Article

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Reference

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Culture-Specific Appraisal Biases Contribute to Emotion Dispositions

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Abstract

We suggest that cultural factors may encourage the development of affective personality traits or emotional dispositions by producing or rewarding specific appraisal biases. To buttress this argument, we describe a putative mechanism and review the pertinent evidence: (a) an emotion disposition (trait affect) is a risk factor for experiencing certain emotions more readily and/or more frequently, (b) appraisal bias tends to cause certain emotions to be more readily experienced and may thus lead to the emergence of emotion dispositions and even emotional disturbances and (c) cultural goal, belief and value systems may encourage certain types of appraisal bias and may thus provide an explanation for vestiges of culture-specific modal personality. Copyright © 2009 John Wiley & Sons, Ltd.

Key words: appraisal bias; emotion responses; emotional personality dispositions; culture effects

References to the notion of *national character*, systematic differences in personality and emotionality in members of different races and nation states, can be traced back to the earliest human writings, such as those by Greek historians, and has consistently enjoyed attention by eminent scientists. Periods of particularly intense interest were (a) the French enlightenment ('esprit des nations', attributed to the climate, political organization, historical development or moral and affective values by 18th century writers such as Montesquieu, Voltaire and Rousseau) and (b) cultural anthropology in the first half of the 20th century, especially from writers such as Boas and Mead who coined the term *modal personality* (Inkeles, 1997). In the last few decades, this approach has been widely shunned and designated as speculation and stereotyping. Like many classic ideas, however, it is often seen to have a kernel of truth and is thus difficult to eradicate completely. In recent years, cross-cultural psychology has given rise to a renewed interest in potential cultural

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and geographical patterns of personality differences. Thus, Allik and McCrae (2004) report a secondary analysis of data from 36 cultures by using the five-factor model of personality in which they found that geographically proximate cultures often have similar profiles. Multidimensional scaling showed a clear contrast between European and American cultures on the one hand and Asian and African cultures on the other, the former being higher in extraversion and openness to experience but lower in agreeableness. Many of the accounts concerning such cultural differences in personality disposition highlight aspects connected to what can be called emotional dispositions, or trait affect: A propensity to experience certain emotions more frequently or readily than others. In this paper, we propose to use appraisal theory of emotion (Ellsworth & Scherer, 2003; Scherer, 1999; Scherer, Schorr, & Johnstone, 2001) as a new approach to this old debate, focusing in particular on a mechanism that is based on systematic cultural biases in the evaluation of events of high significance to the individual. It would be presumptuous to pretend dealing with the interaction between personality, emotion or affect, and culture in a single paper. Rather, we propose to *illustrate*, mostly using some of our own theoretical and empirical work, links between these central concepts of the brain, behavioural and social sciences by examining potential effects of cultural belief and value systems on appraisal propensities which in turn give rise to emotion dispositions, often considered as being part of more encompassing personality traits. In consequence, this paper is not intended as a review of the large and complex body of literature pertinent to the issue but rather as an effort to get the discussion, and potentially the collaboration, between interested researchers going. It may be useful to first define our terms.

TERMINOLOGY

What is an *emotion*?

There is increasing consensus to define this ubiquitous but elusive phenomenon in a componential fashion, as an episode of interrelated, synchronized changes in several organismic subsystems in response to the evaluation of an external or internal stimulus event as relevant to major concerns of the organism. The three central components are (a) shifts in behavioural intention and direction, and, partially dependent on these action tendencies, (b) physiological changes (in cardiovascular activity, blood flow, respiration, temperature and muscle tension) and (c) expressions in voice, face and body (such as laughing, crying, shouting, gesticulating, and cringing). In addition to these classic components, most researchers count (d) the cognitive appraisal processes that determine the relevance of events and elicit and differentiate emotions and (e) the overall subjective experience, the feeling, which phenomenally integrates the episode, as components of the emotion construct (Scherer, 2005).

What is *affect*?

This term is often used in a more general sense to refer to a class or category of mental and bodily states that includes emotions, moods, attitudes, interpersonal stances and affect dispositions, with each of these class members differing in terms of origin, function, intensity, duration, bodily reaction, behavioural effects and rapidity of change (Scherer, 2005). We will be particularly interested in affect or emotion dispositions, frequently called *trait affect* (such

as anxiety, irritability, emotional lability or positive affectivity). This means that an individual has a certain tendency to experience and express certain emotions, moods, attitudes or interpersonal stances more frequently and or more forcefully than others.[1]

The notion of *trait affect* as a disposition of some individuals to experience certain affects, particularly emotions, more frequently than others plays an important role in the description and conceptualization of personality differences. Indeed, a number of personality and emotion theorists have provided first overviews of the links between emotion and mood on the one hand and personality or temperament on the other (Epstein, 1993; Plutchik, 1980; Watson, 2000; Wilt & Revelle, in press). In consequence, researchers in this area might find it fruitful to link the trait affect notion in personality theory even more closely, and in a theoretically integrated fashion, to current theories and research concerned with emotion elicitation, trying to unravel the underlying causal or mediating mechanisms.

Personality can be considered as the coherent patterning of affect, behaviour, cognition and desires (goals) over time and space. Just as an emotion episode consists of an integration of motivation based appraisal of events, action tendencies (manifest in physiological preparation and bodily expression) and feeling at a particular time and location (Scherer, 2005), so does personality represent integration over time and space of these components (Ortony, Norman, & Revelle, 2005). Thus, one might suggest that personality is to emotion as climate is to weather (Revelle & Scherer, in press). Many concepts used to describe personality differences emphasize that much of personality is affectively based. Dimensional models of individual personality differences have converged on five broad factors of personality (Digman, 1990), two of which, neuroticism (or lack of emotional stability) and extraversion, are strongly linked to individual differences in affective response dispositions, especially regarding reactivity differences towards emotionally valent environmental cues related to the fundamental challenges of approaching reward and avoiding punishment (Corr, 2008; Revelle, 1995). In addition, individual differences in trait anger, trait anxiety (Spielberger, Sydeman, Owen, & Marsh, 1999), or trait positive-negative affect (Tellegen, Watson, & Clark, 1999) are taken to reflect dispositions of people to experience certain types of emotions more frequently than other people experience them. For example, somebody high on trait anger is likely to experience tantrums more often than others, whereas someone high on trait anxiety runs an increased risk of experiencing anxiety attacks. Many other concepts that are used by personality psychologists to describe individual differences are closely linked to differences in affective functioning such as impulsivity (Whiteside & Lynam, 2001), self-schemata (Markus, 1977), attachment styles (Bowlby, 1989), optimism–pessimism (Scheier & Carver, 1985) or goals and strategies (Dweck, 1996), to name but a few.

Culture is even more difficult to define than emotion or personality. The term has been used in widely different ways within and across disciplines and it would be a hopeless undertaking to want to provide an overview, even cursory, in this paper. Roughly speaking, culture designates everything that groups of people have in common. Groups of people can consist of racial groups, populations in specific political systems, geographically isolated populations, people sharing specific beliefs or practices or adolescent gangs in big cities, to

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[1]This widely consensual use of the terms affect and trait affect should not be confused with 'core affect', a term proposed by Russell (2003), which presumably represents the most rudimentary feeling quality, a point in valence x arousal space. According to Russell, core affect is always present, a constantly changing basic feeling state. This is very different from the more episodic nature of affects such as emotions or interpersonal stances which are limited in time and dispositional features which are characteristics of individuals.

cite but a few instantiations. And what is shared is literally *everything* except very basic biological needs and reflexes: Artefacts and artworks, behaviour patterns and social institutions, rituals and habits, belief and value systems, language and other symbol systems. This diversity of cultural features has given rise to many different theories about the relationship between culture and psychology (Cooper & Denner, 1998). Given the pervasiveness of culturally shared features, it is not surprising that there are powerful interactions of culture and psychological functioning, with the respective influence and shaping processes working both ways, individual thoughts and actions influencing cultural norms and practices and vice versa. As illustrated in a synthetic review of the literature by Lehman, Chiu, and Schaller (2004) these interactions can be demonstrated within the context of research on evolutionary processes, epistemic needs, interpersonal communication, attention, perception, attributional thinking, self-regulation, human agency, self-worth and contextual activation of cultural paradigms. As we attempt to illustrate in this paper, these interactions can also be shown for emotion and personality. Given this vast domain, we will limit our analysis on the effect of cultural goal, belief and value systems.

While the concept of goals and of hierarchies or *systems of goals* is still insufficiently developed in psychology, there has been much interest in cross-cultural research in notions of different kinds of goal orientation and goal pursuits. One frequently encountered dimension is that of independent (personal achievement, power, hedonism) versus interdependent (solidarity, altruism) goal pursuits (Markus & Kitayama, 1991; Oishi & Diener, 2001). According to the dictionary, a *belief* is a state or habit of mind in which trust or confidence is placed in some person or thing (Merriam-Webster), and a *belief system* can be defined as a body of such tenets held by a group. The most obvious instantiations of belief systems are religions, but they are only the most visible part, the top of the iceberg. Much of our 'knowledge' about the world consists of culturally shared belief systems, especially in those cases where direct evidence and experience are lacking (see Abelson, 1979, about the differences between belief and knowledge systems). Interesting examples are beliefs and assumptions about human nature (Wrightsman, 1991) such as normative (humans are selfish and unreliable and need to be disciplined) and humanistic assumptions (humans are trustworthy and altruistic; see De St. Aubin, 1996; Tomkins, 1978, for more details on this distinction), beliefs in a just world (Lerner, 1980) or beliefs about how the world functions (Leung et al., 2002). *Value systems*, which are often closely tied to belief systems, add prescriptions as to which thoughts, goals, behaviours or outcomes are particularly valuable and praiseworthy or are on the contrary, disvalued and even discouraged (see Hofstede, 1984; Rokeach, 1979; Schwartz, 1992, 2006; Schwartz & Bilsky, 1987; Seligman, Olson, & Zanna, 1996). In reviewing the literature on the many types of values that have been theoretically postulated and empirically studied by the researchers in this domain, one can identify three major dimensions on which cultures vary in terms of emphasis or priority:

- The role of the individual in society (individualism, self-enhancement, autonomy vs. collectivism, self-transcendence, embeddedness)
- The role of established social structures and norms (traditionalism, conservativism, hierarchy vs. egalitarianism, openness to change, liberalism)
- The role of agency and control in determining outcomes and resource distribution (mastery, competence, control, masculinity vs. harmony, benevolence, affability, femininity)

As one might expect, goal, belief and value systems are multiply interrelated. For example, there tends to be a high correlation between independent goal pursuits, normative

beliefs about human nature and individualist values or between a belief that human nature is good and trustworthy, interdependent goal pursuit and harmony values (De St. Aubin, 1996).

THEORETICAL PROPOSITION

Our central thesis in this contribution is that emotion dispositions, presumed to be at the root of trait affect, are the effects of systematic appraisal biases of the respective individuals. We further suggest that at least some of the potential appraisal biases may be due to the influence of cultural goal, belief and value systems which systematically affect large numbers of individuals in a given cultural setting. We claim that this mediational mechanism may render the existence of culturally preponderant affect traits plausible, constituting a potential kernel of truth for classic modal personality theories.

Premise: *An emotion disposition (trait affect) is a risk factor for experiencing certain emotions more readily and/or more frequently.*

Theoretically, emotional experience and affective aspects of personality have been considered as highly intertwined, if not partly identical, and scales to measure trait affect have a long and successful history in personality research. However, it could be argued that such self-report measures of emotion dispositions are largely based on response tendencies and may not predict the quality and frequency of actual emotion experiences. Nonetheless, many studies have revealed strong connections between personality dimensions and experienced affect. For example, people high in extraversion tend to experience more positive affect (but not less negative affect), whereas people high in neuroticism tend to experience more negative (but not less positive) affect, especially anxiety, and are predisposed towards emotional instability (Meyer & Shack, 1989). Furthermore, it is easier to experimentally induce a positive mood in extraverts, whereas it is easier to induce a negative mood in subjects high in neuroticism (Larsen & Ketelaar, 1989). That is, the same environmental information—here the mood induction procedure—can result in different affective responses. It has even been suggested that reward sensitivity and positive affect are the core features of extraversion, and that extroverted social behaviour is a mere by-product of reward sensitivity (Lucas, Diener, Grob, Suh, & Shao, 2000). Furthermore, as discussed earlier, measures of trait anxiety, trait anger and trait positive-negative affect directly assess predispositions to experience the respective emotions more often, more intensely and in a greater variety of eliciting situations (Spielberger et al., 1999; Tellegen et al., 1999).

In addition to self-report data on experienced affective states, the influence of personality traits can also be measured with indices reflecting the processing of emotion-related information. For example, people high in trait anxiety show an exaggerated attentional bias towards threat-related information (Bar-Haim, Lamy, Pergamin, Baker-mans-Kranenburg, & van Ijzendoorn, 2007). Furthermore, high trait extraverts show increased attentional bias towards information related to rewards, whereas introverts show a stronger attentional bias towards punishment-related cues (Derryberry & Reed, 1994). Depressed individuals exhibit memory biases towards depression-related material (Mueller, 1992). Personality-related biases in the processing of emotional material are also observed at the neural level. Trait extraversion and neuroticism are associated with differential brain responses towards emotionally positive and negative stimuli. For example, during the passive viewing of positive emotional scenes, people high on

extraversion showed higher activity of the amygdala and other cortical and subcortical regions relative to people low on extraversion; during the passive viewing of negative emotional scenes, neuroticism correlated with brain activation in middle frontal gyrus and middle temporal gyrus (Canli, Zhao, Desmond, Kang, Gross, & Gabrieli, 2001). When viewing faces with emotional expressions, the magnitude of the amygdala response to faces with a friendly expression is increased in people high in extraversion (Canli, Sivers, Whitfield, Gotlib, & Gabrieli, 2002). Such differential processing of emotional information may precede differences in experienced affect. An individual who preferentially processes threatening information is prone to experience an increased number of anxiety bouts, whereas someone who remembers mainly negative events may experience hopelessness and depression.

Additional evidence for our premise comes from a representative survey of emotion experiences in the Swiss population (Scherer, Wranik, Sangsue, Tran, & Scherer, 2004), corroborating the notion that trait affect acts as a risk factor for experiencing certain emotions. Whereas this connection has been shown frequently for trait anger, trait anxiety and trait positive-negative affect (Spielberger et al., 1999; Watson, Clark, & Tellegen, 1988), other types of trait emotionality have rarely been investigated.

Using the event sampling technique, we asked respondents to report an event that elicited an emotion on the previous day, to describe their appraisal of the event and their reaction pattern and to verbally label the emotion. Respondents also completed a medical symptom list, and, to assess emotion dispositions, a rating list on the relative frequency of their experience of each of 14 emotions.

Table 1 shows all emotion dispositions that significantly increase the risk of experiencing certain emotions in this data set. The results indicate that the higher respondents are on trait emotionality, that is, the more frequently they habitually experience a particular emotion, the more likely they will have experienced the corresponding emotion yesterday. For example, whereas only 3% of the respondents low on trait anxiety reported the experience of an anxiety episode on the previous day, 8% of the high trait anxiety respondents reported such an episode. In other words, respondents high on trait anxiety are almost 3 times as likely to have experienced an episode of anxiety yesterday compared with those who are low on this trait. For trait sadness, the likelihood is about 2 times higher.

Table 1. Trait affects that significantly increase the risk of experiencing certain emotions on a given day

Trait affect	Emotion experienced yesterday	Odds ratio	χ^2
Frequent anxiety	Anxiety	2.88	15.17**
Frequent despair	Despair	2.07	4.99*
Frequent sadness	Sadness	2.16	6.86**
	Stress	0.26	14.57**
Frequent pleasure	Happiness	1.71	10.11**
	Despair	0.36	9.09**
Frequent pride	Happiness	1.59	7.54**
Frequent irritation	Anger	1.53	6.12*
Frequent surprise	Happiness	1.40	3.97*
	Anxiety	0.51	6.43*

Note: This table reports results from Table 4 in Scherer et al. (2004) for which χ^2 reached the 5% significance level and the odds ratio largely exceeded 1.0.
*$p < .05$; **$p < .01$.

Respondents high on trait irritation are about 1.5 times more likely to have experienced anger yesterday. Similarly, respondents reporting frequent habitual pleasure, pride or surprise experiences are 1.5 times more likely to have experienced joy or happiness. We furthermore observed that some non-corresponding emotions occurred, in a meaningful fashion, less frequently than expected for respondents with certain trait affects. For example, high trait pleasure was associated with fewer incidences of felt despair, and high trait surprise came with a reduced risk for anxiety bouts. This finding seems to indicate that some types of trait affect might inoculate, or shield, against experiencing particular emotions.

The data obtained in this study were self-report data that might have been biased by methodological artefacts such as common method variance, priming effects or demand characteristics. However, care was taken to exclude the impact of such factors; for example, by ipsatizing individual responses to compensate for response tendencies, by using different response formats for the event sampling and the trait affect questions, and by assuring the anonymity of data handling (see Scherer et al., 2004, for a thorough discussion of potential method artefacts). Additional support for the claim that the results are due to real trait differences and not to artefacts or response tendency comes from the observations of (a) the protective effects of certain trait affects (which would be less obvious in terms of demand characteristics) and (b) the pattern of somatic correlates obtained with the medical symptom list. For example, participants reporting high trait happiness reported significantly fewer somatic disorders and fewer depression- or anxiety-related disorders, whereas participants with high trait anxiety reported lower general health perception, more somatic disorders and more depression- and anxiety-related disorders. The pattern of results is correlative and does not imply any causal mechanism. However, the data show that trait affect constitutes a measurable disposition or risk factor for experiencing certain types of emotions more frequently than other people do on any given day, confirming and further specifying the frequently reported link between trait affect and daily emotional experiences.

Taken together, the data reported in this section support the premise that trait affect is an individual disposition to experience certain types of emotions more frequently than other people. What is the origin of such stable emotion dispositions? As always, many different mechanisms are likely to be involved, including psychobiological factors such as genetic predispositions for temperament, mood and personality (e.g., impulsivity), as well as social-psychological factors such as self-fulfilling prophecies. However, we suggest that one important mechanism, which may be subserved by some of these factors, consists of *biases in the appraisal of emotion-antecedent events*. Specifically, individual and cultural differences in values, motivation and cognitive biases may lead to systematic appraisal tendencies that can account for differential dispositions for experiencing certain emotions more often than other emotions and more frequently than other individuals (see review in Van Reekum & Scherer, 1997). Much evidence already exists on stable differences in causal attribution tendencies (external-internal control, Rotter, 1966; attribution style, Seligman, 1998; Weiner, 1990), over- or underestimation of personal coping potential and differences in self-esteem (Bandura, 1977; Epstein, 1993; Kuppens & van Mechelen, 2007). All of these differences are likely to lead to systematic biases in the evaluation of comparable events and thus to a differential likelihood of experiencing certain emotions. In the following section, we explore the nature of these mechanisms and the extent to which such proneness to experience certain emotions is directly linked to affective personality traits and clinically relevant dispositions, such as trait anxiety, depressiveness and irritability.

Hypothesis 1: *Emotion dispositions (including emotional disturbances) are due to systematic appraisal biases, generated by a variety of cognitive and motivational individual difference variables, which cause certain emotions to be more readily experienced.*

In order to demonstrate the central role of appraisal biases, we first provide a brief review of appraisal theories of emotion. The basic premise of these models is that the organism's evaluation of an event in terms of the event's significance for the goals, needs and well-being of the organism is the critical determinant in the elicitation and differentiation of its emotions (Scherer, 1999). Even though appraisal theorists differ in their views on the details of the appraisal process, the general consensus is that emotions are elicited and differentiated on the basis of the subjective evaluation of a stimulus or event on a set of standard criteria or objectives: Is this stimulus familiar or new to me (*novelty)*? Is the stimulus or its consequences agreeable and pleasurable or disagreeable and unpleasant (*intrinsic pleasantness)?* Is this stimulus or event important to me (*concern relevance*)? Do I understand what's going on (*certainty, predictability*)? Is something impeding my progress towards a goal or facilitating it (*goal conduciveness*)? What caused this event to happen (*agency*)? Can the event or the consequences be controlled (*controllability*)? By me (*power*)? Does the event or behaviour correspond to my self-image or has a social norm been broken (*compatibility with internal and external standards*)? Different combinations of outcomes to these questions lead to different emotions. Of course, the organism does not actually pose such a series of questions each time an event is appraised; appraisal is not an internal dialogue (Kappas, 2001). Appraisals can occur at different levels of complexity (Leventhal & Scherer, 1987), and most theorists assume that appraisals are often automatic and unconscious (Scherer, 2005).

Novelty, intrinsic pleasantness, certainty or predictability, goal significance, agency, coping potential and compatibility with social or personal standards are all commonly suggested criteria or checks (Ellsworth & Scherer, 2003). Central to most appraisal theories is the idea that emotions are flexible and dynamic processes continuously driven by appraisal. Thus, Scherer (1984) proposed in his component process model (CPM) that appraisals occur sequentially and that the nature of the emotional experience changes each time a new appraisal is added. Whether the appraisals always occur in the same sequence or whether variable sequences are common is a matter of debate, as is the issue of whether all of the appraisals must always occur (Ellsworth & Scherer, 2003). The sequence assumption is justified in terms of systems economy and logical dependencies, as well as in terms of ontogenetic and phylogenetic considerations. Microgenetically, the results of the earlier SECs need to be processed before later SECs can operate successfully, that is, yield a conclusive result. Expensive information processing should be reserved for those stimuli that are considered as highly relevant for the organism. In consequence, relevance detection is considered to be a first selective filter that a stimulus or event needs to pass to merit further processing. If whatever attracted the attention cannot be disregarded as irrelevant to the well-being of the organism, additional processing resources are allocated (Brosch, Sander, Pourtois, & Scherer, 2008). Based on ontogenetic and phylogenetic evidence, it seems reasonable to assume that the two most basic relevance checks are novelty and intrinsic pleasantness as these criteria can be shown to operate for many species of animals as well as human infants. Thus, novelty detection is a fundamental operation that seems to occur for any non-habituated stimulus. Different features of novelty with different levels of complexity and processing requirements can be distinguished:

(a) suddenness or abruptness of onset, often coupled with high stimulation intensity, (b) (un)familiarity with the object or event, generally based on schema matching and (c) (un)predictability, as based on past observations of regularities and probabilities for specific events. Stimulus intensity, an important determinant of novelty relevance, can be computed in low sensory cortices and even via subcortical structures such as the thalamus alone, as the intensity is represented by the initial strength of the neural representation. Familiarity and predictability depend on an identity match between the stimulus input and memory traces. These operations are largely independent of goal or concern relevance.

Similarly, organisms can evaluate on a very low level of processing whether a stimulus event is likely to result in pleasure or pain (in the widest sense). This is a very basic evaluation of intrinsic stimulus quality, with intrinsic pleasantness leading to approach tendencies, intrinsic unpleasantness to avoidance tendencies (Schneirla, 1959). This low-level appraisal may be based on evolutionarily prepared stimuli as well as on strongly conditioned or overlearned stimulus classes from the personal learning history. Thus, computations of *intrinsic pleasantness* relevance rely on direct template or memory representations. This contrasts with the more complex determination of *concern relevance*, referring to the evaluation of whether something is related to my current motivational hierarchy, particularly important needs, goals and values. Here, context-sensitive processes need to take into account the current need/goal state of the organism and match it with the properties of the stimulus event.

Extensive further processing and preparation of behavioural reactions are indicated only if the event concerns a goal or need of major importance or when a salient discrepancy with an expected state is detected, suggesting that the implications for the organism are assessed next in the sequence. Further, the causes and implications of the event need to be established before the organism's coping potential can be conclusively determined, as the latter is always evaluated for a specific demand.

The sequence assumption is often criticized as being overly restrictive and inconsistent with the idea that massive parallel processing of information occurs in different systems. However, the CPM postulates that external or internal event changes maintain a recursive appraisal process until the monitoring subsystem signals termination of or adjustment to the stimulation that originally elicited the appraisal episode. Thus, the checking process repeats the sequence continuously, constantly updating the appraisal results that change rapidly with changing events and evolving evaluation. This occurs on several levels of processing and, because of the recursivity, in parallel for different criteria.

Empirical research has confirmed many predictions related to appraisal criteria (e.g. Scherer & Ceschi, 1997; Scherer, Dan, & Flykt, 2006; Tong et al., 2007). Experimental designs in which appraisal checks are systematically manipulated and the timing of their processing or their results measured via electroencephalographic recordings or physiological and expressive markers recently confirmed the assumption of a rapid, sequential processing of the appraisals of *novelty*, *intrinsic pleasantness* and *goal conduciveness* (Aue, Flykt, & Scherer, 2007; Grandjean & Scherer, 2008; Lanctôt & Hess, 2007). This and other evidence also indicates that appraisal outcomes might be the key to the prediction of emotional response patterns (see Scherer et al., 2001; Scherer & Ellgring, 2007). For example, the subjective experience of fear is taken to reflect the feeling of high attention, negative valence, high uncertainty about what is happening or one's ability to cope with it and so on (in addition to the physiological and motor reactions elicited by these appraisals). Of course, what the person feels is fear, not a collection of separate, identifiable elements. This perspective is compatible with the idea of emotions as continuous

processes, changing as appraisals are added or revised. The first appraisal of an event as *novel* leads to changes in the central and peripheral nervous system in action tendencies (e.g. the ongoing action is interrupted) and in the organism's subjective feeling. With the ensuing appraisal of *valence*, *certainty*, *goal relevance*, *agency* and other criteria (see earlier), new changes occur in all of these systems. As soon as these initial appraisals are made, the organism is in a sense 'emotional', compared with what it was before, although it is not experiencing any of the full-fledged basic emotions described by folk and category theories. In fact, the nature of the emotionality is highly fluid; it constantly changes as appraisals are added or revised. The appraisals-as-components view challenges the definition of individual emotions as bounded, modular categories. Rather than a single basic emotion of anger, many varieties of 'almost-anger' and many different nuances of the anger experience may exist. If someone else causes something negative—but not very negative—to happen to me, I may feel irritation. If my sense of control is high, and I feel that the person has broken a social or moral norm I care about, I may feel (an almost pleasurable) righteous indignation. If the intensity is high, and I am losing control, I may feel a desperate rage.

One of the major strengths of appraisal theory is that it can explain why seemingly similar events can elicit disparate emotions in different persons, as the appraisal of emotion-eliciting events is subjective. Appraisal depends on the event as perceived by the individual as well as on the individual's perceived goals, values and coping potential for the event, rather than on objective characteristics. For this reason, appraisal theory provides an ideal basis for the prediction of individual differences in emotional responses (Scherer, in press), including emotional disturbances. Thus, Scherer (1987) suggested that affect disturbances can be explained by the CPM in terms of 'abnormal' results of the various stimulus evaluation checks. Such results could lead to emotional states that are inappropriate in view of the nature of the experienced event or a person's general life situation. Inappropriate results of the stimulus evaluation checks are likely to be due, at least in part, to either misattributions in terms of the causation and significance of an event or to incorrect criteria as used in the checks, as for example, relationship to one's goals or one's degree of power or control over outside events. For example, an unrealistically low level of self esteem and coping ability is likely to produce feelings of anxiety or depression that are regarded as inappropriate or 'abnormal' by other people. Proceeding in this manner, one can take each of the checks in turn and describe the consequences of a malfunctioning of the checking process due to incorrect criteria or to deficiencies in the underlying structures. Adopting this approach, Kaiser & Scherer (1998) have identified possible links between dysfunctional appraisal biases and specific clinical syndromes (see Table 2 and Roseman & Kaiser, 2001, for a complementary analysis).

Using this *appraisal bias* approach, one can attempt to link clinically relevant affective disorders to recent theories of emotion elicitation. Clinicians may object that these suggestions are merely reformulations of syndrome definitions. However, the effort to link theories of normal emotion elicitation to the etiology of affect disturbances may help clinical researchers to move beyond a mere symptom description by encouraging studies on cognitive functioning and appraisal styles in patients suffering from affective disturbances, with the aim of better understanding the underlying mechanisms. Clearly, once the role of appraisal biases in the etiology and maintenance of affective illness is better understood, it may become possible to develop appropriate therapeutic approaches to eliminate pathogenic appraisal biases (as consistently practiced in cognitive behaviour therapy, e.g. Beck, 1967, embedded in a different theoretical framework).

Table 2. Possible links between dysfunctional appraisal biases and specific clinical syndromes

Appraisal dimension	Type of malfunction	Type of emotional disorder
Relevance detection		
Novelty	Exaggerated sensitivity	Nervousness, jumpiness, easily frightened
Intrinsic pleasantness	Insensitivity to intrinsic or learned valence of stimuli	Anhedonia
Goal relevance	Inability to judge importance of events regarding goals, low intensity of motivational striving	Apathy
Implication assessment		
Causal attribution	(i) External attribution bias	(i) Paranoia
	(ii) Internal attribution bias	(ii) Unrealistic feelings of shame and guilt
Outcome probability check	Overestimation of certainty of negative effects	Exaggerated pessimism
Discrepancy from expectation	Bias in detecting discrepancy between events and goals/plans	Inappropriate emotional reactions
Goal/need conduciveness	(i) Obstructiveness bias	(i) Chronic dissatisfaction/frustration
	(ii) Conduciveness bias	(ii) Euphoria
Urgency	(i) Underestimation of need for action	(i) Lethargy
	(ii) Overestimation of urgency	(ii) Overreaction, panic
Coping potential determination		
Control	Underestimation bias	Hopelessness, depression
Power	(i) Underestimation bias	(i) Helplessness, depression
	(ii) Overestimation bias	(ii) Mania, panic
Adjustment	Underestimation bias	Panic
Normative significance evaluation		
(a) Internal standards	Tendency to (i) overestimate or (ii) underestimate discrepancy of own behaviour with social norms	(i) Guilt neurosis (ii) Antisocial behaviour
(b) External standards	Tendency to (i) overestimate or (ii) underestimate discrepancy of own behaviour with ego ideals	(i) Shame neurosis (ii) Shamelessness

Note: Adapted from Kaiser and Scherer (1998).

Evidence for a link between perceptual appraisal biases and emotional disorder has been presented by Riskind (1997), who suggested the *looming cognitive style* (LCS) as a cognitive risk factor for anxiety states and disorders. The LCS refers to a biased expectation about the dynamic temporal and spatial progression of potential threats. People high in looming vulnerability overestimate the extent to which threats are rapidly approaching (including objects, such as feared spiders, but also events, such as the impending bankruptcy of one's company). Once this cognitive style is established, people tend to construct their environment mainly in terms of rapidly intensifying dangers and risks, and they show schematic biases in the selection, interpretation, and recall of potential threats. For example, mental simulation of relatively mundane situations involving actively moving objects are more likely to elicit anxiety, as measured by self-report, as well as

measures of somatic components, in people displaying the LCS (Riskind, Williams, & Joiner, 2006). The LCS can thus be considered an example of a dysfunctional appraisal bias that may precede the development of an affective disorder. By interacting with other factors such as traumatic events or the specific learning history, the focus on threat may then facilitate the development of the actual anxiety disorder. The LCS can be observed in patients suffering from various anxiety disorders, such as generalized anxiety disorder, social phobia, panic disorder, obsessive-compulsive disorder, and posttraumatic stress disorder (Riskind et al., 2006). The LCS may be an interesting example for a general, low-level bias that affects many aspects of perception and judgment. In our laboratory, Jérôme Glauser developed and currently validates a nonverbal test of the looming bias which will allow circumventing some of the problems linked to common method variance occurring when both appraisal bias and emotion experiences are assessed through verbal self-report.

A review of the literature on individual differences in perceptual and cognitive processing suggests that a number of established trait dimensions are likely to consistently affect appraisal processes (Van Reekum & Scherer, 1997). For example, the speed of appraisal may depend on the individual general processing speed in the central nervous system. Similarly, the thoroughness or completeness of the appraisal may be subject to individual differences. Whereas one individual may rapidly accept the result of an initial appraisal, another may engage in repeated reappraisals before settling on one interpretation, one of the potential underlying variables being the amount of cognitive effort that is characteristically expended (see Webster & Kruglanski, 1994, notion of *need for closure*). The individual complexity of the appraisal may depend on the cognitive style of the individual, resulting in a gross versus a more fine-grained appraisal, particularly for the width of the categories used in inference and classification (see Cacioppo & Petty, 1982, notion of *need for cognition*). In addition to process differences, appraisal tendencies or biases may differ in content; that is, there may be a systematic sensitization or distortion of particular criteria in the appraisal process. For example, the novelty appraisal might be influenced by differences in speed of habituation or extent of inhibition, with slow habituation and lack of inhibition leading to an oversensitization and extreme vigilance towards incoming stimulation. As an example for more complex appraisal steps, systematic biases in the appraisal of outcome probabilities may be related to the optimism-pessimism personality dimension. The external versus internal control dimension, that is, the tendency to attribute responsibility to oneself rather than others, or vice versa, is yet another well-known differential appraisal tendency. Such individual differences are likely to affect all of the major appraisal criteria (Scherer, 1999, 2001; Van Reekum & Scherer, 1997).

We suggest that such individual differences in appraisal tendencies (which become *biases* when they are so pronounced as to distort the perception and evaluation of reality) may also be at the basis of emotion dispositions or trait affects as described earlier. Because, according to appraisal theory, the emotion experienced by a person depends to a large extent on a subjective appraisal process that may be more or less appropriate for reality, any bias regarding the central evaluation criteria will thus systematically affect the nature of the ensuing emotion.

Based on the earlier work in our group (Kaiser & Scherer, 1997, Van Reekum & Scherer, 1997), Wranik and Scherer (in press) developed a model of how such appraisal biases may systematically privilege the occurrence of *anger* experiences. They argue that individuals differ in how they selectively attend to specific elements of a situation or event, how these elements are cognitively encoded, and how these encodings activate and interact with other cognitions and affects in the overall personality system (Mischel & Shoda, 1995). Learning

and cultural values may render certain evaluations relatively stable, so that whereas some people generally evaluate the world as unjust (Lerner, 1980; Schmitt, 1996), others systematically look for someone else to blame when things go wrong (Seligman, Abramson, Semmel, & von Baeyer, 1979). In other cases, these processing biases may be activated only by specific situational cues, so that 'blaming someone else' occurs only in achievement settings but not in relationship settings. In this framework, trait anger can be understood as the chronic accessibility of particular cognitions and appraisal patterns under specific conditions. This concept is illustrated by research showing that that high trait and low trait anger individuals have different appraisals in reaction to the same situation (Hazebroek, Howells, & Day, 2001). This observation may explain why some people experience anger more frequently or intensely or why they generally experience certain types of emotions under specific conditions. For example, a perfectionist may chronically overestimate the importance of events, an impatient person may overestimate the urgency of situations, a person sensitive to injustice will evaluate many situations as unjust, and a person with low self-esteem may evaluate many situations as threatening and in need of restorative action (Lazarus, 1991).

The variables in Table 3 constitute a selection of individual difference variables that could influence specific appraisal dimensions as postulated by the CPM (Scherer, 1984, 2001). Some of these variables are traditional personality traits from the five-factor model (e.g. openness to experience, Costa & McCrae, 1992), others are social-cognitive personality traits that measure broader individual differences (e.g. self-efficacy, self-esteem, optimism), and still others are individual differences in lower-level cognitive processing (e.g. inhibition, processing speed). The underlying idea is that these individual differences influence specific appraisal dimensions in a relatively stable manner and thus

Table 3. Individual difference variables potentially biasing appraisal towards anger outcomes

Appraisal dimension	Individual difference variables
Relevance detection	
Novelty	Speed of habituation, extent of inhibition
Intrinsic pleasantness	Anhedonia (Krings & Germans, 2000)
Goal relevance	Human motivation (e.g. achievement motivation, affiliation motivation; McClelland, 1985)
Implication assessment	
Causal attribution	Explanatory style (Seligman et al., 1979)
Outcome probability check	Optimism–pessimism (Scheier & Carver, 1985)
Discrepancy from expectation	Openness to experience/conservatism (Costa & McCrae, 1992)
Goal/need conduciveness	Perfectionism (Stoeber & Otto, 2006)
Urgency	Realism
Coping potential determination	
Control	Locus of control (Rotter, 1966); illusion of control
Power	Self-esteem, self-efficacy (Bandura, 1977)
Adjustment	Openness to experience (Costa & McCrae, 1992); flexibility
Normative significance evaluation	
(a) Internal standards	Individual human values (Schwartz, 1992)
(b) External standards	Cultural values (Hofstede, 1984; Schwartz, 2006)

Note: Adapted from Wranik and Scherer (in press).

help explain why some people are more likely to experience certain types of emotions under specific conditions than other people do.

A highly compatible analysis of the relationships between emotion and personality has recently been suggested by Reisenzein and Weber (in press). These authors, adopting an information-processing perspective, suggest that personality variables, such as specific needs and desires as well as general beliefs about the world, can determine the content of the cognitive and motivational structures that underlie appraisal, particularly through the *chronic accessibility* of appraisal relevant motivational and mental structures and individual differences in the *procedures* used in the appraisal process. As examples of motivational differences they propose the relative importance of approach vs. avoidance goals (Carver, 2006) and for differential beliefs, the optimism-pessimism dimension and self-efficacy (as mentioned above).

Apart from the clinical observations reported above, what is the direct empirical evidence for the assertion that appraisal tendencies can be a risk factor to experience specific emotions? Evidence supportive of our claims is accumulating and we briefly review some pertinent research in our laboratory. A particular type of appraisal bias, as shown in Table 2, consists of an overly optimistic explanatory style, or the tendency to attribute positive events to the self and to dismiss negative events as attributable to external causes. Although this style is generally considered to be beneficial for self-esteem maintenance, physical health, and motivation in individual performance settings, little is known about the effects of this variable in collaborative performance situations. In a series of experiments in our laboratory, Wranik (2005) examined the influence of optimism and pessimism on failure explanations and emotions, especially anger, when individuals work together. For these studies, participant groups with external attribution style (*externals*), who generally attribute the causality for negative events to others and see the causes as specific and unstable, and groups with internal attribution style (*internals*), who in the case of negative events generally blame themselves and see the causes as global and stable, were selected according to Seligman's Attribution Style Questionnaire. Participants had to work in dyads on unsolvable puzzles. As expected, *externals* were significantly more likely than *internals* to blame the partner both directly and indirectly for the failure. However, even though both *internals* and *externals* were equally likely to report anger, *internals* were more likely to be angry at themselves, whereas *externals* were mainly angry at their interaction partner (Wranik & Scherer, 2008).

Another piece of evidence comes from assessment data for a large group of international managers. We have developed a computerized assessment system for use by high-level human resource professionals (Computer Assessment of Personal Potential; Scherer & Scherer, 2008a). In the ongoing validation of the assessment package, we examined the current database of 1,457 professionals to find evidence on appraisal competence and its effect on emotional reactions and emotional adjustment. We selected individuals with extreme scores on 'external control' (a scale in the personality test of the assessment package, the Personality-Index) and 'external attribution', as measured by an instrument measuring coping strategies, the Coping Index (Scherer & Scherer, 2008b) and constructed a scale for 'overexternalizers' in causal attribution of the responsibility for emotion-producing events. Individuals scoring high on this scale (one standard deviation or more above the mean; $N = 208$ of a total N of 1,457) scored significantly higher ($p < .05$) on the Worry/Fear scale of a dispositional Emotionality scale and reported significantly lower ($p < .001$) emotional stability in a self-rating instrument and in the personality test. Thus, extreme scores on external attribution might reflect an unrealistic appraisal bias towards

overexternalization of causal responsibility to others or to factors beyond control (including the supernatural; see Scherer, 1997). It is possible that this external appraisal bias is accompanied by a felt loss of internal control, producing frequent occurrences of inappropriate emotional reactions. This response in turn might produce feelings of emotional instability. This interpretation is supported by the finding that overexternalizers were also significantly lower ($p < .001$) on a composite coping scale 'Functional Coping' (as measured by the Coping Index; i.e. they had lower scores on self-concept modification, problem redefinition, and problem solving and higher scores on wishful thinking, seeking esteem, and substance use), but significantly higher ($p < .001$) on the composite score Repression (high scores on emotion repression and problem repression; low scores on seeking empathy and seeking social support). A possible correlate of overexternalization might be a tendency to expend less cognitive effort in analysing the causal structure of emotion-eliciting events: overexternalizers have significantly lower ($p < .001$) scores on scales for 'Intellectual Challenge' and 'Knowledge/Understanding' in instruments assessing life and work values in the assessment package.

Given the importance of 'correctly' appraising events for the probability of responding with an appropriate and functional emotion, it would be useful to assess individual differences for such an ability. To our knowledge, there is currently no validated instrument to assess appraisal competence. One of the problems in trying to use self-report for this purpose is that individuals are generally unaware of their appraisal processes, even though they seem to be able to reconstruct some aspects. This problem became painfully obvious in our research with an expert system approach to appraisal (GENESE; Scherer, 1993). The system asks participants to remember a recent emotional experience and then poses 25 questions about the appraisal of the eliciting event. On that basis, it 'postdicts' the emotion experienced on the basis of appraisal theory predictions and achieves a remarkable level of accuracy. However, a detailed analysis of the results shows that individuals differ greatly in their ability to identify the underlying appraisals. In particular, the notion of a 'goal', very familiar to psychologists, is not obvious to many laymen and one may suspect that many do not have much insight into their goal structure underlying their behaviour (see Scherer, 1993, for further details).

Apart from the appropriate instruments, we are also lacking a more refined theoretical analysis of the effect of specific appraisal tendencies on emotion dispositions and trait affect. This paper is not the place to develop such a detailed theoretical model that can serve as the basis for concrete hypotheses that can be empirically measured. However, based on the theoretical suggestions mentioned above (Kaiser & Scherer, 1998; Scherer, 1987; Wranik & Scherer, in press), we developed the preliminary compilation shown in Table 4, illustrating possible links between certain appraisal tendencies or biases and specific emotion dispositions or trait affects.

We are now in a position to examine the final piece of our chain of argument—the claim that cultural factors may be responsible for the development of a certain number of appraisal biases. Although this claim sounds plausible, it would be desirable to be able to adduce empirical evidence that supports it.

Hypothesis 2: *Culture-based goal, belief, and value systems can produce appraisal biases by affecting the perception of events and the criteria used in their evaluation.*

This is not the place to review all of the pertinent literature and to propose a theoretical model of how different aspects of culture may encourage the appearance of certain types of

Table 4.   Individual difference variables and cultural goal, belief and value dimensions potentially biasing appraisal processes towards trait affect

Emotion disposition/trait affect (emotional disorder)	Appraisal tendencies or biases (motivational and cognitive)	Potentially facilitating culturally dominant goal, belief, value dimensions
Trait sadness		
Resignation, dejection, acquiescence (depression)	*Mot*: Strong attachment to people and property *Cog*: Low self esteem, underestimation of control, coping and adjustment potential; tendency to ruminate	*Goa*: Interdependent goal pursuits *Bel*: Human nature good *Val*: Conservatism, security, embeddedness, benevolence, harmony
Trait anger		
Irritation, irascibility, choleric (hostility, psychoticism)	*Mot*: Strong goal orientation, high expectations *Cog*: High self esteem, external attribution, blaming, overestimation of control, power, coping and adjustment potential; exaggerated optimism	*Goa*: Independent goal pursuits *Bel*: Human nature bad, normativity *Val*: Conservatism, self-enhancement, autonomy, entitlement, mastery
Trait anxiety		
Worrier, apprehensiveness, neuroticism (general anxiety disorder)	*Mot*: Perfectionism *Cog*: Exaggerated sensitivity for novelty, uncertainty and urgency (looming); low self esteem, underestimation of control, coping and adjustment potential; exaggerated pessimism	*Goa*: Independent goal pursuits *Bel*: Human nature bad, normativity *Val*: Conservatism, self-enhancement, autonomy, entitlement, mastery
Trait shame/guilt		
Embarrassment, unworthiness, disconcertment, abashment (clinical shame/guilt syndromes)	*Mot*: High need for self-worth and social recognition; conformity; perfectionism *Cog*: Internal attribution	*Goa*: Interdependent goal pursuits *Bel*: Human nature good *Val*: Conservatism, embeddedness, benevolence, harmony
Trait positive affect		
Joyfulness, buoyancy, cheerfulness, good spirits (manic euphoria)	*Mot*: Hedonism, realistic aims *Cog*: Optimism; high self esteem, overestimation of control, coping, and adjustment potential	*Goa*: Independent goal pursuits *Bel*: Human nature good *Val*: Embeddedness, benevolence, harmony, openness for change

Note: Mot, motivational; cog, cognitive; goa, goal pursuit; bel, beliefs about human nature; val, value dimensions.

appraisal tendencies and how this might lead in turn to a preponderance of certain emotion dispositions or trait affects among the members of particular cultures or subcultures. This is all the more the case, as many of the cultural variables are still ill defined and far from enjoying generalized acceptance. However, there are some interesting discussions in the literature that suggest possible cross-cultural differences in thought processes that are related to appraisal. Thus, Nisbett (2003), reviewing a large number of cross-cultural

studies on cognition, argues that Westerners are more likely to engage in *analytic* thought (detachment of the object from its context, a tendency to focus on attributes of the object to assign it to a category, and a preference for using rules about the categories to explain and predict the object's behaviour), whereas Easterners are more likely to engage in *holistic* thought (orientation to the context or the field as a whole, attention to relationships between a focal object and the field, and a preference for explaining and predicting events on the basis of such relationships). Another interesting example relates to a self-enhancement bias. Sedikides and colleagues showed that both Westerners and Easterners self-enhance tactically (Sedikides, Gaertner, & Toguchi, 2003; Sedikides, Gaertner, & Vevea, 2005). However, Westerners seem to self-enhance on attributes relevant to the cultural ideal of individualism, whereas Easterners self-enhance on attributes relevant to the cultural ideal of collectivism (in both cases, because of the personal importance of the ideal). They conclude that self-enhancement motivation is universal, although its manifestations are strategically sensitive to cultural context.

In consequence, encouraged by friendly exhortations by the reviewers, we venture a very preliminary blueprint of some of the elements of a framework allowing to generate hypotheses on mechanisms whereby culture may encourage the development of certain appraisal biases. Just as Table 3 showed a number of individual difference variables that are potential risk factors for the development of appraisal tendencies and ensuing emotion dispositions, we can identify a number of goal, belief and value systems dimensions, based on the brief definitional outline in the introduction, that may explain variations over cultures. These hunches are shown in column 3 of Table 4. We do not suggest that the entries in Table 3 (individual differences or personality variables) and 4 (culture-based goal, belief and value dimensions) are independent of each other. Rather they are likely to strongly interact and mediate each other, given that in many cases cultural differences consist of special emphases on or more pronounced frequencies of individual difference patterns. Thus, beliefs about human nature or social axioms vary at the individual as well as on the cultural level. Similarly, as Schwartz (2006) has shown, values can be analysed at both the individual and cultural level. At this early stage of the field, we do not dare to even enter into speculations about the co-evolution and cross-fertilization of these two domains.

Unfortunately, the claim made in our Hypothesis 2, and illustrated in Table 4, has not yet been systematically examined by empirical research in a cross-culturally comparative context. Thus, we limit ourselves to describing some research from our laboratory which is particularly pertinent to the issues addressed here.

Wallbott and Scherer (1995) examined (a) whether and how the self-reflexive emotions shame and guilt differ in regards to subjective experience and (b) whether cultural differences in the experience of shame and guilt can be found by using Hofstede's classification of cultures on the dimensions of power-distance, uncertainty avoidance, individualism-collectivism and masculinity-femininity (Hofstede, 1984). Data from a cross-national questionnaire study with 2921 respondents from 37 countries (the International Study on Emotion Antecedents and Reactions, ISEAR; Scherer & Wallbott, 1994) were used to analyse shame–guilt differences for the evaluation of emotion-eliciting situations, causality attributions, reported physiological symptoms and expressive reactions and several other characteristics of subjective emotional experience. Group comparisons between countries indicate a considerable number of significant interactions between type of emotion and the predominance of certain values in the cultures concerned. On the whole, the findings imply that the focus of a society on certain shared values is related to emotional experiences to a considerable degree, particularly for certain emotions

that depend on the compatibility of behaviour with external and internal standards such as shame and guilt. Our data suggest that less norm-guided and more 'open' cultures (low power-distance, low uncertainty avoidance), which stress individualism, result in a predominance of guilt experiences of their members, whereas more 'closed' societies, which follow more collectivistic values, induce shame experiences that are different from guilt experiences.

Two findings are of particular importance:

(1) The reaction patterns and feeling characteristics of shame and guilt differ to a considerable degree, with shame being a more 'ergotropic' emotion with higher felt temperature and more nonverbal expression, and guilt being a more 'trophotropic' emotion. With respect to underlying appraisal patterns, especially the attribution of causality, the data indicate that shame experiences are elicited significantly more often by other people or by external sources, while guilt experiences are to a very large extent attributed to the self. This is consistent with the idea of shame being caused by external sanctions emanating from other people or institutions, whereas guilt tends to be caused by internal, self-imposed sanctions (Benedict, 1946). As regards the external standards check, behaviours arousing guilt feelings are judged to be more immoral or improper than behaviours eliciting shame feelings. This confirms earlier proposals (e.g. Piers & Singer, 1971) that guilt experiences are generally elicited by behaviours perceived to be very 'immoral' (transgression of norms and rules), while for shame experiences the 'inappropriateness' aspect (not satisfying expected standards) is more important.

(2) Shame experiences in particular seem to vary considerably across cultures. Important factors in this respect are culturally shared norms such as orientation of society more towards individualistic values or more towards collectivistic values. Comparisons indicate that collectivism tends to result in shame and guilt experiences that are very distinct, whereas individualism tends to be associated with shame experiences that are quite similar to guilt, both in appraisal and reaction patterns. Wallbott and Scherer (1995) suggest that factors resembling the 'Protestant ethic' (Weber, 1904; see also McClelland, 1961), which seems to introduce a strong tendency towards self-attribution and internalization, may be responsible for this effect. Most likely, these effects of culturally dominant value structures are mediated by relatively stable, culturally determined appraisal tendencies, particularly for the 'compatibility with norms/ standards' check.

In general, Wallbott and Scherer (1995) demonstrated that many differences between shame and guilt experiences are related to cultural value dimensions and that the analysis of the emotional experience data by taking these value dimensions into account results in a coherent picture of differences between shame and guilt. These findings also highlight the importance of developmental and socialization factors in the underlying appraisal patterns and the subjective experience of the two emotions studied.

The data from the same ISEAR study were used to examine two more general questions that are directly related to the appraisal mechanism: (a) Do respondents in different cultures appraise emotion-antecedent events differently? and (b) Are similar appraisal profiles associated with the same emotions across cultures? By using the verbal self-reports on the emotion-antecedent appraisal processes for all seven emotions studied (joy, fear, anger, sadness, disgust, shame and guilt), we found high convergence across geo-political regions for emotion-specific profiles, suggesting a large degree of universality of the appraisal mechanism, corresponding in large measure to theoretical predictions. However,

we also found sizable differences between geo-political regions for general appraisal tendencies, across several emotions, supporting the position that there is both universality and cultural specificity in the emotion process (Ellsworth, 1994; Frijda & Mesquita, 1994; Scherer & Wallbott, 1994). In particular, compared to respondents from other countries, respondents in African countries systematically tended to appraise events as *more* immoral, more unfair or unjust and more externally caused. In contrast, respondents in Latin American countries tended to appraise emotion-antecedent events as *less* immoral than did respondents in other regions. Differences in the degree of urbanization of the respective research locations may explain part of the divergences from the overall profile. As there may be greater acceptance of deviance in urban settings and thus a higher threshold for immorality judgments, the fact that most Latin American respondents came from highly urbanized settings suggests that this factor might account reasonably well for the lower immorality appraisals in Latin America. A potential explanation for the high level of external attributions and immorality judgments by African respondents may be found in the importance of witchcraft beliefs in African countries. The use of witchcraft explanations as a means of attributing causation for misfortunes is consistently mentioned by anthropologists studying this phenomenon. Because the practices of sorcerers are deemed antisocial and illegitimate, the attribution of human misfortunes to these supernatural agents provides a satisfactory explanation of the event and strengthens the feeling of moral righteousness of the group. A powerful component of these belief systems is the need to attribute external agency or responsibility to events, particularly those of a negative nature such as illness, death or other misfortunes (Anderson & Kanyana, 1996; Gray, 1963). Such belief systems and attribution tendencies are highly consistent with the interpretation of the ISEAR results (over-attribution of external causation, immorality and unfairness, particularly in the case of negative emotions) in terms of cultural value-determined appraisal biases (see Scherer, 1997, for a more detailed discussion).

These data, while only correlational in nature, encourage the notion that cultures may differ in the nature and salience of goal, belief and value systems and may thus systematically affect appraisal processes by influencing or biasing the content and procedure of appraisal, and thus affect the nature and frequency of emotional experience.

CONCLUSION

In this paper we could sketch only a general outline of the argument that cultural factors may be at the root of the emergence of appraisal biases, which in turn could determine the relative frequency with which different types of emotion may occur in particular cultural settings as a reaction to structurally similar situations. In turn, these appraisal and response tendencies, in interacting with dispositional personality traits and through systematic occurrences of specific events in socialization practices and personal learning history, may contribute to the appearance of dispositional emotionality or trait affect that show systematic culturally determined variation. If this chain of argumentation can be confirmed, we may finally dispose of a mechanism that may be underlying the 'kernel of truth' that is often perceived as a stereotype about cultural affect patterns. Although more theoretical refinement is clearly needed and much empirical research remains to be done, the approach seems promising, as it helps researchers to operationalize the link between cognitive styles, emotions and personality; links personality and emotion psychology more strongly to anthropology and cross-cultural psychology and may be instrumental in putting

the perennial issues of 'national character' or 'modal personality' on a resolutely empirical research agenda.

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