Journal of Personality and Social Psychology
1999, Vol. 76, No. 4, 574–586

0022-3514/99/$3.00

The CAD Triad Hypothesis: A Mapping Between Three Moral Emotions (Contempt, Anger, Disgust) and Three Moral Codes (Community, Autonomy, Divinity)

Paul Rozin and Laura Lowery
University of Pennsylvania

Sumio Imada
Hiroshima-Shudo University

Jonathan Haidt
University of Virginia

It is proposed that 3 emotions—contempt, anger, and disgust—are typically elicited, across cultures, by violations of 3 moral codes proposed by R. A. Shweder and his colleagues (R. A. Shweder, N. C. Much, M. Mahapatra, & L. Park, 1997). The proposed alignment links anger to autonomy (individual rights violations), contempt to community (violation of communal codes, including hierarchy), and disgust to divinity (violations of purity–sanctity). This is the CAD triad hypothesis. Students in the United States and Japan were presented with descriptions of situations that involve 1 of the types of moral violations and asked to assign either an appropriate facial expression (from a set of 6) or an appropriate word (*contempt, anger, disgust,* or their translations). Results generally supported the CAD triad hypothesis. Results were further confirmed by analysis of facial expressions actually made by Americans to the descriptions of these situations.

Moral judgment and the condemnation of others, including fictional others and others who have not harmed the self, is a universal and essential feature of human social life. Many social animals respond to violations, attacks, or defections against the self in dyadic relationships (Trivers, 1971), but something seems to have happened in the evolution of primate social cognition that makes primates, particularly human beings, chimpanzees, and bonobos, exquisitely sensitive to violations of the social order committed by others against others (de Waal, 1996). In these few species that exhibit what we might call "third-party" morality, individuals react emotionally to violations, and these reactions often have long-term effects on social relationships between violators and third parties. Could these emotional reactions be part of the foundation of human morality?

Philosophers have long been divided as to whether human morality is built on our rationality (e.g., Kant, 1789/1959) or our emotionality (Hume, 1740/1969). Psychological work on morality has generally focused on rationality and cognitive development (e.g., Piaget, 1932/1965; Kohlberg, 1969; Turiel, 1983). Moral development was thought to be driven by the cognitive process of role taking as the child learns to respect a kind of moral logic (e.g., "If I were in her position I would not like this, therefore I should not do this"). However, since the 1980s, increasing attention has been paid to the emotional basis of morality. Authors in a variety of fields have begun to argue that emotions are themselves a kind of perception or rationality (de Sousa, 1991); that emotions are embodied thoughts (Rosaldo, 1984); and that "beneath the extraordinary variety of surface behavior and consciously articulated ideals, there is a set of emotional states that form the bases for a limited number of universal moral categories that transcend time and locality" (Kagan, 1984, p. 118; see also Shweder & Haidt, 1993). Cross-cultural work has begun to demonstrate that cognitive-developmental theories work less well outside of Western middle-class populations and that emotional reactions are often the best predictors of moral judgments (Haidt, Koller, & Dias, 1993; Shweder, Mahapatra, & Miller, 1987).

We believe that work on the moral emotions has progressed to the point where we can begin to systematize and taxonomize some of the moral emotions and relate them in an orderly way to the structure of the social world. We focus on two principal clusters of moral emotions that should be of interest to social psychologists, for they make people care about the social order. The first cluster of moral emotions is shame, embarrassment, and guilt (SEG), all of which involve ongoing assessments of the moral worth and fit of the individual self within a community. These emotions motivate the individual to want to fit in, to behave in a culturally acceptable fashion, and to avoid harming people. They are self-focused and are sometimes referred to as the *self-conscious* emo-

Paul Rozin and Laura Lowery, Department of Psychology, University of Pennsylvania; Sumio Imada, Department of Psychology, Hiroshima-Shudo University, Hiroshima, Japan; Jonathan Haidt, Department of Psychology, University of Virginia.

Laura Lowery is now in independent practice in Berkeley, California.

This research was supported by grants from the Whitehall Foundation and from the University of Pennsylvania.

Correspondence concerning this article should be addressed to Paul Rozin, Department of Psychology, University of Pennsylvania, 3815 Walnut Street, Philadelphia, Pennsylvania 19104-6196. Electronic mail may be sent to rozin@psych.upenn.edu.

tions (Lewis, 1993). They can be distinguished from each other, yet they are interrelated (Keltner, 1995; Tangney, Miller, Flicker, & Barlow, 1996). These emotions may be crucial for human civilization, for they reflect (or implement) the internalization of the social order in the individual (Freud, 1900/1976).

The second cluster of moral emotions reflects a similar concern for the integrity of the social order, but now turned outward to others. Contempt, anger, and disgust, we argue here, are the three main "other-critical" moral emotions, a cluster of related but distinguishable emotional reactions to the moral violations of others. The present study tests the hypothesis that each of these three emotions is triggered by a violation of a specific part of the moral domain.

There are good reasons to focus on contempt, anger, and disgust as a coherent cluster of moral emotions. Izard (1971, 1977) grouped these three emotions together as the *hostility triad* and found that they were often experienced together in day-to-day interactions. Furthermore, he noted that they all involve disapproval of others. However, there are also differences among the three emotions. Anger has often been studied in animals and in humans as a nonmoral emotion, a reaction to frustration or goal blockage, linked to an action tendency that marshals the resources required to mount an aggressive response to the blockage. Yet this "primordial" form of anger, visible throughout the animal kingdom (Plutchik, 1980), seems to have been elaborated among human beings into a largely moral emotion. Commentators from Aristotle (trans. 1941) through Lazarus (1991) have linked anger to insults, transgressions, and rights violations against the self or those close to the self.

Similarly, disgust has an animal precursor, called *distaste,* and it has a nonmoral primordial form, called *core disgust* (Rozin & Fallon, 1987; Rozin, Haidt, & McCauley, 1993). Core disgust is best described as a guardian of the mouth against potential contaminants. However core disgust appears to have been elaborated into a more complex moral emotion that we call *animal nature disgust* in which actions and events that remind us that we are animals are repressed, hidden, or condemned. Such regulation of bodily functions, including sex, eating, defecation, and hygiene, are often incorporated into the moral codes of cultures and religions (e.g., the Book of Leviticus in the Old Testament), where they appear to function as guardians of the soul against pollution and degradation (Rozin, Haidt, & McCauley, in press-a).

Disgust is often further elaborated beyond bodily concerns into what is called *sociomoral disgust* (Rozin et al., 1993, in press-b). For Americans, sociomoral disgust is triggered by a variety of situations in which people behave without dignity or in which people strip others of their dignity. Miller (1997) suggested that disgust is the principal emotion that responds to the vices of hypocrisy, cruelty, fawning, and betrayal. Sociomoral disgust is often triggered by third-party violations that may not directly affect the self. For example, when we asked American adults to describe three events in which they felt disgust, many responses involved hearing about sociomoral violations such as racism and child abuse (Haidt, Rozin, McCauley, & Imada, 1997). The same was true for a sample of Japanese adults, although the nature of the sociomoral events differed from the American events. And the heavily moralized usage of the English word *disgust* does not appear to be a quirk of the English language; it occurs as well in French, German, Hebrew, Russian, Japanese, Chinese, Oriya (an Indian language related to Hindi), and many other languages (Haidt et al., 1997).

Contempt differs from disgust and anger in that it does not have a clear animal origin. However, like the moral forms of anger and disgust, contempt is usually said to involve a negative evaluation of others and their actions. Contempt is often linked to hierarchy and a vertical dimension of social evaluation. Izard (1977) noted that contempt is often felt by members of one group for members of other groups regarded as inferior and that it is therefore important in prejudice and racism. Izard added that contempt is the most subtle and coldest of the three emotions in the hostility triad. Ekman (1994) expressed a similar view of contempt as disapproving of and feeling morally superior to someone. Miller (1997) called contempt a close cousin of disgust, which works with disgust to maintain social hierarchy and political order. Like Izard, Miller characterized contempt as cooler than disgust, because it involves an element of indifference toward the object of contempt.

We are not suggesting that these two clusters of moral emotions (CAD and SEG) exhaust the list of moral emotions. There is a third important cluster, which might be called the *other-suffering* emotions, for it includes emotions triggered by the suffering of others, such as pity and sympathy. These emotions were at the heart of the moral theories of David Hume (1739/1969) and Adam Smith (1759/1966), and they have been well studied in modern times (e.g., Eisenberg, 1989; Hoffman, 1987). Furthermore, many other emotions can play a role in moral behavior and cognition—for example, fear (of punishment) and love or admiration (toward moral exemplars). However, we think that the two clusters of CAD and SEG are particularly rich and important because they are so closely tied to the internalized respect for an external social order.

Mapping the Moral Domain

We believe the time is right to map out the moral domains of contempt, anger, and disgust because of the appearance of an important new theory of morality (Shweder, Much, Mahapatra, & Park, 1997). Shweder and his colleagues proposed that there are three distinct ethics that cultures use to approach and resolve moral issues: the ethics of community, autonomy, and divinity. Each ethic is based on a different conceptualization of the person: as an office-holder within a larger interdependent group–family–community (community), as an individual preference structure (autonomy), or as a divine creature bearing a bit of God within (divinity). Depending on which of these three views one holds of the person, a different set of moral goods and obligations becomes paramount. To summarize the three ethics, we present here the exact descriptions we provided to participants in Study 2, described below.

> 1. [The ethics of *Autonomy*] Individual freedom/rights violations. In these cases an action is wrong because it directly hurts another person, or infringes upon his/her rights or freedoms as an individual. To decide if an action is wrong, you think about things like harm, rights, justice, freedom, fairness, individualism, and the importance of individual choice and liberty.
>
> 2. [The ethics of *Community*] Community/hierarchy violations. In these cases an action is wrong because a person fails to carry out his or her duties within a community, or to the social hierarchy within the community. To decide if an action is wrong, you think about things

like duty, role-obligation, respect for authority, loyalty, group honor, interdependence, and the preservation of the community.

3. [The ethics of *Divinity*] Divinity/purity violations. In these cases a person disrespects the sacredness of God, or causes impurity or degradation to himself/herself, or to others. To decide if an action is wrong, you think about things like sin, the natural order of things, sanctity, and the protection of the soul or the world from degradation and spiritual defilement.

Shweder and his colleagues (1997) developed this model by analyzing explanations by Hindu Indians of the moral status of a variety of actions. A hierarchical cluster analysis of the themes and moral concerns showed these three principal clusters, which are quite intelligible to Westerners, even though they were derived from Indians. Researchers carrying out ongoing work with this theory have found it useful for explaining moral differences across cultures and social classes (Haidt, Koller, & Dias, 1993) and for understanding such things as the *culture wars* (Hunter, 1991) that currently pit liberals and progressivists (whose morality is limited to the ethics of autonomy) against conservatives and orthodox (with a broader moral domain, including community and divinity; Jensen, 1997). It remains to be empirically determined whether moral issues will cluster as hypothesized in all cultures.

In this study, we propose that the three other-critical moral emotions align with the three Shweder ethics such that each of these emotions is specifically aroused by violations of one of the ethics. In particular, we hypothesize specific linkages between community and contempt, autonomy and anger, and divinity and disgust (Table 1). We have previously suggested a linkage between disgust and divinity (Haidt et al., 1993) and the general form of the CAD triad hypothesis (Rozin et al., 1993; Rozin, Haidt, McCauley, & Imada, 1997), but this article represents the first full statement of the hypothesis and the first empirical investigation of it. We cannot resist noting the coincidence that in the English language, the first letter of each of the Shweder ethics matches the first letter in the emotion word that we link to it. Given that the three words Shweder chose have no etymological relation to the names of the three moral emotions, the probability of this occurring by chance is less than 1 in 10,000. This phonological correspondence motivates our use of the term CAD to describe the moral–emotion triad hypothesis.

We think these linkages make conceptual sense. Because contempt is often linked to hierarchical relations between individuals and groups, it makes sense that contempt will often be triggered by violations of the ethics of community. Because the appraisal condition for anger is often said to be an insult or rights violation, it stands to reason that anger will often be triggered by violations of the ethics of autonomy. Finally, because disgust is an emotion that guards the "soul" from degradation, it makes sense that disgust will often be triggered by violations of the ethics of divinity.

Table 1
The CAD Triad Hypothesis

Emotion	Shweder ethic	Principal virtues
Contempt	Community	Respect, duty, hierarchy
Anger	Autonomy	Individual freedom, rights
Disgust	Divinity	Divinity, purity

The moral–emotion triad hypothesis states that there is a mapping between the three other-critical moral emotions and Shweder's three moral ethics. Within any culture, actions that are violations of the ethics of autonomy will be most likely to elicit anger; violations of the ethics of community will be most likely to elicit contempt, and violations of the ethics of divinity will be most likely to elicit disgust. We do not claim that the mapping is perfect, and we expect to find many individual violations that do not primarily elicit the predicted emotion. However, we predict that, averaged across many violations, the relationship will hold and will be substantial (i.e., not just greater than chance).

Shweder's three ethics provide a framework for assessing cultural variation in morality, because cultures vary in the relative importance or degree of elaboration of each of the three ethics. However, in practice is appears to be the case that some trace of all three ethics can be found within most cultures (Haidt et al., 1993; Jensen, 1997). It appears also to be the case that the three emotions of contempt, anger, and disgust are universally recognizable, at least from their facial expressions (Ekman & Friesen, 1971, 1986; Haidt & Keltner, in press; but see Russell, 1991, 1994). However it remains to be seen whether societies that value hierarchy, such as Japan, make greater use of contempt and community, whereas societies that expand the personal rights of the individual, such as the United States, make greater use of anger and autonomy. We included Japanese as well as American participants in this study for three reasons: (a) to allow evaluation of the CAD triad hypothesis in more than one culture; (b) to allow for possible linkages with other research on emotion, which has been frequently studied in Japanese participants; and (c) because the moral system in Japan is probably somewhat different from the American system, with perhaps more emphasis on the morality of community.

The CAD triad hypothesis was assessed directly in Study 1 by asking American and Japanese participants to read a list of moral violations and then choose the most appropriate face that an onlooker would make (from an array of contempt, anger, and disgust faces) or the most appropriate emotion word to describe an onlooker's feelings (*contempt, anger,* or *disgust*). The situations were designed to represent clear violations of each of the Shweder ethics. In Study 2, American and Japanese participants read descriptions of Shweder's three ethics and then assigned them to the list of moral violations used in Study 1. These classifications allowed for a second test of the CAD triad hypothesis and also allowed us to gauge the degree of consensus in moral category assignment. Study 3 investigated an alternative to the CAD triad hypothesis—namely, that contempt does not correspond to a domain of moral action but rather just to a lesser severity of violation than does anger. Study 4 used an additional method of testing the moral–emotion triad hypothesis by asking American participants to actually pose the faces that would be appropriate for each instance of a moral violation.

Study 1

Method

Study 1 consisted of two separate tasks, performed by two separate groups of participants: One group matched situations to emotion faces (the face task); the other group matched situations to emotion words (the word task). These two tasks could be considered two separate studies, but they are analyzed together here because the methodology and results are similar.

Participants. All participants were undergraduate students in psychology classes at the University of Pennsylvania in Philadelphia or Hiroshima-Shudo University in Hiroshima, Japan. Gender was not a variable of interest in this study; men and women were well represented in all samples. Among American participants, 90 performed the face task, and 20 performed the word task. Corresponding numbers for Japanese participants were 103 and 171, respectively.

Most participants performed the matching task during class time or in the period just after a class ended. The time commitment involved 5 to 15 min. The data were collected in 1993 and 1994.

Materials and procedures. Participants were presented with a printed list of 46 situations (in English or Japanese), presented from the point of view of a person participating in or observing an event (see Table 2). The situations were created primarily by us, informed by Shweder's three moral ethics, and some were derived directly from an earlier version of Shweder et al. (1997). The 27 items actually used in the analysis in this article are listed in Table 2 in an order representing how we categorized these situations as moral violations.

The study actually had two aims: (a) to test the CAD triad hypotheses and (b) to examine whether different features of the disgust, contempt, and anger faces were related to different elicitors. This second purpose influenced some stimulus selection and accounts, in part, for the fact that the face array contained two different versions of each of the CAD "standard" facial expressions. Nineteen of the 46 situations originally presented are not included in the analysis presented here, for one of three reasons: (a) They were relevant only to the second purpose of the study and had little or no moral loading (e.g., "Person is eating something with a very bitter taste"); (b) they were minor variants of other items, inserted to determine whether one or the other exemplar faces of each emotion was more associated with stronger elicitors (e.g., for the situation in which someone edges ahead in line, in the strong form it happens to the person of reference and in the weaker form this person observes it happening to someone else; in all cases, we used the stronger [more direct participation] version); or (c) the items turned out to be factually ambiguous (e.g., an item indicating that the reference person brushed against a street person on the street was interpreted by some as a soiling of the person and by others as an uncalled-for aggressive action of the person). The list of situations in Table 2 does not include these items.

The list of situations was translated into Japanese by a bilingual Japanese–English speaker and then confirmed by a back-translation made by a different Japanese–English bilingual speaker. Two minor changes were necessary. First, the item FLAG involved burning the American flag for Americans and the Japanese flag for the Japanese. Second, the item BIGOT referred to Ku Klux Klan membership for Americans and to a "secretive terrorist group" for the Japanese. The order of the items was random and was presented in the original and a completely reversed form. The position of the items in the original form is indicated in column 2 of Table 2.

In the face task, each participant was presented with a high-quality black-and-white photocopy, on 8.5 × 11-in. (21.59 × 27.94-cm) paper, of six facial photos (one instance is shown in Figure 1). For any participant, these were photographs of the same person in six different facial poses. The poses were predetermined by the experimenters. Posers, selected because they had good control of their facial musculature and no facial hair or glasses, were precisely instructed for each facial expression. When the expression reached the desired criterion, as judged by a certified Facial Action Coding System (FACS; Ekman & Friesen, 1978) rater (Laura Lowery), the picture was snapped. Each picture was subsequently FACS rated, to make sure that it conveyed the intended muscular actions. The posers were one female American, one female Indian, and one male Japanese. Each participant from either culture saw the pictures of one poser, assigned randomly.

The expressions elicited from the posers and presented to the participants conformed to standard accounts of the facial features associated with contempt, anger, and disgust (Ekman & Friesen, 1978, 1986; Izard, 1971). We offered two exemplars of each emotion face because we were interested in different meanings that the different exemplars might convey and because there is not complete agreement about the prototypical face for any of these emotions. For contempt, the critical issue was whether the response was a pure unilateral smirk—Action unit (AU) 14, Photo D5 in Figure 1—or whether it also included a unilateral upper lip raise—AU 10, Photo D1 in Figure 1. For anger, the critical variation was whether the anger was portrayed as tight-lipped—AU 23, Photo D3—or teeth bared—AU 10, Photo D2. For disgust, on the basis of our previous analysis of the disgust face (Rozin, Lowery, & Ebert, 1994), we presented the full disgust face—gape, AU 25/26; nose wrinkle, AU 9; and upper lip raise, AU 10, Photo D4—or simply the bilateral upper lip raise—AU 10, Photo D6—which our research suggests may be more closely related to what we call moral disgust.

Two versions were produced for the six-face array of each poser. The order of faces on the page was determined by one of two different random assignments. The six stimuli sheets (three posers by two orders) were distributed at random, along with the questionnaire (which itself came in two versions, one the reverse order of the other).

Instructions for the face task were as follows:

> Carefully read each situation and decide what FACE is most likely to be shown by the PERSON in the situation. If you feel that one of these faces clearly applies to the situation, enter its letter next to the situation. If you feel that none of these faces is at all appropriate, place an N next to the situation. If you feel that more than one of these faces is appropriate, list all of the appropriate faces, placing FIRST, the face that you consider most appropriate (e.g., D1,D5 or S2,S3). DON'T BE CONCERNED ABOUT HOW MANY TIMES YOU LIST EACH FACE, OR EVEN IF YOU NEVER LIST ONE OF THE FACES. Remember, you are to rate the face from the point of view of the person.

The word task used the same 46-item situation list, in both orders. In this case, participants were asked to assign the appropriate emotion word (*contempt, anger, disgust,* for English; *keibetsu, ikari, ken'o* for Japanese) to each situation. Instructions for American participants were as follows:

> Carefully read each situation and decide what EMOTION is most likely to be felt by the PERSON in the situation. Your choice for emotions is: A = Anger; C = contempt; D = disgust. If you feel that one of these emotions clearly applies to the situation, enter its letter next to the situation. If you feel that none of these emotions is at all appropriate, place an N next to the situation. If you feel that more than one of these emotions is appropriate, list all of the appropriate emotions, placing FIRST, the emotion that you consider most appropriate (e.g., AC or DA). DON'T BE CONCERNED ABOUT HOW MANY TIMES YOU LIST EACH EMOTION, OR EVEN IF YOU NEVER LIST ONE OF THE EMOTIONS. Remember, you are to rate the emotion from the point of view of the person.

Results

Situation ordering. The order of presentation of situations (original or reverse order) did not produce a significant disparity (with an alpha level of .01) in face category selected in any of the 27 situations as tested by chi-square (2, $N = 193$) for each situation. The same face category was highest in 24 of the 27 situations.

Poser differences. There were some differences in results for the three different posers, such that for 17 of 27 situations (combining results from Japanese and American students) there was a significant effect of poser, with an alpha level of $<.01$, by chi-

Table 2
Items in Conceptual Order With Predominant Moral Face, Word, and Code Ratings and Percentages of Participants Who Made the Predominant Choice

Abbreviation	Position[a]	Item[b]	Study 1				Study 2		Study 3
			U.S.–face	Japan–face	U.S.–word	Japan–word	U.S. code	Japan code	How bad?
		Violations of the ethics of community							
TEACHER	13	A PERSON is hearing an 8-year-old student speak to his/her teacher in the same way that he/she talks to her friends.	C72[c]	C58[c]	C20	D19	C57[c]	C63[c]	1.7
TEENEAT	27	A PERSON is seeing a teenager begin to eat dinner before everyone else at the table is served.	C75[c]	C73[c]	C30[c]	D24	C57[c]	C72[c]	0.8
FLAG	4	A PERSON is seeing someone burn the American [Japanese] flag.	A60[c]	A55[c]	A45[c]	C21	C47[c]	C36[c]	1.9
CURSE	14	A PERSON is hearing a 10-year-old child say dirty words to his/her parents.	C58[c]	A48[c]	C=D30	D26	C46[c]	C44[c]	2.2
CRITBOSS	10	A PERSON is hearing an oversensitive employee directly criticizing his/her boss.	C76[c]	C48[c]	C15[c]	C19[c]	C43[c]	C32[c]	1.0
SALESMAN	33	A salesman is addressing this PERSON by his/her first name after just meeting him/her.	C82[c]	C65[c]	C25[c]	D54[c]	C25	A40[c]	0.5
TRAIN	19	A PERSON is watching a company executive refuse to sit next to a laborer on a train.	C58[c]	C60[c]	C60[c]	C50[c]	A37[c]	A40	2.6
COMPLAIN	34	A PERSON is seeing and hearing an employee unjustifiably complain to his/her boss.	C79[c]	C54[c]	A35	C36[c]	D8	D28[c]	1.3
CLEANER	11	A PERSON just discovered a cleaning person, who thinks no one is watching, sitting in the chair of the company president.	C80[c]	C54[c]	D5	C10[c]	C31[c]	C16[c]	0.6
EMPSCOLD	28	A PERSON is seeing and hearing an employer scold someone on his/her staff who regularly leaves work an hour early when no one else is around.	C69[c]	C65[c]	C30[c]	C33[c]	C30[c]	C44[c]	0.5
BUSSEAT	8	A PERSON is seeing a 16-year-old refuse to give up his/her seat on the bus to a crippled old lady.	C49[c]	C45	C=A45	A51[c]	C75[c]	C50[c]	2.4
FUNERAL	38	A PERSON is hearing about someone who doesn't go to his/her own mother's funeral.	C61[c]	C38[c]	C30	C48	C37	D34	2.4
		Violations of the ethics of autonomy							
SCOLDHIT	43	A PERSON is scolding a child who hit another child.	A84[c]	A74[c]	A35[c]	A58[c]	A39[c]	A33[c]	1.3
BEATWIFE	12	A PERSON is hearing about a man who comes home drunk and beats his wife.	A59[c]	A54[c]	A85[c]	A50[c]	A74[c]	A49[c]	3.2
LINE	16	Someone is edging ahead of this PERSON in a long line.	A59[c]	C48	A75[c]	A77[c]	C50[c]	C61[c]	2.1
CYANIDE	36	A PERSON is hearing about someone who put cyanide in a container of yogurt in a supermarket.	A68[c]	A50[c]	A70[c]	A64[c]	C44	C34	3.5
STEALBEG	41	A PERSON is seeing someone steal a purse from a blind person.	A73[c]	A72[c]	A70[c]	A75[c]	A56[c]	D45	3.5
BIGOT	40	A PERSON is being told that an acquaintance is a bigot who is a member of the Ku Klux Klan [a secretive terrorist group].	A52[c]	A47	A60[c]	D24	A36	C33	3.1
EMBEZZLE	25	A PERSON is being told about an acquaintance who embezzled from a bank.	C50[c]	A50[c]	C30	C58[c]	C78[c]	C48[c]	1.7
INSURANCE	44	A PERSON is being told that someone he/she knows faked an injury after an automobile accident in order to collect on insurance.	C58[c]	C43	A45[c]	C72[c]	C56[c]	D42	2.1
NOSMOKE	35	A nonsmoker/PERSON is sitting near a stranger who is smoking in the no-smoking section of a small waiting area.	A44	C47	A65[c]	A67[c]	C50[c]	C45[c]	2.6
WWIICONC	32	A PERSON is looking at a picture of the inmates at a World War II concentration camp being led into the gas chamber by the Nazis.	A61[c]	A64[c]	A55[c]	A43[c]	A42[c]	D34	3.3
		Violations of the ethics of divinity							
ROTMEAT	2	A PERSON is eating a piece of rotten meat.	D92[c]	D79[c]	D100[c]	D62[c]	D11	D32[c]	3.1
INCEST	3	A PERSON (is shaking hands with someone who) has an incestuous relationship.	D40	C44	D45[c]	D29[c]	D27[c]	D26[c]	1.6
CORPSE	26	A PERSON is touching a corpse.	D74[c]	D47	D75[c]	D56[c]	D36[c]	D44[c]	1.6
APPLWORM	31	A PERSON (is watching someone as he/she) bites into an apple with a worm in it.	D88[c]	D75[c]	D95[c]	D58[c]	A14	D23[c]	2.6
SEX1770	22	A PERSON is hearing about a 70-year-old male who has sex with a 17-year-old female.	D59[c]	C35	D80[c]	D26	C31	D24	2.0

Note. In Study 1, C = contempt, A = anger, D = disgust; in Study 2, C = community, A = autonomy, D = divinity.
[a] Position among the 46 items in the original set of situations for Japanese and American participants. For half of participants, the item was in the $47-X$ position, where X is the original position. [b] Items are arranged by our a priori classification into three moral codes. [c] Meets the criterion that the highest score (as given in the item) is greater than or equal to the sum of the scores for the two other moral systems and is greater than 15%.

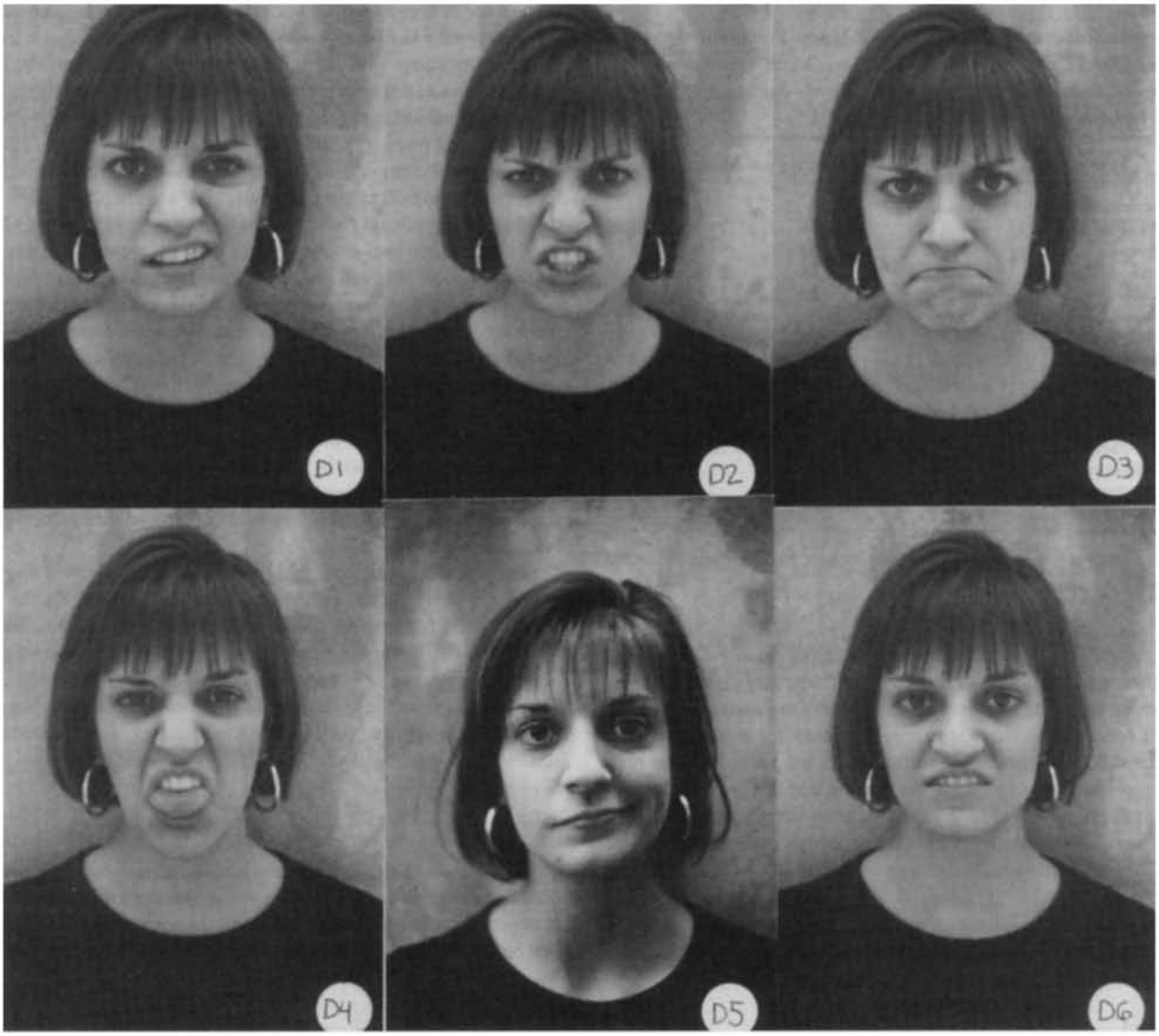

Figure 1. One of the six-face stimulus displays from Study 1. In this display, with the American poser, Face D1 represents a contempt face with unilateral Action Unit (AU) 10 (lip raise) and unilateral AU 14 (dimpler–smirk). D2 represents anger in the open mouth form, with AU 10 (lip raise). D3 represents anger in the lip press form (AU 24). D4 represents disgust in the full form. D5 represents contempt in the minimal form, with unilateral AU 14 (dimpler–smirk). D6 represents disgust in the minimal form, with bilateral AU 10 (lip raise).

square (4, $N = 193$). The same face category was highest for all three faces for 14 out of the 27 situations. There were some minor differences in the FACS ratings of some of the corresponding faces that may account for the differences we observed across posers. However, the minor facial differences (an issue of central concern in our parallel project of assigning particular facial movements to particular situations) were balanced out by our design, which distributed poser faces in equal frequency, randomly, to both Japanese and American participants. For this reason we merged the data across posers.

Testing the CAD triad hypothesis. The CAD triad hypothesis (Table 1) designates a predominant facial–word response (contempt, anger, or disgust) for each of the types of moral violations (community, autonomy, or divinity) as previously classified by us. Results are presented in Table 3. There are 12 rows (3 ethics by 2 cultures by 2 types of measure), each displaying the mean frequency across all instances of one type of moral violation for the three CAD emotions (words or faces) for one culture. Thus, for the 1st row, for community violations, American participants matching these situations to faces assigned a mean of 66% to the contempt face, 27% to the anger face, and 8% to the disgust face. In all 12 rows, the modal CAD emotion was as predicted ($p <$ .001, binomial, $N = 12$, assuming a one-third probability per row of being correct by chance). Across all 12 rows, the mean score for the predicted designation was 52.2%. Given that 14.3% of responses were that there was no applicable answer, the expected

Table 3
Mean Assignments of Three Kinds of Moral Violations to the Three Moral "Other-Critical" Emotions (Mean Percentages Assigned to Each Emotion—Face or Word—Across All A Priori Situations for Each Moral Code)

Type of ethical violation	Contempt	Anger	Disgust
Violations of ethics of community (12)			
U.S.–face	**66**	27	8
Japan–face	**53**	34	14
U.S.–word	**28**	20	9
Japan–word	**26**	17	18
Violations of ethics of autonomy (10)			
U.S.–face	28	**57**	15
Japan–face	30	**53**	18
U.S.–word	19	**58**	10
Japan–word	25	**46**	11
Violations of ethics of divinity (5)			
U.S.–face	19	10	**71**
Japan–face	21	26	**53**
U.S.–word	3	2	**79**
Japan–word	15	3	**46**

Note. Boldface is used to indicate the highest emotion designation for each row.

percentage of designated emotions was 28.6%. In all but two cases, the predicted emotion was chosen more frequently than the sum of the other two. The two exceptions were for the assignment of the word *contempt* to the community violation for both the United States and Japan. In almost half of the cases, participants in both cultures felt that none of the words were appropriate (resulting in a mean assignment of 27% of community violations to the word *contempt*); this contrasts sharply with the high degree of consensus (60%) on assignment of the contempt face to these same situations (Table 3).

To evaluate the influence of culture and type of measure, we computed three separate analyses of variance (ANOVAs), one for each of the sets of situations under each moral code. In each case, we performed a two-way ANOVA with culture and measure (face or word) as categories. In this analysis, the mean score on the predicted emotion for each violation in the situations instantiating a particular ethical category was the dependent variable. Hence, for the 12 community situations, there were 48 data points, 12 for each measure–culture. There were only two significant main effects (and no significant interactions). For community violations, there was a significant effect of type of measure, $F(1, 44) = 62.5$, $p < .001$. This was accounted for almost entirely by higher correspondence between the contempt face as opposed to the contempt word with community violations. For divinity violations, there was a culture effect, a lower divinity–disgust correspondence in Japanese than Americans, $F(1, 16) = 7.26$, $p < .05$. Performance according to prediction on faces, across all ethics and both cultures, was somewhat better (59%) than on words (47%), but this is accounted for almost entirely by the difference on contempt–community. Performance by American participants was somewhat better (60%) than by Japanese participants (46%); this held for all six comparisons ($p < .05$, binomial) of predicted matches (see boldface values in Table 3).

The three situations scoring highest for contempt–anger–disgust faces or words in each culture are listed in Table 4. Of the 36 situations, 34 fall into the predicted moral code ($p < .001$, binomial). The two exceptions (underlined in Table 4), involve Japanese assignment of the contempt word to the INSURANCE and EMBEZZLE situations that we classified as autonomy violations. It is also notable that, particularly for contempt, the most potent situations are not the same for the face and word measures.

Discussion

The data support the hypothesis of a linkage between moral codes and moral emotions. The main sources of disagreement between our a priori classification and the results have to do with the boundary between autonomy and community codes and, in

Table 4
Situations Receiving Strongest Face or Word Endorsement by Culture and Measure

Item	Japan–face % endorsement	Item	Japan–word % endorsement	Item	U.S.–face % endorsement	Item	U.S.–word % endorsement
			Contempt				
TEENEAT	73	INSURANCE	72	SALESMAN	82	TRAIN	60
SALESMAN	65	EMBEZZLE	58	CLEANER	80	BUSSEAT	45
EMPSCOLD	65	TRAIN	50	COMPLAIN	70	5 items[a]	30
			Anger				
SCOLDHIT	74	STEALBEG	75	SCOLDHIT	84	BEATWIFE	85
STEALBEG	72	NOSMOKE	67	STEALBEG	73	CYANIDE	70
WWIICONC	64	CYANIDE	61	CYANIDE	61	STEALBEG	70
			Disgust				
ROTMEAT	79	ROTMEAT	62	ROTMEAT	92	ROTMEAT	100
APPLWORM	75	APPLWORM	58	APPLWORM	88	APPLWORM	95
CORPSE	47	CORPSE	56	CORPSE	74	SEX1770	80

Note. The three entries in each cell are arranged from strongest (top) to weakest endorsement. Underlined items are not from the predicted category.
[a] Five items tied for third at a score of 30: TEENEAT, EMPSCOLD, CURSE, FUNERAL, and EMBEZZLE. One, EMBEZZLE, is classified a priori as an autonomy violation. The remaining four are classified as community violations.

particular, the domain of the English word *contempt* and the Japanese word *keibetsu.* The problematic status of the lexical (as opposed to facial) designation of contempt has also been demonstrated in prior work (Rosenberg & Ekman, 1995; Haidt & Keltner, in press). In general, the mapping from the contempt face to community is much more substantial than the mapping to the word in both cultures. In addition, the "meanings" of the two may differ somewhat, judging by the disparity of most salient situations for contempt faces and words in both cultures (Table 4).

Our approach in this study was to create a set of situations that would clearly instantiate the three moral codes, using our own understanding and intuitions about these codes. The resultant classification could be faulty in two ways: (a) We may have misconstrued typical moral framings of these situations within our own cultures, and (b) we may have erred in thinking the situations were unambiguous enough that they would have comparable framings in different cultures or across individuals within a culture. Errors induced in this manner could have led to either an attenuation or amplification of the pattern of results we predicted. We specifically addressed the moral categorization of situations in the second study by informing participants about Shweder's three ethics and allowing them to categorize the situations themselves.

Study 2

Method

Participants. One hundred Japanese college students and 36 American college students participated in the study.

Materials and procedures. Participants read the "standard" list of 46 situations and rated them in respect to the three moral codes. The material was presented in Japanese to the Japanese participants, and in English to the American participants. The moral judgment questionnaire began as follows:

> It has been proposed that there are three types of moral violations across all of the cultures of the world. The three types are described as follows: [At this point the three ethics were described, using the descriptions given in the introduction to this article. The instructions then continued:] Carefully read each situation, and decide what MORAL SYSTEM is being violated (from the point of view of the PERSON in the situation). Your choice for moral systems is: IR = individual freedom/rights violations; CH = community/hierarchy violations; DP = divinity/purity violations. If you feel that one of these moral violations applies to the situation, enter its letter pair next to the situation. If you feel that none of these moral systems is at all appropriate, place an N next to the situation. If you feel that more than one of these moral systems is appropriate, list all of the appropriate emotions, placing FIRST, the system that you consider MOST appropriate (e.g., AR/CH or DP/AR). DON'T BE CONCERNED ABOUT HOW MANY TIMES YOU LIST EACH SYSTEM, OR EVEN IF YOU NEVER LIST ONE OF THE RESPONSES (AR, CH, DP or N). Place the appropriate LETTERS next to the situation and then move on to the next situation, until you have completed all of the situations.

The exact same 46-item situation list was presented (in either order) as was used in Study 1. In reporting this data, we include only the first (principal) assignment of moral code and consider only the 27 situations selected for Study 1.

Results

Results are presented in Table 2, under the heading "Study 2" (U.S. code, Japan code). Letters in these columns (CAD) show the moral code (community, autonomy, divinity) that was given most often as a first choice. Numbers after each letter show the percentage of all responses (including no citation of any moral code) that gave that code as a first choice. Results from ratings of participants were sobering in that they reveal considerable disagreement among individuals both within and between cultures (Table 2).

Moral judgments: Consistency within culture. The predominant moral classification within each culture, a measure of within-culture consensus, was surprisingly low. For the United States the mean was 43%, and for Japan it was 40% (including in the total percentage of nonmoral ratings). A reasonable criterion for some consensus is that the dominant moral code is greater than or equal to the sum of the other two classifications (and, for the few cases where many participants rated the situation as not engaging any moral code, that the dominant code value is at least 15% of participants). These values are followed by a superscripted letter *c* in Table 2. For both Japan and the United States, in 19/27 situations, this criterion was met.

Moral judgments: Consistency across culture. In 19 of 27 situations, Japanese and American participants assigned the same predominant moral code. The moral code assignment score for each situation consisted of the percentage of student participants in each culture who assigned it to each of the three moral codes (including no assignment of moral code as an option). We used these percentage scores, as such, in correlational analyses. There is substantial American–Japanese agreement in assignment of moral codes. For the 27 community ratings for each situation across American and Japanese participants (Pair 1 would be the American and Japanese community percentage endorsement for Situation 1), $r(27) = .80, p < .001$. Corresponding values are $r(27) = .74, p < .001$, for autonomy and $r(27) = .71, p < .001$, for divinity.

Moral judgments: Consistency between student ratings and a priori categories. Disagreements with our a priori classifications were most common in choice of community or autonomy codes. For example, we thought of the salesman (SALESMAN) addressing a person by his or her first name as a community (hierarchy) violation, but participants in Japan identified this as an autonomy violation. On the other hand, edging ahead in a line (LINE), which we considered as a clear autonomy (rights) violation was classified as a community violation in both cultures. Another disparity was that the divinity code is so foreign to the moral system used by educated Americans (Haidt et al., 1993) that most of these participants assigned what we took to be such violations to the nonmoral category.

We illustrate the causes of categorization problems with two examples. If one assumes respect to elders is a right that elders have, then failure of a young person to defer to an elder, albeit clearly a communal offense, can also be construed as a violation of the rights of the elder. If one assumes that dead people, or their souls, have rights and sensibilities, then doing something polluting, like touching a corpse or failing to attend a mother's funeral, can cause harm to the dead person and hence can be an autonomy violation or a violation of divinity.

In spite of these problems, there is some agreement between Japanese or Americans and our a priori classifications (Table 5). Overall, the agreement between predominant classification for Japanese students and the a priori classifications for the 27 situations was 15, with 18 cases of agreement for the U.S. students. In five of six cases (three codes by two cultures), the highest mean

Table 5
Agreement Between A Priori and Student Ratings of Moral Ethics Violated by 27 Situations

Ethic	Situations assigned by experimenter	U.S. no. agree[b]	Japan no. agree[b]	United States[a] Community %	United States[a] Community SD	United States[a] Autonomy %	United States[a] Autonomy SD	United States[a] Divinity %	United States[a] Divinity SD	Japan[a] Community %	Japan[a] Community SD	Japan[a] Autonomy %	Japan[a] Autonomy SD	Japan[a] Divinity %	Japan[a] Divinity SD
Community	12	10	8	42.5	15.5	17.0	8.9	7.2	10.1	40.7	16.8	19.7	11.8	11.6	9.7
Autonomy	10	5	2	34.3	25.2	39.7	18.4	8.8	6.6	31.0	16.9	30.3	10.0	21.6	16.8
Divinity	5	3	5	11.2	11.6	10.8	3.3	21.6	10.8	2.2	2.2	18.2	4.9	29.8	8.7

[a] Mean percentages and standard deviations of assignments by students in each culture to the designated moral code, averaged across all instances we specified as illustrative of that code, including nonmoral designation. [b] Number of situations for which predominant moral assignment by students agreed with our categorization.

student rating for each set of a priori code assignments was in accordance with the a priori designations. The exception is a slightly higher mean assignment of the autonomy violations by Japanese students by community (31.0) than autonomy (30.3).

CAD linkages between student judgments and face–word assignment from Study 1. Although the student situation assignments were quite different from the a priori assignments, the linkage between emotion and moral violation emerged in substantial strength using the student moral judgments.

Because there was a continuous rating (percentage of endorsement) of the application of each moral code to each situation, correlational analysis seemed most appropriate. We calculated correlations between the moral code score by students from each culture for each item (Study 2) and the predicted corresponding emotion (face or word) scores from a different group of students (Study 1). Thus, for the community–contempt linkage, for U.S. face judgments and U.S. student moral judgments, the correlation was composed of the contempt face selection score from Study 1 and the corresponding U.S. community score from Study 2 for each of the 27 situations. The CAD triad hypothesis predicts positive and substantial correlations, particularly for within-culture comparisons (U.S. face or word selections against U.S. moral classifications). We calculated such correlations for face and word ratings from each culture (four sets of measurements for each moral code) for the predicted emotion against the moral code endorsement by both Japanese and American students.

As predicted, all of the 24 correlations were positive, ranging from .15 to .83 ($N = 24$; $M = .49$; Table 6). This agreement was highly significant (24/24, binomial $p < .001$), and of the set of 24 correlations, 16 were individually significant at $p < .01$ (one-tailed). American participant emotion choices with American moral code evaluations achieved the highest level (mean $r = .61$; as opposed to .37 for Japanese participants with their own moral ratings). Correlations were highest with the autonomy code ($M = .58$) and lowest with the divinity code (.38). Correspondence on face judgments (mean $r = .53$) was essentially the same as for words (mean $r = .49$).

For both Japanese and American participants in Study 1, emotion ratings were more highly correlated with the American student moral code ratings in Study 2 than with the Japanese moral code ratings (American emotion–American moral code ratings: mean r of .61, compared with American emotion–Japanese moral: $r = .51$; Japanese emotion–American moral: $r = .51$; Japanese emotion–Japanese moral: $r = .37$).

Discussion

The results of Study 2 raise questions about the degree of within-culture agreement on the categorization of violations in terms of the Shweder codes. There is some agreement between our categorization and that of the the two student samples, but there are many disparities. The low concordance may reflect the fact that the students received minimal training in the use of the three Shweder codes; they simply read the three short paragraphs given in the Mapping the Moral Domain section of this article. But despite this minimal training, the categorizations by the American and the Japanese students all led to a substantial concordance with the CAD triad hypothesis.

Study 3

Studies 1 and 2 supported the CAD triad hypothesis; there is a consistent linkage between moral emotions and moral codes. However, there are several alternative explanations for this linkage. One possibility is that some of the emotion–situation mapping may have to do with the seriousness–negativity of the moral violations

Table 6
Correlations of Face or Word Ratings of Predicted Emotion Word or Face With Student Moral Code Rating of the Corresponding Type of Violation Across the 27 Situations

Measure	U.S. code ratings	Japan code ratings
Community–contempt		
U.S.–face	.50	.55
U.S.–emotion word	.57	.61
Japan–face	.54	.69
Japan–emotion word	.38	.15
Autonomy–anger		
U.S.–face	.74	.40
U.S.–emotion word	.83	.55
Japan–face	.56	.24
Japan–emotion word	.75	.61
Divinity–disgust		
U.S.–face	.46	.47
U.S.–emotion word	.55	.46
Japan–face	.28	.36
Japan–emotion word	.26	.19

Note. For $n = 27$ (situations), a correlation greater than or equal to .43 is significant at $p < .01$, one-tailed.

or how bad the person involved would feel. For example, it is possible that contempt is generally weaker than anger. Hence, mild autonomy violations might fall under contempt in some cases, and strong community violations might fall under anger. There are suggestions of this in the first study; the mild autonomy violation of moving ahead of someone in line was related to contempt by most participants, and the strong community violation of burning a flag revealed predominantly anger responses. To explore the influence of seriousness–negativity of situation, we asked some American participants to rate how bad the person in question would feel in each situation.

Method

Twenty-one American college students were again presented with one of the two orders of the 46 situations. They were instructed as follows:

> Carefully read each situation, and rate that situation for how negative (unhappy, bad) you consider the situation from the point of view of the PERSON. That is, how bad would the PERSON feel? The scale for feeling bad that we will use is as follows: 0 = not bad at all, 1 = slightly bad, 2 = moderately bad, 3 = very bad, 4 = extremely bad.

Results

Mean ratings for the 27 relevant situations are presented in the right-most column of Table 2. The autonomy badness ratings for the a priori categorization ratings averaged 2.6, compared with a much lower 1.5 for community violations (divinity mean badness was an intermediate 2.2). A one-way ANOVA on these means was significant, $F(2, 24) = 6.56$, $p < .01$.

With regard to negativity and emotion–moral ratings, the mean of the badness ratings (how bad the person would feel) for each of the situations by the 21 American participants was correlated with the moral code (Study 2) and face–word (Study 1) ratings made by other American participants. The results, displayed in Table 7, indicate negative correlations between contempt word or face ratings and badness scores, whereas there are significant positive correlations ($p < .01$) between anger ratings and badness scores (Table 7).

However, community violations are not just weak autonomy violations. We selected four items that we classified as autonomy violations (SCOLDHIT, LINE, EMBEZZLE, INSURANCE; mean badness = 1.8) that all have lower badness ratings than the four items highest in badness that we classified as community violations (CURSE, BUSSEAT, FUNERAL, TRAIN; mean badness = 2.4). For these items, for face data from American participants, the "high-bad" community items averaged 56% contempt and 34% anger designations, whereas the "low-bad" autonomy items averaged 39% contempt and 53% anger. The same effect appears for the data on words: "high-bad" community violations, contempt 41%, anger 30%; "low-bad" autonomy violations, contempt 20%, anger 45%. Hence, even when we overcorrect for the "badness bias," we still see the predicted CAD triad relationships.

Although it is true that the most negative a priori community violation, TRAIN (a company executive refusing to sit next to a laborer on a train), was scored by both Japanese and American students as an autonomy violation, it was clearly associated with contempt in face and word selection (Table 2). Furthermore, the most negative a priori autonomy violation, CYANIDE, was classified by students as a community violation, although the face–word data suggest anger.

Table 7
Rated Negativity (Badness) of Situations in Relation to Moral Codes and Face and Word Classifications for U.S. Participants (Pearson Product–Moment Correlations of Negativity Ratings With Moral Code, Face, or Emotion Word)

Classifications	Community–contempt	Autonomy–anger	Divinity–disgust
Moral code	−.25	.54	.39
Face	−.73	.43	.35
Word	−.02	.62	.24

Note. For $n = 27$ situations, a correlation greater than or equal to .43 is significant at $p < .01$, one-tailed.

Discussion

Further research is needed to untangle the confounds of negativity with moral codes and emotions, perhaps by developing more strong exemplars of community violations and weaker exemplars of autonomy and divinity violations. Although it is clear that negativity is related to autonomy violations (at least for a culture in which the autonomy code dominates), it is also clear that the negativity aspect is far from sufficient to explain the results we report.

Even if it were reliably true that autonomy violations were considered more serious than community violations (in a particular culture), this does not necessarily constitute an alternative account of the CAD correspondence. There is nothing in the Shweder moral analysis that implies that each moral code has equal strength in any particular culture. One of the points made by Shweder et al. (1997) is that cultures differ in the presence or importance of the different moral codes.

Study 4

All of the facial results from Study 1 were based on facial recognition measures. To allow for more generalization of the results, we carried out a production study with American participants. These participants were read each of the situations and asked to produce the face that was appropriate to the situations. The videotaped faces were scored with the FACS system (Ekman & Friesen, 1978).

Method

Participants. Twenty undergraduate student volunteers were paid for participation in this study. The only participant selection criterion was the absence of obligatory glasses or facial hair, both of which would interfere with coding of facial responses.

Procedure. Participants were read the situations in the original or reverse orderings. They were instructed to make the face that was appropriate for the person in each situation. The instruction was to listen to the situation, and then, after 5 s, the experimenter would say "make the face" and the participant would respond. Facial scoring was based on the expression for the following few seconds. In some cases participants spon-

taneously made a face as soon as they heard the situation. In such cases, the spontaneous facial expressions were used.

All facial expressions were videotaped and analyzed subsequently with FACS (Ekman & Friesen, 1978) by a certified rater (Laura Lowery).

Results

We carried out a very simple analysis, by identifying particular facial movements (AUs in the FACS system) that were more or less distinctly associated with one of the three critical emotions based on a range of studies on the facial expression of emotion by Ekman and Friesen (1978), Izard (1971, 1977), and others. The major problematic expression was AU 10, the upper lip raise. Bilaterally, this occurs in both anger and disgust expressions, but because it is defining for disgust (see Rozin et al., 1994), particularly moral disgust, we assigned it to disgust. The unilateral upper lip raise has been associated with both disgust and contempt expressions (Ekman & Friesen, 1986). Along with the bilateral upper lip raise, we assigned it to disgust. The facial expression measure we used, for each situation, is the incidence of that expression across the 20 participants, a number that could vary from 0 to 20. Altogether, there are 14 emotion-specific AUs (Table 8).

The CAD triad hypothesis predicts that the frequency of each of the designated facial units expressed in response to a situation should correspond to the moral categorization score of Americans for that situation. We considered the 27 situations used in the previous analyses. Because each situation has a score (from the American student moral questionnaire in Study 2) for community, autonomy, and divinity, the prediction is that units appropriate for contempt will show the highest positive correlation with community ratings, with the same predictions for anger and autonomy, disgust and divinity.

The results, presented in Table 8, strongly support the hypothesis. Overall, 13 of the 14 correlations were positive; in contrast, these same AUs, in the 28 correlations with moral ratings other than the predicted rating, showed only 6 out of 28 positive correlations, $\chi^2(1, N = 42) = 19.22, p < .001$. Across the 14 designated AUs, in 13 cases the highest correlation was with the designated moral code ($p < .001$, binomial). For the two contempt facial movements, there was a substantial positive correlation, $r(27) = .34$ or .52, with the community code ratings; no correlations of these movements with autonomy or divinity were greater than .04. For anger, all four designated movements showed substantial positive correlations with autonomy violation ratings. For all four cases, the autonomy correlation was highest. For the eight disgust facial AUs, seven (including the three critical markers: AU 9, AU 10, and AU 25/26; Rozin et al., 1994) showed the highest correlation with divinity, usually by a large margin.

Although the correlations we report are robust, it should be clear that the production data typically engaged less than half of the participants on any situation. Some of the 20 participants were minimally expressive. We indicate in Table 8 (column 1), the percentage of participants who showed each AU to the particular situation that was most effective at eliciting that AU. Note that

Table 8
Pearson Product–Moment Correlations Between Frequency of Specific Facial Action Units (AUs) and U.S. Student Community–Autonomy–Divinity Ratings of Each of 27 Moral Violations

Facial AU	% Occurrence[a]	Community	Autonomy	Divinity
Contempt				
AU 14 (dimpler: bilateral smirk)	30	**.34**	.04	−.08
AU 14 (dimpler: unilateral smirk)	40	**.52**	−.19	−.29
Anger				
AU 4 (brow lower)	65	−.19	**.46**	.21
AU 5 (upper lid raise)	40	−.04	**.34**	.28
AU 7 (lids tight)	20	−.04	**.48**	.01
AU 23 (lip tight)	10	−.05	**.32**	−.02
Disgust				
AU 9 (nose wrinkle)	35	−.35	−.13	**.23**
AU 10 (bilateral upper lip raise)[b]	55	−.44	−.18	**.45**
AU 10 (unilateral upper lip raise)[c]	15	−.24	.01	**.22**
AU 15 (lip corner depress)	20	−.41	−.22	**.29**
AU 16 (lower lip depress)	10	−.28	−.15	**.32**
AU 17 (chin raise)	15	**.29**	−.08	−.33
AU 19 (tongue show)	10	−.44	−.34	**.41**
AU 25/26 gape (lips part, jaw drop)	65	−.37	−.11	**.41**
Other AUs of interest				
AU 2 (outer brow raise)	55	**.37**	.08	.16
AU 6 (cheek raise)	20	−.39	−.31	**.32**
AU 20 (lip stretch)	15	−.44	−.36	**.51**
AU 24 (lip press)	25	−.19	**.53**	−.30
AU 38 (nostril dilate)	25	−.38	**.66**	.05

Note. Across each AU, boldface is used for the highest moral code correlation. For $n = 27$, a correlation greater than or equal to .43 is significant at $p < .01$, one-tailed.
[a] Percentage of occurrence of the facial AU (out of 20 participants) for the situation (out of 27) that showed the highest incidence of this facial AU. [b] Bilateral AU 10 is also associated with anger. [c] Unilateral AU 10 is also associated with contempt.

some AUs occurred for the most effective situation in less than 20% of participants.

At the bottom of Table 8, we list five additional AUs that showed a substantial relation to one of the moral codes. These are AU 2 (outer brow raise) for community violations, AU 24 (lip press, somewhat similar to AU 23, lip tighten), and AU 38 (nostril dilate) for autonomy, and AU 6 (cheek raise) and AU 20 (lip stretch) for divinity.

General Discussion

We began this article with a proposal that organized the emotions often linked to the moral domain. We used this organization to offer a hypothesis about the relation between what are designated "other-critical" moral emotions and a taxonomy of morality that may have universal validity as proposed by Shweder et al. (1997). The CAD triad hypothesis holds that three other-critical moral emotions map rather cleanly onto three different moral codes. In this article we presented evidence that supports this hypothesis, using emotion words, recognition of facial expressions of emotion, and actual facial expressions of emotion. The evidence, from students in the United States and Japan, supports the predictions of the hypothesis; that is, it suggests that one aspect of the organization–appraisal–meaning of the other-critical moral emotions has to do with something like the Shweder moral codes.

We consider this a first attempt at organizing the moral emotions and matching some of them in a systematic way to moral principles. The results are promising, not in the sense that this is a total account of the moral aspects of the other-critical moral emotions but that this may account for some of the relation between these emotions and moral issues. We have considered one possible confound, the degree of negativity of a violation, which separates most community–contempt violations, at least among Americans, from anger and disgust violations. Our data indicate an overall weaker negativity for community as opposed to divinity or autonomy violations. Insofar as this can be considered a confound, it is insufficient to account for the triad pattern we report. Furthermore, there is no reason to think that violations of one or another moral code, in general or in any particular culture, would be judged to be of equal seriousness.

There is quite a bit of consensus in our results, for both face and emotion words as applied to situations, and this consensus extends across two different cultures. Our biggest problem in the interpretation of results has to do with application of the three moral codes to specific moral situations. We encountered more difficulty than we anticipated in this area, both within and between cultures. Looking back on this study, we would be inclined to do a more careful job of situation selection and of shaping of situation to specific cultural frames. We are chastened by the difficulty of selecting appropriate situations; the conceptual clarity of the Shweder codes does not easily translate into unambiguous interpretations of real moral situations. This is not a criticism of the validity of the Shweder analysis, which we believe to contain something that is deeply true. Rather, it is a testimony to the multiple construals of which the human mind is capable. Thus, within culture, there was far from consensus on the moral categorization of many of the violations, and we have ourselves had different moral construals of a few of the original 46 items. We consider some of the problems in the presentation of the results of Study 2: One is simply that the concept of one's rights or freedom varies across individuals and cultures. Do they extend to one's family, one's ancestors, one's body after death, one's soul? The same can be said for the construal of harm, which can be projected in the same way as rights (to family, soul, etc.).

We used participants from two cultures primarily as a way to test the generality of the CAD hypothesis. However, there are differences between Japan and the United States that might be expected to be manifested in our data. The greater focus on a communal self in Japan (Markus & Kitayama, 1991) and the higher respect for social hierarchy should lead to a greater salience of the community ethic in Japanese participants. In fact, the communal ethic was endorsed, across all 27 situations, slightly and nonsignificantly less by Japanese participants (30.0% of total endorsements) than by American participants (33.7%).

We acknowledge three shortcomings in the design that limit the conclusiveness of these studies. The first is the oft-mentioned problem of the unstable or at least highly variable mapping of situations into Shweder moral codes. The second is the particular problem of disgust as a moral emotion, that is to say, in terms of the CAD triad hypothesis, the low salience of divinity as a moral matter in the two cultures we examined. As we expand our understanding of disgust as a moral emotion (Miller, 1997; Rozin et al., in press-b), it may become easier to craft more appropriate divinity violations. The third is the constraints of a four-choice response mode in the first two studies (three emotion or moral CAD choices and "no appropriate response"), which might be relaxed to provide more definitive results.

Further research can be expected to clarify and test the CAD triad hypothesis. This would include getting some control over the variability in classification of the moral codes in two manners. First, a more careful development of situations and a more thorough moral code rating procedure are needed. Some progress has already been made along this line in recent research relating to emotional expression and the Shweder codes comparing Filipinos and Americans (Vasquez, Keltner, Ebenbach, & Banaszynski, 1998). Second, use of a within-subject design in which the same participant would classify situations by moral codes and assign words or faces to them would provide valuable data. In addition, empirical results should be gathered from individuals other than college students and from individuals from other cultures. Rural Hindu India would be of particular interest, because the salience of the moral codes is very different from that of the United States (Shweder et al., 1987; Shweder et al., 1997).

It would also be of interest to attempt a similar type of analysis for the self-conscious moral emotions of shame, embarrassment, and guilt (or SEG), leading perhaps to a more complete CAD-SEG hypothesis. So far we have not been able to find a way to satisfactorily assign these emotions in a systematic way to the three moral codes. The task is also more difficult because these emotions do not have facial or bodily expressions that are as distinctive as those for contempt, anger, and disgust. However, recent work has advanced our understanding of the expression of these self-conscious moral emotions (Keltner, 1995), and recent work in the United States and Hindu India has begun to clarify the moral status of these emotions (Haidt & Keltner, in press).

In conclusion, we think the CAD triad hypothesis offers a new and useful way of thinking about the moral emotions and the emotional basis of the social order. The hypothesis makes testable predictions, which have found support in the present study and in other recent research (Vasquez et al., 1998). More generally, we hope that the CAD triad hypothesis and the results we present reinforce the current resurgence of interest in affect. We also hope

that this work helps to emphasize that the human moral world involves strong feelings as well as reasoning and that there are universal and culture-specific linkages between the affective and cognitive aspects of morality.

References

Aristotle (1941). *The basic works of Aristotle* (R. McKeon, Ed., & J. I. Beare, Trans.). New York: Random House.

de Sousa, R. (1991). *The rationality of emotion.* Cambridge, MA: MIT Press.

de Waal, F. B. M. (1996). *Good natured.* Cambridge, MA: Harvard University Press.

Eisenberg, N. (Ed.). (1989). *Empathy and related emotional responses.* San Francisco: Jossey-Bass.

Ekman, P. (1994). Antecedent events and emotion metaphors. In P. Ekman & R. J. Davidson (Eds.), *The nature of emotion: Fundamental questions* (pp. 146–149). New York: Oxford University Press.

Ekman, P., & Friesen, W. V. (1971). Constants across cultures in the face and emotion. *Journal of Personality and Social Psychology, 17,* 124–129.

Ekman, P., & Friesen, W. V. (1978). *Facial action coding system: A technique for the measurement of facial movement.* Palo Alto, CA: Consulting Psychologists Press.

Ekman, P., & Friesen, W. V. (1986). A new pan-cultural facial expression of emotion. *Motivation and Emotion, 10,* 159–168.

Freud, S. (1976). The interpretation of dreams. In J. Strachey (Ed. and Trans.), *The complete psychological works.* New York: Norton. (Original work published 1900)

Haidt, J., & Keltner, D. (in press). Culture and facial expression: Open-ended methods find more faces, and a gradient of recognition. *Cognition and Emotion.*

Haidt, J., Koller, S. H., & Dias, M. G. (1993). Affect, culture and morality, or Is it wrong to eat your dog? *Journal of Personality and Social Psychology, 65,* 613–628.

Haidt, J., Rozin, P., McCauley, C. R., & Imada, S. (1997). Body, psyche, and culture: The relationship between disgust and morality. *Psychology and Developing Societies, 9,* 107–131.

Hoffman, M. L. (1987). The contribution of empathy to justice and moral judgment. In N. Eisenberg & J. Strayer (Eds.), *Empathy and its development: Cambridge studies in social and emotional development* (pp. 47–80). New York: Cambridge University Press.

Hume, D. (1969). *A treatise of human nature.* London: Penguin. (Original work published 1739 & 1740).

Hunter, J. D. (1991). *Culture wars: The struggle to define America.* New York: Basic Books.

Izard, C. E. (1971). *The face of emotion.* New York: Appleton-Century-Crofts.

Izard, C. E. (1977). *Human emotions.* New York: Plenum.

Jensen, L. A. (1997). Culture wars: American moral development across the lifespan. *Journal of Adult Development, 4,* 107–121.

Kagan, J. (1984). *The nature of the child.* New York: Basic Books.

Kant, I. (1959). Foundations of the metaphysics of morals (L. W. Beck, Trans.). Indianapolis, IN: Bobbs-Merrill. (Original work published 1789)

Keltner, D. (1995). Signs of appeasement: Evidence for the distinct displays of embarrassment, amusement, and shame. *Journal of Personality and Social Psychology, 68,* 441–454.

Kohlberg, L. (1969). Stage and sequence: The cognitive-developmental approach to socialization. In D. A. Goslin (Ed.), *Handbook of socialization theory and research* (pp. 347–480). Chicago: Rand McNally.

Lazarus, R. S. (1991). *Emotion and adaptation.* New York: Oxford University Press.

Lewis, M. (1993). Self-conscious emotions: Embarrassment, pride, shame, and guilt. In M. Lewis & J. Haviland (Eds.), *Handbook of emotions* (pp. 563–573). New York: Guilford Press.

Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion and motivation. *Psychological Review, 98,* 224–253.

Miller, W. I. (1997). *The anatomy of disgust.* Cambridge, MA: Harvard University Press.

Piaget, J. (1965). *The moral judgement of the child* (M. Gabain, Trans.). New York: Free Press. (Original work published 1932)

Plutchik, R. (1980). *Emotion: A psychoevolutionary synthesis.* New York: Harper & Row.

Rosaldo, M. (1984). Toward an anthropology of self and feeling. In R. Shweder & R. LeVine (Eds.), *Culture theory* (pp. 137–157). Cambridge, England: Cambridge University Press.

Rosenberg, E., & Ekman, P. (1995). Conceptual and methodological issues in the judgment of facial expressions of emotion. *Motivation and Emotion, 19,* 111–138.

Rozin, P., & Fallon, A. E. (1987). A perspective on disgust. *Psychological Review, 94,* 23–41.

Rozin, P., Haidt, J., & McCauley, C. R. (1993). Disgust. In M. Lewis & J. Haviland (Eds.), *Handbook of emotions* (pp. 575–594). New York: Guilford Press.

Rozin, P., Haidt, J., & McCauley, C. R. (in press-a). Disgust. In M. Lewis & J. Haviland (Eds.), *Handbook of emotions* (2nd ed.). New York: Guilford Press.

Rozin, P., Haidt, J., & McCauley, C. R. (in press-b). Disgust: The body and soul emotion. In T. Dalgleish (Ed.), *Handbook of cognition and emotion.* Chichester, England: John Wiley.

Rozin, P., Haidt, J., McCauley, C. R., & Imada, S. (1997). The cultural evolution of disgust. In H. M. Macbeth (Ed.), *Food preferences and taste: Continuity and change* (pp. 65–82). Oxford, England: Berghahn.

Rozin, P., Lowery, L., & Ebert, R. (1994). Varieties of disgust faces and the structure of disgust. *Journal of Personality and Social Psychology, 66,* 870–881.

Russell, J. A. (1991). Negative results on a reported facial expression of contempt. *Motivation and Emotion, 15,* 281–291.

Russell, J. A. (1994). Is there universal recognition of emotion from facial expression? A review of the cross-cultural studies. *Psychological Bulletin, 115,* 102–141.

Shweder, R., & Haidt, J. (1993). The future of moral psychology. Truth, intuition, and the pluralist way. *Psychological Science, 4,* 360–365.

Shweder, R. A., Mahapatra, M., & Miller, J. (1987). Culture and moral development. In J. Kagan & S. Lamb (Eds.), *The emergence of morality in young children* (1–83). Chicago: University of Chicago Press.

Shweder, R. A., Much, N. C., Mahapatra, M., & Park, L. (1997). The "Big Three" of morality (autonomy, community, divinity) and the "Big Three" explanations of suffering. In A. Brandt & P. Rozin (Eds.), *Morality and health* (pp. 119–169). New York: Routledge.

Smith, A. (1966). *The theory of moral sentiments.* New York: Kelly. (Original work published 1759)

Tangney, J. P., Miller, R. S., Flicker, L., & Barlow, D. H. (1996). Are shame, guilt and embarrassment distinct emotions? *Journal of Personality and Social Psychology, 70,* 1256–1269.

Trivers, R. L. (1971). The evolution of reciprocal altruism. *Quarterly Review of Biology, 46,* 35–57.

Turiel, E. (1983). *The development of social knowledge: Morality and convention.* Cambridge, England: Cambridge University Press.

Vasquez, K., Keltner, D., Ebenbach, D. H., & Banaszynski, T. L. (1998). *Morality and culture: Cultural variation and similarity in moral rhetorics.* Unpublished manuscript, University of California at Berkeley.

Received September 15, 1997
Revision received October 15, 1998
Accepted October 26, 1998 ■