

How We View People Who Feel Joy in Our Misfortune: The Influence of Expressed Schadenfreude in Interpersonal Situation

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In this study, we examined whether people can recognize antecedents of schadenfreude toward their misfortune when they become the target, and whether inferred inner states regulate the perception of the expressers along two dimensions: person perception (warmth, competence, and morality) and interaction style (dominance and affiliation). In Study 1, participants were asked about their experience of recognizing others' schadenfreude and compassion toward them when they were experiencing misfortune. In Study 2, participants read a scenario featuring schadenfreude or compassion. The results showed that the expresser of schadenfreude was viewed as feeling greater inferiority, envy, ill will, dislike, rivalry, and thoughts that the target deserved their misfortune, in comparison to the expresser of compassion. Moreover, expressers of schadenfreude were perceived as incompetent, cold, and immoral. Regarding interaction style, the expresser of schadenfreude was perceived as more dominant and less affiliative than the expresser of compassion.

Keywords : compassion, schadenfreude, person perception, morality perception

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Introduction

When experiencing hardship and trouble, others who offer their sympathy can be cheering and comforting, as it conveys another's concern, care, and their willingness to help. Indeed, sympathy and compassion are the typical emotions we perceive in others when we face predicaments. However, sometimes we perceive others to feel "joy" toward our setbacks. Pleasure derived from another's misfortune is called "schadenfreude" (Feather & Sherman, 2002). Schadenfreude is not uncommon; rather, it is a ubiquitous part of everyday life. People enjoy gossip and rumors about others' misfortunes. This is relevant not only for celebrities, as promoted by the popular press through TV, magazines, and so forth, but also for known acquaintances (van Dijk, Ouwerkerk, van Koningsbruggen, & Wesseling, 2012).

Given that we can experience schadenfreude toward others, it is similarly possible that we could be the targets of this malicious joy. Heider (1958) argued that schadenfreude is a sociallyharmful emotion thus, it is often concealed in interpersonal relationships. However, to our knowledge, how expressed schadenfreude influences the relationship and the person who is the target of this emotion has not yet been examined empirically. In the present study, in order to determine the interpersonal effect of schadenfreude, we examined whether the "targets" of schadenfreude could recognize another's schadenfreude toward them and infer the mental state of the individual who shows schadenfreude with regard to its antecedents, as well as the ways in which

information obtained from cues affects our perceptions of the individual feeling schadenfreude.

Meanwhile, a typical emotional reaction toward another's misfortune expressed during interpersonal interaction might be compassion (van Dijk et al. 2012). Thus, in the context of reacting to another's painful situation, a neutral or non-emotional response may seem odd and may not likely be perceived as a neutral sign, but rather, as a sign of ignorance or even cruelty. Studies are also considering whether a neutral emotion is a suitable baseline in such negative circumstances. Therefore, in the present study, a compassionate response, which seems natural, will be utilized as the baseline. "Targets" refer to the individuals toward whom schadenfreude is directed and "expressers" refer to the individuals feeling schadenfreude.

Inferring Antecedents of Emotion from Recognized Schadenfreude

Although emotion is privately experienced, it is often shared with others during interpersonal contact through various channels (e.g., faces, voices, body gestures, choice of words) even when one does not intend to convey it. Once a specific emotion is perceived, one understands that it indicates the expresser's inner mental state in that specific situation. For example, happiness is known to arise when an individual perceives the environment as favorable. Anger is triggered when an individual believes that another has intentionally blocked their goals. As individuals are aware of these general appraisal patterns that lead to the experiences of different emotions, the display of

emotion, conversely, enables an individual to infer how an individual appraised the situation. By reversing the process “from appraisal to emotion” to “from emotion to appraisal”, an individual can then retrieve information about the expresser’s goals, desires, and beliefs derived from the appraisal pattern (de Melo, Carnevale, Read, & Gratch, 2014; Hareli & Hess, 2010). When making this inference, just like the reappraisal of other emotions, knowledge of the antecedents of the emotion is thought to be used. Therefore, in our study, we first wanted to confirm whether people infer the antecedents of schadenfreude that have been indicated by previous research.

Several important antecedents have been found to elicit schadenfreude, such as, deservingness, inferiority, envy, ill will, dislike, rivalry, and similarity. Schadenfreude is increased when a person’s misfortune is thought to be deserved. For example, people expressed more joy when a misfortune befell an unfairly advantaged person, as the misfortune is thought to be deserved. The “tall poppy syndrome” is similar, wherein high-profile business people, leaders, politicians, and pop stars (van Dijk et al., 2012) become the target of the schadenfreude of others (Feather, Wenzel, & McKee, 2012). A study using hypothetical scenarios found that people reported feeling greater happiness in the failure of a high achiever who did not deserve his/her achievement than in an average achiever’s misfortune (Feather, 1994). Inferiority, envy, and ill will are easily aroused through a social comparison with a high achiever and are well known antecedents (Smith, 2013). Inferiority and envy are consequences of people determining that they are inferior and less

competent (Parrott & Smith, 1993). As these are all painful emotions, individuals are often motivated to eliminate the cause of these feelings. Thus, hostile feelings, such as ill will, envy and dislike, are often accompanied (Feather & Sherman, 2002; Kim & Smith, 2007). The misfortune of the envied is particularly capable of satisfying this motive, as it lowers the envied person’s relatively superior position. Thus, competent high-achievers who engender inferiority and envy are highly likely to be the target of schadenfreude.

Other antecedents are similarity and rivalry. Regarding similarity, when the target is close to an individual and in the same domain, schadenfreude could be increased. For example, when people witnessed the misfortune of a same gender target, it intensified schadenfreude (van Dijk, Ouwerkerk, Goslinga, Nieweg, & Gallucci, 2006). However, there is also a well-known link between similarity and compassion (Oveis, Horberg, & Keltner, 2010). People can be more empathic with others who are similar to them. Thus, it is hard to predict which emotional cue, whether schadenfreude or compassion, would increase the similarity perception between them and the expresser. Regarding rivalry, people can actually stand to gain from misfortunes happening to their rival, thus, it could amplify schadenfreude. For example, misfortunes suffered by rival teams and rival political parties increased malicious joy (Combs, Powell, Schurtz, & Smith, 2009; Leach & Spears, 2008).

In sum, it is well known from previous research that schadenfreude emerges in response to other’s misfortunes to counter feelings of inferiority, envy, and hostility (i.e., ill will, envy

and dislike), that result from comparing oneself to others who are competent high achievers. In addition, deservingness, similarity, and rivalry affect the joy resulting from another's misfortune. However, whether viewing another's schadenfreude facilitates the inference of the expresser's mental state regarding these antecedents has not yet been verified. That is, by the process of reverse appraisal, we would infer that individuals who are feeling schadenfreude evaluated themselves as inferior to the target. The target might also likely to infer heightened envy, dislike, ill will, deservingness, similarity, and rivalry. If individuals are aware of this nature of schadenfreude, these inferences would be particularly useful when understanding others and maintaining relationships with them. Therefore, in the present study, we sought to confirm whether individuals are aware of the relationship between antecedents and whether reverse appraisal can retrieve information regarding the antecedents.

Influence of Recognizing Schadenfreude on the Perception of the Expresser

Expressed emotions also influence the trait perception of the expresser. Perceptions regarding the expresser's traits are related to "person perception", such as the warmth, competence, and morality of a person (Goodwin, Piazza, & Rozin, 2014; Tiedens, 2001) and behavioral tendencies are "interpersonal perceptions" of dominance and affiliation (Hess, Blairy, & Kleck, 2000; Knutson, 1996; Rothman, 2011), and have been found to be affected by others' emotional expressions.

For example, an expresser of anger is tended to

be perceived as highly dominant, and less affiliative, competent, and warm (Knutson, 1996; Moeller, Lee, & Robinson, 2011; Parkinson, 1996; Rothman, 2011; Tiedens, 2001). Similarly an expresser of disgust and contempt is judged as dominant and less affiliative, whereas the expression of happiness and surprise increases both dominance and affiliation perceptions (Hareli, Shomrat, & Hess, 2009; Hess, Adams, & Kleck, 2005; Montepare & Dobish, 2003). An expresser of sadness is viewed as less dominant and competent and more affiliative and warm (Knutson, 1996; Tiedens, 2001). Likewise, fear, shame, and guilt have been found to be related to lowered perceptions of dominance, whereas pride is associated with higher dominance (Shariff, Tracy, & Markusoff, 2012; Stearns & Parrott, 2012).

How would schadenfreude affect these perceptions? Schadenfreude is "happiness", but it is felt when witnessing another person's unhappiness. Happy people are known to be viewed as dominant and affiliative. In the case of dominance, as dominant tendencies have been found to accompany a lack of compassion for others, there is a possibility that schadenfreude is also related to the increased perception of dominance. On the other hand, in the case of affiliation, it is hard to assume that the expresser of schadenfreude would be viewed as affiliative, even though it is a type of "happiness." Although the expresser of schadenfreude is irrelevant to the cause of misfortune and has done nothing intentionally to make the target suffer in order to experience happiness, it is often based on hostility (i.e., dislike, ill will, and envy) so that it is considered

as indirect aggression (Leach & Spears, 2008). Thus, its expression might diminish affiliation perceptions.

Although it is a positive emotion, the hypothesized effect of schadenfreude on dominance and affiliation, that is, high dominance and low affiliation, is similar to that of anger expression, possibly due to these emotions' common aggressive characteristics (James, Kavanagh, Jonason, Chonody, & Scrutton, 2014; Porter, Bhanwer, Woodworth, & Black, 2013). Then would schadenfreude also influence the three dimensions of person perception: warmth, competence, and morality, in a similar pattern to that of anger. So far, the effect of anger expression was only confirmed in the two dimensions, warmth and competence, and anger expressers were found to be viewed as more competent and less warm (Hareli & Hess, 2010).

Similar to expressers of anger, the expresser of schadenfreude is thought to be viewed as less warm, as warmth perception is related to perceived sociable traits such as being good-natured and friendly. However, regarding competence, a different pattern can be expected when considering "inferiority" as an antecedent of schadenfreude. Inferiority is elicited when individuals view their own competence to be lower than that of the target. Previous research has shown that people who become easy targets of other's schadenfreude are those who have high competency (Feather, 1994, 2012). Thus, if the expresser's schadenfreude is thought to be facilitated by feelings of inferiority—which results from viewing one's own competence as lower than that of the target—the target might perceive the

expresser to be incompetent through the reverse appraisal process.

In sum, even though schadenfreude is a happy feeling, its expression might not increase the interpersonal perception of affiliation, as happiness does. Rather, it seems to have similar qualities as anger, which increases dominance and decreases affiliation. However, its effect on person perceptions of warmth and competence is not thought to be same as that of anger. That is, both schadenfreude and anger might similarly decrease perceptions of warmth; however, schadenfreude is thought to decrease perceptions of competence, unlike anger, which increases it.

Meanwhile, extant research has shown that dominance and competence are often coupled and have positive relationships, as these are power-related traits. This finding has also been demonstrated in studies of the social function of emotion. For example, anger increases and sadness decreases both dominance and competence. However, a schadenfreude expresser is thought to be viewed as dominant but incompetent. If the results follow our hypotheses, a particularly rare pattern would be indicated, yielded by the unique characteristic of schadenfreude, which is a composite of happiness and aggression (anger) toward another person.

Meanwhile, most studies have only addressed the effect of emotion expressions on only two dimensions of person perception, warmth and competence, as suggested by the traditional stereotype content model (SCM) (Hareli & Hess, 2010; Tiedens, 2001). Recent studies are revealing that warmth could actually be divided into two distinct dimensions, namely, warmth and morality

(Goodwin et al., 2014). Therefore, there should be three fundamental dimensions in person perception. Morality includes traits such as sincerity, trustworthiness, and honesty, whereas warmth is characterized by traits related to likability and kindness. Other studies have demonstrated that moral character information is more influential than warmth information when forming global impressions of others, as these are generally more indicative of whether another person is likely to help or harm than are other traits (Brambilla, Rusconi, Sacchi, & Cherubini, 2011).

Thus, examining the effect of expressions of emotion using a three-dimensional approach including morality is thought to be necessary and is especially important to the study of schadenfreude, as the feeling of schadenfreude has moral implications. That is, we share the moral standard that we “should” feel sympathy and care for those who are in a predicament, and an experience or an expression of schadenfreude violates this moral code.

The purpose of the study was twofold: to examine the information provided by schadenfreude’s antecedents, which a target derives from an expresser’s schadenfreude, and to examine how its perception affects the three dimensions of person perception—warmth, competence, and morality—and the two dimensions of interpersonal perception, namely, affiliation and dominance in the social interaction context.

Two studies were conducted with different experimental methods. Study 1 adopted an exploratory approach. We asked participants to write about their past experiences with being the target of another’s schadenfreude or compassion

based on an emotional narrative methodology (Rodríguez Mosquera, Parrott, & Hurtado de Mendoza, 2010). Participants were then asked to assess the expresser’s competence, warmth, and morality on a self-report scale. We also asked participants to describe the perceived behavioral tendency (interpersonal perception) of the expresser toward the participant before and after the emotion was recognized. These descriptions were then coded according to Kiesler’s 1982 Interpersonal Circle: Acts Version (Kiesler, 1985), which explains the terms dominant, submissive, friendly, and hostility in terms of overt interpersonal behaviors or actions. Two coders rated the extent to which the expresser’s interpersonal style was dominant and affiliative on a 7-point scale.

In Study 2, we conducted a scenario-based experiment to confirm the influence of schadenfreude recognition on the inference of dominant and hostile interpersonal style when no information about the expresser’s competence, warmth, and morality was provided. Based on the results of Study 1, we sought to create realistic scenarios to observe whether detecting schadenfreude facilitated the inference of the antecedents of schadenfreude, thus providing information about the expresser’s inner state. We utilized vignettes that provided limited information. There were no descriptions of the expresser, but only the type of emotion the person was hypothetically displaying.

Study 1

In Study 1, participants wrote an essay about an experience in which they were shown schadenfreude or in which they were the targets of compassion. First, we tested whether the target of another's schadenfreude inferred the expresser's mental state regarding the antecedents of schadenfreude, such as deservingness, inferiority, envy, dislike, ill will, rivalry, and similarity. In order to check the target's perception about the expresser and their relationship, dislike and rivalry toward the expresser were also measured (target inferiority, target dislike, and target rivalry, respectively), since previous studies has suggested that schadenfreude is likely to be yielded in the hostile relationship, the target's inferiority. How the expresser would evaluate themselves (self-evaluation) was also queried. Second, we wanted to see how the display of schadenfreude influences three dimensions of person perception: warmth, competence, and morality. To test this, trait adjectives of person perception were used. Third, we wanted to test how the interaction styles of the person who feels schadenfreude would be evaluated on two dimensions: dominance and affiliation. In order to check how perceived interaction styles of the expresser were before schadenfreude was recognized, we asked participantsto describe the expresser and the descriptions were divided into two sections for before and after they recognized the expressers' schadenfreude or compassion. Content analysis was conducted on these descriptions.

Participants and procedure

Participants were 55 students (21 women, 32 men; mean age = 21 years) from a university in Tokyo, Japan each was paid approximately \$11 in exchange for his or her participation. They were randomly assigned to one of two emotion conditions: schadenfreude or compassion, resulting in 20 participants in the compassion condition (7 women, 13 men) and 35 participants (15 women, 20 men) in the schadenfreude condition. In each session, 1 - 4 participants arrived at the laboratory and completed the essay questionnaire individually while seated at separate tables.

Measures

Essay on experiencing another's schadenfreude or compassion. The essay questionnaire consisted of two parts. First, participants wrote about a time when they believed that another person might have felt pleasure (schadenfreude condition) or concerned (compassion condition) toward their misfortune. We asked them to address the following aspects as per the study of Rodriguez Mosquera and colleagues (2010): (1) the setback they experienced (description of the misfortune), (2) identity of the expresser (the relationship context), (3) behavioral clues to the expresser's emotions (the markers of the emotion), and (4) their reaction toward the expresser (the response). In the last part of the essay, diverging from the previous research, we added a question that asked participants to describe (5) the interpersonal perceptionof the expresser toward the participant (5-1) before and (5-2) after the emotion was recognized. Through

this last question, we sought to determine how the target had perceived the other person in this exchange. Participants spent 20 - 30 minutes preparing their written responses to the above questions.

Recognized schadenfreude and compassion. After writing their essay, the degree of schadenfreude or compassion recognized by the expresser was measured by a modified version of the 10-point scale used in a previous study (van Dijk et al., 2012). For example, in case of schadenfreude, the item was changed from “I enjoyed what happened to [...]” to “the person enjoyed what happened to me.” Schadenfreude was assessed with five statements ($\alpha = .94$), and compassion (e.g., “the expresser sympathized with me”) was assessed with three statements ($\alpha = .93$).

Perception of competence, warmth, and morality. Participants were asked to indicate their perception of the expresser’s actual competence, warmth, and morality. Ten traits presented in random order assessed competence (conscientious, efficient, lazy, disorganized; $\alpha = .81$), warmth (warm, friendly, cold, irritable; $\alpha = .78$) and morality (sincere, trustworthy; $\alpha = .61$) on scales from 1 (not at all) to 7 (extremely) with negative traits reverse-scored.

Inference of antecedents for schadenfreude. Seven antecedents found from previous research were examined whether participants believed that they might have been the target of any of those antecedents. Envy (e.g., “the person envied me”, 4 items, $\alpha = .89$ van Dijk, Ouwerkerk, Goslinga,

Nieweg, & Gallucci, 2006), ill will (“the person would prefer that I do not have what I have”, 1 item Rodriguez Mosquera et al., 2010), dislike (e.g., “the person hated me”, 3 items, $\alpha = .89$ van Dijk, Ouwerkerk, Wesseling, & van Koningsbruggen, 2011), deservedness (e.g., “the person thought that I deserved what happened to me”, 3 items, $\alpha = .82$ van Dijk, Ouwerkerk, Goslinga, & Nieweg, 2005), self-evaluation (e.g., “the person felt confident about his/her abilities”, 3 items, $\alpha = .60$ van Dijk et al., 2011), and inferiority (e.g., “the person felt a bit inferior to me”, 2 items, $\alpha = .72$ Leach & Spears, 2008) were measured with 10-point scales. Other rivalry (e.g., “the person considered me a rival”, 1 item Leach & Spears, 2009) was measured with a 7-point scale.

The target’s evaluation of the expresser. Participants’ evaluation of the expresser was also measured: target dislike (e.g., “I hate the person” 3 items, $\alpha = .91$) with a 10-point scale and similarity (e.g., “I think the person and I are similar” 2 items, $\alpha = .94$) and target rivalry (e.g., “I felt rivalry toward him” 1 item) with a 7-point scale each. Also, we asked the target inferiority that target her/himself is feeling to the expresser on 10-point scale too (“I feel a bit inferior to her/him”, 1 item).

Content analysis for the interaction style of dominance and affiliation. The fifth and last part of the essay asked participants to describe the expresser’s interaction style with participants about what it was like to spend time with the expresser, and how the expresser had behaved in interactions

with the participant. The question was divided into (5-1) before and (5-2) after the misfortune occurred. Half of the page was left blank for the description of "before" and the other half, for the description of "after."

We chose Kiesler's (1985) Acts Version of the 1982 Interpersonal Circle as our coding scheme because it explains the terms dominance, submissive, friendly, and hostile with detailed descriptors of overt interpersonal behaviors or actions (416 in total), a set of conversational descriptors, and a set of adjective descriptors (McMullen & Conway, 1997). Once coders were well acquainted with the definitions provided in the coding scheme, they were asked to rate the description of the expresser before and after, respectively, on the 7-point scales for each

dimension. The intraclass correlation (ICC) supported averaging the coders' ratings (for dominant, ICC = .76; for submissive, ICC = .73; for friendly, ICC = .76; and for hostile, ICC = .88). The scores for submissiveness and hostility were reversed and averaged with those for dominance and affiliation.

Results and Discussion

Two participants in the schadenfreude group failed to recall the experience of being the target of others' schadenfreude, and one participant in the compassion group reported more than one episode; thus after excluding these 3, the data from 52 participants were analyzed.

Table 1. Group differences in perceived emotions and judgments of the expressor toward the target

| | Compassion M (SD) | Schadenfreude M (SD) | t (50) | Cohen's d |
|---------------------------|----------------------|-------------------------|-----------|-----------|
| Perceived compassion | 8.03(1.48) | 3.18(1.73) | 10.23*** | 2.89 |
| Perceived schadenfreude | 1.84(1.14) | 6.76(1.75) | -10.98*** | 3.10 |
| Perceived deservingness | 2.23(1.34) | 5.42(1.93) | -6.35*** | 1.79 |
| Perceived self-evaluation | 4.26(1.60) | 3.89(1.65) | 0.43 | .23 |
| Target's inferiority | 4.16(3.00) | 3.91(2.57) | 0.32 | .09 |
| Perceived inferiority | 2.29(1.58) | 4.06(2.41) | -2.86** | .87 |
| Perceived envy | 2.22(1.27) | 3.9(2.42) | -2.79** | .78 |
| Perceived ill will | 1.79(1.13) | 6.06(2.52) | -6.96*** | 1.97 |
| Target's dislike | 2.22(1.01) | 5.54(2.5) | -5.49*** | 1.55 |
| Perceived dislike | 3.26(1.68) | 5.9(2.23) | -4.47*** | 1.26 |
| target rivalry | 2.32(1.76) | 3.42(2.05) | -1.97† | .56 |
| Perceived rivalry | 1.84(1.46) | 3.91(1.97) | -3.97*** | 1.12 |
| Perceived similarity | 3.86(1.83) | 3.5(2.02) | 0.65 | .18 |

† $p < .10$ ** $p < .01$ *** $p < .001$

Group differences in the perceived emotion and judgments of the expresser toward the target T-tests were conducted to confirm group (schadenfreude vs. compassion) differences in the perceived emotional reaction of the expresser toward their misfortune (Table 1). Recognized compassion ($t(50) = 10.23, p < .001$) and schadenfreude ($t(50) = 10.98, p < .001$) were significantly different between groups. Target of schadenfreude reported that the expresser might have judged their misfortune deservingness higher than the compassion group ($t(50) = 6.35, p < .001$). However, the perception about the expresser's self-evaluation was not significantly different between groups. On the other hand, schadenfreude group inferred that the expresser might have felt inferiority to them ($t(50) = 2.86, p < .001$), but they did not report that they felt inferiority toward the expresser (target inferiority $t(50) = 0.32, p = \text{n.s.}$). Expresser of schadenfreude was also thought to have more envy ($t(50) = 2.79, p < .01$) and ill will by participants ($t(50) = 6.96, p < .001$). Dislike was bidirectional: targets did not like the expresser more in the schadenfreude group (target dislike; $t(50) = 4.47, p < .001$) and also thought that they were disliked by the expresser ($t(50) = 5.49, p < .001$). Participants also reported that they were being regarded as rival by the expresser ($t(50) = 3.97, p < .001$), but their rivalry toward expresser was marginally different between groups (target rivalry; $t(50) = 1.97, p < .10$). On the other hand, similarity between them and expresser was not different between the target of schadenfreude and compassion. Overall, participants reported feeling that the expresser of schadenfreude did not like

them, had envied them, held more ill will against them, and felt more inferiority and more rivalry toward them. They also thought that others had viewed them as deserving of the misfortune. On the other hand, rivalry and inferiority toward the expresser were not different between two emotion groups. In other words, this means that they perceived others as feeling rivalry and inferiority toward them, but they did not feel those as much toward the expresser. These results also imply that target of schadenfreude view the expresser as incompetent so that feels more inferiority to them but they are not feeling rivalry and inferiority toward expresser as they are not competent enough to elicit those feelings in them. These findings indicate that people clearly understand the relationship between schadenfreude and the above antecedent variables.

Perception of competence, warmth, and morality. In accord with our prediction, separate one-way ANOVAs revealed that the expressers of schadenfreude were perceived as having lower level of competence ($F(1,50) = 5.33, p < .05$, partial $\eta^2 = .10$), warmth ($F(1,50) = 23.54, p < .001$, partial $\eta^2 = .32$) and morality ($F(1,50) = 29.09, p < .000$, partial $\eta^2 = .37$) than that of people expressed compassion. Previous research has suggested that groups perceived as lacking warmth and competence elicit disgust. When experiencing disgust, people judge moral violations, such as theft and bribery, more harshly. Also, research supports the notion that, low warmth/ competence groups are dehumanized even at a basic neural level (Harris & Fiske, 2006). In turn, dehumanizing a person should result in perceiving

them as less moral (Heflick, Goldenberg, Cooper, & Puvia, 2011). These perspectives also help our understanding that why people who showed schadenfreude is perceived as less moral.

Content analysis of perceived dominance and affiliation of the expresser. We hypothesized that an individual expressing schadenfreude would be evaluated by the target as more dominant and less affiliative than the expresser of compassion. To test these hypotheses, we examined the coding of the descriptions of the expresser in two dimensions of interaction styles, dominance and affiliation, using separate two-way mixed ANOVAs. Emotion group (schadenfreude vs. compassion) was used as a between-subjects factor and time (before vs. after the misfortune event), as a within-subjects factor.

We first analyzed dominance as the dependent variable. In line with our hypothesis, the main effect of emotion ($F(1,49) = 15.34, p < .001$, partial $\eta^2 = .24$) indicated that the schadenfreude group perceived the expresser as more dominant than did the participants in the compassion group. No main effect was found for time ($F(1,49) =$

$2.34, p < .05$) or the interaction effect of emotion and time ($F(1,49) = .388, p < .05$). Further post-hoc analysis revealed that individuals in the schadenfreude group perceived the expresser as more dominant both before and after they recognized the expresser's emotion

As predicted, there was a significant main effect of group in the affiliation dimension ($F(1,49) = 36.73, p < .001$, partial $\eta^2 = .43$) and an interaction effect of emotion and time ($F(1,49) = 71.174, p < .001$, partial $\eta^2 = .59$), but there was no main effect of time ($F(1,49) = .562, p < .05$). The main effect of emotion indicates that when participants recognized schadenfreude, they evaluated others as more hostile than those who showed compassion. Further, the interaction effect revealed that the expresser of schadenfreude was assessed as more hostile than the expresser who expressed compassion, after the time point that participants had recognized the expresser's emotions. However, this difference was not shown before they recognized the other's emotions. The difference in affiliation perception between groups was not shown with simple effects before the

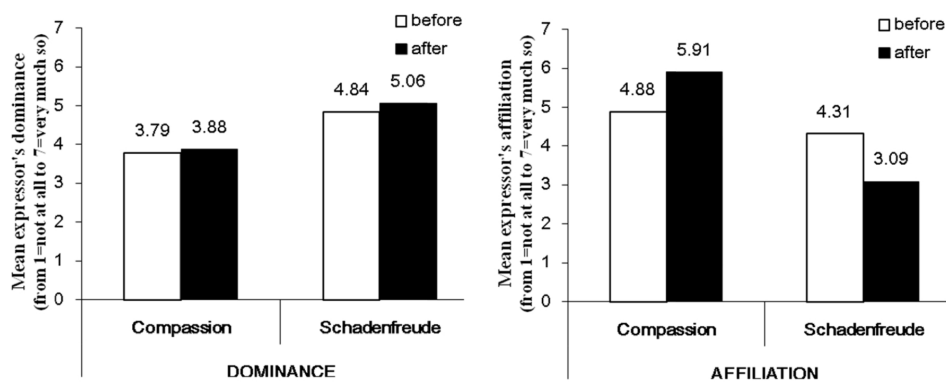


Figure 1. The coding of descriptions of the expresser before and after the misfortune happened, on the dominance and the affiliation dimensions

misfortune event ($F(1,49) = 3.05, p < .05$), but became significant after they recognized the other's emotion ($F(1,49) = 92.617, p < .001$).

Overall, the schadenfreude group rated their expressers as more dominant and hostile than did individuals in the compassion group. However, participants reported that they perceived the expressers of schadenfreude as dominant even before the incidents happened this described degree of dominance did not change. Meanwhile, before recognizing the expresser's emotion, reported affiliation was similar between the two emotion groups but participants reported that this expressed schadenfreude increased the perception of hostile attitude.

As dominance was associated with low empathic ability in previous research (Moeller et al., 2011), participants might have judged the expresser as dominant due to their low empathic ability based on their interaction. However, participants reported that they perceived the expresser as friendly before schadenfreude occurred and their perceptions changed after the incidents happened. As the method of the present study required participants to recall the event after everything was over, it might not be sufficient to claim that recognizing schadenfreude truly changed the perception about the expresser. However, if we assume that this result is valid, participants might have felt that the expresser had only been friendly outwardly and they happened to know the hidden hostility by seeing their joy toward an individual's misfortune.

On the other hand, in the person perception dimension, the schadenfreude group perceived the expresser as incompetent, colder, and

immoral. Together with the above result, the expressers are dominant, but not competent enough to fulfill their need for dominance and also, they are not affiliative when interacting with and perceived as cold, this perceived traits and evaluated interaction styles all together, were thought to be affected by recognizing other's emotional reaction (schadenfreude) toward them, as schadenfreude is the emotion that is easily elicited in the kind of person who feels 'inferiority' and have higher motivation for self-enhancement which makes them to be competent but is not competent, these aspect were thought to be reflected on our results.

Study 2

In Study 1, we demonstrated that people infer antecedents of schadenfreude to be heightened in the schadenfreude expresser. In addition, warmth, competence, and morality were perceived to be lower for those who displayed schadenfreude. Further, schadenfreude was found to facilitate an inference of hostility. As we measured the perceived interpersonal style of dominance and affiliation by content analysis in Study 1, we sought to replicate the findings from Study 1 with a scenario-based methodology and by asking participants directly how they perceive the interaction style of dominance and affiliation of the hypothetical person in the scenario. Utilizing the scenario format, we wanted to examine whether the expresser's interpersonal perception of dominance and affiliation could be inferred from merely presented display of schadenfreude without

information about expresser including information that is related competence, warmth, and morality.

Methods

Participants

The study consisted of 105 voluntary participants (35 female, 70 male; mean age = 22 years). Participants were recruited at a university in Tokyo, Japan, and were given candy in exchange for their participation.

Materials

Participants were presented with one of four scenarios, which differed according to content of suffering (academic or sport) and the emotion (schadenfreude or compassion) expressed by the expresser in the story (26 in academic schadenfreude, 23 in academic compassion, 28 in sport schadenfreude, 28 in sport compassion). They were instructed to read the vignette and imagine as vividly as possible that they were the protagonist of the story. In the academic failure version, participants read a story in which they were a high school student preparing for a university entrance exam. Each participant read that he or she was feeling devastated because of having failed an important practice test for the university exam. The story took place the day the protagonist received the results; he or she was looking at the test results with a disappointed look.

Participants were matched by gender to the

expressers in the story. In the vignette in which the expresser displayed compassion toward the participant, when he or she was devastated and upset over the result of practice test, the expresser showed a worried expression on his/her face and encouraged him/her, saying "You've done so much work, you're bound to pass the exam." In the schadenfreude vignette, the expresser could not resist a little smile and a happy look on his/her face, but told the participant "Everything is going to be okay."

In the sports scenario, the participant in the story joined a sports team that he or she had worked hard to play for. Unfortunately, he or she was injured just before the tryout game and consequently, could not be chosen as a starting team member. When the participant was notified about not being chosen for the team, he or she saw "A," the team manager. In the empathic concern condition, he or she saw "A" with a worried look on his/her face, saying to others "I am so sad that he or she could not be chosen as the main member despite trying so hard." In the schadenfreude condition, a look of pleasure came onto A's face, and he said to him/herself, "This is great."

As a manipulation check, perceived compassion and schadenfreude of A in the story were measured with 9-point Likert scales.

To measure the inferred dominance and affiliation of the expresser in the scenarios, we used items from the shortened version of Wiggins's (1979) Interpersonal Adjective Scale (IAS). Specifically, participants rated the degree to which the expresser's behavior tendency toward them in the relationship would be described by

the adjectives aligned with dominance (Scale A: Dominant; Scale I: Submissive) and affiliation (Scale M: Agreeable; Scale E: Quarrelsome). The adjectives were presented in a fixed random order; participants were directed to rate each adjective in terms of the degree to which it describes the expresser's inferred behavior tendency toward them in the relationship. These ratings were made on 9-point scales that ranged from 1 (not at all) to 9(very much so). Composite dominance and affiliation measures were created by averaging items from the Dominant scale with the reverse of the Submissive scale items, and by averaging the Agreeable scale items with the reverse for the Quarrelsome scale items. Each scale was internally reliable (α for dominance = .84, α for affiliation = .95).

Also, same as study 1, we measured participants' perception about hypothetical expresser's envy, ill will, inferiority, dislike, deservingness toward participants and their feeling of dislike toward the expresser in scenario with same measures that

were used in study 1 to confirm those antecedents are highly perceived just by merely presented emotion information.

Results and Discussion

Group differences in antecedent variables

We examined the effects of emotion (schadenfreude or compassion), gender, and scenario type (academic or sports) on participants' perception of others' emotional reaction to their misfortune, antecedent factors (envy, dislike, and misfortune deservedness), and participant's evaluation of others (dislike). The multivariate main effects of emotion ($F(1,97) = 26.90, p < .001$, partial $\eta^2 = .64$) and scenario type ($F(1,97) = 3.25, p < .01$, partial $\eta^2 = .18$) were significant. However, the main effect of gender ($F(1,97) = .399, p < .10$) was not significant. No two- or three-way interaction effects were

Table 2. Group differences in antecedent variables

| | Academic | | | | Sport | | | |
|----------------|----------------------|-------------------------|----------|------------------|----------------------|-------------------------|----------|------------------|
| | Compassion M (SD) | Schadenfreude M (SD) | F(1,97) | Partial η^2 | Compassion M (SD) | Schadenfreude M (SD) | F(1,97) | Partial η^2 |
| compassion | 6.28(.33) | 3.03(.32) | 50.45*** | .34 | 6.59(.32) | 2.18(.31) | 96.47*** | .50 |
| schadenfreude | 2.22(.40) | 6.03(.38) | 48.03*** | .33 | 1.65(.39) | 4.73(.37) | 32.59*** | .25 |
| deservingness | 2.71(.30) | 4.49(.29) | 18.69*** | .16 | 2.25(.30) | 3.52(.28) | 10.00** | .09 |
| envy | 3.18(.39) | 5.81(.38) | 23.39*** | .19 | 2.42(.38) | 3.76(.37) | 6.30* | .06 |
| ill will | 2.70(.45) | 6.35(.42) | 34.73*** | .26 | 1.96(.41) | 5.75(.41) | 42.85*** | .30 |
| dislike | 3.19(.34) | 6.1(.33) | 38.24*** | .28 | 2.73(.33) | 6.18(.32) | 55.60*** | .36 |
| Target Dislike | 3.41(.35) | 6.22(.34) | 33.34*** | .26 | 2.96(.34) | 6.40(.33) | 51.77*** | .35 |

* $p < .05$ ** $p < .01$ *** $p < .001$

Note: except 'Target dislike' every variables are perceived

observed.

Further analysis revealed that in both scenarios, the compassion group perceived sympathy as higher and schadenfreude as lower than the schadenfreude group did (Table 2). These results indicate that the manipulation of the scenarios was successful.

Also consistent with those of Study 1, the antecedents of schadenfreude was differed between two emotion groups (Table 2); however, Study 1 rated the description of the person, including information about how the person actually behaved toward the target. Even though there was no information given about the expresser in Study 2, participants still made judgments about other people’s envy and dislike and the expressers’ judgment of misfortune deservedness.

Influence of expressed emotion on interpersonal style inference

We conducted a multivariate ANOVA with emotion group (schadenfreude or compassion), gender, and scenario type (academic or sports) as the independent variables and the two dimensions of interpersonal perception (dominance and affiliation) as dependent variables. The main effect of emotion group was significant ($F(1,96) = 26.90, p < .001, \text{partial } \eta^2 = .64$). No other main effect, two-way, or three-way interactions were found to be significant. Therefore, we combined the gender and scenario type for the analysis.

A two-way mixed ANOVA was conducted with emotion group (schadenfreude and compassion) as the between-subjects factor and the two

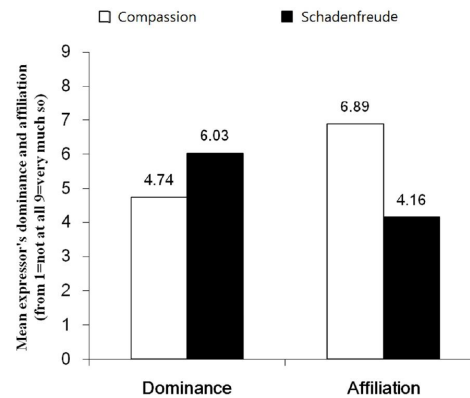


Figure 2. Mean dominance and affiliation ratings for the emotion groups

dimensions as the within-subjects factor.

This analysis revealed the main effect of emotion group ($F(1,102) = 23.05, p < .001, \text{partial } \eta^2 = .18$) and the interaction effect of emotion group and the two dimensions ($F(1,102) = 148.56, p < .001, \text{partial } \eta^2 = .59$). Post-hoc analysis of the interaction effect revealed that in the dominance dimension, the schadenfreude group rated the expresser significantly higher than the compassion group did ($F(1,102) = 43.90, p < .001, \text{partial } \eta^2 = .30$). On the affiliation dimension, schadenfreude group rated the expresser as more hostile ($F(1,102) = 134.06, p < .001, \text{partial } \eta^2 = .57$) (Fig. 2).

Study 2 also provided evidence that experiencing another’s schadenfreude influences our inference of the interaction style of expresser on dominance and affiliation dimension. The consistent results between Studies 1 and 2 indicate that there is the clear social signal of dominance and hostile tendency conveyed by schadenfreude.

General Discussion

The goal of the present study was to investigate whether people can recognize another's schadenfreude toward them, and if they can, determining the signals that are conveyed by schadenfreude to the target. The study of schadenfreude began only recently in the late 1990s, with most studies only focusing on finding its antecedents. Thus, how schadenfreude is expressed and influences people in interpersonal situations has not yet been examined. The present study preliminarily examined schadenfreude from the target's perspective.

The results indicate that recognizing schadenfreude gives the perceiver cues about antecedents of schadenfreude, such as dislike, deservedness, inferiority, ill will, envy, similarity, and rivalry. In addition, the expresser of schadenfreude was viewed as incompetent, colder, and immoral and also was viewed as having more dominant and hostile interaction styles.

In Study 1, we analyzed descriptions of the expresser's interpersonal perception before and after schadenfreude was recognized. Participants recalled that the expressers were not perceived as hostile until after the schadenfreude was perceived. As the descriptions were recalled after the incidents happened, we should be careful when interpreting this result, but if we assume its validity, there are several possibilities to consider. One possible reason that affiliation level was not perceived as low until participants recognized the expression of schadenfreude is that the expresser might have instinctively not expressed hostility toward the participant. To live harmoniously in social

environments, we generally do not attack or harm others merely because we dislike them. Hostility toward others is also not considered socially desirable. Abundant research has shown that people like others who behave in a prosocial manner more than those who behave aggressively toward others (Denham & Holt, 1993; Feinberg, Willer, & Keltner, 2012), implying that hostility would be concealed to preserve the relationship.

However, with respect to dominance, participants described the expresser as dominant even before the display of schadenfreude. There could be several explanations for these results. Unlike hostility, dominance is not a morally condemned trait, and the expresser's predispositions to dominance were not controlled. Thus, during their interaction, participants might have noticed the expresser's dominant interaction styles, such as the tendency to avoid expressing negative emotions and speaking more than listening in conversations. However, in Study 2, we found that merely presenting a cue communicating schadenfreude led participants to infer that the expresser was likely to be extremely dominating, implying that a deep association between high dominance and expressing schadenfreude might exist in people's minds.

Additionally, the expresser of schadenfreude was perceived as being low in competence, warmth, and morality. In previous studies, people were found to feel schadenfreude when those they envied—people whose position they wished to have but could not—suffered a loss (Smith, Turner, Garonzik, & Leach, 1996; Van de Ven et al., 2014). In intergroup contexts, when people feel inferior to others in the group, they express more schadenfreude. From the target's perspective, the

expression of schadenfreude suggests that this is due to the expresser's thwarted attempts at dominance by pursuing success, higher status, power, and the subsequent perception of being incompetent.

Combining the results of the content analysis of interpersonal styles and the perception of the three dimensions, expressers of schadenfreude were viewed as dominant but lacking competence, and being cold, hostile, and immoral. The participants may have observed through the expression of schadenfreude that wanting to achieve something (dominance) that they could not (incompetence) generated envy based on self-evaluations of inferiority, ultimately resulting in hostility. In the scenario-based experiment wherein participants were exposed to an expresser displaying either schadenfreude or compassion, participants could infer from only the detection of the expressed schadenfreude that the expresser would have a dominant and hostile social interaction style. As most emotions increase or decrease the perception of dominance and competence in the same direction, research has divided emotions into two categories, namely, approach and inhibition. However, our study revealed that there could be an emotion that does not fit the existing categories, namely, schadenfreude, as it considers dominance and competence simultaneously. Thus, we suggest that future studies should distinguish the two concepts when examining informative functions of new emotions to deepen our understanding of its social functions.

Even with limited information, participants could make inferences about the expresser's envy and dislike and the extent of misfortune and

deservingness, and could make judgments based on the dimensions of person perception and interpersonal perception. Past research has indicated that schadenfreude is harmful to harmonious social relationships. However, empirical research that examined schadenfreude in interpersonal situations has not yet been conducted. The present study first attempted to measure the interpersonal influence of schadenfreude from the target's perspective. Schadenfreude was found to have negatively influenced various dimensions of person and interpersonal perceptions of the expresser (incompetent, cold, immoral, dominant, and hostile). Our results provided cues to how schadenfreude jeopardizes relationships by showing its negative influence on perceptions of the expresser.

Limitations and Suggestions for Future Research

As this is the first study to investigate how the recognition of schadenfreude in others influences our perception of the expresser's interpersonal style in social interaction context, we adapted content analysis to our emotional narrative and vignettes. Since our results were consistent across both studies, we are confident in our assertion that recognizing emotional reactions to others' misfortunes could be a cue that influences our perceptions of the expresser. However, to verify our findings, further research utilizing other methods, such as using realistic settings or experimentally manipulating emotions with greater ecological validity (e.g., video clips of emotional expressions), must be conducted.

Particularly in Study 1, we asked participants to write an essay to see how the perception of the expresser is changed by recognizing schadenfreude. Participants wrote about the impression of the expresser, which was divided into two parts: before and after a misfortune happened, and comparisons were made. Although participants recalled their impressions of the expresser "before" the misfortune happened, since the essays were written "after" the incidents, the descriptions of "before" might not have been completely free from the incidents' influence. Thus, further study focusing on how perceiving schadenfreude changes the perception of the expresser should focus on manipulating it directly in an experiment.

Meanwhile, whether witnessing schadenfreude is stressful to an individual has not been verified. However, numerous studies have demonstrated that compassion from others helps buffer the stress from negative life events. Thus, only to recall the incidents might affect our mood, and this mood might affect our perceptions of those around us, including the expresser. Therefore, we suggest further study to examine whether mood plays a mediating role when perceiving another's schadenfreude.

Our research showed that recognized schadenfreude leads to perceptions of high dominance and low competence. However, because we investigated these emotional reactions from the target's perspective, we could not objectively assess particular behavioral tendencies of the expresser toward the target. Moreover, the current study was conducted from the target's perspective during an interaction. Thus, the question of whether the

general expression of schadenfreude would yield the same results indicated by the present study still remains, for example, in a situation where the perceiver is not involved, such as witnessing a third person expressing schadenfreude toward another person. However, the studies we conducted are thought to provide provocative hints to largely unanswered questions in this area. Therefore, to fill this lacuna, further research investigating whether high dominance and low competence are related to increased schadenfreude toward others is required.

Conclusion

Our study demonstrates that emotional reactions toward the misfortunes of others provide clues about the expressers' inner states and influences our perceptions about them. Researchers have previously suggested that schadenfreude is a socially stigmatized emotion that tends to be concealed and left unexpressed. However, we demonstrated for the first time that people have a clear understanding of the characteristics of a person who feels schadenfreude and the ability to detect and draw inferences by observing schadenfreude. We also confirmed that recognizing emotion can affect morality perceptions, an issue largely neglected in the study of the social function of emotion. These results could contribute to the current literature on emotion and interpersonal theory by providing a new perspective on the social function of schadenfreude.

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