Effects of Self-Evaluation Threat on Schadenfreude Toward Strangers in a Reality TV Show

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Abstract
Schadenfreude toward strangers in a reality TV show may be affected by self-evaluation threat. This study extends previous work by adding a control group to positive and negative feedback groups in order to investigate the effects of self-evaluation threat. Sex of the target of schadenfreude and schadenfroh participant was considered. Among undergraduate students screened for low general self-esteem, 31 men (M = 20.3 ± 1.6 years old) and 59 women (M = 20.0 ± 1.2 years old) volunteered to participate. Participants performed a simple calculation task, and then received negative, positive, or no feedback regarding the task before completing the State Self-Esteem Scale and watching videos taken from American Idol that showed an applicant being criticized by judges. After watching videos, participants completed items related to schadenfreude. There were no differences in schadenfreude toward strangers between the three feedback groups. In addition to the Japanese tendency of reduced self-enhancement in self-threatening situations, targets with no psychological closeness may also explain the lack of a relationship between self-evaluation threat and schadenfreude.

Keywords
schadenfreude, self-evaluation threat, sex similarity

Introduction
Schadenfreude is pleasure derived from other’s misfortune (Heider, 1958), which is evoked when a third person or environmental situation brings about
misfortune to others. It is distinct from the pleasure of actively making other people suffer (Leach, Spears, Branscombe, & Doosje, 2003).

Stronger schadenfreude occurs in those who experience emotions toward others such as envy, dislike, and resentment (e.g., Brigham, Kelso, Jackson, & Smith, 1997; Feather & Sherman, 2002). For example, Watanabe (2014) provided evidence that envy toward others predicts schadenfreude, especially so for others of the same sex (van Dijk, Ouwerkerk, Goslinga, Nieweg, & Gallucci, 2006). Although some research does not support a relationship between envy and schadenfreude (e.g., Hareli & Weiner, 2002), a recent functional magnetic resonance imaging study (Takahashi et al., 2009) showed positive correlations between ventral striatum activation associated with schadenfreude and dorsal anterior cingulate cortex activation associated with envy. Additionally, schadenfreude is likely to be experienced toward people who face misfortune that is derived from their own behaviors, such as a student who does not study at all and fails the final exam (e.g., van Dijk, Goslinga, & Ouwerkerk, 2008) or when others, especially rivals, fail in a domain of interest, or the personal importance of a schadenfroh person (Feather & Sherman, 2002).

Previous studies have also suggested relationships between self-evaluation or self-esteem and schadenfreude. Sawada (2008) found that people with low self-esteem are more likely to feel envy, which in turn is associated with higher schadenfreude. Furthermore, effects of self-esteem on schadenfreude have been shown to be mediated by self-evaluation threat (van Dijk, van Koningsbruggen, Ouwerkerk, & Wesseling, 2011). That is, because people with low self-esteem are more likely to feel threatened by people they perceive as superior, so they feel stronger schadenfreude when these superior others fail or face misfortune. However, if given the opportunity for self-affirmation, such as opportunities to affirm important values, schadenfreude declines, even for people with low self-esteem (van Dijk, van Koningsbruggen, et al., 2011). From these results, it is clear that schadenfreude is an emotion deeply related to the self (Leach et al., 2003) and evoked through maintenance of self-evaluation or self-enhancement.

Common to most previous studies is seeing the targets of schadenfreude as others related to or similar to the self, or close competitors in a domain of self-interest. For example, for undergraduates, targets of schadenfreude might include an intelligent peer suffering failure on an important examination (Feather & Sherman, 2002; Hareli & Weiner, 2002), a competitor in the same class suffering bad performance in a scholarship interview (Watanabe, 2014), or a university student with various abilities suffering a recent setback (van Dijk et al., 2006; van Dijk, Ouwerkerk, Wesseling, & van Koningsbruggen, 2011). However, although people sometimes feel schadenfreude toward strangers who are not related to or similar to themselves, or those who are not their competitors, few studies to date have examined schadenfreude toward strangers. Additionally, although some studies have used video clips (e.g., Brigham et al., 1997), the
targets of schadenfreude in most studies were described in articles or fictitious
scenarios (e.g., van Dijk, Ouwerkerk, et al., 2011), and therefore, participants had
to imagine these targets or even imagine being in that situation themselves.
Although in this type of scenario, manipulation is commonly used in studies of
schadenfreude, such manipulations inevitably depend on each individual’s under-
standing of the scenario.

However, recently, van Dijk, Ouwerkerk, van Koningsbruggen, and
Wesseling (2012) examined the effects of self-evaluation threat on schadenfreude
toward strangers in a reality TV show. In the study, self-threat was manipulated
by giving participants either positive or negative feedback on a performance
task, and then participants watched a video clip taken from the Dutch version
of American Idol, showing the misfortune of a young woman who sang poorly
and was criticized by the judges. The results were that (a) people with low self-
evaluation felt stronger schadenfreude after a self-evaluation threat than after no
threat, even toward a stranger in a TV show, but (b) people with high self-
evaluation did not show statistically significant differences in schadenfreude as
a function of self-threat feedback. Except for studies on schadenfreude toward
rival soccer groups in the context of the World Cup (Leach et al., 2003), real
situations were not used in previous studies. Therefore, it is valuable to try to
understand schadenfreude in more of a real-world context.

However, the study of van Dijk et al. (2012) had two limitations. First, nega-
tive and positive feedback conditions were included; there was no control con-
dition in which participants received no feedback on a performance task.
Second, the effect of participants’ sex on schadenfreude, that is, the sex similarity
between the target of schadenfreude and schadenfroh person was not con-
considered. Because only one video clip of female target was used, men evaluated
their schadenfreude toward a target of the opposite sex, and women made evalu-
ations toward a target of the same sex. Social comparison theory suggests that
the similarity between others and the self is an important factor in the evalu-
ations of others (e.g., Crusius & Mussweiler, 2012; Festinger, 1954). Consistent
with this theory, university students experienced stronger schadenfreude toward
other students of the same, rather than the opposite, sex (van Dijk et al., 2006).

Therefore, in the study reported here, video clips of a target of both sexes
were prepared to control for sex similarity. Based on previous studies suggesting
that self-evaluation threat has greater effects on schadenfreude for people with
low self-esteem than those with high self-esteem (e.g., van Dijk, Ouwerkerk,
et al., 2011), we screened for people with low self-esteem in advance.
Moreover, to more precisely delineate the effects of self-evaluation threat feed-
back on schadenfreude, three groups were formed (negative feedback, positive
feedback, and control) in the present study.

People with low self-esteem disparage themselves when they fail and are vul-
nerable to negative feedback (e.g., Brown & Dutton, 1995). Although those with
low self-esteem generally try to seek self-enhancement and to compare
themselves to others in situations in which humiliation is unlikely (Wood, Giordano-Beech, Taylor, Michela, & Gaus, 1994), such people with a negative self-view seek positive feedback to protect themselves to a greater extent than those with a positive self-view (Bernichon, Cook, & Brown, 2003). Considering that schadenfreude is deeply associated with the maintenance of self-evaluation or self-enhancement, it was predicted that the level of schadenfreude toward a stranger would be highest in the negative feedback group and lowest in the positive feedback group. Furthermore, because there is evidence in studies on schadenfreude that is consistent with social comparison theory, which indicates the importance of similarity between the self and others (van Dijk et al., 2006), it is predicted that people in each feedback group would show stronger schadenfreude toward a stranger of the same versus the opposite sex.

**Study 1**

In a preliminary experiment (Study 1), we examined whether the two video clips (one of a male target and the other of a female target), taken from a reality TV show and showing an applicant’s misfortune were equivalent, except for the different sex of the applicant.

**Method**

*Participants.* Twenty-four undergraduate students (11 men and 13 women) attending a psychology class participated in Study 1 for course credit. The mean age of male participants was 19.5 years ($SD = 0.9$), and that of female participants was 20.2 years ($SD = 1.2$).

*Materials and procedures.* With reference to van Dijk et al. (2012), two video clips were taken from a DVD of the *American Idol* TV program (Fuller, 2006), one of a male target and another of a female target. Both video clips, which were subtitled in Japanese, consisted of Asian American adults performing poorly during auditions. The length of each clip was 3.5 min from the start of the applicant’s singing through the applicant leaving the room after being severely criticized by the judges.

In the experimental room, participants individually watched the first video clip showing the audition applicant’s misfortune (severe criticism by the judges) and then evaluated four items for the video clip itself (“How good was the target’s singing?” “How physically attractive was the target?” “How severe were the comments of judges to the target?” and “How appropriate were the comments of judges to the target?”) using a 5-point scale ranging from 1 (Bad/not attractive at all/not severe at all/not appropriate at all) to 5 (Very good/very attractive/very severe/very appropriate). Participants then watched the second clip, providing responses to the same questions as for the first clip. The order
of clips was counterbalanced among participants. Finally, after watching both clips, participants were asked whether they had ever heard of or seen the American Idol TV program.

**Results and discussion**

None of participants had ever seen American Idol before this experiment. Table 1 shows means and standard deviations of the four items for each video clip. Considering the absolute values of mean ratings, both targets were evaluated as bad singers and were considered to be criticized by the judges (Table 1).

The differences in evaluations between the two clips were tested using a two-factor analysis of variance (ANOVA) to examine the effects of participant sex as a between-subjects factor and target sex (male or female target) as a within-subjects factor. Regarding the assessment of the target’s singing, there were no significant main effects of participant sex, $F(1, 22) = 0.12$, target sex, $F(1, 22) = 0.10$, nor an interaction between the two, $F(1, 22) = 0.00$, $ns$ in each case. Regarding the physical attractiveness of targets, there were no significant main effects of participant sex, $F(1, 22) = 0.26$, target sex, $F(1, 22) = 0.13$, nor an interaction between the two, $F(1, 22) = 0.12$, $ns$ in each case. Similarly, there were no effects with respect to the severity of judges’ comments (participant sex: $F(1, 22) = 0.15$, $ns$; target sex: $F(1, 22) = 0.01$, $ns$; interaction: $F(1, 22) = 1.34$, $ns$) nor regarding the appropriateness of judges’ comments (participant sex: $F(1, 22) = 0.00$, $ns$; target sex: $F(1, 22) = 0.10$, $ns$; interaction: $F(1, 22) = 0.10$, $ns$). It was, therefore, concluded that the two video clips depicted criticism of the applicants and were equivalent other than the sex of the target.

**Study 2**

Study 2, which used the video clips examined in Study 1, tested the effects of self-evaluation threat on schadenfreude experienced by people with low self-esteem by forming three groups (negative feedback, positive feedback, and control).
As mentioned above, it was predicted that (a) schadenfreude toward the targets in a TV show would be highest in the negative feedback group and lowest in the positive feedback group, and that (b) people in each feedback group would show stronger schadenfreude toward the target of the same, as opposed to, the opposite sex.

**Method**

**Participants.** To screen for people with low self-esteem, 1,458 undergraduates (806 men and 652 women) were asked to complete (a) the Japanese version of the Self-Esteem Scale (Rosenberg, 1965; Yamamoto, Matsui, & Yamanari, 1982; \( \alpha = .83 \)), and (b) five items to assess general self-evaluation (Yamamoto, 2013; \( \alpha = .77 \)) in a class room for course credit. The former scale is composed of 10 items, rated from 1 (strongly disagree) to 5 (strongly agree), and its validity and reliability have been tested in previous studies (e.g., Endo, Inoue, & Araragi, 1992). As in the original scale, there are five positive items and five reverse-scored items. The general self-evaluation terms consisted of the following items: “I like myself,” “I am contented with my present self,” “At times I feel that I am not good at anything,” “At times I hate myself,” and “I wish I could have been more confident in myself.” The validity and reliability of these five items were demonstrated by Yamamoto (2013). Participants were asked to indicate the extent of their agreement with each item on a 6-point scale from 1 (strongly disagree) to 6 (strongly agree). Both self-esteem scores and general self-evaluation scores were as the sum of all items; therefore, the possible score range was 10–50 for self-esteem and 6–30 for general self-evaluation. The questionnaires were reviewed by the ethics committee of our institution to ensure that items were not perceived as intrusive or inappropriate.

Since a general criterion score for the Japanese-translated version of the RSES has not been established, undergraduates were allocated to either a high self-esteem group (657 students) or a low self-esteem group (801 students) based on the mean self-esteem score (\( M = 31.00, SD = 4.15 \)). To ensure the validity of the screening, the means of general self-evaluation scores were compared between the two groups using a \( t \) test. Students in the High self-esteem group (\( M = 17.95, SD = 3.85 \)) showed significantly higher self-evaluation scores than those in the Low self-esteem group (\( M = 13.54, SD = 3.24 \)), \( t (1456) = 23.35, p < .001, Cohen’s d = 1.24 \).

Two weeks after screening, an email invitation for a study of the effect of TV on mental fatigue caused by mental arithmetic was sent to all 801 students in the low self-esteem group. Although students with low self-esteem were the only targets of the experiment, opportunities for course credit must be provided equally for all students in the same class in the author’s institution. Therefore, participation in this experiment was unrelated to course credit and completely voluntary. As a result, 31 men (\( M = 20.3 \pm 1.6 \text{ years} \)) and 59 women
(M = 20.0 ± 1.2) participated in this study. The mean self-esteem score for male participants was 24.42 (SD = 3.78) and that of female participants was 25.03 (SD = 3.94); these self-esteem scores did not differ according to sex, t(88) = 0.71, ns.

Performance task and videos of the targets of schadenfreude. The simple calculation task consisted of adding single-digit adjacent numbers and writing down the answers in the space between them. The targets of schadenfreude were male or female individuals who were displayed in video clips taken from a DVD of the American Idol TV program. These video clips were those examined in Study 1.

Measures of state self-esteem and schadenfreude. State self-esteem was assessed using the State Self-Esteem Scale (Abe & Konno, 2007; α = .88) as a manipulation check for self-evaluation threat. This scale was essentially the Japanese-translated version of Rosenberg Self-Esteem Scale (Yamamoto et al., 1982), with the word “now” replacing the words “on the whole,” “at times,” and “all in all” of the original scale. In the previous examination of the validity and reliability of this scale, the item “Now, I wish I could have more respect for myself” was excluded (Abe & Konno, 2007), and therefore, this item was omitted in this study. Participants were asked to indicate the extent of their agreement with the listed nine items on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). The state self-esteem score was calculated as the sum of all nine items, and therefore, its possible range of scores was 9–45.

Schadenfreude was assessed via seven adjective items (Sawada, 2008; α = .88): “happy,” “enjoyable,” “pleasing,” “contented,” “funny,” “deserving,” and “laughable.” These items were presented with six filler items (“sad,” “distressing,” “unlucky,” “pity,” “hard,” and “heartbreaking”). Participants were asked to circle the number that best described the extent to which they experienced each of the feelings toward the target, using a 6-point scale ranging from 1 (I am totally not like that) to 6 (I am totally like that). The schadenfreude score was calculated as the sum of all seven items, with a possible range of scores of 6–42.

Procedure
Experiments were conducted individually in an experimental room. After the participant read a description of the procedure and signed a consent form, he or she was randomly assigned either to (a) the negative feedback group (11 men and 21 women); (b) the positive feedback group (10 men and 20 women); or (c) the control group, which received no feedback (10 men and 18 women). First, the participant performed a simple calculation task for 2 minutes. The experimenter then asked the participant to relax and wait. During the 2-minute period, the experimenter went behind a screen to pretend to grade the task.
Afterwards, consistent with van Dijk et al. (2012), participants in the negative (positive) feedback group were provided with feedback regarding the calculation task (“You had scores among the worst (best) 10% of all participants so far”). The participant was then asked to move to the front of a computer display in the next room, and the forthcoming video clip viewing was explained. Before actually watching the video clips, the participant completed the State Self-Esteem Scale. After completing the questionnaire, the first video clip showing the audition applicant’s misfortune was presented, after which the participant answered the schadenfreude-related questions. Although the equivalence of the two video clips was tested in Study 1, the evaluation of each applicant’s physical attractiveness is subjective and independent of their singing abilities. Furthermore, based on previous studies of attraction (e.g., Brehm, Miller, Perlman, & Campbell, 2002), the appropriateness of judges’ comments might be influenced by the applicant’s physical attractiveness. Participants were, therefore, asked to evaluate two items regarding the video clip itself (“How appropriate were the comments of judges to the target?” and “How physically attractive was the target?”) using a 5-point scale ranging from 1 (not appropriate at all/not attractive at all) to 5 (very appropriate/very attractive). Participants then watched the second clip, providing responses to the same items as for the first clip. The order of videos was counterbalanced among participants.

At the end of the experiment, each participant received a book coupon worth 500 yen (equivalent to $4.50) after receiving an explanation of the deception relating to the feedback provided for the simple calculation task.

Results

As a manipulation check for self-evaluation threat and evaluations of video clips, scores of state self-esteem and video-related items were calculated and compared. The mean state self-esteem scores were 24.13 (SD = 5.90) for the negative feedback group, 28.57 (SD = 5.87) for the positive feedback group, and 26.64 (SD = 5.29) for the control group. A one-factor ANOVA were conducted with Bonferroni-corrected post hoc paired comparisons to examine the effect of group on self-esteem scores. The main effect of group was significant, $F(2, 87) = 4.73$, $p < .05$, $\eta^2_A = .10$. State self-esteem scores differed between all three groups and were highest in the positive feedback group and lowest in the negative feedback group ($ps < .05$).

Table 2 shows the mean scores and standard deviations of the items that followed the two video clips. The differences in evaluations between the two clips were tested using a two-factor ANOVA to examine the effects of group (3: negative feedback, positive feedback, control) as a between-subjects factor and target sex (2: male or female) as a within-subjects factor. Unexpectedly, physical attractiveness ratings of the female target were higher than those of the male target, $F(1, 87) = 8.08$, $p < .01$, $\eta^2_G = .04$, but there was no main effect of
group, $F(1, 87) = 0.44, ns$, nor a group $\times$ target sex interaction, $F(1, 87) = 0.01, ns$. Regarding the appropriateness ratings of the judges’ comments, scores for male targets were higher than those for female targets, $F(1, 87) = 7.60, p < .01, \eta^2_G = .04$, but there was no main effect of group, $F(1, 87) = 0.49, ns$, nor was there a group $\times$ target sex interaction, $F(1, 87) = 0.24, ns$. Despite the unexpected significant main effects of target sex, $\eta^2_G$ values were small (Bakeman, 2005), and there were no differences between the three groups or within each group in the evaluations of the two video clips.

Figure 1 shows the means and standard errors of the schadenfreude scores given to targets of the same and the opposite sex. Overall, schadenfreude scores for all groups were relatively low. A three-factor ANOVA was conducted to examine the effects of group, participant sex, and sex similarity with the target (i.e., same or opposite sex). Group and participant sex were
between-subjects factors, and sex similarity was a within-subjects factor. There was a significant participant sex × sex similarity interaction, $F(1, 84) = 88.28$, $p < .001$, $\eta^2_G = 0.21$. Follow-up analyses indicated that the simple main effect of participant sex was significant for targets of the same and the opposite sex, $F(1, 84) = 30.45$, $p < .001$, and $F(1, 84) = 17.07$, $p < .001$, respectively. Men had higher schadenfreude scores than women toward a target of the same sex, while women showed higher scores than men toward a target of the opposite sex. The simple main effect of sex similarity was also significant for both men and women, $F(1, 84) = 27.06$, $p < .001$, and $F(1, 84) = 71.51$, $p < .001$, respectively. Men rated their schadenfreude higher for the target of the same sex than for that of the opposite sex, and women rated their schadenfreude higher toward a target of the opposite sex than for that of the same sex.

Discussion

This study examined the effects of self-evaluation threat on schadenfreude toward strangers in a reality TV show. When people with low self-esteem and a negative self-view fail, they are more likely to adopt self-enhancing strategies than those with a positive self-view, such as by comparing themselves with others perceived to be their inferior (e.g., Gibbons & Gerrard, 1991; Wood et al., 1994). It was, therefore, predicted that schadenfreude evoked through maintenance of self-evaluation would be strongest in the negative feedback group, and weakest in the positive feedback group. However, the current findings indicated that neither self-evaluation threat nor positive feedback was related to the level of schadenfreude toward strangers.

Steele’s (1988) self-affirmation theory suggests that the threatened self-evaluations in a specific domain can be enhanced in other unrelated domains because maintaining perceived integrity of the global self is important for the individual. Therefore, it appears reasonable for participants in the negative feedback group to experience stronger schadenfreude toward applicants, even though the self-evaluation threat was unrelated to the target of schadenfreude, and being pleased with the misfortunes of the unknown audition applicants may not directly eliminate the feelings of inferiority resulting from the simple calculation task.

However, some cross-cultural studies have noted that Japanese individuals engage in less self-enhancing behaviors in self-threatening situations than Westerners (Heine, Kitayama, & Lehman, 2001). Japanese are also said to show less compensatory self-enhancement; that is, Japanese do not try to evaluate themselves more positively in other unrelated domains to maintain a global positive self-image (Heine et al., 2001). Moreover, when Japanese individuals engage in self-enhancement, they view collectivistic attributes as personally important and derive self-enhancement from such attributes (Sedikides, Gaertner, & Toguchi, 2003). Therefore, receiving feedback of being at the
same grade level as other participants and receiving feedback of being at a higher level than others has same effect on Japanese self-satisfaction (Takata, 2011). This reduced self-enhancement tendency in self-threatening situations and self-enhancement strategies that involve assimilation with others may underlie the lack of differences among the three feedback groups in schadenfreude toward strangers found in the present study.

Additionally, Tesser (1988) maintained that increased or decreased self-evaluation depends on the closeness of the psychological relationship with others and the relevance of others’ performance to the individual’s self-definition. As for the self-evaluation maintenance process, when the target is a close other, either the reflection process (i.e., a close other’s good performance brings about an improved self-evaluation) or the comparison process (i.e., comparison with a close superior other results in either an improved or worsened self-evaluation) occurs, depending on the relevance of the other’s performance. However, when the target is a stranger, no strategies or processes to maintain self-evaluation are adopted, regardless of the relevance of the other’s performance (Tesser & Cornell, 1991). In the current study, the self-evaluation maintenance process might not have worked fully, even after receiving self-threatening feedback, because the targets of schadenfreude were strangers—that is, targets with no psychological closeness to the participant. This suggests that people with low self-esteem do not always experience strong schadenfreude in self-threatening situations, but rather feel more schadenfreude when the target of schadenfreude is a close other. However, given that van Dijk et al. (2012) found effects of self-evaluation threat on schadenfreude in similar experimental conditions, further research is needed.

Second, it was predicted that people in each feedback group would show stronger schadenfreude toward a target of the same, rather than the opposite, sex. However, both men and women felt stronger schadenfreude toward the male target. With respect to the video clips, there was a difference in physical attractiveness ratings between the two targets, whereby study participants evaluated the male target as less physically attractive than the female target. Physical attractiveness strongly predicts an individual’s popularity (e.g., Brehm et al., 2002) and initial impressions of personality (e.g., Feingold, 1992). Although the target effect size was small, rather than suggesting that women are more likely to compare themselves to others of the opposite sex and therefore experience stronger schadenfreude, it is more plausible that the differences in physical attractiveness of the two targets were the basis of this sex-related effect. The finding also suggests that physical attractiveness has a greater influence on schadenfreude than sex similarity, although this remains primarily conjecture without additional manipulation of video clips to test such a contention.

Finally, schadenfreude scores in all groups were relatively low, with mean absolute values ranging from 12.26 to 20.72 (the possible range of scores was 6–42). However, this is not to say that the experiment did not
evoke schadenfreude. For example, van Dijk et al. (2008) reported relatively low mean schadenfreude scores ranging from 2.58 to 3.16 on a 7-point scale. Hareli and Weiner (2002) also reported low schadenfreude scores, ranging from 1.53 to 3.59 on a 7-point scale, as did Brigham et al. (1997), who presented mean scores ranging from 1.03 to 2.69 on a 9-point scale. These low values may be related to difficulties in participants correctly reporting their schadenfreude, i.e., without being influenced by social desirability. Regardless, people with low self-esteem in the present study did not feel strong schadenfreude irrespective of the manipulation of self-evaluation threat.

Why was strong schadenfreude not experienced? According to a theory of social comparison processes (Festinger, 1954) and the self-evaluation maintenance model (Tesser, 1991), the emotions evoked through social comparisons are influenced by others’ characteristics and the relationships with these others. In addition to being a stranger to the study participants, the targets of schadenfreude were presented with minimal personal information available because the two video clips did not show the targets explaining why they applied to the audition, or their personal feelings. Kressel and Uleman (2015) recently reported that individuals unintentionally attribute other’s personality traits as causes of their behaviors. Moreover, the situational information that receives attention depends on individuals’ previous knowledge (Amedeo, 1993). It was apparent to study participants that the audition applicants in the video clips were criticized because of their poor singing. However, singing badly does not usually attract criticism in daily life. With almost no prior information regarding applicants’ personalities and motives, it may have been difficult to provide an attribution for the applicants’ poor performance and attendant criticism. Therefore, this study suggests the feeling of schadenfreude toward strangers is not derived from others’ misfortunes alone but also from information obtained unconsciously from other people and the surrounding environment just before and after misfortunes occur.

One limitation of the present study is the small sample size and the number of video clips used. Because we prepared only one video clip for a target of each sex, it is possible that the results are specific to the targets. To examine the effects of self-evaluation threats on schadenfreude with more precision and to generalize these results, a study with more participants and several video clips for each condition is needed. Second, as described above, schadenfreude is unlikely to be reported honestly, since receiving pleasure from others’ misfortunes is generally seen as socially undesirable. To address this problem, new ways to measure schadenfreude behaviorally (e.g., coding participants’ behavioral reactions to observing the misfortune of confederates in the experimental room) must be developed. Finally, although this study indicated the importance of information obtained from the surrounding environment before and after misfortunes were observed, this variable may have been neglected in previous studies with scenarios or videos describing a limited part of the specific situations.
Future research could usefully consider the relationships among self-evaluation threat, characteristics of the targets of schadenfreude, and environmental information that is unintentionally used by observers.

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