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Emotion judgments do not differ as a function of perceived nationality

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This article reports three studies concerning the relationship between emotion judgments and perceived nationality of the expressors being judged. Study 1 demonstrated that observers do not reliably make implicit assumptions about the nationalities of the expressors in judgment tasks. Study 2 examined judgments of Americans and Japanese observers who were told that Caucasian and Asian expressors were Americans and Japanese, respectively, and who made fixed-choice judgments and intensity ratings. Study 3 examined judgments of Americans given similar instructions and who used a multiscale rating task. Neither Studies 2 nor 3 provided evidence that nationality information affected judgments. These findings have implications not only for basic emotion theory, but also for international and intercultural communication training.

Cet article rapporte trois études concernant la relation entre les jugements d'émotions et la nationalité perçue des expressions qui doivent être jugées. L'étude 1 a démontré que les observateurs sont inefficaces pour faire des suppositions implicites à propos de la nationalité des expressions lors de tâches de jugement. L'étude 2 a examiné les jugements d'observateurs américains et japonais à qui on avait dit que les expressions caucasiennes et asiatiques étaient américaines et japonaises, respectivement, et qui devaient faire des choix forcés de jugement ainsi que des estimations d'intensité. L'étude 3 a examiné les jugements d'Américains qui ont reçu des consignes similaires et qui étaient soumis à une tâche d'estimation en fonction de multiples échelles. Aucune des études 2 et 3 n'a permis de démontrer que les informations sur la nationalité affectent les jugements. Ces résultats ont des implications non seulement pour la théorie des émotions de base, mais aussi pour la formation en communication internationale et interculturelle.

Este artículo informa sobre tres estudios referentes a la relación entre los juicios de emoción y la nacionalidad percibida de quienes la expresan y están siendo juzgados. El estudio 1 demostró que los observadores no realizan suposiciones fiables sobre las nacionalidades de quienes la expresan y se están sometiendo al juicio de los observadores. El estudio 2 examinó los juicios de observadores estadounidenses y japoneses a quienes se les dijo que los que expresaban caucásicos y asiáticos eran estadounidenses y japoneses, respectivamente. Los observadores realizaban juicios de elección fija y calificación de intensidad. El estudio 3 examinó los juicios de estadounidenses, quienes recibieron instrucciones similares y usaron una tarea de calificación multiescalar. Los estudios 2 y 3 no proporcionaron datos que indicaran que la nacionalidad afectara los juicios. Los hallazgos tienen implicaciones, no sólo para la teoría de la emoción básica, sino para el entrenamiento en comunicación internacional e intercultural.

Intercultural and international interactions play a large role in many people's lives, and the communication of emotion is an important part of these interactions. Although research has clearly shown

that people of different cultures differ in their overall levels of emotion recognition (Elfenbein & Ambady, 2002; Matsumoto, 1989, 1992), cross-national differences in recognition rates do exist

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(Biehl et al., 1997; Russell, 1994). The mechanism underlying these differences, however, is not clear. One possibility is that people adjust their judgments of the emotions of others depending on their knowledge of the nationality of the people they judge.

Knowing whether or not this is the case is important for theoretical and practical reasons. Theoretically, research has just begun to explore the types of variables that moderate emotion recognition. For example, the personality trait openness is correlated with emotion recognition abilities (Matsumoto et al., 2000; Terracciano, Merritt, Zonderman, & Evans, 2003); people scoring high on openness tend to be better judges of emotion. Practically, knowledge about whether people adjust their judgments based on factors such as perceived nationality has many implications for training programs related to intercultural communication and sensitivity.

On the one hand, several lines of research suggest that people *might* do this, that is, alter their judgment based on perceived group membership (e.g., nationality). For example, recent research has provided some evidence for an in-group advantage in emotion recognition (Elfenbein & Ambady, 2002, 2003; Elfenbein, Mandal, Ambady, & Harizuka, 2002), suggesting that individuals recognize emotions in expressors of their same cultures better than they do in expressors of other cultures (but only relative to overall cultural decoding effects). Bilinguals switch codes in language and cognition (Benet-Martinez, Leu, Lee, & Morris, 2002; Hong, Morris, Chiu, & Benet-Martinez, 2000); code- or cultural-frame switching is a psychological construct used to denote the supposed underlying shifts in accessed schemas of cultural information when bicultural individuals adapt to different cultural contexts. Emotion recognition rates of bilinguals differ as a function of the language used to make judgments (Matsumoto & Assar, 1992), and people can switch cultural frames and adjust their behaviour depending on the cultural framework in which they are primed (Kemmelmeyer & Cheng, 2004; Trafimow, Silverman, Fan, & Law, 1997; Trafimow, Triandis, & Goto, 1991; Ybarra & Trafimow, 1988). Also, constructs such as stereotypes and prejudice have been shown to influence social cognitions (Fiske, Xu, & Cuddy, 1999; Higgins & Bargh, 1987), and emotion judgments are a form of social cognition.

On the other hand, some studies suggest that knowledge of an expressor's nationality may *not* affect emotion judgments. Numerous studies examining judgments of Caucasian and Asian

faces using Matsumoto and Ekman's (1988) Japanese and Caucasian Facial Expressions of Emotion (JACFEE) set—the stimuli used in the studies reported below—have generally shown that emotion judgments do not differ as a function of expressor ethnicity (Biehl et al., 1997; Matsumoto, 1992, 2002). Similar non-findings have been obtained using expressions of Sub-Saharan Africans, Chinese, and French Canadians (Beaupré & Hess, 2005). One may, then, expect to find no differences in judgments of these stimuli as a function of nationality, because they all portray the universal signals of emotion in the face with equivalence in the physical signalling properties (i.e., the type and amount of the facial musculature innervated). However, these stimuli, while producing well-above-chance agreement levels in emotion recognition rates, are associated with cross-national differences in those accuracy rates (Biehl et al., 1997; Russell, 1994), including differences between the US and Japan (Matsumoto, 1989, 1992). Thus, despite the fact that the stimuli are equivalent in their physical signalling properties and produce high, well-above-chance agreements in emotion recognition levels, there are still cross-national differences in those agreement rates, and it is thus incumbent upon us to examine the bases of those differences. One possible explanation, which we examine in this paper, is whether the cross-national differences in emotion recognition rates are attributable to implicit assumptions about nationality made by observers.

One theoretical question to consider, however, is why there would be differences in emotion recognition rates as a function of perceived nationality if emotion recognition is universal in the first place. In my view, universality in emotion recognition does *not* imply that cultural, familial, or individual differences do *not* exist in emotion recognition. On the contrary, basic emotions theory (Ekman, 1993) suggests that there is an underlying innate mechanism that allows for universal recognition (and expression) to occur initially, but that cultural and environmental factors can influence the judgment (and expression) process. Judgments obtained from adults, therefore, typically represent a combination of an innate, underlying ability in emotion recognition coupled with cultural rules and individual idiosyncrasies about emotion judgment. This results in the finding that, while judges of all cultures can recognize emotions with high agreement and at well-above-chance levels, they may differ in their absolute levels of agreement. This is exactly what has been found in

the literature (Biehl et al., 1997; Matsumoto, 1989, 1992; Russell, 1994). These differences may reflect cultural learning.

One of the problems in the literature with regard to the question posed here is the lack of research that directly manipulates the nationality of the expressors when obtaining judgments from observers. Previous studies utilizing multi-ethnic stimuli have typically mixed the presentation of the expressions without nationality instructions (Biehl et al., 1997; Matsumoto, 1992; Wolfgang & Cohen, 1988). Although one may argue that observers, especially Americans, may implicitly assume that Caucasian expressors are Americans while Asian expressors are not, a previous study involving the JACFEE showed that *some* of the Asian expressors were perceived by Americans to be Japanese nationals, but other Asian expressors were perceived by the same observers to be Americans (Marsh, Elfenbein, & Ambady, 2003). Thus no assumptions can be made about how observers may implicitly assign nationality to the expressors. The only way to know what kinds of implicit assumptions observers make when judging faces is to measure them, which I do for the first time in Study 1. Also, the only way to assess directly the effects of knowledge of expressor nationality on judgments would be to explicitly inform the observers, which I do for the first time in Studies 2 and 3.

Study 1 examined the idea that observers may have implicit assumptions about the nationalities of the expressors included in the JACFEE, by testing the hypothesis that individuals will judge the Caucasian expressors as Americans and the Asian expressors as Japanese. Study 2 went beyond this by explicitly informing observers about the nationalities of the expressors in examining whether or not nationality information affected emotion judgments and intensity ratings of the expressors. Intensity ratings were included because several studies have demonstrated the existence of cultural differences in ratings of external display and internal experience; these differences, therefore, may differ as a function of perceived nationality even if emotion judgments do not (Biehl et al., 1997; Ekman et al., 1987; Matsumoto & Ekman, 1989). Study 2 also included a control group who viewed the stimuli blocked by expressor ethnicity, but who did *not* receive the nationality instructions. Study 3 used the same procedures as Study 2 but with a more fine-grained judgment task to explore the possibility that the results from Study 2 would generalize to this judgment task.

STUDY 1

Method

Participants

The participants were 125 US Americans (100 females, 25 males, mean age = 23.39 years, $SD = 6.00$), all of whom were university undergraduates, participating in partial fulfillment of class requirements, recruited from a large, urban university in San Francisco. All were born and raised in the US, and English was their first and primary language. A comparison sample of 61 non-US born and raised international students (11 male, 50 female, mean age = 24.18 years, $SD = 3.51$) also participated.

Stimuli

The stimuli were from the Japanese and Caucasian Facial Expressions of Emotion (JACFEE) set (Matsumoto & Ekman, 1988). The JACFEE consists of 56 expressions—8 examples of 7 emotions—portrayed by different individuals. Half are portrayed by Caucasians, the other half by Asians (half male, half female). All faces were reliably coded using the Facial Action Coding System (FACS) (Ekman & Friesen, 1978) to ensure that the muscles innervated in the expressions corresponded to the universal, prototypical signals of emotion (as depicted by Ekman & Friesen, 1975). Within emotions the expressions include the same facial muscles innervated at the same intensity levels according to FACS coding. The JACFEE has been widely used in judgment studies and its expressions produce reliable emotion judgments across cultures (Biehl et al., 1997).

Judgment tasks and procedures

Data were collected individually in an online format. Observers were told that they would be “judging faces of people who may be feeling an emotion.” They were given the list of emotion words used as responses and their definitions, which were taken from a standard dictionary. They then answered a few demographic questions, and were prompted to click forward to begin when ready.

When the observers were ready, they were shown the JACFEE expressions on screen. The expressions were shown individually in a random order, and each expression remained on the screen until the observers made their judgments and clicked to the next expression. The same random

order was used for all observers in this and all subsequent studies; Studies 2 and 3, however, used a different random order. Observers were asked to make three judgments: (1) a fixed-choice judgment by selecting an emotion label from a list including anger, contempt, disgust, fear, happiness, sadness, surprise, no emotion, and other (open-ended); (2) an open-ended response concerning what the expressor was likely to do next; and (3) a fixed-choice judgment of the expressor's nationality by selecting from one of the following: American, French, German, Other European, Japanese, Chinese, Korean, Other Asian, don't know, and other (open-ended). The data from the last judgment are the focus of this study, and no further mention of the first two judgments will be made.

Results and discussion

For the Caucasian expressions, the nationality judgment data were recoded so that the category "American" was given a 1 and all other nationalities were given a 0. For the Japanese expressions, the data were recoded so that "Japanese" was given a 1 and all other nationalities were coded 0. Differences between the frequencies were tested using χ^2 .

For US born and raised Americans judging Caucasian expressors, 14 of the 28 χ^2 s were statistically significant. Ten, however, were in the *opposite* direction to that predicted; only four indicated that the Caucasian expressors were implicitly associated with American nationality at greater than chance levels. Across all 28 Caucasian expressors, the average percentage of observers attributing American nationality to the expressions was 44.94%. For the Asian expressions, 27 of the 28 χ^2 s were statistically significant. *All*, however, were in the direction opposite to that predicted; the percentage of observers labelling the Asian expressors as being of Japanese nationality was actually substantially *lower* than chance (average across 28 expressors = 19.73%). Essentially the same findings were obtained when judgments of the Caucasian faces as Americans were compared only to the categories French, German, and Other European; and when judgments of the Asian faces as Japanese were compared only to the categories Chinese, Korean, and Other Asian.

The same pattern of findings was obtained using international students. For Caucasian expressors, only 7 of the 28 χ^2 s were statistically significant, *all* in the opposite direction to that predicted,

indicating that the percentage of observers judging the faces as those of Americans was significantly smaller than chance. For the Asian expressors, 25 of 28 χ^2 s were statistically significant, *all* in the opposite direction to that predicted, indicating that the percentage of observers judging these faces as being Japanese was significantly smaller than chance.

These data provide strong evidence that observers do not implicitly associate the Caucasian expressions of the JACFEE as being expressed by Americans or the Asian expressions as being expressed by Japanese. These findings justified, therefore, the explicit nationality instructions used in Studies 2 and 3.

STUDY 2

Method

Participants

The participants were 75 Americans (50 females, 25 males, mean age = 23.88 years, $SD = 4.27$) and 67 Japanese (54 females, 13 males, mean age = 20.19, $SD = 1.60$), all of whom were university undergraduates participating voluntarily, and who participated in the nationality instruction group. All were born and raised in their respective countries, and English and Japanese were their first and primary languages, respectively. A control group of 120 Americans (95 females, 25 males, mean age = 24.65 years, $SD = 5.35$) also participated. All were recruited from large, urban universities in San Francisco and Tokyo.

Stimuli, judgment tasks, and procedures

The stimuli were the JACFEE set (Matsumoto & Ekman, 1988). Data were collected in two sessions separated by a week. To maximize the degree to which judges would believe that the Caucasian expressions were of Americans and the Asian expressions were of Japanese, they were blocked into two sets of 28 expressions each. Judges were shown one block in the first session and the other block in the second; order was counterbalanced. Prior to viewing each block, the judges were explicitly told that "All of the people in the pictures are US (Japan) born and raised American (Japanese) citizens who participated in a previous experiment in which they saw a videotape and some emotions may have been aroused." The American observers in the control group were not given this information.

Each expression was shown for 15 s in a random order within blocks. When viewing each the participants made three judgments: (1) a fixed-choice judgment by selecting an emotion label from a list including anger, contempt, disgust, fear, happiness, sadness, surprise, no emotion, and other; (2) a scalar rating of the intensity of the external display of the expression, using a 9-point scale labelled *None* (0); *Moderately* (4); and *A Lot* (8); and (3) a scalar rating of the intensity of the presumed internal subjective experience of the expressor, using the same scale. Prior to the judgment task three practice expressions were judged. There were no questions about the procedures of the study. All American participants also completed a brief questionnaire after the last judgment session, which was part of another project and will not be mentioned further.

Results

Emotion judgments

The emotion judgments were recoded into *hit/miss* accuracy scores and averaged across both expressions of each expressor's ethnicity and sex within each emotion. On the data from the nationality instruction condition, an ANOVA using judge country and sex as between-subject factors and emotion, expressor nationality, and sex as within-subject factors was computed. There were no significant effects involving the judge country by expressor nationality interaction, indicating that the nationality instructions did not differentially affect the judgments between the two countries. There was, however, a significant judge country main effect, $F(1, 140) = 21.70$, $p < .001$, partial $\eta^2 = .11$, replicating previous findings (Matsumoto, 1992), and indicating that American judges were more accurate than Japanese.

To test whether just giving the nationality instructions affected judgments in any way, we computed chi-squares on the emotion judgment data comparing the American groups with and without the nationality instructions. The analyses produced only four significant effects (out of 56). Because the number of significant effects was no larger than one would expect based on chance, we concluded that there were no judgment differences between the two groups. Similar results were obtained when judgment data were recoded into accuracy scores as above and a full factorial ANOVA was computed. None of the main effects or interactions involving group was significant.

Intensity ratings

Intensity ratings across both expressor types within each emotion were averaged, and a mixed, six-way ANOVA was computed on the intensity ratings using country (2) and judge sex (2) as two between-subject factors and emotion (7), expressor nationality (2), expressor sex (2), and rating type (2) as four within-subject factors, on the data from the nationality instruction condition. As expected, the rating type by country interaction was significant, $F(1, 140) = 7.89$, $p < .01$, partial $\eta^2 = .08$, replicating previous findings. No effect involving these factors and expressor nationality was significant. The simple effects of rating computed separately for Americans and Japanese observers indicated that, as in previous studies, both Americans and Japanese rated external display significantly higher than internal experience, $F(1, 73) = 37.77$, $p < .001$, partial $\eta^2 = .34$ (means = 5.75 and 5.15, $SD = 0.85$ for both external display and internal experience); and $F(1, 66) = 8.50$, $p < .01$, partial $\eta^2 = .11$ ($M = 4.76$ and 4.60, $SD = 0.49$ for both), respectively.

To test the effect of instructions vs. no instructions, a mixed, six-way ANOVA was computed using group (2) and judge sex (2) as between-subject factors, and emotion (7), expressor ethnicity (2), expressor sex (2), and rating type (2) as within-subject factors on the American data. None of the effects involving the group factor was significant. As in the analyses immediately above, the rating main effect was significant, $F(1, 193) = 25.57$, $p < .001$, $\eta^2 = .27$, indicating that the observers gave significantly higher ratings to external displays than internal experience. This effect was *not* qualified by expressor nationality, as the rating by expressor nationality interaction was not significant, $F(1, 193) = 1.02$, *ns*. No other higher-order interactions involving these two effects were significant.

Discussion

The nationality instructions did not affect the country differences on either the emotion judgments or the intensity ratings. Moreover, the differences that emerged replicated previous findings (Matsumoto, 1992; Matsumoto et al., 2002; Matsumoto, Kasri, & Kookan, 1999), suggesting that the nonfindings for the nationality manipulation were not due to sampling error.

It is possible, however, that perceived nationality may influence judgments if a more fine-grained judgment task is used. Thus Study 3 utilized a multiscale rating task, in which

observers could rate the presence or absence of multiple emotions for each expression. Moreover, judges made these ratings for both the external display as well as internal experience.

STUDY 3

Method

Participants

The participants were 121 American university undergraduates (86 females, 35 males, mean age = 25.19 years, $SD = 7.06$). All were born and raised in the US and English was their first and primary language.

Expressions, rating tasks, and procedures

The expressions were the JACFEE expressions. As in Study 2 they were blocked into two groups according to expressor ethnicity, and observers were instructed that the Caucasian expressors were US born and raised Americans while the Asian expressors were Japan born and raised Japanese nationals. The order of the blocks was counterbalanced.

All participants were tested in small groups and shown expressions one at a time for 30 s each on a large screen in a random order within blocks. For each expression participants were asked to “rate how intensely the expression is displayed on the face (external display), for 7 given emotions, and rate how intensely you think the expressor is actually feeling the emotion, or emotions (internal experience), for 7 given emotions.” They were also told that the actual internal experience of the poser may be the same as, or different from, the expressor’s external facial expression. They rated the intensity of seven emotion labels—anger, contempt, disgust, fear, happiness, sadness, and surprise—twice, first rating the external display of the expression and second rating the subjective experience of the expressor. The order of these ratings was fixed. For both ratings the scales were anchored *None* (0), *Moderately* (4), and *A Lot* (8). They were then given instructions on how to use the scale, including “If you believe that a particular emotion is *not present*, rate that emotion as *none* by circling ‘0’. There is no limit to the number of emotions you may circle as present, or not present, for an expressor.”

Results

Emotion accuracy scores were computed by coding whether the observers gave the intended

emotion label the highest intensity rating as 1, and not as 0. These recoded accuracy scores were then averaged across the two examples of each expressor type within emotion. A five-way, mixed ANOVA was computed using judge sex (2) as a between-subject factor, and rating (2), emotion (7), expressor nationality (2), and expressor sex (2) as within subject factors. The main effect of expressor nationality was not significant, $F(1, 119) = 0.70$, *ns*. The expressor nationality by emotion interaction was significant, $F(6, 714) = 6.05$, $p < .001$, partial $\eta^2 = .05$. Simple effects analyses indicated that Caucasian expressors were judged more accurately than Asian expressors on contempt, $F(1, 120) = 8.75$, $p < .01$, partial $\eta^2 = .07$. All other simple effect comparisons, however, were not significant. No other effects involving expressor ethnicity were significant in the overall analyses.

To examine differences in intensity ratings, ratings were averaged across both expressor types within each emotion, and a mixed, five-way ANOVA was computed using judge sex (2) as a between-subject factor, and emotion (7), expressor nationality (2), expressor sex (2), and rating type (2) as within-subject factors on the intended emotion label intended in the expression. As in Study 2, the rating main effect was significant, $F(1, 120) = 62.49$, $p < .001$, partial $\eta^2 = .42$, indicating that the observers gave significantly higher ratings to external displays than internal experience. This effect was *not* qualified by expressor nationality, as neither the main effect of expressor nationality nor the expressor nationality by rating interaction was significant, $F(1, 120) = 0.02$, *ns*; and $F(1, 120) = 0.30$, *ns*, respectively. The expressor nationality by rating by emotion interaction, however, was significant, $F(6, 528) = 2.83$, $p < .01$, $\eta^2 = .03$. But simple effects comparisons of rating separately for each emotion and both expressor nationalities indicated that judges rated external displays higher than internal experience for all seven emotions and both nationalities; the interaction, therefore, indicated differences in degree, and did not change the basic finding. No other higher-order interactions involving expressor ethnicity and rating type were significant.

GENERAL DISCUSSION

Study 1 demonstrated that observers do not reliably make implicit attributions concerning the nationalities of the expressors when judging their faces. Studies 2 and 3 demonstrated that informing observers the nationality of expressors does not affect their judgments, regardless of whether the

judgments are selections of emotion labels, intensity ratings, or scalar ratings on multiple emotion labels. These findings were not without limitations, including the use of full-face, high intensity, prototypical facial expressions of emotion. It is possible that the findings are limited to judgments of unambiguous stimuli, like those used here, in an experimental context. Judgment biases generally occur under conditions of low signal clarity, and in fact, low intensity versions of these same stimuli produce significantly lower recognition accuracy rates (Matsumoto et al., 2002), as do the same stimuli presented at very fast speeds (Matsumoto et al., 2000). Presenting faces in context would also produce more ambiguity into the signal clarity of the faces, particularly if the emotion cues in context are discrepant to those in the face. Also, faces in real life involve many partial and subtle expressions, further reducing signal clarity. Future research should examine how knowledge of expressor nationality may affect judgments of these types of expressions.

These findings have theoretical implications for our knowledge of emotion judgments. They argue against the notion of in-group biases in emotion recognition (Elfenbein & Ambady, 2002) for these types of stimuli, and suggest that recognition of emotions portrayed in the stimuli used in these studies is a pancultural decoding ability that is independent of expressor characteristics such as ethnicity or sex. They are commensurate with findings from other studies that demonstrate that specific brain areas are linked to the recognition of specific emotions (Blair, Morris, Frith, Perrett, & Dolan, 1998; Calder, 2003; Whalen et al., 2004), and with studies that demonstrate that lesions in specific brain areas result in deficits in recognizing specific emotions (Gray, Young, Barker, Curtis, & Gibson, 1997; Sprengelmeyer et al., 1996; Young, Hallowell, Van de Wal, & Johnson, 1996). These findings also argue against the potential role of perceived nationality in contributing to cross-national differences in emotion recognition rates previously reported (Biehl et al., 1997; Matsumoto, 1989, 1992), and thus argue for the existence of cultural decoding rules that affect judgments of these expressions, regardless of the nonexpressive characteristics of the expressor. As mentioned above, these findings do *not*, however, rule out the possibility that judgments of other types of facial expressions may be influenced by perceived nationality.

These findings also have important practical implications. That people do not alter their emotion judgments based on the perceived nationality of the expressor being judged suggests that

international and intercultural communication can be aided by accurate communication of basic emotions despite cultural differences in emblematic gestures, speech regulation processes, and language. The recognition of basic emotions provides individuals with a basis for interpersonal and international understanding. It also provides an important platform for training intercultural communication and sensitivity skills. Training designed to improve the ability to recognize basic emotions can be developed and can proceed with the knowledge that such abilities do not depend on the nationalities or cultures of the expressors being judged, at least for high intensity expressions. These training programs can introduce the full-face, prototypical expressions of emotion as the basic templates of emotional expression for all people of all cultures and nationalities, serving as the basis for greater interpersonal, international, and intercultural understanding. These training programs may form the core aspects of interpersonal communication training. Future research using facial expressions with lower signal clarity will be useful in complementing such core programs with more specific information about how encoder and decoder characteristics may influence judgments.

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