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# Perceptions of Emotional Functionality: Similarities and Differences Among Dignity, Face, and Honor Cultures

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## Abstract

Emotions are linked to wide sets of action tendencies, and it can be difficult to predict which specific action tendency will be motivated or indulged in response to individual experiences of emotion. Building on a functional perspective of emotion, we investigate whether anger and shame connect to different behavioral intentions in dignity, face, and honor cultures. Using simple animations that showed perpetrators taking resources from victims, we conducted two studies across eleven countries investigating the extent to which participants expected victims to feel anger and shame, how they thought victims should respond to such violations, and how expectations of emotions were affected by enacted behavior. Across cultures, anger was associated with desires to reclaim resources or alert others to the violation. In face and honor cultures, but not dignity cultures, shame was associated with the desire for aggressive retaliation. However, we found that when victims indulged motivationally-relevant behavior, expected anger and shame were reduced, and satisfaction increased, in similar ways across cultures. Results suggest similarities and differences in expectations of how emotions functionally elicit behavioral responses across cultures.

## Keywords

cultural logic, anger, shame, behavior regulation, norm violation

Appraisal theories of emotion argue that emotions are functional regulators of social behavior, reflecting the way in which situations are perceived, and eliciting specific, context-relevant, action tendencies (Frijda, 1986; Frijda et al., 1989; Frijda & Mesquita, 1994; Ortony et al., 1988). However, research also shows that emotions can elicit a wide range of behavioral intentions (see Kuppens et al., 2003; Sheikh, 2014), and that it is difficult to predict which specific behaviors will be elicited by individual experiences of emotion.

Building on a functional perspective of emotion, Mesquita et al. (2017) argue that cultural mandates (i.e., sets of norms, ideals, or goals about how to be a good person, how to interact, build relationships, or feel) establish which social outcomes are valued and which emotions are conducive to particular outcomes, and show that emotion can be experienced differently across cultural contexts. In this research, we investigate whether the same emotions connect to functionally different behavioral intentions reflecting cultural logics, with culture moderating the link between emotion and behavior. We focus primarily on anger and shame, as these two emotions are emphasized differently in dignity, face, and honor cultural contexts.

### *The Cultural Logics of Dignity, Face, and Honor*

The cultural logics of dignity, face, and honor have been proposed as ways to characterize different social contexts that surround concepts of personal value. These logics prescribe different norms of behavior which are subsequently regulated in different ways across cultural contexts (Leung & Cohen, 2011).

At the national level, Australia, Canada, Denmark, Finland, France, Germany, The Netherlands, Norway, Switzerland, the United Kingdom, the United States, and other North-Western European countries have been identified as dignity cultures (Aslani et al., 2016; Harinck et al., 2013; Kim et al., 2010; Krys et al., 2017; Leung & Cohen, 2011; Maitner et al., 2017; Smith et al., 2017; Świdrak et al., 2019; Vandello & Cohen, 2003; Yao et al., 2017). According to Leung and Cohen (2011), dignity cultures emerge in systems where people operate as autonomous, independent

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individuals guided by strong systems and institutions. Norms in dignity cultures reciprocally emphasize individual rights and autonomy (see also Aslani et al., 2016). In such systems, individuals are perceived as rough equals, and self-worth is perceived as intrinsic. Within dignity cultures, people typically rely on institutions and rule of law to regulate anti-social behavior (Leung & Cohen, 2011) and are likely to individually respond to provocation with humor or amusement (Krys et al., 2017). In negotiation contexts, people from dignity cultures are more likely to use integrative negotiation strategies and to exchange information about interests and priorities (Yao et al., 2017). This often leads to higher joint gains, as individuals in dignity cultures employ a more cooperative strategy than people from either face or honor cultures, suggesting a strong focus on economically functional action (Aslani et al., 2016).

China (including mainland and Hong Kong), Indonesia, Japan, Korea, Malaysia, Singapore, and Vietnam have been identified as face cultures (Aslani et al., 2016; Kim et al., 2010; Krys et al., 2017; Smith et al., 2017; Yao et al., 2017). Face cultures emerge in contexts of stable hierarchy where people are obligated to work together to protect social harmony (Leung & Cohen, 2011). Self-worth in face cultures reflects the extent to which an individual fulfills their obligations within the social hierarchy (Leung & Cohen, 2011). Norms emphasize modesty, humility, and self-control (see Kim et al., 2010; Kurman & Sriram, 2002), and it is considered disruptive for individuals to engage in direct retribution against individual offenses (Leung & Cohen, 2011). Instead, people rely on group leaders or the group as a whole to regulate anti-social behavior (Leung & Cohen, 2011). More generally, motivations to preserve relationships and perceptions of shared responsibility often lead to conflict avoidance or indirect resolution of conflict (Ohbuchi & Takahashi, 1994).

Finally, Argentina, Brazil, Chile, India, Israel, Jordan, Mexico, Morocco, Pakistan, Peru, Poland, Portugal, Qatar, Russia, Spain, and the UAE have been identified as honor cultures (Aslani et al., 2016; Krys et al., 2017; Maitner et al., 2017; Rodriguez Mosquera et al., 2002; Smith et al., 2017; Świdrak et al., 2019; Szmajke, 2008; Vandello & Cohen, 2003; Yao et al., 2017; Zdybek & Walczak, 2019). Honor cultures emerge in harsh, competitive environments with high levels of status inequality and historically weak institutions (Henry, 2009; Leung & Cohen, 2011). Some modes of subsistence, such as herding, allow individual resources to be easily stolen and transported, underpinning the perception that wealth and influence are vulnerable and promoting the logic of honor in preparation for pre-emptive and retaliatory defense (Henry, 2009; Leung & Cohen, 2011; Nisbett, 1993; Nisbett & Cohen, 1996). Investigating this cultural logic with simulations, Nowak et al. (2016) showed that such reliance on honor strategies—fighting back when confronted, even when weaker than a perpetrator—are reduced as institutions become more reliable. Self-worth in honor cultures reflects the extent to which an individual perceives themselves to be an honorable person, but only so long as that image is reinforced by the views of others, making reputation a social good (Leung & Cohen, 2011; Miller, 1993). Thus, interpersonal interactions are guided by both positive and negative reciprocity, making it normative to retaliate directly against insults and to repay personal favors in kind (Cohen & Nisbett, 1997; Nisbett & Cohen, 1996; Pitt-Rivers, 1965). Combined with historically weak institutions, reciprocity norms encourage individuals to regulate anti-social behavior personally, especially when such behavior has direct implications for individuals or their ingroups (Leung & Cohen, 2011). Thus, reciprocity norms may account for why honor cultures are perceived as especially violent (Bond, 2004; Cohen, 1998; Cohen et al., 1996; Cohen & Nisbett, 1994, 1997; Nisbett, 1993; Nisbett & Cohen, 1996; Vandello & Cohen, 2003). Research shows that national honor values account for national differences in peer-directed aggression (Bergeron & Schneider, 2005), and that aggression in honor cultures serves a norm-regulating function (Bond, 2004), particularly when honor is threatened (see Cross et al., 2013; Günsoy et al., 2015; Uskul et al., 2015). Related to the current work, Eriksson et al. (2017) showed that in countries identified as dignity cultures (The Netherlands, Sweden, and the US), participants perceived a target who physically retaliated against a perpetrator who violated distributive justice norms more

negatively than witnesses who took no action. However, in countries identified as honor cultures (Pakistan, Russia, and the UAE) participants evaluated a target who physically retaliated similarly to witnesses who took no action, suggesting that retaliatory harm did not have reputational costs for the target.<sup>1</sup>

Thus, cultural mandates in dignity cultures suggest that individuals respect the inherent value of one another and rely on institutions and rule of law to regulate social transgressions. In face cultures, cultural mandates encourage individuals to respect and represent their position within a hierarchy and to rely on leaders or the group as a whole to regulate social transgressions. Finally, in honor cultures, cultural values mandate competition and encourage individuals to take personal, often aggressive, action in response to social transgressions. In the present research, we investigated whether participants living under each cultural logic would expect that victims should respond to anti-social resource violations in ways consistent with their cultural mandates. We further investigated whether emotions would be seen as motivating behavioral intentions differently across cultures to help functionally serve those cultural goals.

### *Emotions as Functional Regulators of Behavior*

Social functional accounts of emotion define emotions as mechanisms for coordinating social interaction and regulating and maintaining relationships (see Keltner & Haidt, 1999). Emotions are elicited in response to social problems, instigate socially relevant behavior (Frijda & Mesquita, 1994), and change when social problems are solved or amplified (Keltner & Haidt, 1999; Maitner et al., 2006). Because social goals and problems can vary across cultures, both the type and content of emotion can vary according to cultural logics, and the appraisals and action tendencies associated with specific emotions may functionally reflect specific cultural mandates (see Mesquita et al., 2017). Thus, some cultures afford (recognize and facilitate) certain appraisal-emotion-action combinations more than others.

Evidence for the social functionality of emotions comes from the link between emotions and specific behavioral intentions, as well as from the emotional consequences of reactive behavior. Emotions wax when their associated intentions are ignored and wane when their associated intentions are fulfilled, reflecting the changing social context (see Maitner et al., 2006). Moreover, emotionally-directed behaviors, when enacted, are emotionally reinforced. When people engage in behaviors that fulfill a particular emotional goal, such as when confrontational behavior successfully elicits reparations after insult, associated negative emotions diminish, and individuals feel satisfaction (Maitner et al., 2006), an emotion linked to the desire to repeat a behavior in the future (Maitner et al., 2007).

**Anger.** Individuals experience anger when they perceive that they have adequate coping resources to confront a motivationally-relevant threat, thus reflecting a right to control or respond to the threat (Frijda et al., 1989; Mesquita et al., 2017; Smith & Lazarus, 1993). Research shows that anger is afforded in dignity and honor cultures, but not in face cultures (see Boiger et al., 2013, 2014; Ijzerman et al., 2007; Nisbett, 1993), because anger is associated with cultural mandates of autonomy and self-assertion (see Mesquita et al., 2017).

Indeed, across contexts and domains, anger is typically described as a proactive but socially distancing or disengaging emotion associated with the desire to punish or antagonize the wrongdoer (see Averill, 1983; Fischer & Roseman, 2007; Frijda et al., 1989; Harmon-Jones et al., 2003; Kitayama et al., 2006), and to enact corrective behavior (Frijda & Mesquita, 1994). However, there are no appraisals or action tendencies that are necessary or sufficient for establishing an experience of anger (Kuppens et al., 2003). In fact, Averill (1983) argued that anger can lead to direct aggression, withdrawal, or non-hostile confrontation. Research shows that although anger is afforded in dignity and honor cultures, reactions to anger-eliciting situations tend to differ,

especially when an individual's honor is at stake. Individuals who come from honor cultures or endorse honor norms show an increase in stress and aggression hormones after insult (Cohen et al., 1996), and show more violent responding (Bond, 2004; Cohen, 1998; Cohen et al., 1996; Cohen & Nisbett, 1994, 1997; Nisbett, 1993; Nisbett & Cohen, 1996; Vandello & Cohen, 2003).

We assume that these emotion dynamics are reflected in cultural norms and scripts for the functioning of emotion (see also Mesquita et al., 2017). Thus, we hypothesized that participants from dignity and honor cultures would expect victims to feel more anger in response to resource violations than would participants from face cultures. However, we also predicted that, to the extent that participants expected victims to feel anger, they would report that the victim should respond in line with cultural mandates regarding behavioral regulation. Finally, we predicted that expected anger would be reduced, and satisfaction increased, when a victim took action that was aligned with a cultural mandate and affected change in the social context.

**Shame.** In contrast to anger, shame reflects a tarnished public image, indicating that an individual has been socially devalued or appears weak or dependent (see Maitner et al., 2017; Mesquita et al., 2017; Sznycer et al., 2012, 2018). Rather than conceptualizing shame as internalized or private feelings reflecting the fact that the individual has performed a problematic (or “shameful”) behavior (see Tangney, 1992), we focus on the externalized feeling (“being shamed”; see Maitner et al., 2017), a public emotion reflecting devaluation, often caused by others' behavior. Sznycer et al. (2018) argue that shame tracks public devaluation cross-culturally, and this public component of shame may make it particularly functional in face and honor cultures where self-image is at least partly determined by others. In fact, research shows that shame-eliciting situations are afforded in face and honor cultures, but not in dignity cultures (see Boiger et al., 2013, 2014), and that when honor is at stake, people from honor cultures show heightened shame reactions, relative to people from dignity cultures (Rodríguez Mosquera et al., 2002). In face cultures, Boiger et al. (2014) argue that shame reflects an acceptance of social judgments of one's place in the hierarchy, again reflecting an acceptance of social devaluation in the eyes of others. Research shows that people from face cultures are more prone to feel shame reflective of social devaluation toward friends compared to people from dignity cultures (Sznycer et al., 2012). However, overall, participants from face culture reported more shame proneness when thinking about being around strangers relative to friends (Sznycer et al., 2012). Other research similarly shows that shame is more afforded in interactions with distant (i.e., strangers), relative to close others (i.e., friends), in both face and honor cultures (Boiger et al., 2014).

Shame is often described as an inhibitory emotion associated with withdrawal, but it is also described as an affiliative or engaging emotion which can elicit active, self-protective, externalizing, or image reparative responses in some contexts (Elison et al., 2014; Kitayama et al., 2006; Leach & Cidam, 2015; Miller, 1993; Sheikh, 2014; Tangney, 1992). Importantly, shame is considered a central mechanism of behavior regulation in both face and honor cultures (Leung & Cohen, 2011), although the cultural mandates to save face and protect honor imply importantly different responses. Miller (1993) claims that “[h]onor goes hand-in-hand with shame,” explaining that shame uniquely reflects a loss of honor (p. 117), and Mesquita et al. (2017) argue that shame helps people live up the cultural mandate of being honorable. Rodríguez Mosquera et al. (2008) showed that, in honor cultures, shame elicited verbal disapproval of wrongdoers whereas in non-honor cultures, shame led to withdrawal. Preserving one's image and reducing shame in honor cultures may necessitate aggressive responses to show that one's honor cannot be taken by accusation or affronts from others (see Elison et al., 2014; Miller, 1993), whereas it may be associated with inaction in face cultures where cultural norms mandate humility and harmony, even when individuals lose face.



Thus, we hypothesized that participants from face and honor cultures would expect victims to feel more shame in response to having their resources violated than would participants from dignity cultures. However, we also predicted that the more participants expected a victim to feel shame, the more they would report that the victim should engage in confrontational behaviors in honor cultures, and the more they would report that the victim should withdraw in dignity and face cultures. Finally, we expected that shame would be reduced, and satisfaction increased, when a victim took action fulfilling the respective cultural mandate.

### **Current Research**

In two studies, we investigated how participants responded to violations of distributive justice norms. More specifically, we investigated how participants evaluated a situation where a perpetrator took all of a shared resource for personal use. Although previous research that has investigated regulatory reactions has primarily focused on insults and physical confrontations, threats that are particularly provocative and elicit regulatory reactions in honor contexts, we sought a context that would elicit regulatory action across cultural contexts, reflecting different cultural mandates. Although more subtle, a situation where a perpetrator misappropriates resources is linked closely to conditions theoretically predicted to evoke honor concerns by showing that one's resource are vulnerable. Importantly, however, distributive justice concerns are relevant beyond honor cultural contexts. Bond (2004) argues that, cross-culturally, violations of distributive norms represent aggressive responses that justify regulatory reactions. Thus, this understudied context has the potential to offer valuable insights into cultural similarities and differences because the consequences of being threatened or devalued following a distributive justice violation are relevant in dignity and face cultures as well as honor ones. More specifically, we expected that a social transgression where a perpetrator took more than their fair share could elicit expectations that a victim would feel anger (as a reflection that the perpetrator has done wrong, legitimizing the victim's right to exert regulatory control) and shame (as a reflection that the victim is devalued or could appear weak in the eyes of others). As noted earlier, we investigated whether those expected emotions were associated with different socially functional behaviors fulfilling different cultural mandates across cultural contexts. We also examined whether those expected emotions were differently affected by enacted behavior.

In both studies, participants watched an abstract social animation depicting a resource violation. Both classic (Heider & Simmel, 1944) and contemporary research (Scholl & Tremoulet, 2000) establish that an animation of moving abstract shapes can be interpreted anthropomorphically. People spontaneously and automatically make assumptions about the intentions, social relations, and dispositions of minimal geometric characters if their movements suggest a story. By using such an abstract, language-free social stimulus, we present a standard situation having minimal confounds with participants' cultural backgrounds (see also Eriksson et al., 2017).

To ensure maximal representation, and to explore emotional and behavioral processes more broadly, we sampled from multiple nations within each cultural type. The Netherlands, Sweden, the UK, and the US represented dignity cultures, China, Japan, and Singapore represented face cultures, and Brazil, Poland, Russia, and the UAE represented honor cultures (see Aslani et al., 2016; Ijzerman & Cohen, 2011; Kryś et al., 2017; Maitner et al., 2017; Szmajke, 2008; Vandello & Cohen, 2003; Yao et al., 2017).

In Study 1, participants watched a video of four animated triangles apparently taking turns sharing a common resource. In the third round, one triangle (the perpetrator) retrieved all remaining resources so that when the next triangle (the victim) took its turn, it found the resources depleted. Participants reported how they expected the victim to feel and what they thought the

victim should do in response to the offense. In Study 2, participants also watched how the victim responded, reporting how they expected the victim to feel both before and after taking action, as well as how they appraised the victim's behavior.

Data reported below come from a project that includes pre-registered methods, hypotheses, and analyses. Preregistration for Study 1 is available at <https://doi.org/10.17605/OSF.IO/HARYU> (Maitner, 2021) and preregistration for Study 2 is available at <https://doi.org/10.17605/OSF.IO/AXKEP> (Maitner, 2020). We predicted that:

*Hypothesis 1: Culture will influence expectations regarding a victim's emotional reactions.* We predicted that participants would expect more anger in dignity and honor cultures than in face cultures (H1a), whereas they would expect the target to feel more shame in face and honor cultures than in dignity cultures (H1b).

*Hypothesis 2: Culture will influence behavioral intentions and appraisals of enacted behaviors.* We predicted that, aligned with cultural mandates of regulating anti-social behavior through rules and institutions, participants from dignity cultures would be more likely to assert that a victim should alert authorities, compared to other behavioral responses. Aligned with cultural mandates to preserve harmony, we predicted that participants from face cultures would assert that a victim should alert authorities or alert the group as a whole, and evaluate such responses more positively compared to other behavioral responses. Finally, aligned with cultural mandates of reciprocity and direct regulation of anti-social behavior, we predicted that participants from honor cultures would report that a victim should retaliate physically or retrieve misappropriated resources directly, and evaluate such actions more positively than other behavioral responses.

*Hypothesis 3: Culture will influence the behavioral consequences of emotion.* We predicted that expected anger, a proactive emotion, would be associated with expectations that the victim should take action across cultures, but the nature of action would differ across cultures holding different cultural mandates. We predicted that expected anger would be associated with expectations that the victim should alert authorities in dignity cultures, with expectations that the victim should alert authorities or the group as a whole in face cultures, and with expectations that the victim should retaliate physically or take resources back in honor cultures.

Likewise, we predicted that expected shame would elicit different responses across cultures, predicting expectations that the victim should withdraw (engage in inaction) in dignity and face cultures, but predicting expectations that the victim should retaliate physically or take resources back in honor cultures.

*Hypothesis 4: Reactive behavior will have implications for feelings of anger, shame, and satisfaction, which will vary across cultures.* We predicted that, when a victim enacted culturally mandated behaviors (noted earlier), expected anger and shame would reduce, and satisfaction increase.

Pre-registered analyses relied primarily on pre-planned contrasts. We have documented these analyses in detail in our preregistration report (Maitner et al., 2021). As seen in that report, our initial analyses did not support specific predictions we made regarding differences in the experience of emotion, preferred behavioral responses, and associations between emotions and behavior. We believe this is at least partly because we planned to compare specific cells in a design where we underestimated the strength of the main effects. Thus, to more broadly investigate whether any cultural differences would be evident under less constrained circumstances, below we report the full models including tests of the main and interaction effects that surrounded the original contrasts we tested. However, rather than relying on planned contrasts, we use simple effects tests to describe the overall pattern of results both within and across cultures. This approach more openly illustrates patterns that were revealed



and more clearly depicts similarities and differences across cultural samples while giving a better chance of detecting any cultural differences that could emerge. Thus, failure to find cultural differences in these models would provide stronger evidence of similarities across cultures. Given that the analyses used to test Hypothesis 3 in our preregistration report were not based on a larger model, we deviated from the preregistration and added such a model. This model allows us to explore Hypothesis 3 more broadly while accounting for main effects and interactions.

In this paper, we only report measures related to preregistered hypotheses. The full list of measures included in each study is available in a Supplemental Materials File (SMF). Results of unreported exploratory measures will be presented in separate reports.

## Study 1

Data collection began in March 2018 and finished in February 2019. A record of country-specific methods including language, incentives, and demographics, as well as item wording and reliability, is available in the SMF.<sup>2</sup>

### Method

**Participants.** Participants were recruited from countries previously identified as representing dignity (The Netherlands, the UK, the US), face (China, Japan, Singapore), and honor (Brazil, Poland, Russia, the UAE) cultural contexts.

Participants who were non-nationals of the local context were excluded a priori as described in the SMF and preregistration. Due to national differences regarding age and informed consent, all participants under the age of 18 were also excluded a priori. These criteria yielded 1,589 eligible participants across data collection sites.

**Procedure.** Participants first read informed consent documentation and provided their consent to participate in the study. They were then asked to watch an animation that depicted four triangles apparently taking turns retrieving a resource (a pellet) from a central location and bringing it back to their home locations (see Part 1, Transgression <https://osf.io/y5k6h/>, Andersson, 2021). After three rounds, one triangle (the perpetrator) enters the central location, appears to glance around, then takes all of the remaining resources back to its home location. The next triangle (the victim) then enters the central location and appears to look around, finding no resources there. Participants were able to watch the video multiple times if they chose.

**Expected emotional reactions.** Participants reported the extent to which they expected the victim to feel anger (angry, frustrated) and shame (shamed, humiliated). To obscure central hypotheses, we also asked participants to report the extent to which they expected the victim to feel satisfaction (satisfied, pleased), worry (anxious, worried), pride (proud, respected), and indifference (neutral, indifferent; 1 = *Not at all* to 7 = *Very much*).

**Expected behavioral intentions.** Participants later reported how they believed the victim should respond. Using Likert scales, participants reported the extent to which they agreed that the victim should retaliate physically, take resources back, alert others, report the perpetrator's action to authorities, or do nothing (1 = *Strongly Disagree*, 7 = *Strongly Agree*).

**Demographics.** Participants reported demographic information before being thanked and debriefed.

**Table 1.** Estimated Means and Standard Errors of Anger and Shame Across Cultural Types.

	Anger	Shame	Anger-Shame
	M (SE)		Estimate (SE) {p}
Dignity	5.40 (0.05)	3.61 (0.06)	1.79 (0.06) {<.001}
Face	4.88 (0.10)	3.25 (0.09)	1.63 (0.10) {<.001}
Honor	5.09 (0.07)	3.48 (0.08)	1.61 (0.08) {<.001}

## Results

For both studies, we conducted all analyses in Mplus version 8 (Muthén & Muthén, 1998). All coefficients and tests were obtained using full information maximum likelihood estimation (FIML). The results from FIML are equivalent to ordinary least squares regression in the absence of missing data, but FIML also provides the ability to use any information that is available in cases that do not have complete data. Mplus is primarily a structural equation modeling package, so we represented all models as regression analyses with dummy codes to represent the main and interaction effects. Mplus does not provide omnibus  $F$  tests that are typically found when performing ANOVAs, but it can provide Wald tests of simultaneous equations. For each main or interaction effect in our models, we therefore obtained a Wald test of whether the entire collection of dummy codes representing the effect were equal to zero, providing us with an omnibus test that is conceptually equivalent to the  $F$  test of that effect. The Wald test statistic follows a chi-square distribution with degrees of freedom equal to the number of dummy codes used to represent the effect. When we obtained a significant omnibus test of an effect, we examined contrasts comparing specific cells within the effect to help us interpret the finding. We did not interpret contrasts for effects whose omnibus Wald test was not significant. For effect sizes, we calculated the change in  $R^2$  between the full model and a model that contained all of the predictors except for dummy codes associated with the effect being tested (see Cohen, 1988; a full analysis report can be found at <https://osf.io/hnd4a>, Maitner et al., 2021).<sup>3</sup>

### Hypothesis 1

Table 1 presents means, standard errors, and tests of within-culture differences in expected feelings of anger and shame. A 3 (Culture)  $\times$  2 (Emotions) Mixed-Model GLM yielded significant main effects of culture, Wald  $\chi^2(2)=25.91$ ,  $p<.001$ ,  $\Delta R^2=.003$ , and emotion, Wald  $\chi^2(1)=1,576.62$ ,  $p<.001$ ,  $\Delta R^2=.041$ . The interaction was not significant, Wald  $\chi^2(2)=4.07$ ,  $p=.13$ ,  $\Delta R^2=.001$ .

Across cultures, participants expected the victim to feel more anger than shame. In addition, participants in dignity cultures expected the victim to have stronger emotional reactions than those in face and honor cultures. Thus, results do not support Hypothesis 1.

### Hypothesis 2

Table 2 presents means and standard errors of expected behaviors. A 3 (Culture)  $\times$  5 (Behavioral Intention) Mixed-Model GLM yielded significant main effects of culture, Wald  $\chi^2(2)=46.15$ ,  $p<.001$ ,  $\Delta R^2=.002$ , and behavioral intention, Wald  $\chi^2(4)=8,633.46$ ,  $p<.001$ ,  $\Delta R^2=.099$ , as well as a significant interaction, Wald  $\chi^2(8)=79.76$ ,  $p<.001$ ,  $\Delta R^2=.005$ .

Although the strength of differences varied across cultures, within each individual culture, a similar order of relative endorsement emerged for the top three options: most strongly, participants

**Table 2.** Estimated Means and Standard Errors of Expected Behaviors Across Cultural Types.

	Retaliate physically	Take resources back	Alert others	Report to authorities	Do nothing
	<i>M (SE)</i>				
Dignity	2.07 (0.05) <sup>a</sup>	4.38 (0.06) <sup>c</sup>	5.88 (0.04) <sup>e</sup>	4.82 (0.06) <sup>d</sup>	2.30 (0.05) <sup>b</sup>
Face	2.44 (0.09) <sup>a</sup>	4.72 (0.09) <sup>b</sup>	5.93 (0.06) <sup>d</sup>	5.56 (0.08) <sup>c</sup>	2.41 (0.08) <sup>a</sup>
Honor	2.31 (0.07) <sup>b</sup>	4.72 (0.07) <sup>c</sup>	5.94 (0.05) <sup>e</sup>	5.13 (0.08) <sup>d</sup>	1.91 (0.06) <sup>a</sup>

Note. Superscripts that differ within rows indicate means are significantly different ( $p < .05$ ).

thought that the victim should alert others; second, the victim should report the perpetrator to authorities; third, the victim should take resources back. Rather than showing clear cultural differences as we expected with Hypothesis 2, these results show marked consistency in the ranking of behaviors participants thought the victim should most engage across cultures. However, we did find cultural differences in the two least popular options. In dignity cultures, participants more strongly reported that the victim should do nothing, compared to retaliating physically, reflecting the cultural mandate to leave behavioral regulation to authorities and institutions. In face cultures, participants equally supported the two behaviors for the victim. Finally, in honor cultures, participants reported that the victim should retaliate physically more than it should do nothing, reflecting the need to take personal action in response to offenses in honor cultures. Thus, although these behavioral reactions were the least frequently endorsed by participants, their order varied meaningfully across cultural types.<sup>4</sup>

### Hypothesis 3

To examine how culture influences the behavioral consequences of emotion, we conducted a set of five regression analyses, predicting each available behavior from the participant's culture (dignity, face, honor), the participant's ratings of anger after standardization, the participant's ratings of shame after standardization, and the interactions of culture with the ratings of anger and shame. We standardized anger and shame to simplify our interpretation of the coefficients for the culture dummy codes. In the preregistered analyses we did not focus on the main and interaction effects, but instead examined a set of specific contrasts tied to our expectations for shame and anger. The new models we propose include the comparisons we made previously but do so within a broader context with emotions simultaneously predicting behavior. Table 3 depicts results for each behavioral intention.

**Retaliate physically.** The model predicting expectations that the victim should retaliate physically revealed main effects of culture and shame, as well as a culture  $\times$  shame interaction. Participants in honor and face cultures provided equivalent ratings of retaliating physically, which were both significantly higher than the ratings provided by those in dignity cultures. Overall, the more shame participants expected, the more they thought that the victim should retaliate physically. However, the interaction shows that although shame predicted expectations that the victim should retaliate physically in face ( $b=0.50$ ,  $SE(b)=0.09$ ,  $p < .001$ ) and honor cultures ( $b=0.18$ ,  $SE(b)=0.07$ ,  $p = .008$ ), it did not predict expectations that the victim should retaliate physically in dignity cultures ( $b=0.09$ ,  $SE(b)=0.06$ ,  $p = .12$ ). The relation in face cultures was significantly stronger than the relations in both honor ( $\Delta b=0.32$ ,  $SE(\Delta b)=0.11$ ,  $p = .005$ ) and dignity ( $\Delta b=0.41$ ,  $SE(\Delta b)=0.11$ ,  $p < .001$ ) cultures. The relations in honor and dignity cultures were not significantly different from each other ( $\Delta b=0.10$ ,  $SE(\Delta b)=0.09$ ,  $p = .27$ ).

**Table 3.** Effects of Culture, Emotions, and Culture  $\times$  Emotion Interactions on Behavioral Intentions.

	Test statistic	<i>p</i>	$\Delta R^2$
<b>Retaliate physically</b>			
Culture	Wald $\chi^2(2) = 23.96$	<.001	.015
Expected anger	$b = 0.06, SE(b) = 0.04$	.110	.027
Expected shame	$b = 0.19, SE(b) = 0.04$	<.001	.032
Culture $\times$ Anger	Wald $\chi^2(2) = 0.61$	.737	.000
Culture $\times$ Shame	Wald $\chi^2(2) = 15.60$	<.001	.009
<b>Take resources back</b>			
Culture	Wald $\chi^2(2) = 29.30$	<.001	.017
Expected anger	$b = 0.31, SE(b) = 0.04$	<.001	.029
Expected shame	$b = 0.06, SE(b) = 0.04$	.206	.001
Culture $\times$ Anger	Wald $\chi^2(2) = 0.22$	.894	<.001
Culture $\times$ Shame	Wald $\chi^2(2) = 3.40$	.183	.002
<b>Alert others</b>			
Culture	Wald $\chi^2(2) = 3.56$	.168	.002
Expected anger	$b = 0.29, SE(b) = 0.03$	<.001	.049
Expected shame	$b = -0.09, SE(b) = 0.03$	.006	.005
Culture $\times$ Anger	Wald $\chi^2(2) = 6.88$	.030	.004
Culture $\times$ Shame	Wald $\chi^2(2) = 2.52$	.284	.001
<b>Report to authorities</b>			
Culture	Wald $\chi^2(2) = 72.56$	<.001	.042
Expected anger	$b = 0.42, SE(b) = 0.04$	<.001	.054
Expected shame	$b = -0.01, SE(b) = 0.04$	.783	.000
Culture $\times$ Anger	Wald $\chi^2(2) = 3.01$	.222	.002
Culture $\times$ Shame	Wald $\chi^2(2) = 3.15$	.207	.002
<b>Do nothing</b>			
Culture	Wald $\chi^2(2) = 36.75$	<.001	.022
Expected anger	$b = -0.23, SE(b) = 0.04$	<.001	.023
Expected shame	$b = 0.06, SE(b) = 0.06$	.119	.002
Culture $\times$ Anger	Wald $\chi^2(2) = 2.41$	.299	.001
Culture $\times$ Shame	Wald $\chi^2(2) = 2.42$	.299	.001

*Take resources back.* Culture and anger predicted expectations that the victim should take resources back from the perpetrator. Participants in face and honor cultures provided equivalent ratings of taking resources back, which were both significantly higher than the ratings provided by those in dignity cultures. Overall, the more participants expected the victim to feel angry, the more they thought it should take resources back.

*Alert others.* Looking at expectations that the victim should alert others yielded main effects of anger and shame, as well as a culture  $\times$  anger interaction. Overall, the more participants expected the victim to feel angry, the more they thought it should alert others. The more shame they expected the victim to feel, the less they thought it should alert others.

Breaking down the interaction, although expected anger predicted norms of alerting others in dignity ( $b = 0.34, SE(b) = 0.05, p < .001$ ), face ( $b = 0.15, SE(b) = 0.06, p = .02$ ), and honor cultures ( $b = 0.33, SE(b) = 0.06, p < .001$ ), the effect in face cultures was significantly weaker than that in dignity ( $\Delta b = 0.19, SE(\Delta b) = 0.08, p = .01$ ) and honor cultures ( $\Delta b = 0.19, SE(\Delta b) = 0.09, p = .03$ ), which did not differ from one another ( $\Delta b = 0.01, SE(\Delta b) = 0.08, p = .92$ ).

*Report to authorities.* Predicting expectations that the victim should report the perpetrator to authorities yielded main effects of culture and anger. Participants from face cultures provided the highest ratings of reporting to authorities, followed by those from honor cultures, followed by those from dignity cultures. Overall, the more anger participants expected the victim to feel, the more they thought it should alert authorities about the perpetrator's actions.

*Do nothing.* Finally, analysis of expectations that the victim should do nothing showed main effects of culture and anger. Participants in dignity and face cultures provided equivalent ratings of doing nothing, and ratings in both of these cultures were higher than ratings of participants from honor cultures. Overall, the more anger participants expected the victim to feel, the less they thought it should do nothing.

## *Discussion*

Results showed that, contrary to predictions, participants in dignity cultures expected stronger anger and shame reactions to resource violations compared to participants in face and honor cultures. In contrast, participants in face and honor cultures reported stronger expectations that the victim should retaliate physically and take resources back than participants from dignity cultures. Although we predicted such reactions from participants in honor cultures, we expected less confrontational reactions from participants in face cultures. Participants from face cultures also reported stronger expectations that the victim should alert authorities, followed by participants in honor, then dignity cultures. Once again, this finding was predicted for participants in face cultures, though we expected that participants from dignity cultures would also rely on authorities to regulate anti-social behavior. Finally, participants from dignity and face cultures reported higher expectations that victim should do nothing, compared to participants from honor cultures, reflecting personal obligations to respond to violations in honor cultures.

Although there were main effects of culture on expected emotions and behaviors, results show ordinal consistency in patterns of how participants expected a victim to feel and what they thought it should do after a resource violation within cultures. Participants expected more anger than shame, and reported that the victim should alert others, then report the perpetrator to authorities, then take resources back. However, differences did emerge across cultures in the extent to which participants thought a victim should do nothing versus retaliate physically, and these differences, though not focal predictions, seemed to reflect the cultural logics of dignity, face, and honor.

Investigating associations between expected emotions and behaviors, we found that expected anger was associated with beliefs that the victim should take actions across culture. Counter to Hypothesis 3, culture did not moderate the associations of anger with regulatory action as expected. The more participants expected the victim to feel angry, the more they reported that it should alert authorities, alert others, or take resources back, the three most endorsed behavioral responses. Counter to research linking anger to aggressive responding, expected anger was not associated with reporting that the victim should retaliate physically. It was negatively associated with reporting that the victim should do nothing.

Expected shame showed a different set of associations with behavioral intentions. The more participants thought that the victim would feel shame, the less they reported that the victim should alert others, showing some expectation that the victim should hide or withdraw across cultures. However, one intriguing cultural difference emerged. In face and honor cultures, the more participants expected the victim to feel shame, the more they thought it should retaliate physically against the perpetrator. Although that association was hypothesized for honor cultures, it was not predicted for face cultures, where the association was especially strong (see also Aslani

et al., 2016; Eriksson et al., 2017). In Study 2, we sought to extend these results by investigating whether people would expect specific emotions to rise, fall, or stay the same after the victim enacted these different behaviors.

## Study 2

In Study 2, conducted concurrently (but sequentially at each location) with Study 1 using independent samples, we extended the video so that participants also viewed the victim engaging in one of four behavioral intentions measured in Study 1.<sup>5</sup> This study allows us to investigate how indulging specific behavioral responses in turn affects personal appraisals and expected emotions, providing a secondary test of whether particular responses are perceived as more appropriate or emotionally functional in different cultural contexts. If anger functionally elicits physical retaliation in honor cultures, then we should expect more positive appraisals, and more expectations that anger would be down-regulated by enacting that behavior, compared to when such action is taken in dignity and face cultures. On the other hand, if such action is *not* motivated by anger in honor cultures (as suggested by results in Study 1), then actual retaliation should be evaluated as inappropriate, and emotions should be maintained by such actions across cultures. Moreover, because expected shame predicted the extent to which participants thought the victim should retaliate in face and honor cultures, we should find evidence that expected shame would be significantly reduced by such action in those cultures.

Data collection began in September 2018 and finished in February 2019. A record of location specific methods is available in the SMF. In Study 2, we went beyond measuring behavioral intentions to measuring both personal appraisals of and expected emotional reactions to the victim enacting specific behaviors to see whether we could find evidence of cultural differences in emotional functionality and behavioral responding.

## Method

**Participants.** Participants were recruited from dignity (The Netherlands, Sweden, the UK, the US), face (China, Japan, Singapore), and honor (Poland, Russia, the UAE) cultural contexts. As in Study 1, participants who were non-nationals of the local context or under 18 years of age were excluded a priori as described in the SMF and preregistration. Inclusion criteria yielded 2,020 eligible participants across national sites.

**Procedure.** Participants first read consent documentation and provided their consent to participate. As in Study 1, participants watched a video depicting the resource violation, with a perpetrator taking all resources and the victim finding the resources depleted. After watching the first video, participants reported the extent to which they expected the victim triangle to feel each emotion as in Study 1.

**Manipulation of victim's behavior.** Participants were then randomly assigned to watch one of four videos depicting the victim's reaction (see Part 2 <https://osf.io/y5k6h/>, Andersson, 2021). In one video, the victim directly and individually approaches the perpetrator and appears to physically assault the perpetrator before returning to its home location (retaliating physically). In a second video, the victim directly and individually approaches the perpetrator and retrieves all pellets, puts them back in the central location, and returns to its home location (taking resources back). In a third video, the victim appears to retrieve the other two triangles and have some discussion in the central location (alerting others). Finally, in the fourth video, the victim appears to look around before returning to its home location (doing nothing).



**Table 4.** Estimated Means and Standard Errors of Anger and Shame Across Cultural Types.

	Anger	Shame	Anger-Shame
	M (SE)		Estimate (SE) {p}
Dignity	5.27 (0.04)	3.65 (0.05)	1.61 (0.05) {<.001}
Face	4.85 (0.08)	3.24 (0.08)	1.61 (0.08) {<.001}
Honor	4.91 (0.07)	3.45 (0.08)	1.46 (0.08) {<.001}

*Dependent variables at time 2.* After watching the second video, participants re-reported how they expected the victim triangle to feel after its response to the violation. Participants also reported their own appraisals of the victim's reaction. We focus on pre-registered appraisals of fairness (unfair, just), appropriateness, and necessity, but also measured appraisals of harm (harmful, beneficial) and respect, to allow participants to report a wider range of appraisals and avoid introducing expectancy biases. Participants reported demographic information before being thanked and debriefed.

## Results and Discussion

*Hypothesis 1.* Table 4 presents means, standard errors, and tests of within-culture differences in expected feelings of anger and shame. Replicating Study 1, and contradicting Hypothesis 1, a 3 (Culture)  $\times$  2 (Emotions) Mixed-model GLM yielded significant main effects of culture, Wald  $\chi^2(2) = 36.95, p < .001, \Delta R^2 = .005$ , and emotion, Wald  $\chi^2(1) = 1,814.45, p < .001, \Delta R^2 = .049$ . The interaction was not significant, Wald  $\chi^2(2) = 2.73, p = .26, \Delta R^2 = .000$ .

Replicating Study 1, participants expected the victim to feel more anger than shame. In addition, participants expected the victim to have stronger emotional reactions in dignity cultures than in face and honor cultures.

*Hypothesis 2.* Table 5 presents means and standard deviations of appraisals of behaviors, by culture and behavior condition. A 3 (Culture)  $\times$  4 (Behavior)  $\times$  3 (Appraisal, within) Mixed-Model GLM yielded significant main effects of appraisal (Wald  $\chi^2(2) = 728.83, p < .001, \Delta R^2 = .007$ ) and behavior (Wald  $\chi^2(3) = 384.38, p < .001, \Delta R^2 = .009$ ). The main effect of culture was not significant (Wald  $\chi^2(2) = 4.62, p = .10, \Delta R^2 = .001$ ). The culture  $\times$  behavior (Wald  $\chi^2(6) = 47.39, p < .001, \Delta R^2 = .005$ ), culture  $\times$  appraisal (Wald  $\chi^2(4) = 43.09, p < .001, \Delta R^2 = .003$ ), behavior  $\times$  appraisal (Wald  $\chi^2(6) = 503.78, p < .001, \Delta R^2 = .006$ ), and culture  $\times$  appraisal  $\times$  behavior interactions (Wald  $\chi^2(12) = 22.93, p = .03, \Delta R^2 = .002$ ) were all significant.

Aligned with cultural mandates to preserve harmony, we predicted that participants in face cultures would evaluate alerting authorities or the group as a whole most positively. Aligned with mandates to protect honor, we predicted that participants from honor cultures would evaluate taking resources back or retaliating physically most positively. Instead, and across all cultures, taking resources back and alerting others were seen as the most fair. However, similar to results regarding intended behavior in Study 1, in dignity cultures, doing nothing was seen as more fair than retaliating physically; in face cultures, doing nothing and retaliating physically were seen as equally fair; in honor cultures, retaliating physically was seen as more fair than doing nothing.

Across cultures, alerting others and doing nothing were seen as appropriate. However, in dignity cultures doing nothing was seen as the most appropriate, whereas in face and honor cultures alerting others was seen as the most appropriate (although this difference is not significant in honor cultures). In face and honor cultures, taking resources back was seen as

**Table 5.** Participants' Appraisals of Enacted Behaviors by Cultural Types.

	Retaliate physically	Take resources back	Alert others	Do nothing
	<i>M (SE)</i>			
Fair				
Dignity	4.34 (0.09) <sup>a</sup>	5.07 (0.08) <sup>c</sup>	5.50 (0.07) <sup>d</sup>	4.80 (0.09) <sup>b</sup>
Face	4.77 (0.12) <sup>ab</sup>	4.95 (0.13) <sup>bc</sup>	5.25 (0.12) <sup>c</sup>	4.46 (0.17) <sup>a</sup>
Honor	4.83 (0.13) <sup>b</sup>	5.37 (0.15) <sup>c</sup>	5.54 (0.12) <sup>c</sup>	4.21 (0.16) <sup>a</sup>
Appropriate				
Dignity	3.75 (0.11) <sup>a</sup>	5.21 (0.10) <sup>b</sup>	6.11 (0.07) <sup>c</sup>	6.36 (0.07) <sup>d</sup>
Face	4.07 (0.19) <sup>a</sup>	5.01 (0.14) <sup>b</sup>	5.82 (0.13) <sup>c</sup>	5.30 (0.19) <sup>b</sup>
Honor	4.58 (0.19) <sup>a</sup>	5.43 (0.16) <sup>b</sup>	6.14 (0.14) <sup>c</sup>	5.82 (0.18) <sup>bc</sup>
Necessary				
Dignity	2.87 (0.11) <sup>a</sup>	4.67 (0.10) <sup>c</sup>	4.67 (0.10) <sup>c</sup>	3.71 (0.11) <sup>b</sup>
Face	3.75 (0.18) <sup>a</sup>	4.88 (0.15) <sup>b</sup>	5.03 (0.15) <sup>b</sup>	3.73 (0.17) <sup>a</sup>
Honor	3.47 (0.18) <sup>a</sup>	4.90 (0.18) <sup>b</sup>	5.29 (0.16) <sup>b</sup>	3.12 (0.19) <sup>a</sup>

Note. Superscripts that differ within rows indicate means are significantly different ( $p < .05$ ).

equally appropriate as doing nothing. Retaliating physically was evaluated as least appropriate in all three cultures.

Finally, reflecting Study 1's patterns of how participants thought the victim should respond, across all cultures, taking resources back and alerting others were seen as most necessary, and retaliating physically and doing nothing were seen as the least necessary with the two not differing from one another in face and honor cultures.

**Hypothesis 4.** To test Hypothesis 4, we investigated how the victim's behavioral reactions affected expected anger, shame, and satisfaction, estimating Culture  $\times$  Response  $\times$  Time (within) Mixed-Model GLMs for each emotion. Table 6 shows expected changes in emotion by culture and behavior condition.

**Anger.** Across cultures, participants expected taking resources back, an action predicted by expected anger in all cultures in Study 1, to lead to the greatest reduction in anger. This suggests that this action rectified social problems and fulfilled an emotional goal across cultural contexts (Keltner & Haidt, 1999; Maitner et al., 2006). Alerting others, which in Study 1 was predicted by expected anger (though to a lesser extent in face cultures), was expected to reduce anger in dignity and honor cultures. Finally, although expected anger was negatively associated with expectations that the victim should do nothing in Study 1, taking no action significantly reduced expected anger across cultures. It is possible that participants interpreted the victim's inaction as indicative of the fact that no action was needed, and thus, that the victim was not feeling the level of anger that they had expected.

Participants expected retaliating physically to lead to increases in anger in dignity cultures, and to elicit no change in face and honor cultures. This corroborates results from Study 1 showing that expected anger was not motivationally associated with desires to physically retaliate, as anger was expected to be maintained or amplified, rather than relieved, by such retaliation.

Overall, these results contradict Hypothesis 4. We do not find strong patterns of cultural differences in how expected anger was affected by behavior. Instead, results were largely consistent with Study 1. Expected anger seemed to be most uniquely associated with the expectations that the victim should engage in a personal, socially functional action which rectifies the social problem, and was reliably reduced by the victim taking resources back across cultures. Although

**Table 6.** Changes in Emotion from Before to After Behavior by Culture and Behavior Condition.

	Retaliate physically	Take resources back	Alert others	Do nothing
	Change (SE)			
<b>Anger</b>				
Dignity	0.41 (0.13)** <sup>d</sup>	-1.85 (0.13)** <sup>***a</sup>	-0.47 (0.10)** <sup>***c</sup>	-0.92 (0.10)** <sup>***b</sup>
Face	0.08 (0.21) <sup>b</sup>	-0.97 (0.25)** <sup>***a</sup>	-0.12 (0.17) <sup>b</sup>	-0.66 (0.20)** <sup>***a</sup>
Honor	0.03 (0.18) <sup>c</sup>	-1.82 (0.23)** <sup>***a</sup>	-1.01 (0.18)** <sup>***b</sup>	-0.33 (0.15) <sup>*c</sup>
<b>Shame</b>				
Dignity	-0.72 (0.12)** <sup>***c</sup>	-1.93 (0.10)** <sup>***a</sup>	-1.12 (0.09)** <sup>***b</sup>	0.30 (0.10)** <sup>*d</sup>
Face	-0.78 (0.18)** <sup>***b</sup>	-1.44 (0.16)** <sup>***a</sup>	-0.76 (0.15)** <sup>***b</sup>	0.20 (0.15) <sup>c</sup>
Honor	-0.87 (0.17)** <sup>***c</sup>	-2.28 (0.15)** <sup>***a</sup>	-1.41 (0.18)** <sup>***b</sup>	0.52 (0.14)** <sup>***d</sup>
<b>Satisfaction</b>				
Dignity	2.14 (0.13)** <sup>***c</sup>	4.24 (0.09)** <sup>***d</sup>	1.00 (0.10)** <sup>***b</sup>	0.14 (0.07) <sup>*a</sup>
Face	2.09 (0.18)** <sup>***c</sup>	3.44 (0.18)** <sup>***d</sup>	0.63 (0.14)** <sup>***b</sup>	0.04 (0.09) <sup>a</sup>
Honor	2.22 (0.18)** <sup>***c</sup>	4.19 (0.17)** <sup>***d</sup>	1.22 (0.17)** <sup>***b</sup>	-0.11 (0.10) <sup>a</sup>

Note. Superscripts that differ within rows indicate that change scores are significantly different ( $p < .05$ ).

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

these results do not provide support for our cultural hypotheses, they do provide compelling support for the idea that, across cultures, anger is expected to be down-regulated when the social problems it reflects are remedied.

**Shame.** Counter to expectations, participants expected taking resources back and alerting others to lead to the greatest reductions in shame across cultures. Participants expected retaliating physically to reduce shame in face cultures (where expected shame was strongly associated with expectations that the victim should retaliate physically in Study 1) but also in dignity and honor cultures. Across cultures, taking personal action by retaliating, taking resources back, or alerting the group to the violation reduced the extent to which participants expected the victim to feel shame, speaking to the general function of shame at being victimized in motivating action. Doing nothing, a withdrawal response often associated with shame, was expected to maintain or increase feelings of shame across cultures.

The results for shame therefore also contradict Hypothesis 4. Shame seemed to most uniquely predict desires to engage in a personal retaliatory action in face and honor cultures in Study 1, and in Study 2, expectations of shame were reduced by performing such action across cultures. However, shame was also reduced across cultures by taking resources back or alerting others. In contrast to literature suggesting that shame is associated with withdrawal, as well as correlational findings in Study 1 which showed that expectations that the victim should alert others was negatively predicted by shame, these findings suggest that taking any kind of action reduces expected shame when victimized by resource violations (see also Sheikh, 2014).

**Satisfaction.** Across all cultures, participants expected taking resources back, a behavior predicted by expected anger in Study 1, to lead to the greatest increase in satisfaction. When the victim tangibly rectified a resource violation, participants expected the victim to feel satisfied. Expected satisfaction was next most increased by retaliating physically, a behavior predicted by expected shame in face and honor cultures in Study 1. When the victim engaged in a behavior that rectified an image violation, participants also expected the victim to feel satisfied. Finally, alerting others, a behavior amplified by expected anger, and reduced by expected shame in Study

1, also increased expected satisfaction. Doing nothing was expected to lead to a minor increase in satisfaction in dignity cultures, and no change in satisfaction in face and honor cultures. These results did not support our hypotheses, but did track changes in anger and shame across cultures.

## General Discussion

Emotion plays a critical role in regulating social behaviors. We hypothesized that culture would amplify expected emotional experiences and behavioral intentions, and that culture would interact with emotion to elicit functionally different responses aligned with cultural mandates. That is, we predicted that anger would elicit proactive responses, but that we might be able to better predict *which* proactive responses would be elicited by considering behavioral regulation strategies that are socially functional in different cultures. Likewise, we predicted that shame would elicit different behavioral responses that would allow individuals to maintain dignity, save face, or reclaim honor. In this way, we hoped to provide more nuance in predicting which of a set of disparate behavioral reactions anger and shame would motivate across cultures.

We did not find predicted differences in emotions or most expected behavioral reactions to resource violations. However, in Study 1, we did find that participants in face and honor cultures reported stronger expectations that the victim should retaliate physically and take resources back than participants from dignity cultures (see also Eriksson et al., 2017). Thus, participants from cultures that are largely described as collectivistic showed stronger expectations that the victim should take concrete action than participants in more individualistic cultures. This aligns with work showing that collectivistic cultures encourage strong retributive justice (see Feinberg et al., 2019). Allowing nuance among face and honor cultures, however, and reflecting hypotheses derived from the dignity/face/honor classification, we find that participants from face cultures reported strongest expectations that the victim should alert authorities, and that participants from dignity and face cultures reported higher expectations that victims should do nothing, compared to participants from honor cultures. In addition, we found that participants in dignity cultures reported that victims should do nothing more than that they should retaliate in Study 1, and evaluated actually doing nothing as more fair than physically retaliating in Study 2. In contrast, participants in honor cultures reported that victims should retaliate more than that they should do nothing in Study 1, and evaluated retaliation as more fair in Study 2. Finally, participants in face cultures reported that victims should perform each action equally in Study 1, and evaluated the two actions as equally fair in Study 2. Thus, differences in expectations associated with turning the other cheek or standing up for one's honor do emerge, but they do so among the least preferred behavioral reactions. Future work may employ previously pretested and validated measures of dignity, face, and honor to directly verify that specific samples identified at the national level as representing dignity, face, and honor cultures adequately represent such cultures, and to explore individual differences within and between cultural contexts. However, the post hoc differences that emerged in desires to engage in physical retaliation or do nothing appear to be in line with logics of dignity, face, and honor, providing some validation to our cultural categorization. Still, these findings should be treated with caution as they were not preregistered or specifically hypothesized, and were revealed only when we allowed freedom in our predictive models.

Instead of revealing clear cultural differences, results seem to suggest more consistency across cultures. In Study 1, we found that expected anger was associated with expectations that the victim should engage in multiple proactive responses. In Study 2, we found that expected anger was reliably reduced by action which rectified the social problem (i.e., taking resources back) and reliably maintained or amplified by retaliatory action. In Study 1 we found that expected shame was associated with expectations that the victim should retaliate physically in face and honor cultures, and was associated with the expectation that the victim should avoid alerting

others across cultures. In Study 2 we found that expected shame was reduced by retaliatory action, taking resources back, or alerting others across all three cultural types. It was maintained or amplified by doing nothing.

In contrast to previous literature linking anger to aggressive responses or retributive punishment, our findings suggest that feeling shamed, an emotion which may not be adequately differentiated within the literature from private feelings of shame for personal failures or transgressions, may co-exist with anger in response to insult or injury. In fact, anger and shame were moderately correlated ( $r = .40$  in Study 1, and  $r = .43$  in Study 2). When the two co-occur, shame may be the primary motivator of confrontational responding. Here, anger was associated only with behaviors that functionally rectified an economic threat via restorative justice or social interaction, highlighting the proactive or motivational nature of the emotion.

Taken together, our results show that anger and shame reflect different social threats and serve different social goals yet may function similarly across cultures. Taking resources back (predicted by, and reducing expected anger) and retaliating physically (predicted by, and reducing expected shame) were satisfying, whereas doing nothing was unsatisfying (or less satisfying) across cultures. These results further reflect the functionality of such behaviors for regulating experiences of anger and shame, and the likelihood that such behaviors would be repeated in the future. Overall, this work provides additional support for a functional perspective of emotion, and suggests that perceptions of emotion-behavior-emotion links function similarly across cultures.

### *Exploring Cultural Similarity*

Theoretical work suggests differences in how people regulate anti-social behavior across cultures (Leung & Cohen, 2011), and empirical work suggests that emotions may be afforded, and therefore accessible to a different extent across cultural contexts (Boiger et al., 2013, 2014; Ijzerman et al., 2007; Nisbett, 1993). In addition, research shows that people can appraise the same conflict differently (Gelfand et al., 2001; Severance et al., 2013) and experience different emotional reactions (Bond, 2004; Cohen, 1998; Cohen et al., 1996; Cohen & Nisbett, 1994; Ijzerman et al., 2007; Nisbett, 1993; Nisbett & Cohen, 1996; Rodriguez Mosquera et al., 2002, 2008; Vandello & Cohen, 2003) across cultures. Here, in response to a specific social transgression, we did not find overwhelming ordinal differences in culturally normative or mandated behaviors, or in the way expected emotions and behavioral intentions were related to one another. Thus, this work joins other existing literature in suggesting that in response to a similar eliciting event, participants may have similar emotional reactions across cultures, and that those emotions may then elicit similar behavioral intentions (Fischer et al., 2004; Scherer, 1997; Scherer & Brosch, 2009).

Results from both pre-registered analyses that investigated specific and constrained contrasts, and broader, more exploratory analyses that would allow us to detect more subtle differences across any emotions or behaviors across cultures, revealed similar emotional expectations and behavioral intentions across cultures. When a perpetrator took more than their fair share, participants expected victims to feel anger and shame, and thought that the target should alert other victims, alert authorities, or take resources back. The more that participants expected the victim to feel anger, the more they thought it should take resources back and alert others. When the victim took resources back, expected anger was reduced and satisfaction increased. Study 1 showed that, for participants in face and honor cultures, the more participants expected a victim to feel shame, the more they thought it should retaliate physically. Study 2 showed that retaliating physically reduced expected shame and increased expected satisfaction across cultures.

Across two studies, we started with the assumption that resource violations represent core violations in dignity, face, and honor cultures. We then exposed participants to identical, non-verbal resource violations, allowing us to equalize a provocative situation across cultural contexts. While aiming to best equalize psychological experiences across cultures, we may have eliminated some meaningful differences in the way individuals respond. It is possible that the justice violation was so clear as to supersede cultural mandates in terms of perceptions of how victims should respond (see Cross et al., 2014; Handfield & Thrasher, 2019). That is, justice violations may reflect universal concerns and elicit similar behavioral regulation strategies across cultural types. More specifically, resource threats may functionally motivate desires to retrieve lost resources either by taking resources back or asking authorities or the group as a whole for intervention. However, had we more directly contextualized the depicted interactions, or more directly activated culture or cultural values, then participants might have shown more variation in responses across cultures. For example, direct personal or group-oriented physical threats or insults represent more immediate situations that may activate different concerns than threats to resources and therefore may motivate different functional responses across cultures (as in Bond, 2004; Cohen, 1998; Cohen et al., 1996; Cohen & Nisbett, 1994, 1997; Nisbett, 1993; Nisbett & Cohen, 1996; Vandello & Cohen, 2003; see also Molho et al., 2020 for a discussion of how context shapes punishment intentions). Thus, the current findings may provide boundary conditions on cultural differences in behavioral regulation, rather than providing evidence that such differences never occur.

It is also possible that the scenario depicted, though including two witnesses in addition to the target and perpetrator, may have been perceived as a private situation or one reflecting an ingroup conflict with close others, and therefore it may not have adequately triggered social evaluation concerns that are central to face and honor cultures (see Boiger et al., 2014; Maitner et al., 2017). However, the scenario allows not only for two other targets to “witness” the transgression, but also creates the possibility of inferring that the victim could be perceived as responsible for the transgression if the victim did not engage in adequate action to rectify the transgression. This may be why, across cultures, alerting others was the most preferred response; it ensures that the victim was not blamed for the perpetrator’s transgression. Moreover, the fact that participants reported feeling shame across cultures suggests that the situation elicited some element of social concern.

For our dependent variables, we asked participants to evaluate how the victim would feel and how the victim should respond in an attempt to measure behavioral intentions and reduce socially desirable responding (see also Chiu et al., 2010; Kitayama et al., 1997). We expected some participants, in some cultural contexts, to resist saying that *they personally* would physically retaliate but be more willing to acknowledge that they expected a faceless victim to do so. However, research shows that there are fewer cultural differences in desired behavioral reactions (what participants would *like to do*) than in how individuals believed they would *actually behave* (Krys et al., 2017). Although we attempted to measure behavioral intentions that reflect cultural mandates, it is possible that some participants interpreted the item to indicate behavioral desires rather than behavioral intentions. However, investigating personal appraisals of enacted behaviors in Study 2, and finding consistent intentions for (Study 1) and personal evaluations of behaviors (Study 2) helps alleviate concerns associated with this possibility.

Finally, it is worth noting that, to maintain maximal comparability across samples, we utilized student samples from different national contexts. Although some research suggests that student samples may be more individualistic than other groups in society (Ma & Schoeneman, 1997), a substantial body of research comparing student samples from different countries representing dignity, face, and honor cultures has yielded meaningful psychological differences across cultures (see Aslani et al., 2016; Kim et al., 2010; Krys et al., 2017; Severance et al., 2013;



Smith et al., 2016, 2017; Vandello & Cohen, 2003; Yao et al., 2017). Thus, it seems unlikely that the use of student samples alone undermines the opportunity to find meaningful differences across national samples representing dignity, face, and honor cultures.

We acknowledge a myriad of methodological differences between this and any one previous study (including our use of an animation paradigm employing a distributive justice scenario, educated participants whose backgrounds and study experiences varied somewhat across national contexts due to lab resources and availability) may have contributed to the fact that this study revealed more similarities across cultures than differences. However, its high power, replication across studies, and consistent relations among appraisals, emotions, and actions, suggest that, at least within the current resource violation context, our results are meaningful. That is, we argue that the similarities in emotional reactions and primary behavioral intentions, and in emotion-behavior-emotion processes reflect and represent functional universality in how individuals respond to specific resource violations. In that way, these results converge with those from Eriksson et al. (2017) to suggest that, across cultures, when an individual takes more than their share of a group resource, people tend to prefer interventions that involve the collective, such as alerting authorities or the group, over individual retribution. Here we also found that participants supported individually enacted restorative punishment that benefitted the collective, more than individually enacted retributive action.

Although we hoped to use cultural mandates as a way of adding nuance to our prediction of specific behavioral intentions, recognizing these similarities is also interesting and important (Hanel et al., 2019). Here we provide supportive evidence of functional universality in emotional processes. In fact, the effect sizes of our main effects of emotions (in Studies 1 and 2) and behavioral intentions (in Study 1) were generally 5 to 10 times larger than the main or interactive effects of culture, suggesting a strong element of between-culture consistency in these processes.

### **Limitations**

Our use of an animation paradigm is beneficial in cross-cultural research because it allows us to depict situations without words (and therefore, without translation of meaning), and without including social group membership such as gender, race, or other identifying characteristics. The triangles in our study could represent anyone across any cultural context, and the pellet could reflect any shared resource. However, in Study 2, depictions of how the perpetrator responded were more challenging to convey. As a result, we did not include a condition where the perpetrator alerted authorities. Moreover, although our conditions depicting physical confrontation, taking resources back, and doing nothing present unambiguous, face-valid interactions, the “alert others” condition potentially leaves room for interpretation. More specifically, it is possible that this condition, which was created to appear as though the victim is alerting other victims of the event, was interpreted as going beyond alerting others to explicitly gossiping or causing other reputational harm to the perpetrator. Other research shows that gossip is an important informal sanction across cultures (Eriksson et al., 2021). Indeed, if this were the case, it may explain why shame, which was negatively associated with desires to alert others in Study 1, was reduced in that condition in Study 2. If participants interpreted the animation as a form of reputational aggression, it may then be more similar to physical aggression in functionally regulating shame. Exploring this possibility requires additional research.

### **Conclusion**

We predicted that culture would moderate associations between emotions and behaviors in line with cultural mandates articulating appropriate behavioral responses. Although we found some

hints that regulatory behaviors are judged as more or less appropriate and more or less expected across cultural types as predicted by the logics of dignity, face, and honor, we also found that anger motivates a variety of proactive regulatory behaviors across cultures, and that anger is in turn reduced when a social threat is mitigated. Although shame predicted aggressive responses only in face and honor cultures, it was reduced across cultures by any active response. These results demonstrate that anger and shame can functionally motivate a range of behaviors as a way of confronting social threats and suggest a functional consistency in how humans address resource violations across cultures.

### Authors' Note

Preregistration for Study 1 is available at <https://doi.org/10.17605/OSF.IO/HARYU> and preregistration for Study 2 is available at <https://doi.org/10.17605/OSF.IO/AXKEP>. Video stimuli are available at <https://osf.io/y5k6h/>. Other experimental materials and data files are available at <https://osf.io/hnd4a>.

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### Supplemental Material

Supplemental material for this article is available online.

### Notes

1. Participants from China showed similar patterns to participants from Pakistan, Russia, and the UAE, while participants from Japan showed results that came out in between the honor and dignity culture

- groups. However, participants from China and Japan evaluated a target who took action with other members of the group present more positively than a target who took action alone.
2. We aimed to equalize conditions across data collection sites as much as possible. However, some differences emerged due to differential access to resources, including personnel, participant access, laboratory availability, and technology. Resulting differences are documented in the SMF.
  3. Although gender is sometimes linked to honor concerns, we did not establish any predictions about participant gender a priori because the targets in our studies were genderless, and because other research shows that masculine honor values are endorsed by both men and women (see Guerra et al., 2013). Similarly, Boiger et al. (2014) did not find differences in anger affordances by gender in honor cultures. However, we repeated all analyses reported in this paper controlling for participant gender. Results from those additional analyses, blinded for review, are available at <https://osf.io/hnd4a> (Maitner et al., 2021). The results of all our omnibus tests remained the same, although the inclusion of participant gender had some small effects on the pairwise comparisons between conditions. Overall, controlling for gender does not change any of the conclusions that we draw. Likewise, although the logic of dignity has been described as “the logic of modern American/Western culture” (Leung & Cohen, 2011, p. 509) identifying dominant US culture, at the national level, as a dignity culture, other research identifies regional differences in cultural logics within the US (see Cohen & Nisbett, 1994). Thus, we repeated all analyses reported in this paper removing US participants. Results from those additional analyses, blinded for review, are available at <https://osf.io/hnd4a> (Maitner et al., 2021). The results of all omnibus tests remained the same. Overall, removing the US from analyses does not change conclusions that we draw.
  4. We also conducted exploratory analyses to investigate whether patterns of associations between behaviors varied across cultures. A correlation matrix is available in the SMF. Overall, the patterns of correlations were similar across cultures. Retaliating physically was positively associated with taking resources back across cultures, and was not or was only weakly associated with other behaviors. Taking resources back was also positively associated with alerting others and alerting authorities (the latter association was not significant in dignity cultures), and negatively associated with doing nothing. Alerting others was also positively associated with reporting to authorities and negatively associated with doing nothing. Finally, reporting to authorities was negatively associated with doing nothing.
  5. Because it was difficult to operationalize in our current paradigm, we did not have a condition where the victim triangle alerted authorities. Desires for this outcome were the third preference across cultural groups, and were predicted similarly across cultures by expected anger in Study 1.

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