

# The Role of Injustice in the Elicitation of Differential Emotional Reactions

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*Data from a large-scale study on emotional experiences in 37 countries are used to examine correlates of emotion-antecedent events being judged as unfair or unjust. This study included 2,921 students who reported situations in which they had experienced joy, anger, fear, sadness, disgust, shame, and guilt and described their situation appraisals and reactions. Anger-producing events were most frequently perceived as very unfair, followed by disgust, sadness, fear, guilt, and shame. The results showed strong main effects of the perception of injustice for all negative emotions. Events experienced as unjust were described as more immoral, more obstructive to plans and goals, and having more negative effects on personal relationships. In addition, events regarded as unjust elicited feelings that were longer in duration and more intense. It is concluded that perceived injustice plays a powerful role in the elicitation of many different negative emotions and may serve as a mediating variable in emotion-antecedent appraisal.*

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**S**ocial-psychological approaches to social justice traditionally have been concerned with the antecedents and consequences of the experience of injustice (for reviews of the field, see Bierhoff, Cohen, & Greenberg, 1986; Cook & Hegtvedt, 1983; Folger, 1984; Greenberg & Cohen, 1982; Lerner & Lerner, 1981; Lind & Tyler, 1988; Mikula, 1980; Mowday, 1987; Steensma & Vermunt, 1991; Törnblom, 1992; Vermunt & Steensma, 1991; Walster, Walster, & Berscheid, 1978). This article focuses on a particular kind of consequence, namely, the emotional response to perceived injustice. Emotional responses play a central role in many justice theories. Equity theory, for instance, proposes that any perception of injustice leads to a negative emotional state of distress that, in

turn, motivates the search for redress of inequity (Adams, 1965; Walster et al., 1978). Although the issue of emotional responses to injustice is present on a theoretical level, albeit often only implicitly, empirical studies of this phenomenon are few and far between, in spite of repeated pleas for systematic investigations of the nature of the emotional experiences elicited by injustice (e.g., Adams & Freedman, 1976; Austin & Walster, 1974; Cook & Hegtvedt, 1983; Greenberg, 1984).

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**Authors' Note:** A large number of researchers have conducted this questionnaire study in their respective countries and have contributed important suggestions to the overall design of the research program. In consequence, they have to be considered as coauthors even though they are too numerous to list in the author line. They are listed in alphabetical order together with the university in which the study was conducted: Elisha Babad, Hebrew University of Jerusalem, Israel; Eva Baenninger-Huber, University of Zurich, Switzerland; Cleve Barlow, University of Auckland, New Zealand; Marek Cielecki, University of Warsaw, Poland; Cindy Gallois, University of Queensland, Australia; Jo Kleiven, Oppland Regional College, Norway; Jacques Cosnier, University II of Lyon, and Monique Alles-Jardel, University of the Provence, Aix-en-Provence, France; Britt-Marie Drott, University of Göteborg, Sweden; Heiner Ellgring, Free University of Berlin, Germany; Alfonso Jimenez-Fernandez and Jose Miguel Fernandez-Dols, Autonoma University of Madrid, Spain (especially J. M. Fernandez-Dols for his help in collecting the data in Costa Rica, Honduras, Mexico, Guatemala, Venezuela, Chile, and El Salvador. Within these countries, we extend our thanks to Mirta Gonzalez [Costa Rica], Otto E. Gilbert [Guatemala], Isabel de Villanueva [Honduras], Rolando Diaz-Loving [Mexico], Ignacio Martin [El Salvador], Angelica Gonzalez and Gonzalo Zaror [Chile], and Pedro R. Rodriguez [Venezuela]); Tsutomu Kudoh, University of Osaka, Japan; Hing-Keung Ma, Chinese University of Hong Kong, Hong Kong; David Matsumoto, University of California, Berkeley, United States; Silvia Maurer-Lane and Silvia Friedman, land;

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*Emotional Mediation  
Through General Distress*

Most of the rare investigations of emotional reactions to injustice confined themselves to proving the existence of distress. Experimental studies, which typically use mood adjective check lists as an overall self-report measure of contentment versus distress, generally found that participants were more content (and less distressed) when they were equitably treated than when they were either underbenefited or overbenefited (e.g., Austin & Walster, 1974; Hassebrauck, 1991). Similarly, nonexperimental studies of close, intimate relationships found more satisfaction for individuals who perceived their relationship as equitable rather than inequitable (see Sprecher & Schwartz, 1994, for a review of this line of research). The distress mediation hypothesis is supported by some evidence that the experience of injustice is accompanied by heightened physiological arousal. Markovsky (1988) found increased skin conductance responses (relative to baseline) among unjustly underpaid and overpaid participants. Hassebrauck (1991) obtained higher diastolic and systolic blood pressure for inequitably treated as compared to equitably treated participants. Neither study found heart rate differences between justly and unjustly treated participants.

Although some authors have questioned the necessity of postulating an emotional mediation for the cognitive and behavioral effects of injustice that have been observed (Greenberg, 1984; Rivera & Tedeschi, 1976; Sprecher, 1992; Tajfel, 1982), the evidence cited in this article suggests a central motivational role for emotion. In fact, evidence from experimental misattribution studies (Hassebrauck, 1987, 1991) lends support to the proposition that inequity distress is a necessary (although not sufficient) condition for reactions directed at restoring equity to occur.

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*The Nature of the  
Emotional Responses to Injustice*

Although one finds reports of specific emotions such as anger and guilt in response to experiencing injustice from the very beginning of the scientific interest in equity and justice (e.g., Adams, 1965; Adams & Freedman, 1976; Greenberg, 1984; Homans, 1961; Walster et al., 1978), little systematic research has been devoted so far to the nature of the specific emotional reactions that accompany the experience of injustice. Some authors explored emotional reactions to injustice by means of role-playing vignette studies. Mikula (1986, 1987) asked high school students to put themselves in one of five different scenarios of injustice in the school setting and to write down how they would feel and what would go through their minds in the situation. Six different categories of emotional responses emerged from participants' protocols (in order of decreasing frequency): (a) anger, rage, and indignation; (b) disappointment, feeling aggrieved; (c) surprise; (d) physical symptoms of arousal and stress; (e) helplessness, depression; and (f) envy.

A similar study by Clayton (1992; Study 2) found comparable results: Feelings of anger constituted the dominant emotional response. In addition, indications of feelings of sadness and disappointment occurred in the protocols. Hegtvedt (1990) used vignettes of businesslike exchange relations. She found that participants who placed themselves in the position of the underrewarded exchange partner reported more resentment and helplessness and less gratitude than equitably rewarded and overrewarded participants. Participants who role-played the overrewarded partner reported slightly more guilt than participants in the other reward conditions. Finally, Sprecher (1992) conducted a vignette study focusing on inequities in close relationships. She asked her participants to imagine themselves either as the underbenefited or the overbenefited partner in an inequitable relationship and to indicate how various emotions would change for them. Participants in the role of the underbenefited partner expected to experience an increase in their anger and depression and a decrease in their happiness, contentment, satisfaction, and love. Participants in the role of the overbenefited partner expected that their feelings of guilt would increase.

Other studies focused on naturally occurring experiences of injustice. Mikula (1986, 1987) asked participants to report an event in which they had been unjustly treated by another person and to describe their thoughts, feelings, and behavioral reactions. The categories of emotions that were distinguished in this exploratory study correspond with those observed in the role-playing study previously described (again in order of

decreasing frequency): (a) anger, rage, and indignation; (b) disappointment, feeling aggrieved; (c) surprise; (d) physical symptoms of arousal and stress; and (e) helplessness, depression. Sprecher (1986) conducted a survey study with students who were involved in close heterosexual relationships. Participants were asked to assess the inequity of their relationship and indicate the degree to which they experienced each of various positive and negative emotions in their relationship during the previous month. She found perceived inequity to be significantly related to a variety of positive and negative emotions experienced in the relationship. The negative emotions of anger, hate, resentment, hurt, sadness, frustration, and depression and the positive responses of happiness in the relationship and respect for the partner were among the specific emotions most strongly related to inequity.

The work of Montada and his coworkers (e.g., Montada, 1994; Montada & Schneider, 1989; Reichle & Montada, 1994) represents a further line of research dealing with injustice and emotions. In contrast to the research summarized earlier in this article, which mostly dealt with immediate emotional responses to perceived injustice, this group of researchers explores the interrelations between cognitive appraisals, attributions, and emotional reactions. Combining elements of justice theory and cognitive emotion theory, they focus in particular on the mediating (and/or moderating) role of evaluations of injustice and attributions of responsibility in the elicitation of specific emotions, which, in turn, affect the way in which people experience and cope with a given situation. The approach has been applied to settings such as coping with victimization and negative life events (Montada, 1994), confrontations with the situation of disadvantaged members of human society (Montada & Schneider, 1989), and experience of restrictions and losses by first-time parents (Reichle & Montada, 1994).

#### *The Issue of Justice in Emotion-Antecedent Appraisal*

Much of the research cited previously, except for the work by Montada and his collaborators, has been conducted within the well-defined area of justice research with rather little cross-reference to emotion research. However, just as justice researchers have tended to neglect the emotion literature, emotion psychologists have rarely considered the work on emotional consequences of injustice experiences. This neglect is particularly salient with respect to appraisal theories of emotion. These cognitive theories attempt to predict the elicitation and differentiation of emotion on the basis of a limited number of dimensions, criteria, or evaluation checks used in the appreciation of a situation or event (see Lazarus & Smith, 1988; Manstead & Tetlock, 1989; Park-

inson & Manstead, 1992; Reizenzein & Hofmann, 1990, 1993; Roseman, Spindel, & Jose, 1990; Scherer, 1988, for reviews).

The work reported in this article is based on the appraisal theory proposed by Scherer (1984, 1986) in the context of a comprehensive component process model of emotion. The theory postulates that the elicitation, and the consequent differentiation, of the emotion episode is determined by the results of appraising the antecedent situation with respect to a series of five major stimulus evaluation checks (SECs): novelty/suddenness, intrinsic pleasantness, goal conduciveness, coping ability, and compatibility with standards.

Although some appraisal theorists have mentioned criteria that might imply the perception of injustice, such as legitimacy (Roseman, 1984; Smith & Ellsworth, 1985), value relevance (Frijda, 1986), or approval and blameworthiness (Ortony, Clore, & Collins, 1988), injustice or unfairness are rarely mentioned explicitly by appraisal theorists (but, see Beck, 1967; Epstein, 1984). In early versions of his component process model, Scherer (1981, 1984) included unfairness as one of the stimulus evaluation checks in addition to the more general notion of compatibility with external standards or norms (which captures the normative or legitimacy aspect). In later versions of the model, Scherer (1986, 1988) subsumed, wielding Occam's razor, this check under the more general heading of compatibility with external standards, presuming that one could think of justice norms in similar ways to other kinds of norms.

Thus, the neglect of injustice as an emotion-antecedent appraisal dimension in its own right has led to a dearth of empirical data with respect to this appraisal dimension and its effect on the types of emotions elicited as well as the nature of the ensuing affective reactions. The cross-cultural study that is at the basis of this article was conceived by Scherer and his collaborators before the stimulus evaluation check of perceived injustice or unfairness was subsumed under a more general dimension in the theory, and consequently, a question related to this appraisal check was included in the questionnaire.<sup>1</sup>

This article reports the results from a large-scale cross-cultural study that are pertinent to this appraisal dimension. These data are examined with the following questions in mind:

1. *For which emotions does appraisal of injustice or unfairness constitute an important aspect of the emotion-antecedent event evaluation pattern?* Justice theories discuss anger and guilt as the most likely emotional responses to the perception of injustice, depending on whether the injustice is advantageous or disadvantageous to the respective perceiver (cf. Adams, 1965; Homans, 1961; Walster et al., 1978). However, the research previously reviewed in this article suggests that the perception of injustice can elicit

a range of qualitatively different emotions. The cross-cultural study on emotion-eliciting situations provides an opportunity to replicate and extend the earlier analyses of the role of injustice appraisal on differential emotional reactions using a different paradigm. Unfortunately, the present data do not allow us to distinguish and compare the types of emotions that follow from advantageous or disadvantageous injustice (see below).

2. *Does the evaluation of an event or behavior as unjust covary with other appraisal dimensions; in other words, are events perceived as unjust systematically appraised in a specific way with respect to other criteria or dimensions?* Justice theories generally conceptualize injustice as an instance of inconsistency, dissonance, or refutation of existing expectations that elicits some kind of distress in the perceiver. Theory and research point to a wide range of possible consequences of injustice that should be reflected in the appraisal of the situation (e.g., Adams, 1965; Mikula, 1984; Reis, 1984; Walster et al., 1978). According to this body of knowledge, unjust situations can be expected to be appraised, among other things, as less expected, more aversive or unpleasant, more of a hindrance to goal achievement, and more detrimental to the self-concept, as compared with situations that are not regarded as unjust.

3. *Is the nature of the affective reaction (physiology, expression, behavior) in situations perceived as unjust systematically different from situations in which justice or fairness are not at stake?* Similar to the expected interrelations between injustice appraisal and other appraisal dimensions, justice theory and research suggest correlations between injustice appraisal and affective reactions to the situation. The distress that is elicited by perceptions of injustice should heighten the arousal of perceivers and amplify their affective reactions to the respective situation. In consequence, one would expect the intensity and duration of the feeling to be higher and the physiological symptoms to be more pronounced, as compared to situations in which justice does not play a role.

4. *Are any such differences in affective reactions to situations perceived as unjust versus not unjust specific to the appraisal of injustice or are they mediated by other appraisal criteria?* Because appraisals of injustice are very likely to be correlated with other appraisal dimensions, it will be necessary to check whether any correlations of injustice with reaction variables are independent of, or mediated by, other appraisal dimensions.

5. *Are there differences between the various cultures studied with respect to the interrelations between perceived injustice and subjective feeling and/or reaction characteristics?* Several authors have argued that many of the propositions of psychological theories of justice, as well as much of the evidence obtained in empirical research, reflect particular sociohistorical and cultural conditions that remain

unspecified (see Sampson, 1975). In fact, cross-cultural comparisons have typically revealed cultural differences (e.g., Berman & Murphy-Berman, 1996; Bond, Leung, & Wan, 1982; Bond, Leung, & Schwartz, 1992; Leung & Park, 1986; Murphy-Berman, Berman, Singh, Pachauri, & Kumar, 1984; Törnblom, Jonsson, & Foa, 1985). However, because most of these studies have dealt with cultural differences in what is regarded as just and unjust, it is not clear whether cultural differences can also be expected with regard to subjective feeling and/or reaction characteristics once a situation has been perceived and labeled as unjust or unfair.

## METHODS

### *Background*

This article reports a subanalysis of a large-scale data set that stems from a cross-cultural study of emotion-eliciting situations in 37 countries. A detailed description of the methodology used in this extensive study (conducted from 1984 to 1992) is provided by Scherer and Wallbott (1994). In that article, issues such as the development of the precoded questionnaire (based on the results for free-format questionnaires used in earlier studies; see Scherer, Wallbott, & Summerfield, 1986; Scherer, Wallbott, Matsumoto, & Kudoh, 1988), the choice of emotions to be studied, the choice of emotion components investigated, the choice of countries included in the sample, translation and back-translation of the research materials, and participant characteristics are presented in great detail. In an effort to save space, only factual information that concerns methodological details of the research procedure are provided in this article.

### *Questionnaire Design*

The questionnaire consisted of a one-page general instruction and seven two-page sections, one for each of the seven emotions studied (joy, anger, fear, sadness, disgust, shame, and guilt). The instruction sheet asked the respondent to recall a situation in which he or she had recently experienced a strong emotion of the kind indicated and for which they vividly remembered the circumstances and their reactions. They were assured of total anonymity and asked to reply to each of the questions with respect to the situation and the emotional experience generated by the latter. Finally, an example was provided for the circling of the response alternatives. The two-page questionnaire section for each of the seven emotions consisted of four parts: (a) situation description; (b) subjective feeling state; (c) physiological symptoms, expressive behavior, and other reactions; and (d) appraisal. Because the free-form situation descriptions have not yet been analyzed, this article reports results separately for situation antecedent appraisals and for

emotional responses, combining subjective feeling and physiological and expressive reactions.<sup>2</sup>

#### APPRAISAL QUESTIONS

Nine questions concerning novelty/expectation, intrinsic pleasantness, goal conduciveness, fairness, responsibility/causation, coping ability, immorality, and relationship to self-concept (see Scherer, 1984) were posed (with precoded answer alternatives appropriate to the question concerned). The choice and the formulation of these questions were a compromise between (a) attempting to represent as many checks and subchecks of the SEC model as possible and (b) having to keep the questionnaire relatively short and to express the SECs in a simple, straightforward manner. The detailed wording of the questions and the answer alternatives (in the form in which they were coded for statistical analysis) are listed below in the order in which they appeared in the questionnaire. The SECs or subchecks that were operationalized by each question are shown in brackets before the text of the question. The variable names used throughout the article are in parentheses after the text of the question. In several cases, the terms used as variable names deviate somewhat from the terms used for the theoretical SECs in such a way as to clearly indicate the direction of the answer categories in their formulation. Respondents were asked to think back to the situation or event that caused the specific emotion.

[novelty/expectation]: Did you expect this situation to occur? (1 = *not at all*, 2 = *a little*, 3 = *very much*) (expect- edness)

[intrinsic pleasantness]: Did you find the event itself pleas- ant or unpleasant? (1 = *pleasant*, 2 = *neutral*, 3 = *unpleas- ant*) (unpleasantness)

[goal conduciveness]: How important was the event for your goals, needs, or desires at the time it happened? Did it help or hinder you to follow your plans or to achieve your aims? (1 = *it helped*, 2 = *it didn't matter*, 3 = *it hindered*) (goal hindrance)

[compatibility with external standards: fairness]: Would you say that the situation or event that caused your emotion was unjust or unfair? (1 = *not at all*, 2 = *a little*, 3 = *very much*) (unfairness)

[coping ability: agent]: Who do you think was responsible for the event in the first place? Check one, the most important of the following (10 categories were recoded as 1 = self, 2 = close persons, 3 = other persons, 4 = impersonal agency) (external causation)

[coping potential: control/power]: How did you evaluate your ability to act on or to cope with the event and its consequences when you were first confronted with this situation? Check one, the most appropriate, of the fol- lowing (5 categories were reordered as 1 = powerless, 2 = escape possible, 3 = pretend nothing happened, 4 = no action necessary, 5 = could positively influence event and change consequences) (coping ability)

[compatibility with external standards: norms]: If the event was caused by your own or someone else's behavior, would this behavior itself be judged as improper or

immoral by your acquaintances? (1 = *not at all*, 2 = *a little*, 3 = *very much*) (immorality)

[compatibility with internal standards: self-ideal]: How did this event affect your feelings about yourself, such as your self-esteem or your self-confidence? (1 = *negatively*, 2 = *not at all*, 3 = *positively*) (self-consistency)

In addition to the answer alternatives listed, respon- dents could check the category "not applicable" for each of the questions. This answer alternative was included to enable participants to respond to appraisal questions that they considered to be irrelevant to the situation concerned. However, the possibility that respondents also checked this alternative for other reasons (e.g., in the sense of *don't know* or *don't remember*) cannot be ruled out.

#### QUESTIONS ABOUT SUBJECTIVE FEELING AND REACTIONS

With respect to feeling, respondents were asked to indicate its duration (1 = *few minutes*, 2 = *an hour*, 3 = *several hours*, 4 = *a day or more*) and intensity (1 = *not very*, 2 = *moderately*, 3 = *intense*, 4 = *very intense*).

With respect to reactions, separate checklists were provided for (a) 11 bodily symptoms (lump in throat, change in breathing, stomach troubles, feeling cold/shivering, feeling warm/pleasant, feeling hot/ cheeks burning, heart beating faster, muscles tensing/ trembling, muscles relaxing/restful, perspiring/moist hands, other symptoms), (b) 11 nonverbal expressive behaviors (laughing/smiling, crying/sobbing, other changes in facial expression, screaming/yelling, other changes in voice, change in gesturing, abrupt bodily movements, moving toward people or things, withdraw- ing from people or things, moving against people or things/aggression, other expressive reactions), and (c) 8 types of verbal behavior (silence, short utterance, one or two sentences, lengthy utterance, speech-melody change, speech disturbances, speech tempo changes, other verbal behavior). The respondent was asked to check each symptom or reaction experienced in the situation. In each case, a special category for *do not remember* was provided.

To allow the use of parametric statistical techniques, responses were recoded. This was particularly necessary for the symptom and reaction checklists. Recoding was performed by counting the number of symptoms or reactions mentioned by a respondent for each of a number of categories that had been formed on the basis of theoretical considerations (see below). In this man- ner, scales approaching interval character from 0 (*none of the respective items mentioned*) to *n* (*maximal number of relevant items mentioned*) were constructed. The following scales were thus formed.

*Physiological Symptoms.* The distinction between the activation of the sympathetic versus the parasympathetic

branches of the autonomous nervous system (ANS) was used to group the reported symptoms according to the relevant psychophysiological literature. Sympathetic symptoms (scores 0 to 4) include change in breathing, heart beating faster, muscles tensing/trembling, and perspiring/moist hands. Parasympathetic symptoms (scores 0 to 3) include lump in throat, stomach troubles, and crying/sobbing. Felt temperature (scores -1 to +2) includes feeling cold/shivering, feeling warm/pleasant, and feeling hot/cheeks burning (0 was assigned when no temperature symptom was mentioned).

*Expressive Behavior.* Four composite variables were formed: (a) movement behavior (scores -1 to +1): withdrawing (-1) versus moving toward (+1) people and things (0 being assigned when no movement category was mentioned) (The item labeled "moving against people and things, aggression" was not included in coding movement behavior.); (b) nonverbal behavior (scores 0 to 6): laughing/smiling, crying/sobbing, other facial expression changes, screaming/yelling, other voice changes, and changes in gesturing; (c) paralinguistic behavior (scores 0 to 3): speech-melody changes, speech disturbances, and speech tempo changes; and (d) verbal behavior: a scale approaching interval character was formed by recoding the category checked into either 1 = *short utterance*, 2 = *one or two sentences*, or 3 = *lengthy utterance*.

Finally, the respondent was asked to indicate whether he or she tried to control or hide the feeling (control attempt: 1 = *not at all*, 2 = *a little*, and 3 = *very much*; not applicable was also included) and whether the event changed relationships with other people (relationship effects: 1 = *negatively*, 2 = *not at all*, 3 = *positively*; not applicable was also included).

#### QUESTIONNAIRE FORMAT

The sequence of the seven target emotions was randomized over respondents to control for order effects. At the end of the booklet, respondents were asked to complete a personal background questionnaire that contained questions concerning gender, age, field of study, religion, language, country of origin, and parents' education and occupation. Because these background variables did not correlate with other variables in the study to any significant extent, no results for these variables will be reported.

#### Sampling of Countries

The aim was to study a sufficiently large number of rather diverse countries to obtain a representative sampling of culture differences. Because this research was conducted essentially without any external funds, a convenience sample of countries was obtained by contacting

colleagues in different countries who were interested and able to participate in the study without funding.

#### Translation of the Questionnaire

The pragmatic type of translation (Brislin, 1980) was used, emphasizing the accuracy of the information intended to be conveyed in the source language form (in this case, English). The emotion questionnaire was translated into the language spoken in each of the participating countries by the local collaborator and his or her associates. Collaborators received the original English version as a model, together with detailed instructions concerning the translation process, particularly the procedures to follow for back-translation. The principal investigators checked a large number of these translations and back-translations but were obviously unable to verify the accuracy in all cases, particularly in the case of more exotic languages. There can be little doubt that the translations, especially of the emotion labels, do not ensure complete overlap with respect to denotative and particularly connotative meaning in all the languages studied. To the extent that there are differences, this would increase error variance. However, a systematic check of the concrete situation descriptions (which were translated into English and returned to the investigators along with the quantitative data from most countries) showed that no major translation problems were encountered.

#### Sampling of Participants

Given the large number of cultures studied, it was decided for reasons of comparability and of practicability that groups of students in major city universities were to be used as participants. As a consequence, the generalizability of the data to be reported is limited to modern mass societies. The choice of respondent populations also implies a fairly high degree of Westernization in many of the countries studied, which may reduce the chances of finding cultural differences (see Scherer & Wallbott, 1994, for a more detailed discussion of this important point).

The collaborators in each of the sites were asked to recruit about 100 students, about half male and half female. In addition, they were to attempt to obtain, whenever possible, about 50% psychology students and 50% nonpsychology students from different fields of study. Foreign students were to be excluded as much as possible and age range constraints (18 to 35 years) were to be observed. These criteria were also used in the final data analysis to exclude all cases that did not fit these constraints. In total, 2,921 respondents were retained in the data set (55% women, 45% men), with a mean age of 21.8 years. Of the respondents, 43% were psychology students, whereas the rest were studying a variety of other

disciplines (see Scherer & Wallbott, 1994, for a detailed breakdown of participant characteristics by country).

#### *Administration, Coding, and Analysis of the Questionnaire*

The questionnaire was administered to groups of students in class, under conditions that would guarantee complete anonymity to each respondent. The collaborators and their associates in each of the participating countries transferred the data from the questionnaires to data coding sheets and translated the text of the situation descriptions into English. Data processing and analysis were performed at the University of Geneva, the University of Giessen, and the University of Graz.

## RESULTS

### *Analysis of the Not Applicable Responses*

As described previously, respondents could reply with "not applicable" to the appraisal questions in order not to force them to apply the suggested criteria to the situation in question. This answer category was selected for 16.3% of all responses. Although these were approximately evenly distributed over the 7 emotions, there were systematic differences for the SECs (see Scherer, 1997), including above average use of the category for unfairness (28.1%) and immorality (30.1%), except in the case of anger. Although the use of a not applicable response is interesting in its own right, this answer category poses problems with respect to the analysis of the main data set. It cannot be integrated into the interval scale format that is used for the responses on the different dimensions, and thus, it must be treated as a missing observation. Although this has little effect on univariate analyses, it is rather inconvenient in multivariate analyses that involve list-wise exclusion of cases with missing observations. In this case, it does result in a serious reduction of the number of respondents used in the study. To avoid this problem for the multivariate analyses reported below, the not applicable answers were replaced by the respective cell mean for that variable (see Scherer, 1997, for further justification). This was not done in the case of univariate analyses.

### *Incidence of Injustice Appraisal for Different Kinds of Emotions*

Our first question concerns the extent to which participants regarded the situations or events that caused the different emotions as unjust or unfair. The results are shown in Figure 1. A one-way repeated-measures ANOVA for unfairness over the seven emotions showed highly significant differences,  $F(6, 17520) = 1651.8, p < .00001$ . As one might expect, there is very little injustice appraisal for the one positive emotion (joy), and one

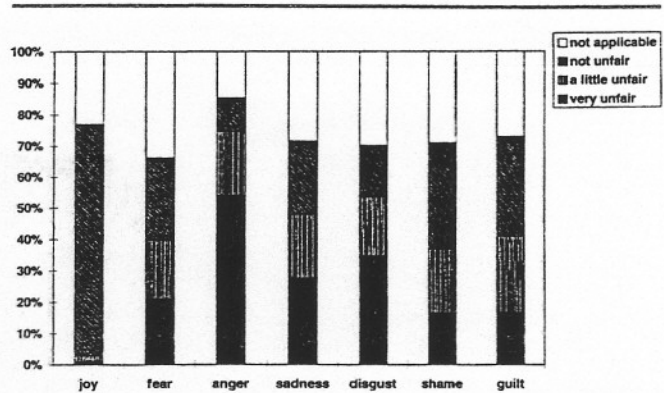


Figure 1 Frequency distributions of responses to the unfairness item with different kinds of emotions.

could argue that the significance is due to the difference between joy and the negative emotions. However, an ANOVA with 6 levels, confined to negative emotions, still yielded a highly significant  $F$  value,  $F(5, 14600) = 609.9, p < .0001$ . As the figure shows, anger-producing events were most frequently perceived as unfair or unjust, followed by disgust, sadness, and fear, and, with somewhat lower values, shame and guilt.

Given the very low percentage of injustice appraisals in the case of joy, any further analyses are likely to be biased due to the very skewed distribution of the injustice values for this variable. Therefore, in what follows, we eliminated joy, and for the other questions, we analyzed the data only with respect to the remaining six negative emotions.

### *Relations Between Perceived Injustice and Other Appraisal Variables*

Our second question concerned the way in which the appraisal of an event as unjust correlates with other appraisal variables. In other words, do events considered as unjust exhibit specific appraisal profiles, differing from situations in which perceived injustice plays less of a role? The analysis chosen for this purpose was a separate ANOVA for each emotion, using injustice ratings as a grouping variable (i.e., examining differences in the other appraisal variables between respondents having described the situation as not unfair or unjust, a little unfair or unjust, or very unfair or unjust). In addition, the proportion of the variance due to a linear trend in the group means from not unjust to very unjust was computed. Table 1 shows the data for this kind of analysis for the emotion labeled as anger (which showed the strongest proportion of injustice appraisals). The first three columns show the different means on the appraisal variables for the three groups of injustice assessment. For the main effect of injustice, the effect size,  $\eta^2$ , and  $p$ , the significance level associated with the respective  $F$  are

TABLE 1: Means, Effect Sizes, and Significance Levels for Main Effects and Linear Trend Components for Three Levels of Unfairness and Interactions With Culture Dimensions for the Emotion of Anger

Variable	Degree of Unfairness			Main Effect Unfairness		Linear Trend		Interaction Unfairness—Geopolitical Region		Interaction Unfairness—Individualism	
	Not Unfair	A Little Unfair	Very Unfair	$\eta^2$	p <	$r^2$	p <	$\eta^2$	p <	$\eta^2$	p <
<b>Appraisal</b>											
Expectedness	1.53	1.52	1.36	0.02	.001	0.02	.001	0.01	n.s.	0.00	.05
Unpleasantness	2.85	2.92	2.96	0.01	.001	0.01	.001	0.01	n.s.	0.00	n.s.
Goal hindrance	2.29	2.50	2.61	0.03	.001	0.03	.001	0.01	.01	0.01	.01
External causation	2.25	2.17	2.41	0.02	.001	0.01	.001	0.01	n.s.	0.00	n.s.
Coping ability	3.45	3.27	3.12	0.00	.01	0.00	.001	0.00	n.s.	0.00	n.s.
Immorality	1.93	1.94	2.35	0.07	.001	0.06	.001	0.01	n.s.	0.00	n.s.
Self-consistency	1.91	1.81	1.74	0.01	.001	0.01	.001	0.00	n.s.	0.00	n.s.
<b>Reactions</b>											
Duration	2.52	2.50	3.01	0.05	.001	0.04	.001	0.00	n.s.	0.00	n.s.
Intensity	2.90	2.69	3.17	0.06	.001	0.03	.001	0.01	n.s.	0.00	n.s.
Sympathetic symptoms	1.44	1.39	1.65	0.01	.001	0.01	.001	0.00	n.s.	0.00	n.s.
Parasympathetic symptoms	0.32	0.33	0.41	0.01	.01	0.00	.001	0.01	.05	0.00	n.s.
Felt temperature	0.59	0.55	0.61	0.00	n.s.	0.00	n.s.	0.00	n.s.	0.00	n.s.
Nonverbal behavior	1.35	1.38	1.45	0.00	n.s.	0.00	n.s.	0.01	n.s.	0.00	n.s.
Movement behavior	-0.05	-0.07	-0.08	0.00	n.s.	0.00	n.s.	0.00	n.s.	0.00	n.s.
Paralinguistic behavior	0.63	0.67	0.75	0.00	.05	0.00	.01	0.00	n.s.	0.00	n.s.
Control attempts	1.53	1.65	1.56	0.00	.01	0.00	n.s.	0.00	n.s.	0.00	n.s.
Relationship effects	1.67	1.63	1.38	0.05	.001	0.04	.001	0.01	n.s.	0.00	n.s.
Verbal behavior	1.63	1.34	1.74	0.00	n.s.	0.00	n.s.	0.00	n.s.	0.00	n.s.
Laughing	0.04	0.03	0.03	0.00	n.s.	0.00	n.s.	0.01	n.s.	0.00	n.s.
Crying	0.13	0.14	0.19	0.00	.01	0.00	.001	0.01	n.s.	0.00	n.s.
Aggression	0.25	0.28	0.30	0.00	n.s.	0.00	.05	0.00	n.s.	0.00	n.s.

reported. The next two columns show the linear trend and its significance. For ease of comparison with correlational analyses reported in the literature, the  $r^2$  is additionally reported. (The remaining two sets of two columns each show interaction effects with culture variables, to be discussed later in this article. These data and the results for the reaction variable are included in the same table for the sake of economy of presentation.)

The results show strong and highly significant unfairness main effects for goal hindrance and immorality and significant but less powerful effects for expectedness, unpleasantness, external causation, and self-consistency. In each case, the proportion of variance due to the linear trend ( $r^2$ ) accounts for close to the total amount of variance ( $\eta^2$ ) explained by injustice. This indicates that linear increases in the degree of perceived injustice will tend to correspondingly increase the appraisal of other dimensions (at least within the range studied here).

Rather than providing tables equivalent to Table 1 for each of the seven emotions, the most important information,  $\eta^2$  and  $r$  with their associated  $ps$ , is summarized for all emotions in Table 2. The results, although often weaker than in the case of anger, confirm the pattern of results. Events perceived as unfair are seen as much more goal hindering and immoral than events not seen as unfair. They are also perceived as significantly less ex-

pected, more unpleasant, and more externally caused. Coping ability and self-consistency, although still showing significant effects, are less strongly associated with unfairness ratings.

#### *Perceived Injustice and Reaction Characteristics*

The third question posed previously in this article concerns the relations between injustice appraisal and subjective, motor-expressive, physiological, and behavioral reactions. Given the strong emotional responses to perceived injustice reported in the literature, one might hypothesize that goal-discrepant events would provoke stronger emotional reactions if perceived as unfair. The lower part of Table 1 shows the reaction data in detail for the emotion of anger; the lower part of Table 2 contains the essential information ( $\eta^2$  and  $r$ ) for all emotions.

Focusing on effect size, the pattern of results is rather clear: There is a significant link of perceived injustice with the intensity of the subjective feeling experienced for all of the emotions studied. The effect size for this variable attains about 5% of the variance on average, which is remarkable given the nature and size of the sample and the myriad of determinants and individual difference factors. A comparable, slightly weaker relationship is found between perceived injustice and dura-



TABLE 2: Effect Sizes and Significance Levels for Main Effects and Linear Trend Components for Three Levels of Unfairness for all Negative Emotions

Variable	Fear				Anger				Sadness				Disgust				Shame				Guilt			
	$\eta^2$	p <	r	p <	$\eta^2$	p <	r	p <	$\eta^2$	p <	r	p <	$\eta^2$	p <	r	p <	$\eta^2$	p <	r	p <	$\eta^2$	p <	r	p <
<b>Appraisal</b>																								
Expectedness	.04	.001	.20	.001	.02	.001	.12	.001	.07	.001	.26	.001	.01	.001	.11	.001	.03	.001	.16	.001	.01	.001	.11	.001
Unpleasantness	.05	.001	.21	.001	.01	.001	.12	.001	.05	.001	.21	.001	.02	.001	.16	.001	.03	.001	.15	.001	.01	.001	.10	.001
Goal hindrance	.08	.001	.29	.001	.03	.001	.18	.001	.07	.001	.27	.001	.05	.001	.23	.001	.04	.001	.21	.001	.02	.001	.12	.001
External causation	.04	.001	.20	.001	.02	.001	.11	.001	.03	.001	.15	.001	.00	n.s.	.04	n.s.	.07	.001	.26	.001	.03	.001	.17	.001
Coping ability	.04	.001	.19	.001	.00	.01	.07	.001	.02	.001	.15	.001	.01	.001	.11	.001	.01	.001	.12	.001	.01	.001	.09	.001
Immorality	.22	.001	.46	.001	.07	.001	.25	.001	.15	.001	.38	.001	.15	.001	.38	.001	.07	.001	.25	.001	.05	.001	.18	.001
Self-consistency	.02	.001	.14	.001	.01	.001	.09	.001	.04	.001	.18	.001	.01	.001	.09	.001	.01	.001	.09	.001	.01	.001	.05	.05
<b>Reactions</b>																								
Duration	.03	.001	.16	.001	.05	.001	.20	.001	.02	.001	.14	.001	.06	.001	.23	.001	.03	.001	.17	.001	.01	.001	.10	.001
Intensity	.04	.001	.17	.001	.06	.001	.18	.001	.06	.001	.24	.001	.05	.001	.19	.001	.05	.001	.19	.001	.04	.001	.12	.001
Sympathetic symptoms	.01	.001	.08	.001	.01	.001	.08	.001	.02	.001	.13	.001	.03	.001	.16	.001	.00	n.s.	.01	n.s.	.01	.01	.04	.05
Parasympathetic symptoms	.00	n.s.	.01	n.s.	.01	.01	.07	.001	.01	.01	.07	.01	.00	.05	.07	.01	.00	n.s.	.03	n.s.	.00	.05	.03	n.s.
Felt temperature	.00	n.s.	.01	n.s.	.00	n.s.	.01	n.s.	.00	n.s.	.01	n.s.	.00	n.s.	.02	n.s.	.00	n.s.	.03	n.s.	.00	n.s.	.03	n.s.
Nonverbal behavior	.00	.05	.00	n.s.	.00	n.s.	.04	n.s.	.00	n.s.	.02	n.s.	.00	n.s.	.05	.05	.00	n.s.	.02	n.s.	.00	n.s.	.02	n.s.
Movement behavior	.01	.01	.07	.01	.00	n.s.	.02	n.s.	.01	.001	.07	.01	.00	n.s.	.00	n.s.	.00	.05	.05	.05	.00	n.s.	.02	n.s.
Paralinguistic behavior	.00	n.s.	.05	.05	.00	.05	.06	.01	.01	.001	.10	.001	.01	.001	.09	.001	.00	n.s.	.01	n.s.	.00	n.s.	.01	n.s.
Verbal behavior	.00	n.s.	.02	n.s.	.00	n.s.	.01	n.s.	.00	n.s.	.01	n.s.	.00	n.s.	.03	n.s.	.00	.01	.04	n.s.	.00	n.s.	.02	n.s.
Control attempts	.00	.05	.04	n.s.	.00	.01	.01	n.s.	.00	.05	.01	n.s.	.01	.001	.03	n.s.	.00	.05	.06	.05	.00	n.s.	.05	.05
Relationship effects	.06	.001	.23	.001	.05	.001	.20	.001	.04	.001	.20	.001	.04	.001	.18	.001	.04	.001	.19	.001	.01	.001	.10	.001

tion. This latter effect might be partly due to a positive correlation between intensity and duration. However, the average  $r$  between these variables across all seven emotions only attains a value of .35, suggesting an independent association between injustice and duration. Thus, events appraised as unjust are subjectively experienced as significantly more intense and of longer duration.

In comparison to the relation between perceived injustice and subjective feeling, the data for motor-expressive, physiological, and behavioral reactions are less impressive. Although many of the effects do attain significance at the  $p < .0001$  level, the effect sizes are much lower than those for the feeling variables. Only the frequency of sympathetic physiological symptoms shows a somewhat stable effect size of 1% across all emotions except shame, with somewhat elevated effects for sadness and disgust.

Another major effect is found for the effects on relationships, attaining about 4% of the variance across all emotions. The more that the event was perceived as unjust, the more negative the effects on relationships with pertinent individuals were judged to be.

As in the case of the appraisal variables, comparisons between the columns for  $\eta^2$  and  $r$  in Table 2 show that many of the reported effects are due to the linear trend from not unfair to very unfair, suggesting a linear relationship between the degree of perceived injustice and the intensity and duration of the resulting feeling, as well as the quality of pertinent relationships.

#### *Is the Correlation Between Perceived Injustice and Emotional Reaction Independent of Other Appraisal Variables?*

The following analyses relate to the question of whether the observed correlations between unfairness appraisal and the reaction variables of intensity, duration, and relationship effects are independent from or mediated by other appraisal variables associated with unfairness appraisal. Because sizable relationships of injustice with immorality, goal hindrance, and external causation were found (see above), this question is obviously quite pertinent. Regression analysis was used to answer this question. Using the TEST option in the SPSS regression package, the unique contribution to the variance explained in the reaction variable in question made by unfairness, immorality, and all other appraisal variables was determined (the value indicates the amount by which total  $R^2$  would be reduced if the specific variable or block of variables were eliminated from the analysis). Relevant analyses were only conducted for the three reaction variables that were significantly correlated with the unfairness appraisal and for the emotions of anger, sadness, and disgust, which, as reported above, were most strongly affected by unfairness appraisal. Table 3 shows the results of the analyses.

The data in Table 3, specifically in comparison to the column in Table 2 showing  $r$ , show that, on the whole, the effects of perceived injustice are independent of

TABLE 3: Unique Contributions to the Variance (Partial  $R^2$ ) Made by the Injustice Variable, the Immorality Variable, and all Other Appraisal Variables (SECs) as Determined by Regression Analysis

Reaction Variable	Emotions		
	Anger	Sadness	Disgust
Intensity			
Injustice	0.015	0.015	0.005
Immorality	0.020	0.003	0.020
Other SECs	0.006	0.042	0.044
Total $R^2$	0.042	0.060	0.069
Duration			
Injustice	0.017	0.002	0.015
Immorality	0.010	0.002	0.015
Other SECs	0.022	0.039	0.032
Total $R^2$	0.049	0.044	0.062
Relationship effects			
Injustice	0.015	0.009	0.004
Immorality	0.016	0.010	0.024
Other SECs	0.054	0.122	0.043
Total $R^2$	0.086	0.141	0.071

NOTE: SECs = stimulus evaluation checks. The TEST option in the SPSS regression package was used to obtain the amount of the total  $R^2$  due to the variable(s) in question.

other appraisal variables with the exception of immorality, in which there is some overlap in contributions to the explained variance (in other words, once immorality is introduced in the regression equation, the proportion of the variance due to unfairness is slightly reduced).

#### Cultural Differences

A further set of analyses explored the extent to which cultural variations moderate justice-related evaluations of emotion-eliciting events and characteristics of emotional experiences. Rather than studying potential differences between all 37 countries studied, we focused on two possible dimensions underlying cross-country differences: (a) geopolitical region and (b) value orientations.

##### GEOPOLITICAL REGIONS

The categories chosen were (a) countries in northern and central Europe, (b) countries around the Mediterranean basin, (c) Anglo-American New World countries, (d) Latin American countries, (e) Asian countries, and (f) African countries. Although much of this classification is based on geographical vicinity, political and historical factors related to the regional spread of common cultural elements and the historical pattern of Western influence are also considered. Although this classification is proposed here in an ad hoc fashion, without precise criteria or justifications being offered, it is felt that this classification is of greater potential interest for hypothesis development and has greater face validity than a grouping on the basis of continents.

#### VALUE ORIENTATIONS

The data on country differences with respect to one of the major dimensions of value orientation, individualism-collectivism (the relative importance of the family and other social groups as compared to emphasis on the rights and interests of the individual), were obtained from the work of Hofstede (1980).<sup>3</sup>

In this article, we are not concerned with the main effects of these culture dimensions on either appraisal or reaction variables (see Scherer & Wallbott, 1994; Scherer, in press, for a more extensive analysis). Rather, the question concerns a possible interaction between the evaluation of injustice and cultural specificities in determining specific patterns of appraisal or emotional responding. In consequence, we repeated the ANOVAs reported above, separately for each emotion, adding one of the two culture dimensions as a second grouping factor. The last two pairs of columns in Table 1 show the effect sizes for these interactions.

The data for anger show that the effect sizes for these interactions are negligible for both appraisal and reaction variables and, in many cases, are not significant. Because the effect sizes found for the other negative emotions are highly comparable in size, it was decided not to report these nonsignificant effects in detail. This pattern of results suggests that there are no culture-specific effects, at least with respect to the dimensions studied, on the correlations between attributed injustice and other appraisals and patterns of reactions.

#### DISCUSSION

##### *The Role of Injustice Appraisal for Different Kinds of Emotions*

One of the major questions posed in this study concerned the prevalence of evaluations of injustice or unfairness in the appraisal patterns of different types of emotions. This study can be interpreted as a replication of earlier work, reviewed in the introduction, using a different paradigm. In the earlier studies, participants were presented with vignettes or asked to remember a situation in which they had been treated unjustly and then to indicate their emotional reaction. In this study, the targets to be remembered were specific emotional experiences. The task then consisted in describing (a) different aspects of situational appraisal, including perceived unfairness, and (b) different aspects of emotional reaction. The present results replicate the earlier findings. Anger is by far the most likely emotional reaction to events perceived as very unjust, followed by disgust as the second most likely affective reaction. However, the results of this study show that—in a sizable proportion of all cases studied—sadness, fear, guilt, and shame are also possible consequences of perceived injustice.

Interpretation of the findings is impeded by the fact that our analyses do not distinguish between advantageous and disadvantageous forms of injustice or whether the person experiencing the emotion confronted the unfair situation from the perspective of perpetrator, victim, or unaffected observer of injustice. No questions relevant to these issues were included because the appraisal of injustice was not the focus of the cross-cultural study of emotion-eliciting situations and the questionnaire had to be kept as short as possible. Pertinent information can be obtained by conducting careful qualitative analyses of the concrete situations reported by the participants. However, given the large number of descriptions of emotion-eliciting situations (about 20,000), systematic content analyses, necessitating the development of appropriate coding systems, were beyond the possibilities of this study.<sup>4</sup> Thus, our interpretations necessarily remain to some extent speculative.

The emotions of anger, disgust, and sadness clearly refer to emotional responses of disadvantaged victims or unaffected observers of injustice. The term *disgust* seems to have been generalized from physical to moral matters, bordering on what might better be called contempt. In the cases in which shame or guilt were experienced following a perception of injustice, this may be due to the respondent having acted in an unfair manner or else having reacted to unfair treatment in a shameful manner. The situation is less clear with regard to the emotion of fear, which can be reasonably experienced by both disadvantaged victims and advantaged perpetrators of injustice, albeit for different reasons.

The predominance of anger, disgust, and sadness among the situations, which were regarded as very unjust, can mean different things. This could follow from the fact that there were more disadvantageous unjust situations in the participants' past than advantageous ones. Alternatively, instances of disadvantageous injustice may be more salient and accessible than advantageous ones. It could also indicate that there are different thresholds for disadvantageous and advantageous injustice, as has been suggested by some authors (Adams, 1965; Homans, 1961). We cannot decide between these different possibilities, which are in any case not mutually exclusive. However, the observed predominance of anger, disgust, and sadness agrees with the evidence of other studies that reports that experiences of injustice refer more frequently to situations in which the persons concerned suffered as a result of, rather than derived advantage from, the injustice (Lipkus, 1992; Mikula, 1986, 1987; Mikula, Petri, & Tanzer, 1990).

The conclusion suggested by these findings is that perceived unfairness or injustice is an important dimension in emotion-antecedent appraisal. Thus, rather than starting from the assumption that prototypical unfair-

ness situations produce certain emotional reactions, one could conceptualize perceived unfairness or injustice as one of several appraisal dimensions. In this conceptualization, perceived injustice would have a moderating influence. In other words, although perceived injustice may increase the likelihood of an anger reaction in terms of an a priori response tendency, the exact nature of the emotional reaction would be determined by the combined outcome of the appraisal on several dimensions—such as the pertinence of the consequences, the perceived causal agent, the estimated coping ability, and so forth. For example, if the effect of someone's action, perceived as unfair, is a threat that is seen as difficult or impossible to avoid or to control, fear rather than anger is the likely response.

#### *Interrelations Between Perceived Injustice and Other Appraisal Variables*

The data in this study show that, as one might expect, the appraisal dimensions are not independent of one another. The correlations between unfairness and the other appraisal variables correspond well to predictions derived from justice theory and research. The relationships of unfairness to the dimensions of goal hindrance, external causation, and immorality deserve to be discussed in more detail. The link to goal obstructiveness is interesting. Although all negative emotions have goal obstructiveness as a more or less prominent component of the antecedent appraisal process, it seems that the evaluation of injustice is linked to a particularly strong appraisal of goal hindrance. One possibility is that the added evaluation of injustice makes the blocking of the goal more salient or pertinent. Alternatively, being treated fairly might be a goal in itself, which is violated in addition to the ongoing need, goal, or plan being blocked (see Tyler & Lind, 1992). The interpretation of the relationship to external causation is rather straightforward—in many cases, the judgment of injustice may be conditional on the ability to assign agency to an external factor, particularly a person or a group. Although a person may feel that they behave unfairly or that fate is unfair, most unfairness appraisals are probably conditioned by assigning the responsibility for a consequence to someone else (see Mikula, 1993; Montada, 1991). The link between perceived injustice and immorality also deserves attention. The correlation between these two variables was generally stronger than the correlations between injustice and other appraisal dimensions. In addition, the regression analyses revealed some overlap in their effects on the response variables. However, the unique variances of immorality and injustice are sufficiently large to warrant treating them as separate appraisal dimensions. The interrelations between justice and morality, and the common and distinct

elements of the two concepts, have not received much attention thus far (see Furby, 1986, for one of the few exceptions). Morality is clearly the more broad and inclusive of the two concepts, and justice is one among other moral standards (Cohen, 1986). The interrelation between the two concepts is an issue that needs to be more systematically addressed in the future, both conceptually and in empirical research.

#### *Perceived Injustice and Reaction Characteristics*

Independent of the specific quality of the ensuing emotion, the perception of unfairness in the emotion-antecedent appraisal seems to have a powerful link with the nature of the emotional reaction, particularly with the subjective feeling state and with the sociorelational consequences of the emotion. On one hand, this finding is important for research in the area of the social psychology of justice: It indicates that treatment or events considered as unjust are among the most powerful elicitors of intense emotions, assuming that the experience-based approach of the present intercultural study is likely to provide a representative sampling of some of the most probable emotion elicitors. For theory and research in the tradition of appraisal theories of emotion, the finding is important because it elucidates one of the likely factors involved in determining the relative intensity of emotional reactions, a topic that has proven quite elusive so far (see Frijda, Ortony, Sonnemans, & Clore, 1992).

The fact that the links of perceived injustice were most pronounced with subjective feeling is of great interest for emotion psychology in general. Proprioceptive feedback theories would argue that intensity of feeling should be strongly affected by physiological arousal and highly expressive motor behavior (Buck, 1980; Cappella, 1993; Laird & Bresler, 1992). The present evidence suggests the opposite. Even though the causal relationship cannot be established with our data, injustice attribution strongly affects intensity and duration of feeling, with much less of an effect on the other components of emotion. Such a result is more easily explained by theories claiming that subjective feeling consists of an integrated reflection or mirror image of all components of emotion in some kind of a monitor system, including, in particular, the cognitive appraisal patterns (Scherer, 1984, 1993). Although the proprioceptive feedback of emotion-related physiological arousal or patterns of muscular innervation is one aspect of reflection, the relative strength of the representation in conscious feeling of the various components in the emotion process (changes in the autonomous or somatic nervous systems, changes in motivation, cognitive processes as reflected in central nervous system activity) may vary. The results from this study suggest that in the case of injustice appraisal, a cognitive bias representing the fact of having

been treated unjustly may play a more prominent role than do the associated physiological and expressive reactions. The possibly disproportionate roles of the different emotion components in feeling in different conditions and types of events would seem worthy of further study.

The strong correlation of injustice appraisal and perceived negative effects on relationships makes sense if one considers judgments of injustice as an instance of blaming (see Mikula, 1993; Montada, 1991). According to this view, injustice appraisals follow from (a) believing that somebody's entitlement has been violated and (b) attributing responsibility and blame for this fact to some other agents than the person affected. Linked to the increased tendency to assign external causation, the perception of unjust treatment by a significant other is very likely to lead to deterioration of the relationship with that person. (Disagreements between victims and perpetrators views about whether an injustice has occurred can further impair the relationship; see Mikula, 1994; Mikula, Athenstaedt, Heschgl, & Heimgartner, in press.)

#### *Are the Correlations Independent of Other Appraisal Variables?*

An important issue for further research is furnished by the question of whether increased intensity of emotional reaction is a direct effect of perceived injustice or whether it is mediated by other appraisal factors. In other words, if situations of perceived injustice are also appraised as being more pertinent to one's aims and/or control or coping ability judged as relatively lower, the intensity of the ensuing reaction may be also affected by these appraisals. (In fact, perceived pertinence, relevance, or impact of the consequence of an event might be the most important determinants of intensity.) The data from this study, showing that perceived injustice is significantly related to many other appraisal variables (being associated in each case with more extreme appraisals), raises the possibility that the effect of injustice on emotional intensity is fully or partly mediated by corresponding differences in these other appraisal variables. However, the results of the regression analyses show that this is true only to a very small degree. In general, the relationship between perceived injustice and emotional reaction seems to be independent of other appraisal dimensions, which, of course, increases the interest of studying the unfairness dimension as a major factor in emotion-antecedent appraisal. Nevertheless, given the retrospective nature of the appraisal ratings, we cannot rule out the possibility that halo effects are also involved and that any final conclusion must await studies in which appraisal factors are obtained in an

component of the multicomponential emotion episode: The reflection of the changes in all other components, such as changes in the autonomous nervous system or motor expression.

3. A problem of missing data arose because in Hofstede's (1980) original research, values for only 24 of the 37 countries were reported. For the reasons described previously, it was decided to replace the missing values for individualism by the means for the respective geographical regions (except in the case of China in which it was decided to use the value obtained for Hong Kong). Because Hofstede had not studied any of the countries in Africa contained in our sample, we decided to use the mean value for Latin America for all African countries. In essence, this results in a low individualism score for the African countries, which seems quite defensible (see Triandis, 1994).

4. A data bank containing all of the situations obtained as well as the quantitative data will be shortly available through a study group of CERE (Coordination Européenne de la Recherche sur les Emotions). The data bank, financed by the Thyssen Foundation and the Maison des Sciences de l'Homme in Paris, will be available to all interested scholars. Information can be obtained from Harald Wallbott at the University of Salzburg (e-mail: harald.wallbott@sbg.ac.at).

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