefully where the man in the video was in the model. The same has been done for all conditions.

After each video the same questions were asked, these were the questions about schadenfreude, deservingness, envy, sympathy, expectancy, sharing, and the manipulation check of the description from the Stereotype Content Model. We chose to ask the questions about the SCM after the video and after the other questions about the same video so that the manipulation was not directly noticed by the participants. After all videos and the accompanying questions had been answered, the question about gender and age followed. After this, the questionnaire ended with a debriefing and we thanked the participants for their participation. The participants received two euros for their participation via Prolific.

Figure 2

Score of warm and incompetent in coordinate system



Ethics

Informed consent and debriefing were used to comply with ethical guidelines during our research. Through an informed consent, we asked if participants understood and agreed to the terms or not. When the participant agreed to participate, he or she agreed and understood the following; that participation in this study was completely voluntary and the participant could decide to stop at any time, the data would be used for the purposes stated in the information letter, and the coded study data is kept for 15 years. And after the research there was a debriefing, explaining what their participation meant to us in terms of content. For questions or complaints they could contact the e-mail addresses mentioned in the debriefing.

Statistical analyses

We looked at non-causal relations between continuous variables, therefore we used correlations. We also performed a two (warm vs cold) by two (competence vs incompetence) ANOVA to look at interaction and main effects. In addition we performed contrast test to compare specific conditions.

Results

Manipulation check

To see if our warmth and competence manipulation had an effect, we performed a manipulation check. First we performed a MANOVA. As expected, this showed that the four cold checks, one after each video, differed significantly for our warmth manipulation, $F(4,145) = 3.541, p = .009, \eta_p^2 = .089$. In the warm condition, people

indicated that the person was more warm (for all four videos, resp. $M = 3.80$, $SD = 1.21$, $M = 4.38$, $SD = 1.15$, $M = 4.78$, $SD = 1.03$, $M = 4.24$, $SD = 1.20$) than people in the cold condition ($M = 3.54$, $SD = 1.17$, $M = 4.08$, $SD = 0.95$, $M = 4.19$, $SD = 0.95$, $M = 3.92$, $SD = 0.98$).

We then took a closer look and performed four separate ANOVAS, one for each video. The warmth check was unlike expected not significant for video 1 ($F[1,148] = 1.811$, $p = .180$, $\eta_p^2 = .012$), however as expected marginally significant for video 2 ($F[1,148] = 3.029$, $p = .084$, $\eta_p^2 = .020$, cold condition: $M = 4.08$, $SD = 0.95$, warm condition: $M = 4.38$, $SD = 1.15$) and video 4 ($F[1,148] = 3.164$, $p = .077$, $\eta_p^2 = .021$, cold condition: $M = 3.92$, $SD = 0.98$, warm condition: $M = 4.24$, $SD = 1.20$) and significant for video 3 ($F[1,148] = 13.233$, $p < .001$, $\eta_p^2 = .082$, cold condition: $M = 4.19$, $SD = 0.95$, warm condition: $M = 4.78$, $SD = 1.03$). For all videos taken together, we can conclude that the warmth manipulation worked, the difference in the perception of warm-cold between the conditions was significant. However, when analyzing the videos separately, care must be taken because the manipulation was not strong enough for each individual video.

To check if our manipulation of competence worked we performed the same MANOVA. Unlike expected this showed that the four competence checks did not differ significantly for our competence manipulation, $F(4,145) = 1.734$, $p = .146$, $\eta_p^2 = .046$.

We then checked for each video separately using four separate ANOVAS. Unlike expected this was not significant for video 1 ($F[1,148] = 0.018$, $p = .893$, $\eta_p^2 = .000$), video 3 ($F[1,148] = 1.915$, $p = .169$, $\eta_p^2 = .013$), and video 4 ($F[1,148] = 3.371$, $p = .068$, $\eta_p^2 = .022$). However for video 2 there was a significant result ($F[1,148] = 5.543$, $p =$

.020, $\eta_p^2 = .036$, incompetent condition: $M = 3.23$, $SD = 1.44$, competent condition: $M = 3.80$, $SD = 1.54$). In general, we can say that no significant difference was found in the perception of competent and incompetent between the conditions. So the manipulation of competence has not been strong enough.

Hypotheses testing

In hypothesis 1 we expected that schadenfreude and sharing a video are positively related. This was tested using four correlations between schadenfreude and sharing, one correlation for each video. As expected, these variables correlated on all four videos positively and medium to strongly with each other (resp. $r[150] = .468$, $p < .001$, $r[150] = .426$, $p < .001$, $r[150] = .535$, $p < .001$, and $r[150] = .560$, $p < .001$). We can therefore confirm our first prediction. When higher schadenfreude is experienced, the desire to share a video is also higher or when there is more desire to share the video, more schadenfreude is experienced.

In hypothesis 2 we expected that envy and schadenfreude are positively related. This was tested using four correlations, one for each video, between envy and schadenfreude. As predicted, for these variables a positive and medium to strong correlation was found for all four videos, resp. $r(150) = .485$, $p < .001$, $r(150) = .408$, $p < .001$, $r(150) = .167$, $p = .041$, and $r(150) = .228$, $p = .005$. We can therefore confirm hypothesis 2 on the basis of these correlations. When the feeling of envy increases, so does the feeling of schadenfreude or vice versa.

In hypothesis 3 we expected that deservedness and schadenfreude are positively related. For this, four correlations were used between deservedness and schadenfreude.

As we predicted, for all videos there was a positive and strong relationship between deservedness and schadenfreude, resp. $r(150) = .583, p < .001$, $r(150) = .561, p < .001$, $r(150) = .302, p < .001$, and $r(150) = .532, p < .001$. Hereby we can confirm hypothesis 3, when deservedness increases, schadenfreude also increases or the other way around.

In hypothesis 4 we expected that the expectation of what will happen to the person in the video is positively related to schadenfreude. This has been tested by means of four correlations, between expectation and schadenfreude. Unlike expected, the correlation between those variables were for all four videos not significant, resp. $r(150) = .108, p = .190$, $r(150) = .147, p = .073$, $r(150) = .048, p = .563$, and $r(150) = .017, p = .841$. No significant relation has been found between expectation and schadenfreude, we thus reject hypothesis 4.

In hypothesis 5a we expected that there is an interaction between the dimension competence and the dimension warmth on schadenfreude. This was tested by performing a MANOVA and four ANOVAS. We looked here at the interaction effect of warmth and competence on the variable schadenfreude. As expected, the MANOVA shows a significant interaction effect, $F(4,143) = 3.241, p = .014, \eta_p^2 = .083$. We then checked for each video using separate ANOVAS. Unlike expected, the interaction effect was not significant for video 1, $F(1,146) = 2.441, p = .120, \eta_p^2 = .016$. However, for video 2, 3, and 4 the interaction effect between warmth and competence was significant, as predicted, resp. $F(1,146) = 6.024, p = .015, \eta_p^2 = .040$, $F(1,146) = 6.262, p = .016, \eta_p^2 = .039$, and $F(1,146) = 10.065, p = .002, \eta_p^2 = .064$. No main effects of competence or warmth on schadenfreude were found. For these three videos, when people are perceived as warm, incompetence decreases schadenfreude. While when people are seen as cold,

incompetence increases schadenfreude (see Figures 3.1, 3.2, and 3.3). To see if the slopes are significant we performed a simple slope analysis. For video 2 we found the following, gradient of slope for incompetent $b = 0.213$, $t(149) = 1.015$, $p = .312$ and for the competent slope the gradient was $b = -0.514$, $t(149) = -2.450$, $p = .015$. For video 3 the gradient of slope for incompetent $b = 0.473$, $t(149) = 1.999$, $p = .048$ and for competent the gradient of the slope $b = -0.344$, $t(149) = -1.441$, $p = .252$. In video 4, the gradient or slope for incompetent $b = 0.376$, $t(149) = 1.589$, $p = .114$ and the gradient for slope for competent $b = -0.681$, $t(149) = -2.904$, $p = .004$. In conclusion, based on the four ANOVAS we can confirm hypothesis 5a, there is an interaction between warmth and competence on schadenfreude.

Figure 3.1

Means of schadenfreude for the interaction effect of video2

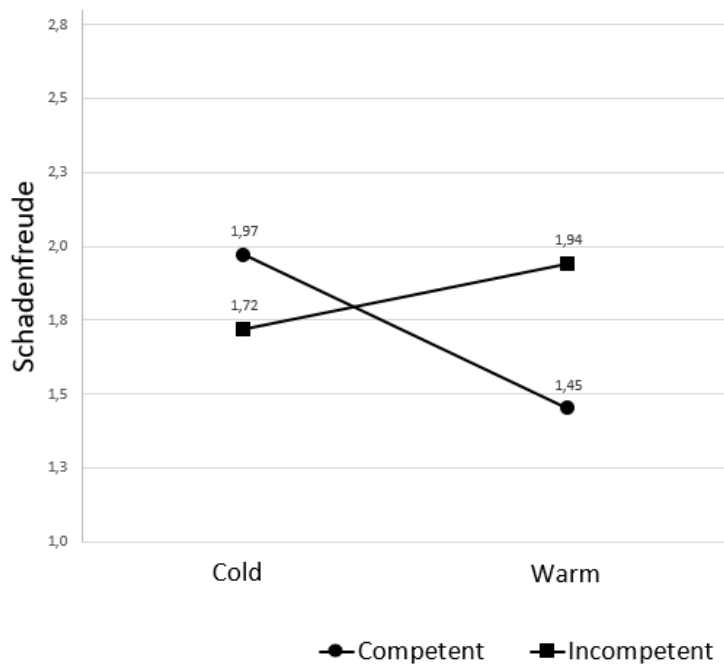


Figure 3.2

Means of schadenfreude for the interaction effect of video 3

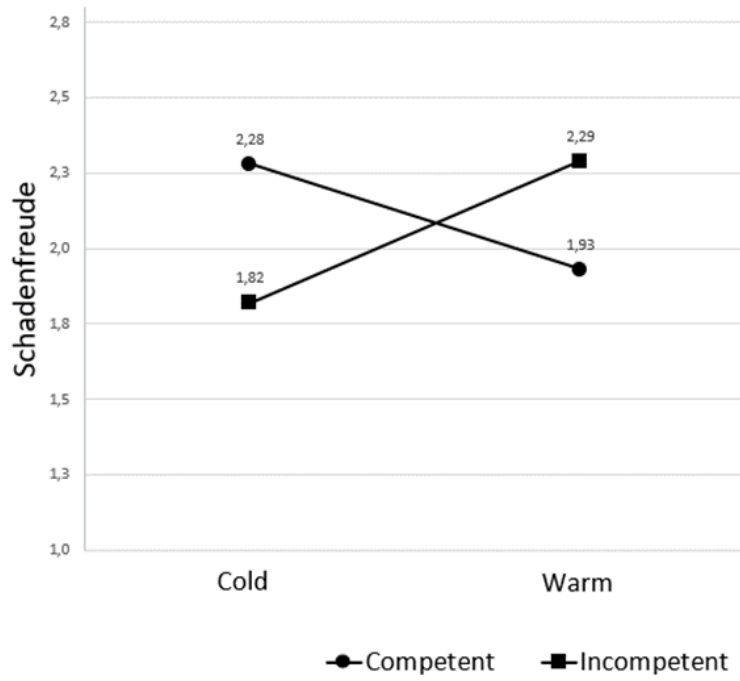
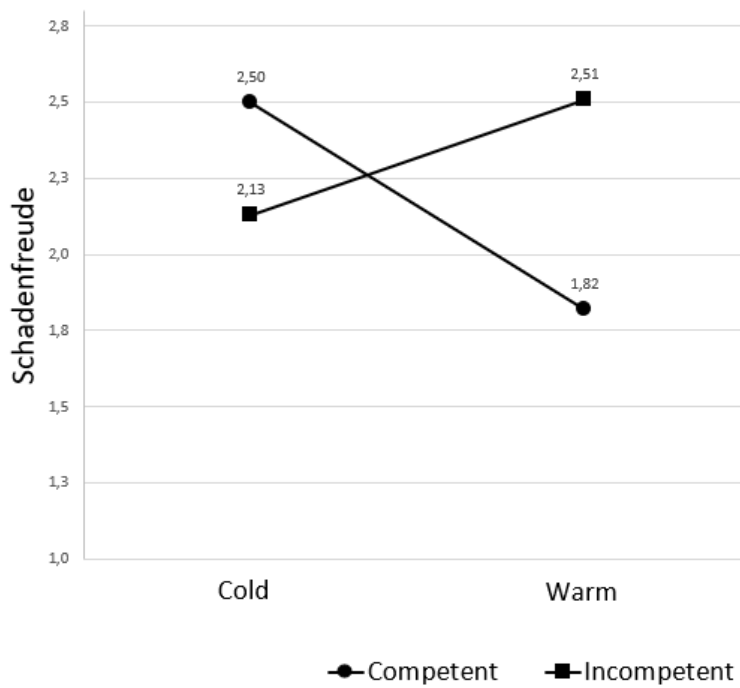


Figure 3.3

Means of schadenfreude for the interaction effect of video 4



In hypothesis 5b we expected that seeing the person in the video as cold and competent leads to more envy than the other three combinations of warmth and competence. This was tested by first performing four ANOVAS and looking at the interaction effect of warmth and competence on envy. As predicted, marginal significant results were found for video 1 ($F[1,146] = 3.381, p = .068, \eta_p^2 = .023$) and video 3 ($F[1,146] = 3.330, p = .070, \eta_p^2 = .022$). Unlike expected, no significant result were found for video 2, ($F[1,146] = 2.701, p = .102, \eta_p^2 = .018$) and video 4 ($F[1,146] = 2.853, p = .093, \eta_p^2 = .019$). Contrast tests were performed to determine whether the cold competent condition was indeed different from the other conditions on envy. We compared the cold and competent condition (condition 2) against the other three conditions (contrast: 1, -3, 1, 1). Unlike expected, the effect was not significant for video 1 ($t[146] = 1.397, p = .165$), video 2 ($t[65,837] = -0.438, p = .663$), and video 4 ($t[146] = 1.114, p = .665$), here the cold and competent condition was not significantly different from the other three conditions on the variable envy. However, a marginally significant difference was found for video 3, $t(146) = 1.938, p = .055$. In this video, the mean of envy was highest in the cold and competent condition, as we expected ($M = 1.52, SD = 0.75$), compared to the other three conditions (cold incompetent condition: $M = 1.28, SD = 0.35$, warm incompetent condition: $M = 1.39, SD = 0.44$, and warm competent condition: $M = 1.31, SD = 0.54$). Overall, we can say that perceiving a person as cold and competent does not lead to more envy than the others, so we reject hypothesis 5b.

In hypothesis 5c we expected that perceiving the person in the video as cold and incompetent leads to more expectancy than the other three combinations of warmth and competence. This was tested by performing four ANOVAS and looking at the interaction

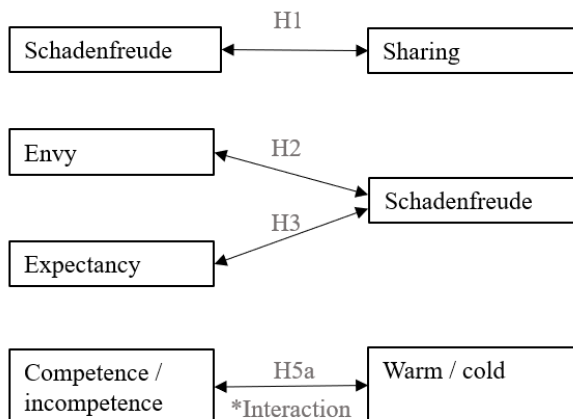
effect of warmth and competence on expectancy. Unlike predicted, no significant interaction effects were found for video 1 ($F[1,146] = 0.829, p = .364, \eta^2 = .006$), video 2 ($F[1,146] = 1.489, p = .224, \eta^2 = .010$), video 3 ($F[1,146] = 0.083, p = .774, \eta^2 = .001$), and video 4 ($F[1,146] = 0.740, p = .391, \eta^2 = .005$). So we reject hypothesis 5c, perceiving the person as cold and incompetent does not lead to more expectancy than the other conditions.

In hypothesis 5d we expected that perceiving the person in the video as cold will lead to more deservedness than perceiving the person in the video as warm. This has been tested using four ANOVAS. Unlike expected, the results showed no main effects of warmth on deservedness for all four videos, resp. $F(1,148) = 0.093, p = .761, \eta^2 = .001$, $F(1,148) = 1.060, p = .305, \eta^2 = .007$, $F(1,148) = 0.149, p = .700, \eta^2 = .001$, $F(1,148) = 2.434, p = .121, \eta^2 = .016$. From this we can reject hypothesis 5d, perceiving the person as cold compared to warm will not lead to more deservedness.

See Figure 4 for a graphical representation of the confirmed hypotheses of this study.

Figure 4

We can confirm hypothesis 1, hypothesis 2, hypothesis 3, and hypothesis 5a



Discussion

Testing the hypotheses showed that schadenfreude and video sharing are positively related. When someone sees a video and experiences a high degree of schadenfreude, there is a good chance that someone will eventually want to share this video or the other way around, when someone wants to share the video he or she also experiences a lot of schadenfreude. According to Rimé (2009), people share the video because they tend to share the emotions they experience with the video. Think, for example, of surprise when something violent or unexpected happens, or sadness when something happens to someone that you do not wish for them. Which emotions played a role in the four different videos from this study has not been investigated.

Besides this relationship, a positive relationship has also been found between schadenfreude and envy, when someone experiences a lot of schadenfreude during or after watching a video, this person also experiences a high degree of envy. According to Feather and Nairn (2005) envy occurs when someone else is better in a particular domain that is relevant to you. And schadenfreude ensures that you protect your self-esteem when the social comparison is not pleasant, for example in the case of experiencing envy towards the target. However, it is not entirely clear why people during this study experienced envy when they watch the videos. The videos don't necessarily contain specific areas in which you want to be better than another, namely a traffic sign that suddenly falls on you, falling from a mountain while mountain climbing, slipping on an icy street or falling over into the water due to a flood. In addition, we also cannot say for sure whether naming someone as competent has been sufficient to evoke envy because the manipulation of competence was not strong enough. Nevertheless, this study has shown again that schadenfreude and envy

are related (see also van Dijk et al., 2006), but we cannot determine what caused this relationship in this particular study and more research is needed for this.

Subsequently, as expected, a relationship was found between schadenfreude and deservedness. When someone thought that the target deserved the accident or misfortune, he or she also experienced more schadenfreude. Or vice versa, when someone experienced schadenfreude, he or she also thought that the target deserved what happened to him. Feather (1999) explains that the more the target is responsible for the outcome, the more it is seen as deserving and this leads to experiencing more schadenfreude.

Contrary to our prediction about the variable expectations based on just world belief and in-group out-group dynamics, no relationship was found between schadenfreude and the expectation of what would happen.

This study has shown that there is an interaction between the dimensions warmth and competence of the Stereotype Content Model of Fiske et al. (2002) on schadenfreude. When people are perceived as warm, incompetence diminishes schadenfreude. Whereas when people are perceived as cold, incompetence magnifies schadenfreude. So when someone is perceived as warm and incompetent (e.g. disadvantaged blacks, elderly people, non-standard speakers, disabled people, and traditional woman), an observer experiences more schadenfreude than when the target is someone who is warm and competent (e.g. in-group, close allies, middle class, reference groups, Christians, and heterosexuals). And when someone is perceived as cold and competent (e.g. Asians, Jews, rich people, and non-traditional woman), the observer experiences more schadenfreude than when someone is cold and incompetent (e.g. welfare recipients and poor people).

The most schadenfreude is therefore experienced against the warm incompetent and the cold competent group. This may be because the warm incompetent group is seen as paternalistic, an observer pities this group, and has no respect for this group at all (See Fiske et al., 2002; Table 1). This can cause schadenfreude. The warm competent group evokes less schadenfreude, this may be because this group is admired (Fiske et al., 2002), and you are not happy about the suffering of the group you look up to. Then the cold competent group, which also evokes more schadenfreude. This may be because this group is seen as threatening, and there is perceived envy towards this group (Fiske et al., 2002). So when something bad happens to this group (misfortune/accident) this can be experienced as pleasant, experiencing schadenfreude. The cold incompetent group evokes less schadenfreude, this may be because this group is scorned and perhaps this weighs less than when the group can be a threat, such as the cold and competent group.

From the results about the interaction effect of warmth and competence on schadenfreude, we can cautiously conclude that there are schadenfreude targets, namely the warm incompetent group, including disadvantaged blacks, elderly people, non-standard speakers, disabled people, and traditional woman, and the cold competent group, including Asians, Jews, rich people, and non-traditional woman.

Contrary to our expectation, the other hypotheses about the stereotypical content model of Fiske et al. (2002) have not been confirmed. Seeing someone as cold and competent does not lead to more envy than the other combinations of warmth and competence. Also, seeing someone as cold and incompetent does not lead to more expectancy than the other conditions. And finally, perceiving someone as cold compared to warm does not lead to more deservedness.

This brings us to some limitations of this current work. It turned out that the manipulation for competence was not strong enough. This could be because the participants extract cognitive information about the competency from the video. It could also be because of directly naming competent and incompetent. It could be that people thought this was too abstract and maybe a brief manipulated description with each video would work better.

Another limitation of this study is that the three items of envy do not sufficiently measure the construct because their reliability is quite low (approximately $\alpha = .5$) compared to the other reliable scales (approximately $\alpha = .6$ and $\alpha = .8$). We did, however, decide to use the variable envy in the analyses. In addition, Feather and Nairn (2005) state that envy is not always clearly expressed or admitted because it is inappropriate to express this hostile feeling. As a result, envy may be difficult to measure and may be sensitive to social desirability, so it's something to keep in mind in the future.

During this research, it has become clearer why people share videos of accidents with others, namely through the experience of schadenfreude. However, it started somewhere, namely with someone who filmed the accident, but why is this being filmed at all? This is a question that remains unanswered. Is filming an accident perhaps a new form of the bystander effect? Or are they disaster tourists who, instead of just watching, try to make themselves "useful" and decide to film it. Further research is needed to find out what causes this filming behavior.

Follow-up research may also focus on the results of this study. Namely, that the warm incompetent (e.g. elderly and disabled) and the cold competent group (e.g. wealthy people) evoke more schadenfreude, after which these videos are eventually shared more

often with others on social media. For example, it is possible to check on social media whether these groups indeed appear more often in videos on social media. In addition, you can also look at the popularity of these videos.

Finally, as an adaptation to this current work, gender differences could be examined. This effects envy that predicts schadenfreude. Van Dijk et al. (2006) claim that schadenfreude is predicted by envy when there is a gender similarity, when the target in the video is the same gender as you, a social comparison can easily be made, which can lead to envy and ultimately to schadenfreude. This study did not specifically focus on the gender effect. In the future, it is therefore possible to look at how men and women score on envy when a man or a woman can be seen in the video.

Going back to the example of the person who falls from the escalator and someone who films this and shares it on social media. After which several people forward this video or share it on their social media account. This current work has shown that sharing the video has to do with experiencing schadenfreude. This study also reaffirmed that schadenfreude is related to envy (van Dijk et al., 2006) and deservedness (Dasborough & Harvey, 2017; van Dijk et al., 2005), so if one experiences envy while watching the video or one thinks this person deserved to fall, one probably experiences more schadenfreude. Because of this schadenfreude, there is a good chance that one will eventually share the video on social media or with friends. In addition, how one perceives the person in the video has an influence on the experience of schadenfreude. When one sees someone who falls under one of these categories; underprivileged blacks, the elderly, non-standard speakers, the disabled, traditional women (warm and incompetent), Asians, Jews, wealthy

people, or non-traditional women (cold and competent) chances are one will experience more schadenfreude.

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