Assessing the Role of Honor Culture and Image Concerns in Impeding Apologies

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Transparency Statement:

The current research and analyses were pre-registered at an independent repository, and the preregistration, data, and analysis scripts that support this manuscript are available on OSF: https://osf.io/cew5x/?view_only=bf85cbb0cab3469ca246367cdd1998a6

Abstract

Despite the known benefits of apologies, people often fail to apologize for wrongdoings. We examined the role of a cultural logic of honor—where apologizing may clash with concerns about maintaining an image of strength and toughness—in reluctance to apologize. Using general population samples from 14 societies in Mediterranean, East Asian, and Anglo-Western regions (N = 5,471), we explored links between honor values and norms, image concerns, and apology outcomes using multilevel mediation analyses. Members of groups with stronger honor endorsement reported stronger image concerns about apologizing relative to their concerns about not apologizing, which in turn predicted greater reluctance to apologize and fewer past apologies. However, groups with stronger honor endorsement did not show greater reluctance to apologize overall, and some individual-level facets of honor predicted better apology outcomes. Our results highlight the importance of considering honor as a multifaceted construct and including contextual factors and processes when studying reconciliation processes and obstacles to apologies. (157/150 words)

Keywords: apologies, the Mediterranean region, honor, reputation, self-image

Word count: 12,109 words

Assessing the Role of Honor Culture and Image Concerns in Impeding Apologies

Transgressions are a commonplace occurrence in interpersonal interactions. Within relationships, divergence in goals and values or friction arising from deliberate or inadvertent breaches of personal boundaries and norms is inevitable. In social scientific literature, apologies are typically framed as a beneficial and potent means of alleviating conflict in relationships: They are communicative acts through which individuals acknowledge their responsibility for a perceived wrongdoing or offense, express regret or remorse, and seek reconciliation with the offended party (e.g., Fehr et al., 2010; Schlenker & Darby, 1981; Tavuchis, 1991). The net effect of an apology is often the continuation (if not strengthening) of the interpersonal relationship (see Barkat, 2002; Eaton et al., 2006; Ohbuchi et al., 1989; Wohl & Tabri, 2016) and an extant literature has provided support for the benefits of apologies for repairing trust, facilitating emotional healing, and resolving conflict (Lazare, 2005; Schlenker & Darby, 1981).

Yet, despite the well-known potential benefits of apologies, people do not always choose to apologize and often even refuse to do so (e.g., see Schumann, 2018, for a review). Among other factors, ego preservation, fear of vulnerability, and threats to self-image have all been identified as significant barriers to offering apologies (Leunissen et al., 2022; Schumann & Ross, 2010; Tavuchis, 1991). Moreover, social norms, political beliefs, and power differentials appear to be pivotal in shaping apology behaviors (Hornsey et al., 2017; O'Connor, 2011; Ohbuchi et al., 1989). However, this literature on (reluctance towards) apologies has primarily focused on Western cultural contexts. Limited attention has been directed toward how reconciliatory behaviors such as apologies operate cross-culturally and what cultural factors may shape people's willingness or reluctance to apologize (for notable exceptions, see e.g., Lee, 2014; Lin et al., 2022; Maddux et al., 2011; Ohbuchi et al., 1989; Shafa et al., 2017).

The current study examined the role of cultural factors in the reluctance to apologize within cultural settings where "honor" takes on a pivotal role in guiding social life (e.g., the Middle Eastern and North African [MENA] region; Vignoles et al., 2024). In such contexts, individuals strive to build a reputation of autonomy, strength, and toughness to build and protect their honor (for reviews see Uskul et al., 2019, 2023). Members of honor cultures are reportedly more reluctant than those in Western cultures to offer apologies following transgressions (Campbell, 1964), potentially because apologizing is at odds with concerns about maintaining a strong and tough image (Lin et al., 2022). However, the existing evidence has been limited to studies of individual societies thought to embody "a culture of honor", or studies relying on measuring individual differences in honor values within a single society as an analog of putative cultural differences; moreover, studies so far have focused on showing that individuals from honor-focused societies report an attitude of reluctance to apologize, leaving it unclear whether they would also genuinely refrain from offering apologies in interpersonal situations where an apology would be warranted. To go beyond past findings in this field of research, we studied the link between apologies, image concerns, and different apology outcomes across a diverse sample of 14 societies, with a particular focus on Mediterranean and MENA societies—most of which have been severely underrepresented in psychological research (see e.g., Kitayama et al., 2022; Krys et al., 2022; Vignoles, 2018).

What is Honor Culture?

Honor is commonly defined as "the value of a person in [one's] own eyes, but also in the eyes of society" (Pitt-Rivers, 1965, p. 21), and it has been viewed as a core cultural value and driver of social behavior in wide regions of the world, especially the Mediterranean, the MENA region, Latin America, South Asia, or the Southern U.S. (for reviews see Cross & Uskul, 2022;

Uskul et al., 2023; Uskul & Cross, 2019). This definition underscores that evaluation of individuals in honor cultures hinges on achieving and maintaining both positive self- and social worth (Cross et al., 2014; Cross & Uskul, 2022). In this way, honor is a competitive social resource that individuals actively assert, yet it is also bestowed on individuals through the respect of others. Consequently, honor can be challenging to attain and easy to lose, which motivates individuals in honor cultures to engage in efforts to cultivate a positive and respectable social image and to be highly vigilant to any potential reputational threats (for reviews see Bowman, 2007; Brown, 2016; Cohen et al., 1996; Uskul & Cross, 2019).

A fundamental way to cultivate a positive social image in cultures of honor generally involves developing, maintaining, and communicating an image of personal strength and toughness: individuals strive to build a reputation of autonomy, self-reliance, and the strength and willingness to take action to protect one's family, reputation, and belongings (Uskul et al., 2023). Especially among men living in cultures of honor, this concern to uphold an image of strength and toughness tends to manifest itself in retaliatory and violent reactions to interpersonal transgressions or behaviors that endanger one's honor and reputation, which has received much of the attention in the literature (e.g., Cross et al., 2013; O'Dea et al., 2022; Rodriguez Mosquera et al., 2008; Uskul et al., 2015). In contrast, participation in reconciliation has received far less research attention in honor-related research, and scarce work on this topic has been directed to understanding the *transgressor's* viewpoint (e.g., Doğan, 2016) or how individuals in honor cultures perceive means to de-escalate conflict. Thus, little is known about how members of honor cultures feel about apologies or about their reasons to apologize or not following an interpersonal transgression.

Saying Sorry in Honor Cultures: Understanding the Reluctance to Apologize

Given that an apology involves admitting culpability for a wrongdoing, and thus places power in the hands of the victim (Kazarovytska & Imhoff, 2023; Shnabel & Nadler, 2008), offering apologies may be perceived as particularly undesirable within honor cultures. In such cultural groups, displaying strength, toughness, and self-reliance are fundamental values in interpersonal relations—these values may be at odds with apologizing, which may be perceived to undermine one's self- and social image by making the apologizer appear weak, powerless, or dependent on the other (Lin et al., 2022). Early anthropological studies, such as those conducted in Greece by Campbell (1964), provide initial support for this notion, indicating that apologies are infrequent in honor cultures due to the perception that they weaken the apologizer's strength and resilience. Seeking empirical support for a link between honor and reluctance to apologize, Lin and colleagues (2022) found that Turkish participants (recruited to represent an honor culture) were generally more reluctant to offer apologies following hypothetical transgression vignettes compared to participants from the eastern U.S.. Furthermore, and highlighting the importance of variation in honor-associated values between individuals within cultures, in another study they found that individuals in the U.S. who showed stronger personal endorsement of honor values were also less willing to apologize, a link that was mediated by participants' concerns about their reputation as strong and tough (e.g., "I will look weak to other people in this society if I apologize"). Notably, such cultural standards and norms can transcend external expectations and be internalized to varying degrees by individuals, influencing their identity, behavior, and psychological outcomes (see e.g. Maltseva, 2018).

Despite these initial insights, several open questions remain. First, although work by Lin and colleagues (2022) sheds light on how honor may play a role in apology-related attitudes and

behaviors, this work was largely conducted with hypothetical scenarios. Whether these findings can be translated to naturally occurring behaviors in individuals from honor cultures remains unexplored. Second, the extent to which the link between apologies and honor is characteristic at the level of societies (rather than individuals) has yet to be clarified. Although individual concerns about reputation appear pivotal in navigating honor contexts, the wider applicability of the connection between honor and apologies across a broader range of societies varying in the importance of honor remains unknown, highlighting the need for further evidence across a larger number of societies than previously examined. Third, and closely related, the origins of people's inclination to apologize in honor cultures is an open question. Cultural values, while endorsed to varying degrees by individuals, are also ingrained in their environment and may shape behaviors through various societal processes and institutions (e.g., social norms and practices, traditions, incentive structures, Markus & Kitayama, 2010). Considering such socio-cultural factors beyond the individuals' personal cultural values may be particularly crucial for the study of (reluctance towards) apologies in honor cultures, given the fundamental emphasis in these societies on maintaining the respect of others and presenting a positive and strong image. Fourth, although the majority of research on honor has focused on the influence of concerns about honor norms and one's social reputation, prior work has also suggests that cultural norms can become internalized and incorporated into the motivational and identity system of individuals (Maltseva, 2018). Relatively little is known, however, about whether and how self-image concerns may guide attitudes and behavior in line with the honor code. This avenue may be particularly relevant in the context of apology behavior, as threats to self-evaluation and self-image have been identified as significant barriers to willingness to apologize (e.g., Leunissen et al., 2022; Schumann, 2018). Finally, if apologies should indeed be perceived as incompatible with central

goals of honor cultures, it is still unclear by what means individuals in these cultures may reconcile and mend potentially damaged relationships following transgressions, and whether they potentially engage in other, alternative reconciliatory behaviors instead of apologies.

The Current Study

The current study represents a large scale, comparative examination to address these open questions regarding the relationship between honor and apology-related outcomes, using general population samples from the Mediterranean (including Latin Europe, Southeastern Europe, and MENA), East Asian, and Anglo-Western regions. We recruited samples from Mediterranean societies because recent research has largely supported the relative importance of honor in these contexts (especially MENA compared to Anglo-Western and East Asian societies; Vignoles et al., 2024). To account for honor being deeply embedded in one's socio-cultural environment and promoting behavior processes that are not simply reducible to individuals, we assessed honor both in terms of personal endorsement as well as individuals' perception of the extent to which most people in their society endorse honor. We conducted our analyses using a multilevel approach, treating individuals as nested within their respective cultural contexts which allowed us to separate the role of individuals' differing personal endorsement of honor values from the role of living in a context where honor norms are more or less prevalent in our statistical models.[1] Following previous work that has shown that the content and endorsement of honor can be highly gendered (Rodriguez Mosquera, 2016), we defined cultural groups based on the intersection of gender and country (e.g., "Spanish Women", "Japanese Men"). All hypotheses

[1] More specifically, we talk about the "prevalence of honor" when referring to variation in honor values between cultural groups (i.e., "culture-level" variation), as opposed to variation in honor values among individuals within cultural groups (i.e., "individual-level" variation).

and analytical steps were preregistered on the Open Science Framework (https://osf.io/cew5x); we describe in detail the state of the data and analyses at the time of preregistration, as well as any deviations from the preregistration, in the Supplementary Materials.

First, we tested the following *confirmatory hypotheses* that we formulated based on previous research on honor, image concerns, and apology-related outcomes. In line with the proposed idea of apologies clashing with social image concerns in honor cultures, we hypothesized that, compared to those with weaker honor values, members of cultural groups with stronger prevalence of honor values would show higher levels of personal reluctance to apologize (H1a), lower likelihood of having offered an apology following a wrongdoing in the past (H1b), higher levels of concern about negative effects of apologizing on their self-image (H1c), and higher levels of concern about negative effects of apologizing on their social image (H1d).

Second, in line with the idea that image concerns may be a factor in explaining the reluctance to apologize in honor cultures, we predicted indirect effects such that members of cultural groups with higher prevalence of honor values would show higher levels of concern about negative effects of apologizing on both their social image and/or their self-image, which in turn would be linked at the individual level to higher levels of personal reluctance to apologize (H2a) and lower likelihood of actual reported apologies (H2b).

We also conducted a series of *exploratory analyses* to complement the preregistered hypotheses. First, whereas our confirmatory hypotheses focused on the role of living in cultural contexts where honor norms are prevalent, we also included parallel effects of individuals' *personal* endorsement of honor values in our multilevel mediation analyses testing H2. Analyses of multiple datasets employing the current measure of honor endorsement had revealed a more

differentiated factor structure of honor values at the level of individuals than at the level of cultural groups, with one factor emphasizing the maintenance and defense of family reputation and another factor emphasizing the need to project oneself as strong and powerful and respond decisively to threats to one's honor (Vignoles et al., 2024). The latter factor is conceptually more closely relevant to our rationale about honor, image concerns, and apologies than the former, suggesting that similar mediation processes may be expected at the individual level for self-promotion and retaliation honor, but not necessarily for defense of family reputation. Second, we explored the idea that members of honor cultures may show higher rates of other reconciliatory behaviors (e.g., gift-giving, third-party mediation) instead of offering a verbal apology, by comparing the frequency of other self-reported behaviors following a past transgression.

Material and Methods

Participants

We recruited 6,577 participants from 14 data collection sites located in Anglo-Western (the U.S., the U.K., Canada), East Asian (South Korea, Japan), and Mediterranean regions (Cyprus [Greek Cypriot and Turkish Cypriot communities], Egypt, Greece, Italy, Lebanon, Spain, Tunisia, Türkiye) via local or international survey companies using online participant pools and following nationally representative quotas with respect to gender and age. Participants in all countries received comparable amounts of compensation for their participation according to the usual practice of each survey company.

Participants were eligible to participate if they were a) at least 18 years old, b) born in the country of data collection, and c) were living in the respective country at the time of data collection. Following feedback from local collaborators, we used nationality as a proxy for participants' birthplace in Lebanon and the Greek Cypriot community samples. To allow for

sufficiently sized gender groups in each society to make up cultural units of analysis, we only included participants who self-identified as female or male in the final sample. These inclusion criteria left us with 5,471 participants (see Table 1 for a detailed overview of sample sizes and characteristics per site), meeting our target sample size of 200 men and 200 women in all data collection sites except for the Greek-Cypriot Community sample (147 men and 132 women, due to restrictions in the pool of the recruitment company). The overall sample showed almost equal gender proportions (50.3% women), a wide age range (M_{age} = 42.61, *SD* = 15.12, *Min* = 18, *Max* = 89), and an average self-reported socio-economic status (SES) slightly above the scale midpoint, *M* = 5.59, *SD* = 1.94 (on an 11-point scale from 0 = *Bottom* to 10 = *Top*).

Table 1. Overview of Data Collection Sites and Recruitment Information

Country	Men	Women	Age	SES	Language
Canada	197	210	48.54 (14.40)	6.10 (1.71)	English
Cyprus (North)	213	188	43.76 (13.39)	5.79 (2.05)	Turkish
Cyprus (South)	147	132	45.87 (15.47)	5.63 (1.61)	Greek
Egypt	200	196	32.56 (9.67)	5.34 (1.98)	Arabic
Greece	200	200	43.89 (13.46)	5.46 (1.69)	Greek
Italy	200	200	43.02 (16.92)	5.83 (1.61)	Italian
Japan	200	199	49.51 (13.70)	4.86 (1.94)	Japanese
Korea	198	200	44.31 (13.34)	4.82 (1.97)	Korean
Lebanon	200	198	31.55 (10.00)	5.20 (2.07)	English
Spain	198	200	44.30 (14.40)	5.93 (1.63)	Spanish
Tunisia	200	197	34.37 (10.34)	5.35 (1.84)	Arabic
Türkiye	200	200	38.30 (12.99)	3.21 (1.84)	Turkish
United Kingdom	200	200	50.11 (16.68)	5.30 (1.91)	English
United States of America	199	199	47.13 (16.27)	6.46 (2.31)	English
Total	2,752	2,719	42.61 (15.12)	5.59 (1.94)	-

Note. Values for age and SES represent means with standard deviations in brackets.

Procedure

The data were collected as part of a larger study designed to examine the link between honor and perceptions of apologies. After providing informed consent, participants first completed a series of measures (in the order presented below), which contained measures assessing individual's reluctance to apologize, self- and social image concerns, and personal and perceived normative endorsement of honor values. Next, participants were asked to recall a recent time when they did something wrong that hurt another person in some way and to report what they did in that situation (e.g., whether they offered an apology or not, whether they engaged in other reconciliatory behaviors). Finally, participants provided demographic information and were debriefed.

Measures

The study was completed in the official language of each respective country. The materials were first generated or compiled in English and then translated into Arabic, Greek, Italian, Japanese, Korean, Spanish, and Turkish using a team translation approach (Survey Research Center, 2022); they were first translated by native speakers of the respective languages (either by a member of the research team or by a professional translator), and then reviewed and checked for accuracy and local conventions of language use by other team members (fluent in both the local language and English). Where disagreements emerged, additional individuals were consulted before a final version was reached.

Prior to our main analyses, we conducted an extensive series of multigroup and multilevel measurement models for all multi-item measures reported below, to identify the best-fitting factor structures across world regions (Anglo-Western, East Asian, Latin European, Southeast European and MENA) and at both individual and cultural levels of analysis. We used these models to create factor scores at the cultural group level ($N = 28$ groups, as defined by the

intersection of country and gender, i.e., "Spanish Women", "Japanese Men") and at the level of individuals (N = 5,471) for use in our main analyses.[2] All scales showed metric invariance of individual-level dimensions across world regions (i.e., equivalence of factor loadings), and all scales except for honor endorsement showed full isomorphism between the individual and group levels (i.e., factor loadings were constrained to be equal across levels, which results in individual and group scores having the same comparable scaling). For brevity we will only report the final model structures below. With the exception of the models for honor (which can be found in Vignoles et al., 2024), all models can be found in the supplementary materials. We saved factor scores from these measurement models for use in our main analyses.

Honor Values. Participants completed eight items assessing their personal and perceived normative endorsement of honor values, with four items from Yao and colleagues (2017; e.g., "People should not allow others to insult their family."), and four items from Smith and colleagues (2017; e.g. "People always need to show off their power in front of their

[2] We treated women and men in each society as separate cultural groups for analytical purposes based on arguments that different gender groups within the same society (perhaps especially in honor cultures) often inhabit separate cultural realities, with different expectations and external pressures (Bussemakers et al., 2017; Lopez-Zafra et al., 2020; Vignoles et al., 2024). While gender is not a main focus of our current paper, we believe that defining cultural groups by the intersection of society and gender membership represents the best theoretical and statistical approach for our analyses, whilst also allowing to maximize statistical power at the cultural level. Nevertheless, we recognize that this approach raises a potential issue of non-independence at the country level, given the nesting of gender groups within countries. To test the robustness of our main findings, we therefore conducted a series of additional analyses using countries as our cultural units of analysis and controlling for gender differences at the individual level of analysis. These alternative analyses showed highly similar results to our main analyses, supporting the robustness of our conclusions (see Supplementary Materials SM.8).

competitors."); we rephrased the latter so they read as "*People should…*" (instead of "*People are…*" or "*People do…*") to better capture endorsement of cultural values and beliefs (rather than states or behaviors). We selected these items based on extensive multigroup and multilevel measurement models conducted on a larger item pool of a previous study with samples from a similar set of societies to the current study; these analyses are reported elsewhere (see Vignoles et al., 2024). Participants rated these items once in terms of their personal agreement (i.e., *personal values*: "*How much do you agree or disagree with the following statements?*" 1 = *Strongly disagree* to 7 = *Strongly agree*) and once in terms of their perception of how much most people in their society would agree or disagree (i.e., *perceived normative values*: "*How much would most people in your society agree or disagree with the following statements?*" 1 = *Most people would strongly disagree* to 7 = *Most people would strongly agree*).[3] A series of multilevel measurement models (reported in the Supplementary Materials, and in Vignoles et al., 2024, for honor values) suggested a two-factor structure at the within-cultures level (i.e., factors for individual differences in *defense of family reputation* and *self-promotion and retaliation*) and a one-factor structure at the between-cultures level (i.e., variation across cultural groups in the prevalence of *honor*), in keeping with the factor structure observed in a previous sample (see

[3] We clustered our data by gender groups within each country in both our measurement and analysis models to account for potential differences in social realities (see footnote 2). However, our measure of perceived normative honor endorsement referenced the participant's society, rather than their gender group specifically. Consequently, our analyses reflect the idea that women and men may experience their societies differently, and their responses to apology situations may be influenced by broader societal norms, not solely by those of their own gender group. We acknowledge that this introduces some inconsistency in the level of analysis and encourage future research directly assess gender-specific normative climates within societies, particularly in relations to honor values.

Vignoles et al., 2024). Reliabilities of all factors (as assessed by using Coefficient H, please see Hancock & Mueller, 2001) were adequate or better at both the within-sample (personal honor values: *Coefficient H*$_{\text{SelfPromotion}}$ = .623 *H*$_{\text{FamilyReputation}}$ = .798; perceived normative honor values: *H*$_{\text{SelfPromotion}}$ = .652, *H*$_{\text{FamilyReputation}}$ = .798) and between-sample level (personal honor values: *H* = .975); perceived normative honor values: *H* = .976).

Social and Self-image Concerns. We included two sets of measures to assess participants' concerns about the consequences of apology-related behavior on their self-image (i.e., their own view of themselves) and social image (i.e., their reputation in the eyes of others). Both sets contained parallel sets of items (*N* = 9) that differed slightly depending on the self-image or social image focus: firstly, they contained six items (adjusted and expanded from Lin et al., 2022) assessing concerns about the possible negative impact of offered apologies following wrongdoings (self-image focus: "*Apologizing for a wrongdoing would harm my view of myself.*"; social image focus: "*Apologizing for wrongdoings would harm my reputation in the eyes of other people*). Additionally, we included three items assessing similar concerns after *not* offering an apology following a wrongdoing (self-image focus: "*If I failed to apologize for something I have done wrong, I would lose respect for myself.*"; social image focus: "*If I failed to apologize for something I have done wrong, I would lose others' respect.*"); these items were intended to provide a reverse-coded counterpoint to the original scale. All items were rated on a 7-point scale (1 = *Strongly disagree* to 7 = *Strongly agree*).

For both self and social image concerns[4], our measurement models unexpectedly showed that a two-factor solution separating a factor for *image concerns about apologizing* and a factor for *image concerns about not apologizing* fit the data better than a one-factor solution at both individual and cultural levels of analysis. Reliabilities of both factors were good at both the individual (self-image concerns: $H_{\text{Apologizing}} = .895$, $H_{\text{NotApologizing}} = .732$; social-image concerns: $H_{\text{Apologizing}} = .893$, $H_{\text{NotApologizing}} = .717$) and cultural level (self-image concerns: $H_{\text{Apologizing}} = .969$, $H_{\text{NotApologizing}} = .960$; social-image concerns: $H_{\text{Apologizing}} = .970$, $H_{\text{NotApologizing}} = .975$).

Image concerns about apologizing and about not apologizing were largely uncorrelated at the individual level ($r_{\text{Self-Image}} = -.07$, $p < .001$; $r_{\text{Social-Image}} = .04$, $p < .001$) and positively correlated at the cultural level ($r_{\text{Self-Image}} = .73$, $p < .001$; $r_{\text{Social-Image}} = .72$, $p < .001$). Thus, for both self-image and social image concerns, the three additional items did not function as reversed items on a unidimensional scale, as we had expected. A possible explanation is that participants may have been considering the potential impact on their self-image and social image of the wrongdoing mentioned in the items—which would have fostered positive covariation between the two factors—in addition to the potential impact of apologizing or not—which would have fostered negative covariation between the two factors. Nevertheless, the theoretical construct of interest underlying our pre-registered hypotheses was the extent to which participants were concerned that apologizing, *compared to not apologizing*, would negatively affect their self-image and/or their social image. We therefore decided that relative measures

[4] A complementary set of measurement analyses on the combined set of self-image and social-image items further supported our decision to treat these constructs as distinct. A four-factor model—differentiating self- and social-image items, and concerns about apologizing vs not apologizing—emerged as the best-fitting solution at both the individual and cultural levels of analysis. For further details, see SM.4.4. in the Supplementary Materials.

(i.e., the score for image concerns about apologizing minus the score for image concerns about not apologizing, calculated separately for self and social image concerns) would provide the most theoretically meaningful tests of our hypotheses. Thus, we computed difference scores using the respective factor scores, with higher scores reflecting a stronger concern for possible negative impacts on one's self-image or social image of apologizing compared with not apologizing.

Reluctance to Apologize. We assessed participants' reluctance to apologize using four items taken from Hornsey and colleagues (2017) to measure the likelihood and frequency of apologies in the context of a transgression ("*I am unlikely to apologize if I have done something wrong.*", "*I rarely apologize to other people.*", "*In general, I apologize after having done something wrong.*", and "*After I have done something wrong, I usually apologize.*"; last two items reverse coded, 1 = *Strongly disagree* to 7 = *Strongly agree*). The items showed a one factor structure at both individual and cultural levels of analysis. Reliability was adequate at the individual level (H = .679) and good at the cultural level (H = .799).

Recalled Transgression Situation. Participants were asked to recall a past transgression incident and report the main **theme of the transgression** (i.e., emotional harm, physical harm, material / financial harm, or other) as well as whether they eventually **offered an apology (or not)** to the person who was the subject of the recalled transgression ("*Following that situation, did you apologize to this person?*"; 0 = *No*, 1 = *Yes*). Finally, people were also asked whether they engaged in any **alternative reconciliatory behaviors** if did not offer an apology (by choosing one or more of the following options: "*I made a nice gesture [e.g. purchased a gift, invited them for coffee/tea]", "I asked someone else to help resolve the situation*", "*I apologized*

to somebody else who was related to this person", "*Not listed [please briefly specify]:*", "*I didn't do anything*").

Prior to analyzing the recalled situations, we translated and screened all entries for potentially invalid responses by separately checking the open-ended answers related to the reported topic of the situation as well as the open-ended answers for the alternative reconciliatory behaviors: we considered a response potentially problematic if a participant was unable to recall a fitting situation (e.g., "I haven't caused any harm", "I don't remember doing anything"), may have recalled a situation in which he was not the transgressor (e.g., "I was deceived", "The harm was to me"), gave inconsistent information (e.g., reporting an apology in the alternative behaviors, but not in the respective question) or showed careless and unintelligible responding (e.g., "Nnn"). Accordingly, we excluded 165 participants (who showed potential problems in their open-ended description of the apology situation) from analyses that included the recalled apology behavior as a dependent variable leaving $N = 5{,}306$ for analyses. Furthermore, we excluded those participants as well as 20 additional participants (who showed potential problems in their open-ended description of the alternative apology behavior) from analyses that examined the alternative reconciliatory behaviors *(*$N = 1{,}350$; only participants who reported not offering an apology).[5]

Demographic Information. Among others, we asked participants to report their gender, age, country of birth, parents' country of birth, parents' highest education, residence country, and

[5] A series of robustness analyses using the strictest exclusion criteria for all analyses (i.e., excluding the same number of participants across all sets of analyses) showed no differences in the pattern of results (see Supplementary Materials SM.9).

perceived (self) social status in the country of residence (MacArthur Scale of Subjective Social Status; Adler et al., 2000).

Analytical Strategy

Following the preregistered analytical steps, we first conducted a bivariate *correlational analysis* at the cultural level of analysis with measures of personal and perceived normative honor values, self-image and social image concerns, reluctance to apologize, and self-reported apologies in the recalled situation to test confirmatory hypotheses H1a to H1d.

Second, to test our research questions regarding mediation at the cultural (hypotheses H2a and H2b) and individual levels (exploratory research question), we conducted a series of multilevel mediation analyses using multilevel structural equation modeling in Mplus (v8.7; Muthén & Muthén, 2017), nesting participants within their respective cultural groups. Because our main predictors (perceived normative and personally endorsed honor values) were highly correlated at the cultural level ($r = .92$, $p < .001$), we conducted analyses separately for these two measures.[6] In all models, we included the two honor factors (i.e., *defense of family reputation* and *self-promotion and retaliation*) as external/exogenous variables at the individual level, and the general honor factor as the external variable at the sample level; self-image and social image

[6] We made the decision to run separate analytical models for personal and perceived normative honor values as combining both variables together would have led to potential problems of multicollinearity and may have obscured potential relationships between one of the predictors and the outcome. Conceptually, we view personal and perceived-normative constructs as related but slightly different in how they tap into the prevalent cultural dynamics (see e.g., Smith et al., 2017), and whereas we expected the two to provide similar patterns of results our approach also remained open to potential differences, hinting to interesting differences in what may drive differences in apology reluctance (e.g., personal convictions, or norms and social expectations).

concerns were included as simultaneous mediators at both levels. Finally, in separate models, we included either *reluctance to apologize* (linear regression) or self-reported *apology*[7] (logistic regression) as the dependent variables, which resulted in a total of four mediation models. In interpreting our results and hypotheses we follow recent perspectives in mediation analyses (e.g., Zhao et al., 2010; Rucker et al., 2011) that consider mediation to be present if the indirect effect of interest is found to be significant (contrasting the approach by Baron & Kenny, 1986 which considers the present of a significant total effect to be necessary for mediation). Since we theorized that image concerns would be linked to apology outcomes through individual-level psychological processes, we constrained the paths leading from our image concern mediators to our dependent variables to be equal at the individual and cultural level—thus maximizing both parsimony and statistical power to test the theorized indirect effects.[8]

[7] Due to limitations of the Mplus software, we tested the indirect effect for our logistic regression analyses using non-standardized estimates, and included an additional latent factor that identically reflected the dependent variable (loading set to 1) to constrain the paths from our mediators to our dependent variable across levels.

[8] These constraints entail that culture-level associations between image concerns and apology outcomes are such as would be expected to arise through aggregation of the corresponding individual-level relationships, rather than positing the existence of untheorized further culture-level processes that would have resulted in the paths differing across the two levels of analysis. We compared these constrained models with a series of parallel models in which we did not constrain these paths across levels. Comparing the model fit between the two types of models using log-likelihood comparisons we found that only one out of the four unconstrained models (perceived normative honor endorsement predicting reluctance to apologize) showed significantly better fit than the corresponding constrained model ($p = .026$), while the remaining models did not ($p > .137$). However, the improvement in fit was small, the fit for the parallel constrained model was still high (*CFI* = .998, *TLI* = .987, *RMSEA* = .022), and measures of AIC and BIC (that favor model parsimony) showed an inconsistent pattern (with the constrained model showing the better fit

Finally, to test our exploratory research question regarding alternative reconciliatory behaviors, we conducted a series of Chi-Square tests to examine differences in frequencies of each behavior between different sub-regions. We categorized five world regions based on countries' ethnic/racial, religious, and linguistic background, their geographic proximity, and colonial heritage (*Anglo-Western*: the U.K., the U.S., Canada; *Latin Europe*: Spain, Italy; *Southeast Europe*: Greece, Cyprus [Greek Cypriot Community]; *MENA*: Türkiye, Egypt, Lebanon, Tunisia; *East Asia*: South Korea, Japan; see Mensah & Chen, 2012; Vignoles et al., 2024).[9] To zoom in on which behaviors were especially likely to be found in certain regions, we followed up significant results by examining the *adjusted residuals* (Bakeman & Quera, 2011, pp. 109–110): adjusted residuals reflect the degree of deviation of particular cell counts from the expected frequency counts based on chance (i.e., if there was no relationship between columns and rows, or regions and behaviors), and thus can give insights into which behaviors were especially likely or unlikely to be found in a particular region, compared to their average occurrence across all regions. For the adjusted residuals, we implemented a stricter significance criterion of $z > 2.56$ to adjust for multiple comparisons (Bakeman & Quera, 2011). For all analyses on alternative reconciliatory behaviors, we only included participants that reported *not* to have offered a direct apology following the transgression ($N = 1{,}350$).

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in the BIC [Constrained Model: 52618.86; Unconstrained Model: 52627.31] but not AIC [Constrained Model: 52453.70; Unconstrained Model: 52448.94]). Hence, we decided to continue with the constrained version of all four models to maximize conceptual fit, parsimony, and statistical power of our models.

[9] We decided to employ a regional comparison approach for these analyses of alternative reconciliatory behaviors because the size of the sample of people who reported to not have apologized was relatively small (27.5%) and because Chi-Square Tests have been found to be quite sensitive to large deviations in cell counts (especially empty cells, see e.g., Bakeman & Quera, 2012).

Results

Culture-Level Correlations (H1)

Figure 1 (for hypotheses H1a and H1b related to apology outcomes) and Figure 2 (for hypotheses H1c and H1d related to image concerns) depict the scatterplots and correlations between all variables at the cultural level of analysis (Tables S1 and S2 in the supplementary materials report all correlations at the cultural and individual levels, respectively).

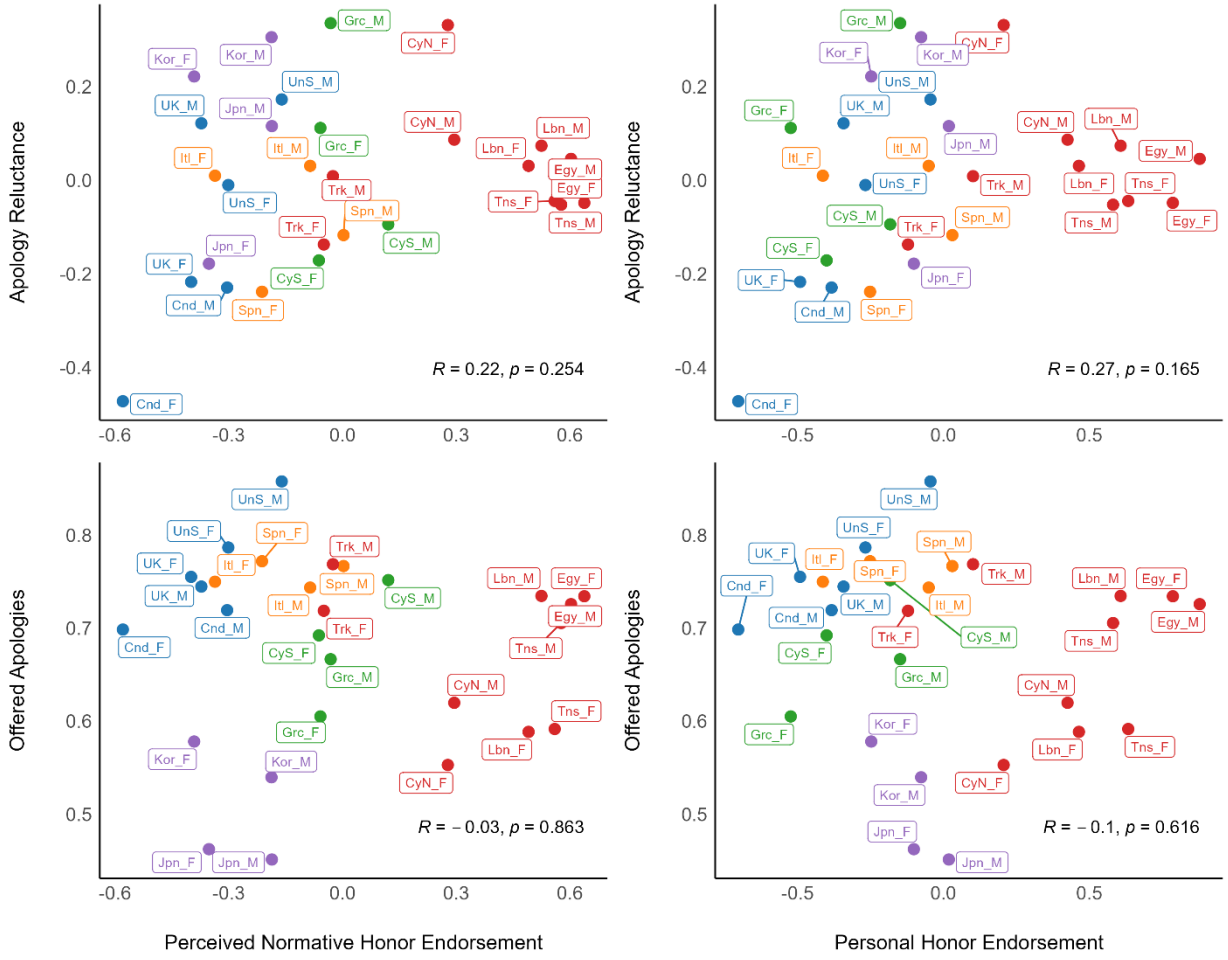
We found that our hypotheses were only partially supported: neither perceived normative (r = .22, p = .254) nor personal honor values (r = .27, p = .165) were significantly associated with culture-level variation in reluctance to apologize, thus not supporting H1a. The same pattern emerged for self-reported apologies (perceived normative honor values: r = -.03, p = .863; personal honor values: r = -.10, p = .616), not supporting H1b.

However, as expected, culture-level variation in both perceived normative and personal honor values showed significant and positive relations with both self-image concerns (perceived normative honor values: r = .46, p = .014; personal honor values: r = .52, p = .005) and social image concerns about apologizing versus not apologizing (perceived normative honor values: r = .76, p < .001; personal honor values: r = .69, p < .001), supporting H1c and H1d.[10]

[10] We explored further the patterns of self- and social-image concerns underlying these significant findings in descriptive analyses using scale means rather than factor scores and treating concerns about apologizing and concerns about not apologizing as separate dimensions. Participants in all cultural groups on average reported higher concerns about both self- and social image impacts of not apologizing than they did about impacts of apologizing. On a 1-7 scale, average image concerns about the impact of not apologizing ranged from 3.11 (Turkish Cypriot men: social image concerns) to 5.48 (Japanese women: social image concerns), whereas average concerns about the impact of apologizing ranged from 1.64 (Canadian women: self-image concerns) to 3.26 (Greek men: social image

Figure 1

Scatterplot for Correlation Analyses on Apology Outcomes at the Sample Level

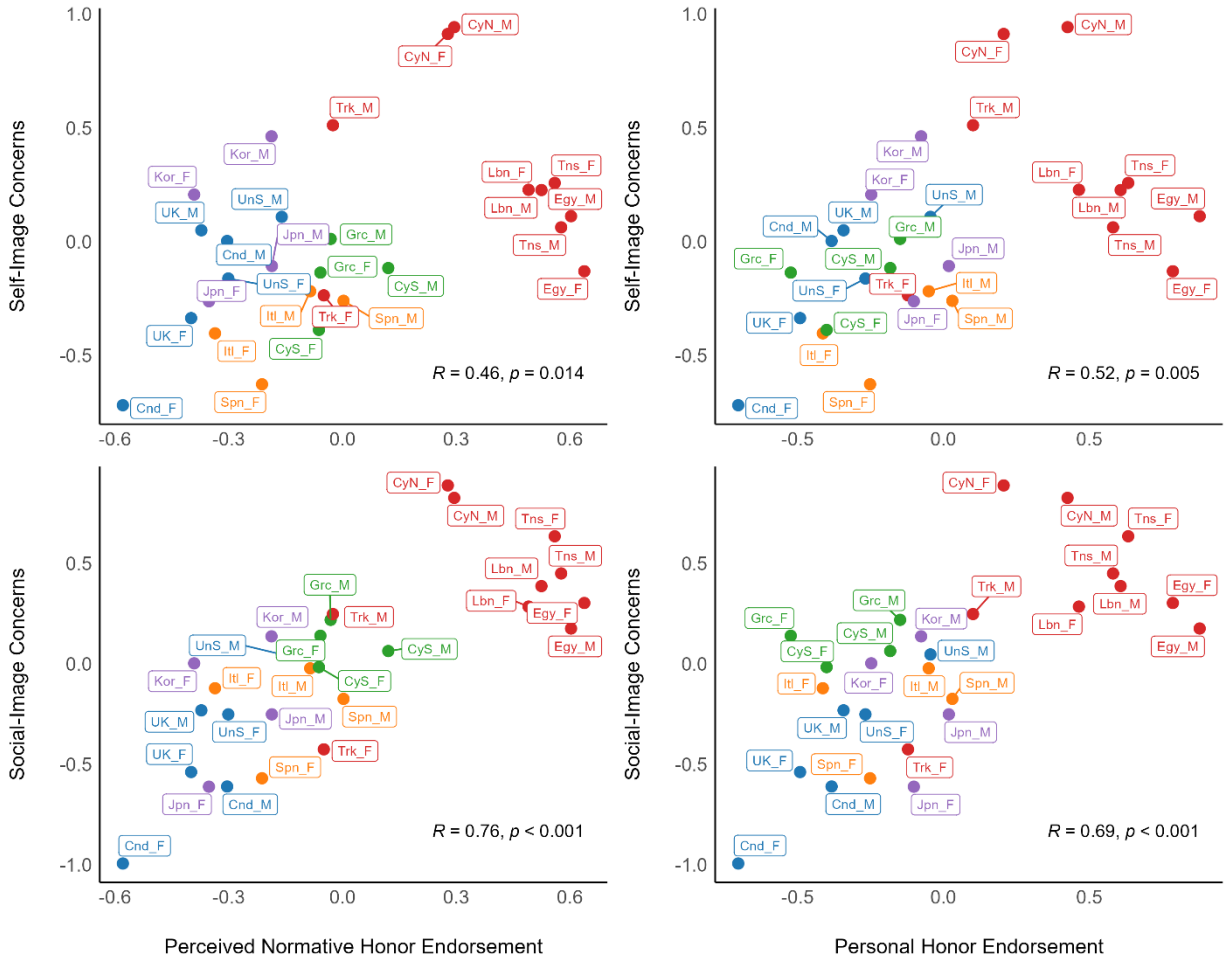


Note. Shown are scatterplots using the culture-level scores on variables relevant to pre-registered hypotheses H1a and H1b. Data is colored by region (Anglo-Western: blue; Latin Europe: orange; Southeastern Europe: green; Middle East: red; East Asia: purple).

concerns). However, especially for social image concerns, the gap was narrower in cultures with higher prevalence of perceived normative and personal honor values. Thus, for example, 27.1% of Turkish Cypriot women, but only 4.3% of Canadian women, reported greater social image concerns about apologizing than about not apologizing. For further details of these descriptive analyses, please see Supplementary Materials SM.10.

Figure 2

Scatterplot for Correlation Analyses on Image Concerns at the Sample Level



Note. Shown are scatterplots using the culture-level scores on variables relevant to pre-registered hypotheses H1c and H1d. Data is colored by region (Anglo-Western: blue; Latin Europe: orange; Southeastern Europe: green; Middle East: red; East Asia: purple).

Indirect Effects of Culture-Level Variation in Honor (H2)

As described in our analysis plan, we tested H2a and H2b using a set of four multilevel mediation analyses, with separate analyses for each type of honor values endorsement (personal endorsement vs. perceived normative endorsement), and for each predicted dependent variable (reluctance to apologize vs. offered apologies)[11]. All estimates presented are unstandardized; standardized estimates can be found in the supplementary materials (see Tables S3 and S4 in the supplementary materials for a complete summary of model parameters).

Indirect Paths Predicting Reluctance to Apologize (H2a). For perceived normative honor endorsement (Figure 3; top part) we found that members of cultural groups with stronger perceived honor endorsement reported greater self-image concerns (a_1 = 0.500, p = .003) and greater social image concerns (a_2 = 0.944, p < .001). In turn, both types of image concerns predicted greater reluctance to apologize (self-image concerns: b_1 = 0.167, p = .003; social image concerns: b_2 = 0.101, p < .001). The indirect effects through self-image concerns (a_1*b_1 = 0.084, p = .003) and social image concerns (a_2*b_2 = 0.096, p < .001) were both significant. Furthermore, neither the direct effect (c'_1 = -0.063, p = .363) nor the total effect (c_1 = 0.116, p = .224) from perceptions of normative honor to reluctance to apologize was significant. As Figure 4 (top part) shows, the pattern of results for our mediation analyses using personal honor values was substantively identical to the results using perceived normative honor endorsement.

Taken together, our analyses supported the expected mediation effects at the culture-level for both types of image concerns as proposed in H2a: Members of cultural groups with stronger

[11] In describing and interpreting our results, we will frequently use the term "predict" to describe associations between variables. Given the cross-sectional nature of our work, we do not intend to imply causal associations, and we use "predict" in a statistical sense only (in line with "predictor" and "outcomes" of regression analyses).

perceived honor endorsement, as well as with stronger personally reported honor endorsement, reported stronger concerns about apologizing (vs. not apologizing) for one's self-image as well as social image, which in turn both predicted higher levels of reluctance to apologize.

Indirect Paths Predicting Offered Apologies (H2b). For perceived normative honor endorsement (Figure 5; top part) we found the same links between honor endorsement and image concerns: members of cultural groups with stronger perceived honor endorsement reported stronger self-image concerns (a_1 = 0.500, p = .003) and stronger social image concerns (a_2 = 0.944, p < .001). In turn, social image concerns predicted offered apologies negatively (b_2 = -0.115, p < .001), but self-image concerns did not (b_1 = -0.049, p = .076). Thus, the models showed a significant indirect effect through social image concerns (a_2*b_2 = -0.109, p < .001), but not through self-image concerns (a_1*b_1 = -0.024, p = .086). Furthermore, neither the direct effect (c'_1 = 0.121, p = .543) nor the total effect (c_1 = -0.012, p = .955) from perceptions of normative honor to offered apologies were significant. As shown in Figure 6 (top part), the pattern of results for our mediation analyses using personal honor values was again substantively identical to the results using perceived normative honor endorsement.

Taken together, our analyses partly supported H2b: Members of cultural groups with stronger perceived honor endorsement, as well as with stronger personally reported honor endorsement, reported stronger concerns about apologizing (vs. not apologizing) for one's self-

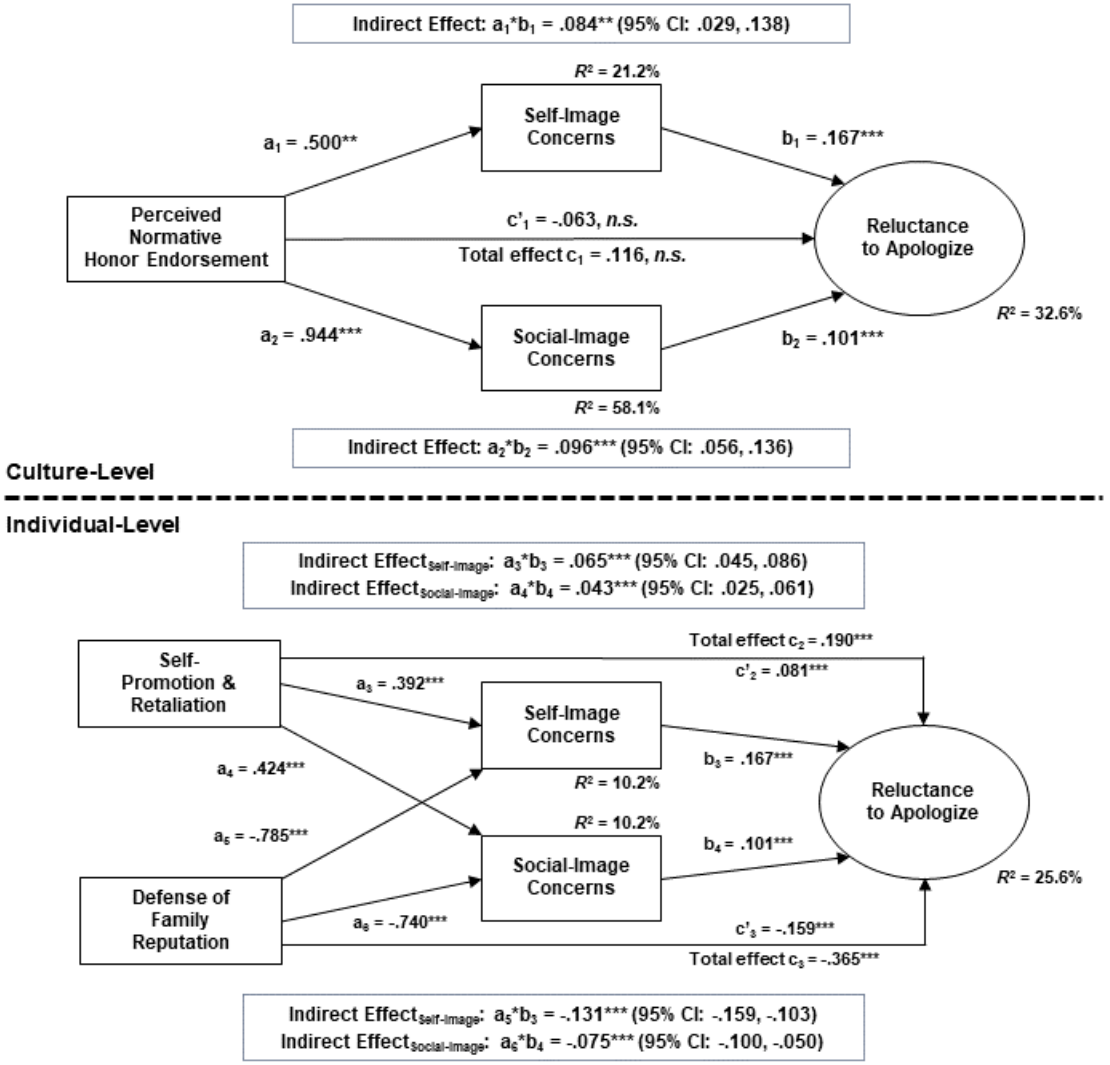
image as well as social image; however only stronger social image concerns (but not self-image concerns) also predicted less offered apologies in turn.[12,13]

[12] The difference scores measuring self-image and social image concerns were strongly correlated at both individual and cultural levels of analysis (culture level: $r = .80$, $p < .001$; individual level: $r = .67$, $p < .001$), raising possible questions about multicollinearity in our multilevel mediation analyses. However, a parallel series of analyses using self- and social image concerns as single mediators (reported in the Supplementary Materials SM.3) showed largely the same pattern as our main analyses, except that self-image concerns showed additional significant indirect effects in models predicting offered apologies. We also report below and in the Supplementary Materials selected further analyses treating concerns about apologizing and concerns about not apologizing as separate dimensions.

[13] We also tested an alternative set of mediation models using image concerns about apologizing and image concerns about not apologizing as separate, simultaneous mediators (instead of combining them into difference scores). At the cultural level of analysis, the links between honor (personal and perceived normative) and reluctance to apologize were mediated by a negative indirect path through self- and social image concerns about apologizing, and a positive indirect path through self- and social image concerns about not apologizing. The links between honor and lower incidence of offered apologies were mediated negatively only by lower social image concerns about not apologizing. However, in line with our expectations, a closer look revealed that as honor culture increases, self-reported concerns about the impact of failing to apologize reduced more steeply than concerns about the impact of apologizing (see also Footnote 8). Thus, taken together, members of cultures with stronger honor norms and values were less likely to see greater risks to their self- and social image of not apologizing compared to the risks of apologizing, which in turn predicted a greater reluctance to apologize and lower incidence of offered apologies. For more information on these alternative models please refer to the Supplementary Materials (SM.10).

Figure 3

Multilevel mediation model predicting reluctance to apologize by perceived normative honor values, via concerns for self-image and social image related to apologizing (over not apologizing)

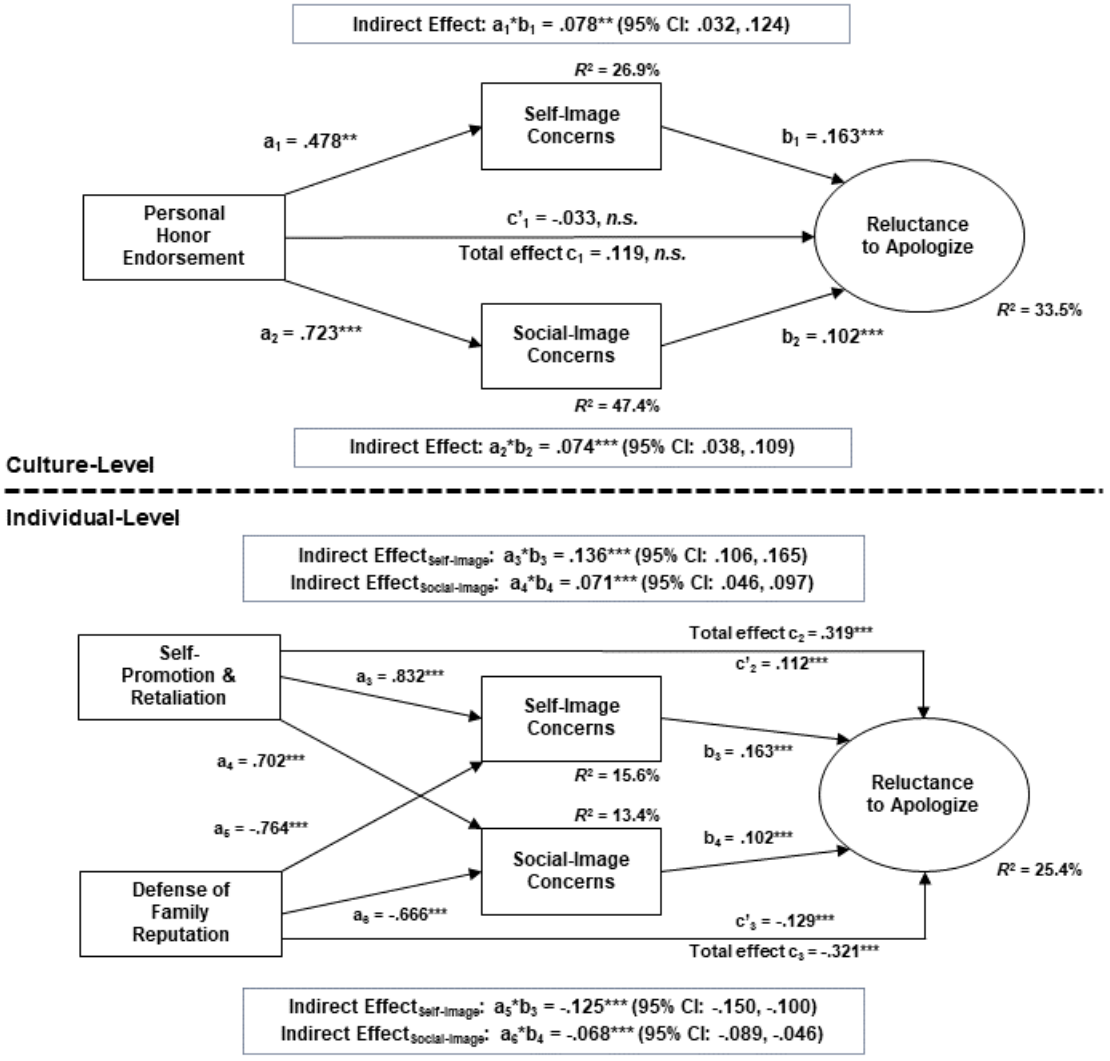


Note. Between-culture parameters are above the dotted line, within-culture parameters are below the dotted line. Unstandardized paths from self-image concerns and social image concerns to reluctance to apologize were constrained to be equal across levels.

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

Figure 4

Multilevel mediation model predicting reluctance to apologize by personal honor values, via concerns for self-image and social image related to apologizing (over not apologizing)

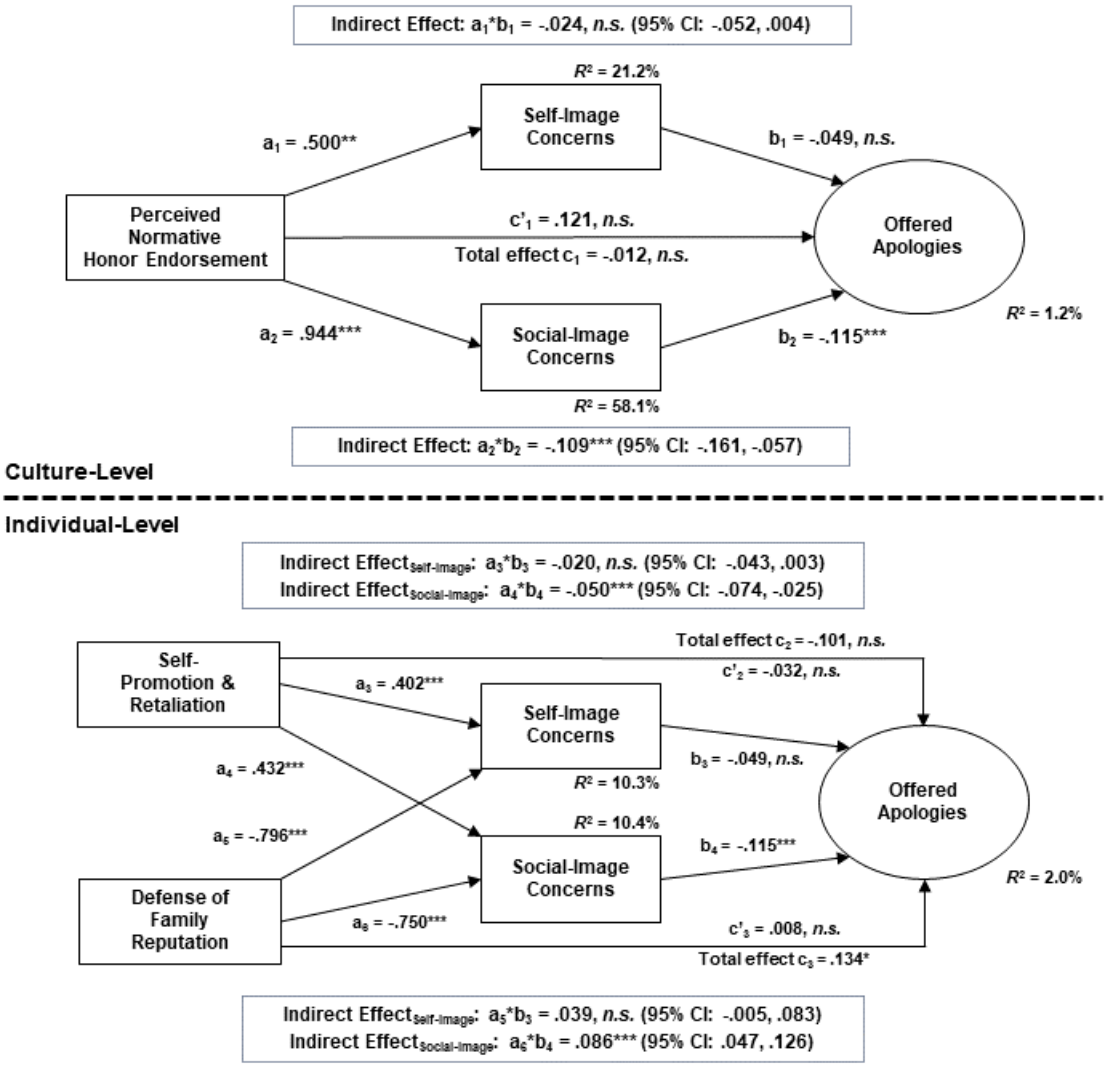


Note. Between-culture parameters are above the dotted line, within-culture parameters are below the dotted line. Unstandardized paths from self-image concerns and social image concerns to reluctance to apologize were constrained to be equal across levels.

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

Figure 5

Multilevel mediation model predicting offered apologies as a function of perceived normative honor values, via concerns for self-image and social image related to apologizing (over not apologizing)

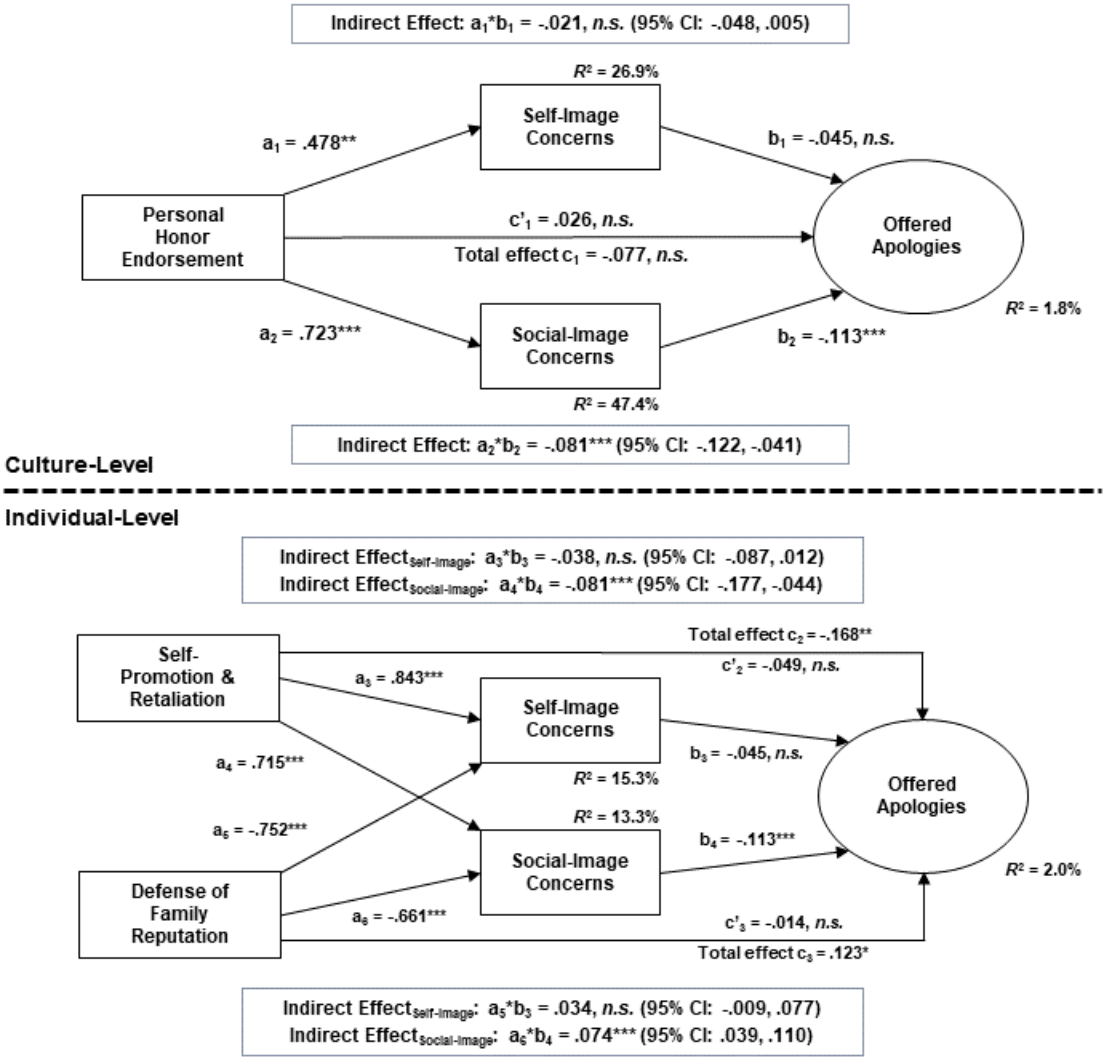


Note. Between-culture parameters are above the dotted line, within-culture parameters are below the dotted line. Unstandardized paths from self-image concerns and social image concerns to offered apologies were constrained to be equal across levels.

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

Figure 6

Multilevel mediation model predicting offered apologies as a function of personal honor values, via concerns for self-image and social image related to apologizing (over not apologizing)



Note. Between-culture parameters are above the dotted line, within-culture parameters are below the dotted line. Unstandardized paths from self-image concerns and social image concerns to offered apologies were constrained to be equal across levels.

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

Exploring Effects of Individual-Level Variation in Honor Values

In all analyses discussed above, we also included individual differences in perceived normative or personally endorsed honor values, each of which formed two factors at the individual level of analysis (*defense of family reputation*, and *self-promotion & retaliatio*n). This allowed us to explore indirect paths from individual-level variation in honor values to apology outcomes via image concerns (paralleling those of our main hypotheses H2a and H2b).

Indirect Paths Predicting Reluctance to Apologize. For perceived normative honor endorsement (Figure 3; bottom part) we found that individuals within each cultural group who perceived a greater value of self-promotion and retaliation in their respective societies reported stronger self-image ($a_3 = 0.392$, $p < .001$) and social image concerns ($a_4 = 0.424$, $p < .001$), whereas those who perceived a greater normative value of defense of family reputation reported weaker self-image ($a_5 = -0.785$, $p < .001$) and social image concerns ($a_6 = -0.740$, $p < .001$) about apologizing, compared to not apologizing. In turn, both types of image concerns positively predicted reluctance to apologize (self-image concerns: $b_3 = 0.167$, $p < .001$; social image concerns: $b_4 = 0.101$, $p < .001$). Hence, all four indirect effects from honor values through image concerns were significant, but in opposing directions: Whereas both indirect effects for self-promotion and retaliation values were positive (via self-image concerns: $a_3 * b_3 = 0.065$, $p < .001$; via social image concerns: $a_4 * b_4 = 0.043$, $p < .001$), both indirect effects for defense of family reputation values were negative (via self-image concerns: $a_5 * b_3 = -0.131$, $p < .001$; via social image concerns: $a_6 * b_4 = -0.075$, $p < .001$). Furthermore, both types of honor values showed significant direct effects (self-promotion & retaliation: $c'_2 = 0.081$, $p < .001$; defense of family reputation: $c'_3 = -0.159$, $p < .001$) and significant total effects (self-promotion & retaliation: $c_2 = 0.190$, $p < .001$; defense of family reputation: $c_3 = -0.365$, $p < .001$). As the bottom part of Figure

4 shows, the pattern of results for our mediation analyses using personal honor values was once more substantively identical to the results using perceived normative honor endorsement.

Indirect Paths Predicting Offered Apologies. For perceived normative honor endorsement (Figure 5; bottom part), as in the preceding analyses, we found that individuals within each cultural group who perceived a greater value of self-promotion and retaliation in their respective societies also reported stronger self-image ($a_3 = 0.402$, $p < .001$) and social image concerns ($a_4 = 0.432$, $p < .001$), whereas those who perceived a greater normative value of defense of family reputation reported weaker self-image ($a_5 = -0.796$, $p < .001$) and social image concerns ($a_6 = -0.750$, $p < .001$) about apologizing, compared to not apologizing.[14] In turn, social image concerns predicted offered apologies negatively ($b_4 = -0.115$, $p < .001$), but self-image concerns showed no significant link ($b_3 = -0.049$, $p = .076$). Therefore, we found that only the indirect effects from our honor variables through social image concerns were significant: Whereas the indirect effect for self-promotion and retaliation values via social image concerns was negative ($a_4 * b_4 = -0.050$, $p < .001$), the indirect effect for defense of family reputation values via social image concerns was positive ($a_6 * b_4 = 0.086$, $p < .001$). No indirect effects via self-image concerns were significant (self-promotion and retaliation values: $a_3 * b_3 = -0.020$, $p = .095$; defense of family reputation values: $a_5 * b_3 = 0.039$, $p = .083$). Furthermore, neither dimension of honor values showed significant direct effects (self-promotion & retaliation: $c'_2 = -0.032$, $p = .583$; defense of family reputation: $c'_3 = 0.008$, $p = .894$), and only defense of family reputation values ($c_3 = 0.134$, $p = .024$), but not self-promotion & retaliation values ($c_2 = -0.101$,

[14] These parameters differ slightly from the corresponding parameters in the preceding analyses owing to the exclusion of participants who did not provide valid responses to the recalled transgression task.

p = .068), showed a significant total effect on our dependent variable. As the bottom part of Figure 6 shows, the pattern of results for our mediation analyses using personal honor values was once again substantively identical to the results using perceived normative honor endorsement.

Taken together, while stronger image concerns consistently predicted higher levels of reluctance to apologize, our analyses thus suggest associations in the opposing directions between perceived normative endorsement and personal endorsement facets of honor on one hand and image concerns on the other hand: Whereas stronger endorsement of self-promotion and retaliation values was linked to stronger image concerns, stronger endorsement of defense of family reputation values was linked to *weaker* image concerns. Furthermore, whereas both types of image concerns explained the link between honor and reluctance to apologize, only social image concerns (but not self-image concerns) played a role for self-reported offered apologies.

Regional Differences in Alternative Reconciliatory Behaviors

Table 2 shows the percentages of participants across world regions who reported having apologized in the face of a past transgression, as well as the percentages of those that did not apologize who engaged in various alternative behaviors. Examining these figures across the five regions showed significant differences in self-reported apologies across cultures, χ^2 (4, 4970) = 154.94, $p < .001$; with apologies offered the least in the East Asian sample (55.3%) and the most in the Anglo-Western (80.2%) participants. The three Mediterranean regions fell in between these two groups, with Latin European participants (79.1%) being closer to Anglo-Western participants than Southeastern European (72.0%) or Middle Eastern participants (72.7%). Examining the adjusted residuals revealed that participants from East Asian societies were less likely than average to apologize (z = 11.26), whereas both Anglo-Western and Latin European societies were both more likely than average to apologize (z = 6.29 and z = 4.21, respectively).

Table 2

Frequencies of alternative reconciliatory behaviors

Region	% Apology offered	Alternative Reconciliatory Behavior			
		Nice gesture	Asked for outside help	Apologized to another person	I didn't do anything
Anglo-West	80.2%	20.2%	13.3%	6.0%	53.7 %
Mediterranean	74.1%	27.6%	15.7%	9.0%	45.2%
Latin Europe	79.1%	27.9%	12.3%	7.8%	48.7%
Southeastern Europe	72.0%	28.7%	11.4%	13.8%	41.9%
Middle East	72.7%	27.1%	18.3%	7.6%	45.2%
East Asia	55.3%	21.2%	8.1%	3.3%	66.1%

Note. Percentages of alternative reconciliatory behaviors refer to the % of participants in each region that reported each option after not offering an apology. Participants had the possibility to report multiple alternative behaviors if they reported they had not apologized.

We found that, across the five regions, participants who did not offer an apology to the other party most frequently reported doing nothing following the transgression (range = 41.9% to 66.1%). Among the remainder of reconciliatory behaviors, offering a nice gesture instead of an apology was the most frequent behavior in all regions (range = 20.2% to 28.7%). In most regions this was followed by asking for outside help in the matter (range = 8.1% to 18.3%) and then by apologizing to another related person (range = 3.3% to 7.8%), except for Southeastern Europe where the reverse pattern was found (asking for outside help in the matter: 11.4%, apologizing to another related person: 13.8%).

We found significant differences in the frequencies of all these behavioral responses (asked for outside help: χ^2 (4, 1304) = 17.57, p = .001; apologized to other, related person: χ^2 (4, 1304) = 18.81, p < .001; did nothing: χ^2 (4, 1304) = 40.61, p < .001), except for offering a nice gesture (nice gesture: χ^2 (4, 1304) = 8.11, p = .088). Examining the adjusted residuals for each

behavior separately revealed that participants from East Asian societies were more likely than average to do nothing (z = 5.85), and less likely than average to ask for outside help (z = -3.14) or to apologize to another person related to the victim (z = -3.02). Participants from Southeastern European societies were more likely than average to apologize to another related person than the victim (z = 3.57), whereas participants from Middle Eastern societies more likely than average to ask for outside help in the matter (z = 3.77); participants from both regions were also less likely than average to do nothing (z = -2.66, and z = -3.37, respectively).

Discussion

Extending previous research into the role of honor values in reluctance to apologize in individual societies (Campbell, 1964; Lin et al., 2022), our study provides the first test of the role of culture-level differences in honor values in people's reluctance to apologize as well as self-reported apology behaviors. We found that members of societies where honor values were more prevalent also reported greater concerns about the risks of apologizing (vs. not apologizing) for their social image. In turn, these image concerns predicted not only a greater reluctance to apologize, but also a lower incidence of recalled apology behaviors following past transgressions. Despite these links, however, cultural variation in honor values did not predict poorer apology outcomes overall, suggesting that the relationship between honor culture and reluctance to apologize may not be as straightforward as previously thought.

Do image concerns about apologies keep individuals in honor cultures from apologizing?

As shown in our correlation and mediation analyses, members of cultural groups with stronger personal or perceived normative honor values were more likely to show stronger image concerns regarding offering an apology versus not apologizing (even if most participants overall had greater image concerns about not apologizing than about apologizing—see Footnote 10).

Our mediation analyses further showed that these image concerns indeed predicted both reluctance to apologize (by both self- and social image concerns) and self-reported apologies in past situations (by social image concerns only), and consistently supported indirect effects of honor on these apology outcomes through image concerns. These results point to the role honor environments can play in individual processes concerning apologies, aligning with the idea that environments that focus on honor could foster a relatively greater inclination to worry about the impact of apologizing (vs. not apologizing) on one's self-image, leading to worse apology outcomes. These findings are also in line with previous work showing that our socio-cultural environment can profoundly shape our psychological and behavioral tendencies (Uskul & Oishi, 2020) and call for a consideration of contextual factors when studying reconciliation processes and potential obstacles to apologies. One important consideration is that, while we did find consistent indirect effects, the total effects at the cultural level were consistently not significant, highlighting the possibility that further mediating mechanisms may be at play in the link between honor and apology-related outcomes (see Zhao et al., 2010). Future research on the topic should ensure to include a wider range of variables that may account for these relationships in both negative (e.g., fewer apologies through higher image concerns) and positive directions (e.g., more apologies through concerns about one's morality; Lin et al., 2022).

At the within-culture level of analysis, we found a more nuanced picture regarding the interplay between individual differences in honor, image concerns, and apology-related behaviors, particularly in relation to the role and patterns of our two individual-level sub-facets of honor (values related to the defense of family reputation, and values related to self-promotion & retaliation). First, we consistently found that stronger honor values related to *self-promotion and retaliation* were linked to stronger image concerns about apologizing (vs. not apologizing),

which in turn predicted stronger reluctance to apologize and fewer self-reported apologies. This pattern of results is in line with previous theoretical and empirical (Lin et al., 2022) work on honor and apologies, proposing that individuals with stronger honor values may be more reluctant to offer apologies due to heightened concerns that apologies may make them look weak. Our factor of self-promotion and retaliation may have been particularly reflective of this idea, as the factor primarily touched upon showing strength in response to honor threats and displays of power. Second, however, honor values related to the *defense of family reputation* (a different, but crucial dimension of honor dynamics, see e.g., Rodriguez Mosquera, 2016) showed the opposite pattern of relationships and were consistently linked to relatively *weaker* image concerns about apologizing (vs. not apologizing), thus indirectly predicting *lower* levels of reluctance to apologize and *more* self-reported apologies.

This pattern of findings underlines several important points. First, honor is not a unitary, but a multifaceted construct that is linked to complex social dynamics, particularly at the level of individuals. The differential patterns of the two components of honor at the individual level not only highlight different relationships between honor components and apology processes but may also help to explain why our culture-level effects of honor were often not strong enough to show significant total effects. Although we found significant indirect effects consistent with our expectations—such that members of cultural groups with stronger honor norms and values tended to report higher concerns about apologizing (vs. not apologizing) and poorer apology outcomes—the opposing patterns for two dimensions of honor values at the individual level suggest the possibility that culture-level honor norms and values potentially could similarly affect image concerns in multiple and contradictory ways, which may have somewhat weakened the pattern of culture-level findings. Assessing honor in a nuanced way at the level of its

underlying dimensions can thus have profound consequences for the applicability of any research on honor (Rodriguez Mosquera, 2016), and equating honor solely with a concern for toughness and strength may be a conceptual oversimplification.

Second, but relatedly, it is possible that the opposite pathways for the two sub-facets of honor and apology outcomes to some extent reflect the widespread duality of honor: on the one hand individuals must compete with others, promote themselves, and stand out from the crowd as strong and tough (e.g., through self-promotion and retaliation). On the other hand, they must be aware that their acts also reflect on the honor of close others (e.g., their family) and maintain good and cordial relationships with close others around them (which may require morality and agreeableness rather than strength). In the latter specific context, apologizing (vs. not apologizing) may be perceived to be more in line with maintaining an honorable self- and social image, potentially reducing the reluctance to apologize. In fact, in their studies with Turkish and American participants, Lin and colleagues (2022) found that when honor was reframed to be about morality ("virtue") instead of strength ("virility"), differences in the reluctance to apologize were greatly reduced between the two countries. In our study, the endorsement of the two different honor facets may represent these opposing forces, that may be differentially salient in different relationships and situations.

Finally, within all analyses the overall patterns of results were the same for our two measures of personal and perceived normative honor endorsement. This further supports the utility and value of an intersubjective approach to the study of cultures (Smith et al., 2017), using individuals as "informants" reporting on their cultural environment. Such an approach may allow researchers to complement the study of culture exclusively from a perspective of individual

variation and to tap into cultural elements beyond the individual (e.g., perceptions of social norms) that may also guide cultural ways of being and relating.

Do individuals from honor cultures "walk the walk" or just "talk the talk"?

Previous studies on reluctance to apologize (and particularly central studies from the realm of apologies in honor cultures, see e.g., Lin et al., 2022) have largely relied on studying apologies in the context of de-contextualized scales or hypothetical scenarios. Using an additional measure of self-reported apology behavior in the context of a past transgression, our results further complement previous insights and suggest a certain level of caution in fully generalizing these results to participants' recalled behavior.

First, the explained variance for our outcome variables in our mediation models was generally much higher for our attitudinal measure of reluctance to apologize (individual level: 25.4% - 25.6%; sample level: 32.6% - 33.5%) than for our measure of recalled apology behavior (individual level: 2.0%; sample level: 1.2% - 1.8%). Second, both self- and social image concerns showed significant direct paths, as well as significant indirect effects, when predicting reluctance to apologize, suggesting that both types of concerns may play a role in people's attitudes towards offering apologies following transgressions. However, in the analyses predicting self-reported past apology behavior it was only social image concerns, not self-image concerns, that showed significant direct and indirect effects across our mediation models. Admittedly, in our set of complementary single mediator models (see Supplementary Materials) self-image concerns did indeed show significant effects; yet our main analyses indicate that concerns about one's reputation may be relatively more potent predictors of actual apology behavior compared to self-image concerns. This pattern connects to an extensive literature on the central importance of reputation in cultures of honor, structuring social behaviors and

relationships (for an overview, see e.g., Uskul & Cross, 2019) and concerns about one's social image and reputation have traditionally been the central focus of research on honor cultures (see Uskul et al., 2023).

Contextualizing these findings further, it is important to note that, among the regions that we included in this study, it was East Asian, not Mediterranean, societies that offered the lowest levels of offered apologies in the recalled situation, with Anglo-Western societies showing the highest levels. Given the predominant emphasis on relationship harmony and interpersonal attunement in East Asian societies (see e.g., Leung & Cohen, 2011; Markus & Kitayama, 2010) this finding may appear counterintuitive. Yet, previous work has also found that people in collectivistic cultures may be less actively engaged in close relationships (e.g., in levels of social support, self-disclosure; Kito et al., 2017) due to low relational mobility and social structures centered around assurance (rather than trust; Yamagishi & Yamagishi, 1994), and that individuals higher in interdependent self-construal (as often found in East Asian societies) show particularly high levels of *indirect* conflict management styles (such as avoidance or third-party mediation; Ting-Toomey et al., 2001; but see Oetzel et al., 2001 for regional differences between Chinese and Japanese). Overall, while we do find a consistent role of honor endorsement and image concerns in reluctance to apologize, cultural groups where honor values are prevalent (such as MENA societies) may not represent an outlier in the absence of apologies globally, depending on which other regions one uses as a frame of reference.

Do individuals in honor-focused cultures reconcile in other ways than apologies?

Finally, we explored whether (if apologies are indeed more undesirable acts in these cultures) reconciliation in Mediterranean societies may be driven by other behaviors than direct apologies, by exploring reported behaviors among those participants that did not report having

offered an apology in a past wrongdoing. We found that particularly Southeastern European and Middle Eastern regions showed an interesting pattern of differences: individuals from both of these regions were less likely than those from other regions (especially East Asian participants) to report to have done nothing, and they were more likely to engage in reconciliatory behaviors that included people *other* than only the transgressed person (i.e., apologizing to a related person in Southeastern Europe, and asking someone else to help resolve the situation in the Middle East).

The observed pattern of results suggests that reconciliatory processes for transgressions in (some) honor-focused cultures may be unfolding within the wider social context rather than just between the involved actors. Honor as a social resource has frequently been found to hold a strong element of interdependence with close others (particularly one's family, see e.g., Rodriguez Mosquera, 2016; Uskul et al., 2012; van Osch et al., 2013), in which potential transgressions towards one's honor may "spill over" and affect close others in one's community. To successfully resolve such transgressions, in contexts where multiple people's honor may be at stake, people may find it necessary to seek advice and support from impartial others and to extend their reconciliatory efforts to the victim's larger social circle. At the same time, these alternative reconciliatory behaviors may also reflect a person's caution and awareness of the potential danger for escalation in honor cultures, which may be somewhat reduced by relying on outside mediation or avoiding direct confrontation with the victim.

Limitations and Future Directions

There are several limitations that should be considered when interpreting our results. First, even though our measure of recalled transgression situations and self-reported apologies was novel in going beyond attitudinal scales and approximating actual behavior in the past, it is

still subject to the same limitations of cross-sectional self-report measures (e.g., self-presentation bias, self-selection etc.). Future research should expand our insights into honor and apologies beyond one-off self-report measures and incorporate either a wider sampling of situations (e.g., via experience sampling methodologies, see Myin-Germeys & Kuppens, 2022) or assessment of actual interpersonal behaviors and situations (e.g., via observational interaction studies). Particularly the inclusion of longitudinal or experimental data (e.g., by priming honor; Lin et al., 2022) may provide deeper insights into the direction of causal links underlying our theoretical framework – an important goal considering the dynamic and mutual constitution of "culture" and "mind" (Markus & Kitayama, 2010) in which a cultural logic of honor would be assumed to not only shape image-concerns and apology behaviors, but these concerns and behaviors also to form the overall socio-cultural honor logic as well. As such, the associations found in our own data may capture only part of the complete picture and may be better understood as indicators of explanatory value, not unidirectional causal influences. As a similar methodological point, while our current work represents a step beyond previous work by examining the link between honor and apologies across a wider range of 14 countries, this number still represents a limited number of units for analyses at the cultural level. Unlike our mediation models (which drew power from the larger individual level), our correlation analyses in particular should thus be seen as first tests of the proposed associations as they relied on a relatively limited sample size and power ($N = 28$ groups), and would only have been adequately powered to detect large sized effects (i.e., $r >= .50$ with *power* = 80%). Furthermore, although our decision to cluster participants into groups at the intersection of gender and countries aimed to respect potential differences between gender groups and maximize the number of higher-level groups for more robust estimation (Maas & Hox, 2005), this decision also meant that our multilevel models carried a certain degree of non-

independence at the culture-level which may still have impacted our findings and introduced bias in our estimates. Ultimately, future research should aim to further increase the number of societies under study to obtain greater statistical power and even more comprehensive insights.

Second, while apologies can be a crucial part of reconciling and mending relationships after a transgression (Barkat, 2002; Eaton et al., 2006; Lazare, 2005; Ohbuchi et al., 1989; Schlenker & Darby, 1981; Wohl & Tabri, 2016), they only represent a part of the larger process of reconciliation: apologies signal regret for an harmful action and a willingness to make amends (Fehr et al., 2010; Lewis et al., 2015; Schlenker & Darby, 1981), but this may be ineffective if the other person is not willing to accept the apology, forgive the transgressor, and continue the relationship. The current work thus represents an important step forward for honor research (which has been dominated by a focus on retaliation, see review by Uskul & Cross, 2019), but does not yet fully examine the interplay of apologies and forgiveness as part of the whole cycle of reconciliation. Cross-cultural work encompassing these elements in interplay appears especially important, as Shafa and colleagues (2017) provided some first evidence from a smaller cultural comparison that Turkish participants appeared to show a higher threshold for forgiveness and were less likely to forgive even after an apology was made, compared to Dutch participants. Future research should expand this line of research to a larger sample of cultures and include assessment of both apologies and forgiveness.

Third, in line with much of the research conducted on apologies, the current work focused exclusively on the two involved parties of the transgressor and the transgressed. Yet, considering our results on alternative reconciliatory behaviors, this may not fully capture the social and interdependent dynamics of apologies in honor cultures. Future research may therefore benefit from contextualizing apology-related (and alternative) behaviors within the

larger social network of the involved persons, including the role and influence of relevant close others in the reconciliation process.

Finally, the focus of the current work was to examine and extend a general perspective on the link between honor and reconciliatory behaviors, but future research should aim to zoom in and provide more nuance to this relationship by examining possible moderating and boundary conditions. For example, recent research on gratitude has proposed that gratitude may be offered more readily depending on the cultural expectations for partners in relationships (Yu & Chaudhry, 2024), and the authors propose a similar perspective could be applied to apologies: apologies may be offered and expected more when culturally central concerns rather than peripheral concerns are violated, as expectations for the respect of these concerns may be higher. In the current context, this may mean that higher honor endorsement may particularly foster apologies in contexts where, and through an awareness of, central honor-related concerns that have been violated (e.g., undermining morality, authority, sexual purity).

Conclusion

The current research set out to shed further light on the relation between honor, image concerns, and the reluctance to offer an apology following committing a transgression by providing the first systematic large-scale investigation into the link between honor and apologies, utilizing cross-cultural data from a diverse set of societies circum-Mediterranean and beyond. Drawing upon culture-level correlations and multilevel mediation analyses, we explored the interplay between honor, image concerns, and apologies at both individual and cultural levels of analysis, for both personal and perceived normative honor endorsement, and for both attitudinal (reluctance to apologize) and behavioral (offered apologies) apology outcomes. Taken together our results support the idea that members of honor cultures may be more reluctant to offer

apologies due to image concerns, particularly concerns about one's social image, but they also suggest that equating honor solely with a concern for strength may be oversimplified. Limiting work on reconciliation to the study of direct apologies may omit contextual factors and processes when studying reconciliation processes and potential obstacles to apologies.

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Supplementary Materials

SM.1. Correlation Tables

Table S1

Correlation Table for all Variables at the Sample Level (Gender Group by Society; $N = 28$)

Variable	*M*	*SD*	1	2	3	4	5
1. Personal Honor Endorsement	-0.00	0.42					
2. Perceived Normative Honor Endorsement	0.00	0.36	.92*** [.83, .96]				
3. Self-Image Concerns (Difference Score)	0.00	0.39	.52** [.18, .75]	.46* [.10, .71]			
4. Social-Image Concerns (Difference Score)	-0.00	0.44	.69*** [.42, .84]	.76*** [.54, .88]	.80*** [.61, .91]		
5. Reluctance to Apologize	0.00	0.19	.27 [-.11, .58]	.22 [-.16, .55]	.68*** [.41, .84]	.66*** [.38, .83]	
6. Offered Apologies	--	--	-.10 [-.46, .28]	-.03 [-.40, .34]	-.31 [-.61, .07]	-.18 [-.52, .21]	-.29 [-.60, .09]

Note. M and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014). * indicates $p < .05$. ** indicates $p < .01$. *** indicates $p < .001$.

Table S2

Correlation Table for all Variables at the Individual Level ($N = 5471$)

Variable	*M*	*SD*	1	2	3	4	5	6	7
1. Personal Honor Endorsement: Defense of Family Reputation	-0.00	0.97							
2. Personal Honor Endorsement: Self-Promotion & Retaliation	-0.00	0.82	.50*** [.48, .52]						
3. Perceived Normative Honor Endorsement: Defense of Family Reputation	-0.00	0.92	.61*** [.60, .63]	.32*** [.30, .34]					
4. Perceived Normative Honor Endorsement: Self-Promotion & Retaliation	-0.00	0.86	.34*** [.31, .36]	.48*** [.46, .50]	.63*** [.61, .64]				
5. Self-Image Concerns (Difference Score)	0.00	1.80	-.22*** [-.25, -.20]	.17*** [.15, .20]	-.28*** [-.31, -.26]	-.06*** [-.09, -.04]			
6. Social-Image Concerns (Difference Score)	0.00	1.67	-.21*** [-.24, -.19]	.15*** [.12, .18]	-.27*** [-.29, -.24]	-.03** [-.06, -.01]	.67*** [.66, .69]		
7. Reluctance to Apologize	0.00	0.96	-.19*** [-.21, -.16]	.11*** [.08, .14]	-.24*** [-.27, -.22]	-.05*** [-.07, -.02]	.47*** [.45, .49]	.42*** [.40, .44]	
8. Offered Apologies	--	--	-.02 [-.01, .05]	-.03* [-.06, -.01]	.02** [.00, .05]	-.01 [.03, .02]	-.09*** [-.12, -.06]	-.11*** [-.13, -.08]	-.14*** [-.17, -.11]

Note. M and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014). * indicates $p < .05$. ** indicates $p < .01$. *** indicates $p < .001$.

SM.2. Parameter Estimates for Mediation Analyses: Simultaneous Mediator Models

Table S3

Parameter Estimates for Two Mediator Models Involving Perceived Normative Honor Endorsement

Perceived Normative Endorsement of Honor	Reluctance to Apologize (DV)										Offered Apologies (DV)									
	Self-Image Concerns					Social-Image Concerns					Self-Image Concerns					Social-Image Concerns				
	b	*SE*	*p*	*95% CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*
Between-groups parameters																				
Honor → Image Concerns ($a_{1/2}$)	.500	.169	.003*	.168, .831	.460	.944	.156	< .001*	.638, 1.251	.762	.500	.169	.003*	.168, .831	.460	.944	.156	< .001*	.638, 1.251	.762
Image Concerns → Outcome ($b_{1/2}$)	.167	.012	< .001*	.145, .190	.402	.101	.012	< .001*	.077, .125	.277	-.049	.028	.076	-.103, .005	-.399	-.115	.027	< .001*	-.168, -.062	-1.070
Honor → Outcome (c'_1)	-.063	.069	.363	-.199, .073	-.139	-	-	-	-	-	.121	.200	.543	-.270, .513	.912	-	-	-	-	-
Total effect (c_1)	.116	.096	.224	-.071, .303	.257	-	-	-	-	-	-.012	.209	.955	-.421, .398	-.087	-	-	-	-	-
Indirect effect ($a_{1/2} * b_{1/2}$)	.084	.028	.003*	.029, .138	.185	.096	.020	< .001*	.056, .136	.211	-.024	.014	.086	-.052, .004	-.184	-.109	.027	< .001*	-.161, -.057	-.815
Correlation/Covariance Mediators	.076	.024	.002*	.029, .123	.787	-	-	-	-	-	.076	.024	.002*	.029, .123	.787	-	-	-	-	-
Modelled variance																				
R^2 (Mediator)			21.2%					58.1%					21.2%					58.1%		
R^2 (Outcome)			32.6%					-					1.2%					-		
Within-groups parameters																				
Image Concerns → Outcome ($b_{3/4}$)	.167	.012	< .001*	.145, .190	.314	.101	.012	< .001*	.077, .125	.176	-.049	.028	.076	-.103, .005	-.336	-.115	.027	< .001*	-.168, -.062	-.735
Self-Promotion & Retaliation																				
Self-Promotion → Image Concerns ($a_{3/4}$)	.392	.061	< .001*	.272, .511	.188	.424	.048	< .001*	.329, .518	.219	.402	.059	< .001*	.287, .516	.194	.432	.050	< .001*	.333, .530	.224
Self-Promotion → Outcome (c'_2)	.081	.023	< .001*	.037, .126	.073	-	-	-	-	-	-.032	.057	.583	-.144, .081	-.105	-	-	-	-	-
Total effect (c_2)	.190	.033	< .001*	.125, .254	.171	-	-	-	-	-	-.101	.055	.068	-.209, .008	-.335	-	-	-	-	-
Indirect effect ($a_{1/2} * b_{1/2}$)	.065	.010	< .001*	.045, .086	.059	.043	.009	< .001*	.025, .061	.039	-.020	.012	.095	-.043, .003	-.065	-.050	.012	< .001*	-.074, -.025	-.165
Defense of Family Reputation																				
Family Defense → Image Concerns ($a_{5/6}$)	-.785	.059	< .001*	-.900, -.670	-.401	-.740	.055	< .001*	-.848, -.632	-.407	-.796	.057	< .001*	-.908, -.684	-.405	-.750	.055	< .001*	-.858, -.643	-.411
Family Defense → Outcome (c'_3)	-.159	.025	< .001*	-.209, -.109	-.153	-	-	-	-	-	.008	.062	.894	-.114, .081	.029	-	-	-	-	-
Total effect (c_3)	-.365	.032	< .001*	-.427, -.303	-.351	-	-	-	-	-	.134	.059	.024*	.017, .250	.467	-	-	-	-	-
Indirect effect ($a_{5/6} * b_{3/4}$)	-.131	.014	< .001*	-.159, -.103	-.126	-.075	.013	< .001*	-.100, -.050	-.072	.039	.022	.083	-.005, .083	.136	.086	.020	< .001*	.047, .126	.302
Correlation/Covariance Mediators	1.704	.058	< .001*	1.590, 1.818	.634	-	-	-	-	-	1.689	.055	< .001*	1.582, 1.797	.633	-	-	-	-	-
Modelled variance																				
R^2 (Mediator)			10.2%					10.2%					10.3%					10.4%		
R^2 (Outcome)			25.6%					-					2.0%					-		

Note. * $p < .05$.

Table S4

Parameter Estimates for Two Mediator Models Involving Personal Honor Endorsement

Personal Endorsement of Honor	Reluctance to Apologize (DV)										Offered Apologies (DV)									
	Self-Image Concerns					Social-Image Concerns					Self-Image Concerns					Social-Image Concerns				
	b	*SE*	*p*	*95% CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*
Between-groups parameters																				
Honor → Image Concerns ($a_{1/2}$)	.478	.147	.001*	.189, .766	.519	.723	.152	< .001*	.424, 1.022	.689	.478	.147	.001*	.189, .766	.519	.723	.152	< .001*	.424, 1.022	.689
Image Concerns → Outcome ($b_{1/2}$)	.163	.012	< .001*	.140, .186	.386	.102	.013	< .001*	.076, .127	.274	-.045	.029	.120	-.101, .012	-.300	-.113	.027	< .001*	-.166, -.059	-.860
Honor → Outcome (c'_1)	-.033	.058	.574	-.146, .081	-.084	-	-	-	-	-	.026	.132	.846	-.233, .284	.186	-	-	-	-	-
Total effect (c_1)	.119	.077	.125	-.033, .271	.305	-	-	-	-	-	-.077	.143	.587	-.357, .202	-.563	-	-	-	-	-
Indirect effect ($a_{1/2}$ * $b_{1/2}$)	.078	.023	.001*	.032, .124	.200	.074	.018	< .001*	.038, .109	.189	-.021	.014	.113	-.048, .005	-.156	-.081	.020	< .001*	-.122, -.041	-.593
Correlation/Covariance Mediators	.075	.026	.004*	.024, .125	.719	-	-	-	-	-	.075	.026	.004*	.024, .125	.719	-	-	-	-	-
Modelled variance																				
R^2 (Mediator)			26.9%					47.4%					26.9%					47.4%		
R^2 (Outcome)			33.5%					-					1.8%					-		
Within-groups parameters																				
Image Concerns → Outcome ($b_{3/4}$)	.163	.012	< .001*	.140, .186	.306	.102	.013	< .001*	.076, .127	.177	-.045	.029	.120	-.101, .012	-.308	-.113	.027	< .001*	-.166, -.059	-.718
Self-Promotion & Retaliation																				
Self-Promotion → Image Concerns ($a_{3/4}$)	.832	.052	< .001*	.696, .968	.379	.702	.062	< .001*	.580, .823	.344	.843	.074	< .001*	.697, .988	.384	.715	.069	< .001*	.579, .850	.351
Self-Promotion → Outcome (c'_2)	.112	.020	< .001*	.072, .152	.096	-	-	-	-	-	-.049	.059	.405	-.166, .067	-.155	-	-	-	-	-
Total effect (c_2)	.319	.034	< .001*	.253, .385	.273	-	-	-	-	-	-.168	.054	.002*	-.274, -.062	-.525	-	-	-	-	-
Indirect effect ($a_{1/2}$ * $b_{1/2}$)	.136	.015	< .001*	.106, .165	.116	.071	.013	< .001*	.046, .097	.061	-.038	.025	.135	-.087, .012	-.118	-.081	.018	< .001*	-.177, -.044	-.252
Defense of Family Reputation																				
Family Defense → Image Concerns ($a_{5/6}$)	-.764	.052	< .001*	-.866, -.662	-.411	-.666	.047	< .001*	-.757, -.575	-.386	-.752	.052	< .001*	-.853, -.651	-.404	-.661	.048	< .001*	-.755, -.566	-.382
Family Defense → Outcome (c'_3)	-.129	.018	< .001*	-.164, -.093	-.130	-	-	-	-	-	.014	.054	.789	-.091, .120	.053	-	-	-	-	-
Total effect (c_3)	-.321	.025	< .001*	-.370, .272	-.324	-	-	-	-	-	.123	.051	.016*	.023, .223	.451	-	-	-	-	-
Indirect effect ($a_{5/6}$ * $b_{3/4}$)	-.125	.013	< .001*	-.150, -.100	-.126	-.068	.011	< .001*	-.089, -.046	-.068	.034	.022	.124	-.009, .077	.124	.074	.018	< .001*	.039, .110	.274
Correlation/Covariance Mediators	1.576	.047	< .001*	1.484, 1.668	.616	-	-	-	-	-	1.570	.047	< .001*	1.478, 1.663	.616	-	-	-	-	-
Modelled variance																				
R^2 (Mediator)			15.6%					13.4%					15.3%					13.3%		
R^2 (Outcome)			25.4%					-					2.0%					-		

Note. * $p < .05$.

SM.3. Parameter Estimates for Mediation Analyses: Single Mediator Models

Table S5

Parameter Estimates for Single Mediator Models Involving Perceived Normative Honor Endorsement

Perceived Normative Endorsement of Honor	Reluctance to Apologize (DV)										Offered Apologies (DV)									
	Self-Image Concerns					Social-Image Concerns					Self-Image Concerns					Social-Image Concerns				
	b	*SE*	*p*	*95% CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*
Between-groups parameters																				
Honor → Image Concerns (a_1)	.500	.169	.003*	.168, .831	.460	.944	.156	< .001*	.638, 1.251	.762	.500	.169	.003*	.168, .831	.460	.944	.156	< .001*	.638, 1.251	.762
Image Concerns → Outcome (b_1)	.227	.011	< .001*	.205, .248	.527	.216	.013	< .001*	.191, .240	.605	-.116	.025	< .001*	-.165, -.067	-1.126	-.148	.025	< .001*	-.198, -.099	-1.542
Honor → Outcome (c'_1)	.003	.072	.968	-.137, .143	.006	-.087	.076	.250	-.237, .062	-.198	.061	.203	.763	-.337, .460	.549	.133	.202	.511	-.263, .528	1.112
Total effect (c_1)	.116	.096	.224	-.071, .303	.248	.116	.096	.224	-.071, .303	.263	.004	.210	.987	-.408, .415	.031	-.008	.209	.971	-.417, .402	-.063
Indirect effect (a_1 * b_1)	.113	.037	.002*	.040, .186	.242	204	.035	< .001*	.134, .273	.461	-.058	.020	.004	-.097, -.019	-.518	-.140	.027	< .001*	-.194, -.087	-1.175
Modelled variance																				
R^2 (Mediator)			21.2%					22.2%					21.2%					58.1%		
R^2 (Outcome)			28.1%					58.1%					0.9%					1.0%		
Within-groups parameters																				
Image Concerns → Outcome (b_2)	.227	.011	< .001*	.205, .248	.425	.216	.013	< .001*	.191, .240	.375	-.116	.025	< .001*	-.165, -.067	-.951	-.148	.025	< .001*	-.198, -.099	-.977
Self-Promotion & Retaliation																				
Self-Promotion → Image Concerns (a_2)	.392	.061	< .001*	.272, .511	.188	.424	.048	< .001*	.329, .518	.219	.402	.059	< .001*	.287, .516	.194	.432	.050	< .001*	.333, .530	.224
Self-Promotion → Outcome (c_2)	.101	.023	< .001*	.056, .146	.091	.098	.025	< .001*	.048, .148	.088	-.055	.056	.326	-.164, .054	-.216	-.037	.057	.523	-.149, .076	-.126
Total effect (c_2)	.190	.033	< .001*	.125, .254	.171	.190	.033	< .001*	.125, .254	.171	-.101	.055	.066	-.209, .007	-.400	-.101	.055	.069	-.209, .008	-.345
Indirect effect (a_2 * b_2)	.089	.015	< .001*	.059, .119	.080	.091	.015	< .001*	.063, .120	.082	-.047	.012	< .001*	-.071, -.022	-.184	-.064	.014	< .001*	-.091, -.037	-.219
Defense of Family Reputation																				
Family Defense → Image Concerns (a_3)	-.785	.059	< .001*	-.900, -.670	-.179	-.740	.055	< .001*	-.848, -.632	-.407	-.796	.057	< .001*	-.908, -.684	-.405	-.750	.055	< .001*	.858, -.643	-.411
Family Defense → Outcome (c_3)	-.187	.026	< .001*	-.238, -.137	-.401	-.206	.024	< .001*	-.253, -.159	-.197	.041	.061	.504	-.078, .160	.169	.023	.061	.710	-.097, .142	.082
Total effect (c_3)	-.365	.032	< .001*	-.427, -.303	-.350	-.365	.032	< .001*	-.427, -.303	-.350	.133	.059	.024*	.017, .249	.554	.134	.059	.024*	.018, .250	.484
Indirect effect (a_3 * b_2)	-.178	.019	< .001*	-.215, -.141	-.170	-.159	.020	< .001*	-.198, -.121	-.153	.092	.021	< .001*	.050, .134	.385	.111	.021	< .001*	.071, .152	.402
Modelled variance																				
R^2 (Mediator)			10.2%					10.2%					10.3%					10.4%		
R^2 (Outcome)			23.9%					20.3%					1.4%					1.9%		

Note. * $p < .05$.

Table S6

Parameter Estimates for Single Mediator Models Involving Personal Honor Endorsement

Personal Endorsement of Honor	Reluctance to Apologize (DV)										Offered Apologies (DV)									
	Self-Image Concerns					Social-Image Concerns					Self-Image Concerns					Social-Image Concerns				
	b	*SE*	*p*	*95% CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*
Between-groups parameters																				
Honor → Image Concerns (a_1)	.478	.147	.001*	.189, .766	.519	.723	.152	< .001*	.424, 1.022	.689	.478	.147	.001*	.189, .766	.519	.723	.152	< .001*	.424, 1.022	.689
Image Concerns → Outcome (b_1)	.222	.012	< .001*	.199, .245	.514	.209	.013	< .001*	.183, .235	.559	-.110	.027	< .001*	-.162, -.057	-.831	-.142	.026	< .001*	-.194, -.090	-1.119
Honor → Outcome (c'_1)	.013	.061	.833	-.107, .133	.032	-.032	.062	< .001*	.154, .090	-.081	-.033	.136	.808	-.300, .234	-.272	.025	.133	.852	-.235, .285	.186
Total effect (c_1)	.119	.077	.125	-.033, .271	.299	.119	.077	.125	-.033, .271	.304	-.052	.016	.001*	-.366, .195	-.703	-.078	.142	.585	-.145, -.060	-.585
Indirect effect ($a_1 * b_1$)	.106	.031	.001*	.045, .167	.267	.151	.032	< .001*	.088, .214	.385	-.085	.143	.551	-.084, -.020	-.431	-.103	.022	< .001*	-.357, .201	-.771
Modelled variance																				
R^2 (Mediator)			26.9%					47.4%					26.9%					47.4%		
R^2 (Outcome)			28.3%					25.6%					1.4%					1.6%		
Within-groups parameters																				
Image Concerns → Outcome (b_2)	.222	.012	< .001*	.199, .245	.417	.209	.013	< .001*	.183, .235	.364	-.110	.027	< .001*	-.162, -.057	-.890	-.142	.026	< .001*	-.194, -.090	-.928
Self-Promotion & Retaliation																				
Self-Promotion → Image Concerns (a_2)	.832	.069	< .001*	.696, .968	.379	.702	.062	< .001*	.580, .823	.344	.843	.074	< .001*	.697, .988	.384	.715	.069	< .001*	.579, .850	.351
Self-Promotion → Outcome (c_2)	.134	.022	< .001*	.090, .178	.115	.173	.021	< .001*	.131, .215	.148	-.074	.057	.195	-.187, .038	-.275	-.066	.057	.242	-.178, .045	-.213
Total effect (c_2)	.319	.034	< .001*	.253, .385	.273	.319	.034	< .001*	.253, .385	.273	-.167	.054	.002*	-.273, -.061	-.617	-.168	.054	.002*	-.274, -.062	-.539
Indirect effect ($a_2 * b_2$)	.185	.021	< .001*	.144, .225	.158	.147	.020	< .001*	.108, .185	.125	-.092	.025	< .001*	-.141, -.044	-.342	-.102	.021	< .001*	-.142, -.061	-.326
Defense of Family Reputation																				
Family Defense → Image Concerns (a_3)	-.764	.052	< .001*	-.866, -.662	-.411	-.666	.047	< .001*	-.757, -.575	-.386	-.752	.052	< .001*	-.853, -.651	-.404	-.661	.048	< .001*	-.755, -.566	-.382
Family Defense → Outcome (c_3)	-.151	.019	< .001*	-.189, -.114	-.153	-.182	.017	< .001*	-.216, -.148	-.184	.039	.053	.459	-.065, .144	.172	.029	.051	.565	-.071, .130	.111
Total effect (c_3)	-.321	.025	< .001*	-.370, -.272	.324	-.321	.025	< .001*	-.370, -.272	-.324	.122	.051	.017*	.022, .221	.532	.123	.051	.016	.023, .223	.465
Indirect effect ($a_3 * b_2$)	-.170	.017	< .001*	-.202, -.137	-.171	-.139	.016	< .001*	-.170, -.108	-.140	.082	.021	< .001*	.041, .124	.360	.094	.019	< .001*	.056, .131	.354
Modelled variance																				
R^2 (Mediator)			15.6%					13.4%					15.3%					13.3%		
R^2 (Outcome)			23.7%					20.5%					1.5%					1.9%		

Note. * $p < .05$.

SM.4. Measurement Models

Here we report the measurement models at the individual and culture level for the scales to be used in our mediation analyses (self-image concerns, social-image concerns, and reluctance to apologize). Equivalent measurement models for the honor value scales are reported elsewhere (Vignoles et al., 2024). We separately conducted parallel series of measurement models for each scale, accounting for the multi-level structure of the data (nesting participants within cultural groups defined by the intersection of country and gender) and for differences in acquiescent response style.

In a first step, we conducted an ***exploratory factor analysis (EFA)*** to determine the most meaningful structure in these items at the individual level of analysis, using the TYPE=COMPLEX function in MPLUS to account for clustering of individuals into 28 cultural groups.

In a second step, we then conducted a ***confirmatory factor analysis (CFA)*** to model the best-fitting structure identified in the EFA, again using the TYPE=COMPLEX function to account for clustering. However, we included an additional method factor to model participants' acquiescent response tendencies: this method factor consisted of a latent factor with loadings of all items on this factor as set to 1, and itself uncorrelated with all substantive factors (see Welkenhuysen-Gybels et al., 2003). Depending on the fit of the model, we then screened for any necessary changes in the item structure (i.e., based on suggested modification indices and/or low item loadings, combined with theoretical considerations on the meaning of the items).

In a third step, we then tested the within-group CFA structure for metric invariance across cultural regions and genders, using ***multigroup invariance testing***. We grouped our 28 cultural groups into 5 cultural regions that have previously been distinguished by previous research based on socio-demographic, religious, linguistic, and historical dimensions: Anglo-West (UK, US, Canada), Latin Europe (Spain, Italy), Southeastern Europe (Greece, Greek Cypriot Community), MENA (Türkiye, Lebanon, Egypt, Turkish Cypriot Community, Tunisia), and East Asia (Japan, South Korea) (Mensah & Chen, 2012). We then tested invariance between these regions by running a series of multigroup models of the CFA structure as two-level models with an empty between-groups level (i.e., the model structure was modelled at the within-groups level only using group-mean-centered items). In line with previous testing approaches, we compared a ***constrained model***, in which the loadings of all items are constrained to be equal across all region or gender groups, against an ***unconstrained model*** in which item loadings were allowed to vary across all region or gender groups. We adopted the conventional rule to assume invariance if the difference in CFI was equal or less than .01 when comparing constrained and unconstrained models (Cheung & Rensvold, 2002). Where this criterion was not met, we considered items as potentially non-invariant and eligible for exclusion if the item showed both (a) a modification index > 10 in the constrained model that suggested freeing up the loading constraint across groups (thus implying that the size of the loading differed significantly across groups) and (b) one or more non-significant loadings in the unconstrained model (suggesting the item may not be a valid indicator of its target factor in one or more groups).

In a fourth step, we tested whether the identified within-groups structure would hold at the between-group level of analysis (N = 28 cultural groups), using a ***multilevel confirmatory factor analysis*** to model factors at the within- and between-groups levels separately. We started with a constrained model setting the factor structure to be equal at both the individual and group levels of analysis, thus following a between-group level factor structure that was the same as the existing within-groups model. We then explored various unconstrained models in which the factor structure at the between-group level were allowed to differ from the established structure and loadings at the within-group level. We then refined the model at the between-groups level based on (a) how well the between-groups model fit the data overall, and (b) the strength of individual item loadings (i.e., removing non-significant items from the sample-level structure) until a final model was reached that was theoretically meaningful and fit the data well.

In a fifth and final step, we then also tested the possibility of isomorphism across levels for any models that showed the same factor structure for individual and group levels. To this end, we tested an unconstrained model (reflecting the final multilevel model structure from the previous step) with a constrained model in which we constrained the loadings of all items to b ethe same across both levels of analyses.

Analyses were conducted using Mplus Version 8.5 (Muthén & Muthén, 1998). We evaluated model fit using the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Squared Residual (SRMR). Values of CFI and TLI > .95 (or > .90) RMSEA < .06 (or < .08), and SRMR < .08 (or < .10) have been proposed as criteria for "good" (or "acceptable") fit (Hu & Bentler, 1999; Kline, 2023).

Note that all these cut-off values should be considered as “rules of thumb” to aid interpretation and not used to draw firm inferences. They are mostly based on simpler statistical models tested in single groups only, and so they may be excessively stringent for more complex scenarios such as our current goal of evaluating a multi-factor instrument across 28 culturally diverse groups (Marsh et al., 2004). For multilevel models, Mplus provides separate values of SRMR for the within-groups and between-groups parts of the model: $SRMR_{within}$ and $SRMR_{between}$. However, it is known that SRMR becomes inflated and is arguably of limited use with sample sizes below 200 (Asparouhov & Muthén, 2018). With 28 units of analysis at the between-groups level of our multilevel models, we therefore considered that values of $SRMR_{between} < .20$ should be considered acceptable, provided that other fit indices did not suggest otherwise.

SM.4.1. Reluctance to Apologize

We first conducted an **exploratory factor analysis** to identify the underlying structure for these items at the individual level. Items were uncentered and clustered by the 28 samples made up by the combination of gender (male vs female) and country. A one-factor solution appeared to be the most theoretically meaningful and parsimonious solution. A two-factor or three-factort solution did not converge. Fit of the final one-factor solution was not considered adequate ($\chi2[2] = 230.593$, CFI = .351, TLI = .000, SRMR = .111, RMSEA = .145); however given that a following CFA including a method factor improved the fit of the one-factor solution we interpreted this as being due to the missing control for response tendencies in the EFA, not due to the conceptual structure of the model.

Table S7

Exploratory Factor Analysis Loadings of Reluctance to Apologize Items

Item	Reluctance to Apologize
I am unlikely to apologize if I have done something wrong.	.287
I rarely apologise to other people.	.243
In general, I apologise after having done something wrong.	-.749
After I have done something wrong, I usually apologize.	-.758

Note. Shown are the standardized loadings for the final one-factor solution of the exploratory factor analysis conducted with the reluctance to apologize items.

In the second step, we conducted a **confirmatory factor analysis** with the one-factor structure as well as a method factor to assess acquiescence in responding (see Table S8 for primary loadings on substantive factors). Fit of the model was excellent ($\chi2[1] = 1.266$, CFI = .999, TLI = .995, SRMR = .002, RMSEA = .007), and loadings for all items were significant. No modification indices emerged.

Table S8

Confirmatory Factor Analysis Loadings of Reluctance to Apologize Items

Item	Reluctance to Apologize
I am unlikely to apologize if I have done something wrong.	.607
I rarely apologise to other people.	.536
In general, I apologise after having done something wrong.	-.605
After I have done something wrong, I usually apologize.	-.607

Note. Shown are the standardized loadings for the final one-factor solution of the confirmatory factor analysis conducted with the reluctance to apologize items.

In the third step, we conducted **multigroup invariance testing** with the established one-factor structure. We tested invariance both across cultural regions, and across genders (female and male). An unconstrained model fit better than a constrained model across cultural regions (Constrained: $\chi2[37] = 80.154$, CFI = .975, TLI = .980, SRMR = .015, RMSEA = .034; Unconstrained: $\chi2[24] = 21.366$, CFI = 1.000, TLI = 1.000, SRMR = .003, RMSEA = .000; ΔCFI = .025), but not across gender groups (Constrained: $\chi2[13] = 2.208$, CFI = 1.000, TLI = 1.000, SRMR = .002, RMSEA = .000; Unconstrained: $\chi2[10] = 3.096$, CFI = 1.000, TLI = 1.000, SRMR = .001, RMSEA = .000; ΔCFI = .000). We thus assumed invariance of our items across genders, but we followed up our invariance analysis on an item-by-item basis across regions, in which all of the 4 items met our criteria for invariance across regions (no combination of modification index in the constrained model and non-significant loading in the unconstrained model). We there did not exclude any items in this step.

In the fourth step, we conducted a **multilevel confirmatory factor** analysis to model the factor structure of our data at the between-samples level. We found that a one-factor model on the between-samples level (see Table S9) was the most theoretically meaningful, interpretable, and fit the data well ($\chi2[2] = 0.994$, CFI = 1.000, TLI = 1.000, RMSEA = .000, $SRMR_{Within}$ = .002, $SRMR_{Between}$ = .023). No modification indices emerged in the final model, and a model with two-factors are the between-sample level did not converge.

Table S9

Multilevel Confirmatory Factor Analysis Loadings of Reluctance to Apologize Items

Item	Individual-Level	Culture-Level
	Reluctance to Apologize	Reluctance to Apologize
I am unlikely to apologize if I have done something wrong.	.609	.679
I rarely apologise to other people.	.529	.683
In general, I apologise after having done something wrong.	-.594	-.902
After I have done something wrong, I usually apologize.	-.611	-.551

Note. Shown are the standardized loadings for the final solution of the multilevel confirmatory factor analysis conducted with the reluctance to apologize items (one factor at the individual-level, and one factor at the culture-level).

In a fifth and final step, we then tested the possibility of **isomorphism** across levels for the final model. A constrained model with equal loadings of all items across both levels fit the data as well as an unconstrained model (Constrained: $\chi 2[5] = 9.060$, CFI = .995, TLI = .987, $SRMR_{Within} = .012$, $SRMR_{Between} = .148$, RMSEA = .034; Unconstrained: $\chi 2[2] = 0.994$, CFI = 1.000, TLI = 1.000, RMSEA = .000, $SRMR_{Within} = .002$, $SRMR_{Between} = .239$, ΔCFI = .005). We therefore decided to continue with the isomorphism model as a final model (see Table S10 for final loadings). All factors showed significant variances in the final model.

Table S10

Multilevel Confirmatory Factor Isomorphism Analysis Loadings of Reluctance to Apologize Items

Item	Individual-Level	Culture-Level
	Reluctance to Apologize	Reluctance to Apologize
I am unlikely to apologize if I have done something wrong.	.608	.813
I rarely apologise to other people.	.531	.365
In general, I apologise after having done something wrong.	-.596	-.718
After I have done something wrong, I usually apologize.	-.609	-.669

Note. Shown are the standardized loadings for the final solution of the multilevel confirmatory factor analysis for isomorphism (constraining loading strength to be equal across both levels) conducted with the reluctance to apologize items (one factor at the individual-level, and one factor at the culture-level). Please note that, despite the isomorphism constraints, the standardized estimates differ between levels due because the respective standardization of the (identical) unstandardized estimates is done using separate measures of standard deviations at the two levels.

SM.4.2. Self-Image Concerns

We first conducted an **exploratory factor analysis** to identify the underlying structure for these items at the individual level. Items were uncentered and clustered by the 28 samples made up by the combination of gender (male vs female) and country. A two-factor solution appeared to be the most theoretically meaningful and parsimonious solution. A one-factor solution fit the data substantially less ($\chi2[27] = 2827.12$, CFI = .845, TLI = .793, SRMR = .125, RMSEA = .138), while a three-factor solution contained a single-item factor. Fit of the final two-factor solution was excellent ($\chi2[19] = 47.192$, CFI = .998, TLI = .997, SRMR = .006, RMSEA = .016). As shown in Table S11, primary loadings of items were high (all above 0.6) and significant, with cross-loadings being below 0.1 for all items. Based on the pattern of item loadings, we interpreted the first factor as measuring self-image concerns about apologizing and the second factor as measuring self-image concerns about not apologizing.

Table S11

Exploratory Factor Analysis Loadings of Self-Image Concerns Items

Item	Self-Image Concerns about apologizing	Self-Image Concerns about not apologizing
Apologizing for a wrongdoing would harm my view of myself.	.764	-.010
If I apologised for something I have done wrong, I would lose respect for myself.	.782	.002
I would see myself as weak after apologising for a wrongdoing.	.857	-.014
Apologizing to another person would make me feel inferior to that person.	.852	.007
I would see myself as incompetent if I apologized.	.856	-.002
Apologizing after I have done something wrong would make me feel powerless.	.832	.022
If I failed to apologise for something I have done wrong, I would lose respect for myself.	.004	.754
Failing to apologise for a wrongdoing would harm my view of myself.	.005	.765
If I did not apologise for something I did wrong, I would think of myself as lacking integrity.	-.082	.679

Note. Shown are the standardized loadings for the final two-factor solution of the exploratory factor analysis conducted with the self-image concerns items.

In the second step, we conducted a **confirmatory factor analysis** with the two-factor structure as well as a method factor to assess acquiescence in responding (see Table S12 for primary loadings on substantive factors). Fit of the model was excellent ($\chi2[67]$ =753.262, CFI = .959, TLI = .952, SRMR = .071, RMSEA = .043), and loadings for all items were significant. Modification indices suggested one possible cross-loadings of items related to the substantive factors ($\chi2$ change = 27.505), but as this was low in strength (-0.085) compared to the respective primary loading (0.645) and given that the model already showed uniformly good fit indices we decided to not add any cross-loadings to the model in this step.

Table S12

Confirmatory Factor Analysis Loadings of Self-Image Concerns Items

Item	Self-Image Concerns about apologizing	Self-Image Concerns about not apologizing
Apologizing for a wrongdoing would harm my view of myself.	.709	
If I apologised for something I have done wrong, I would lose respect for myself.	.730	
I would see myself as weak after apologising for a wrongdoing.	.799	
Apologizing to another person would make me feel inferior to that person.	.799	
I would see myself as incompetent if I apologized.	.802	
Apologizing after I have done something wrong would make me feel powerless.	.779	
If I failed to apologise for something I have done wrong, I would lose respect for myself.		.728
Failing to apologise for a wrongdoing would harm my view of myself.		.738
If I did not apologise for something I did wrong, I would think of myself as lacking integrity.		.645

Note. Shown are the standardized loadings for the final two-factor solution of the confirmatory factor analysis conducted with the self-image concerns items.

In the third step, we conducted **multigroup invariance testing** with the established two-factor structure. We tested invariance both across cultural regions, and across genders (female and male). A constrained model fit as well as an unconstrained model across cultural regions (Constrained: $\chi2[428]$ = 1924.508, CFI = .932, TLI = .938, SRMR = .048, RMSEA = .057; Unconstrained: $\chi2[400]$ = 1884.327, CFI = 0.932, TLI = 0.934, SRMR = .048, RMSEA = .058; ΔCFI = .000), and gender groups (Constrained: $\chi2[167]$ = 1150.907, CFI = .925, TLI = .930, SRMR = .046, RMSEA = .046; Unconstrained: $\chi2[160]$ = 1149.126, CFI = .925, TLI = .927, SRMR = .046, RMSEA = .048; ΔCFI = .000). We thus assumed invariance of our items across genders and regions.

In the fourth step, we conducted a **multilevel confirmatory factor** analysis to model the factor structure of our data at the between-samples level. We found that a two-factor model on the between-samples level (see Table S13) was the most theoretically meaningful, interpretable, and fit the data well ($\chi2[135] = 1395.932$, CFI = 0.937, TLI = 0.927, RMSEA = 0.041, $SRMR_{Within} = .066$, $SRMR_{Between} = .239$). Modification indices suggested one possible cross-loadings of items related to the substantive factors ($\chi2$ change = 34.879), but as this was low in strength (-0.075) compared to the respective primary loading (0.760) and given that the model already showed uniformly good fit indices we decided to not add any cross-loadings to the model in this step.

Table S13

Multilevel Confirmatory Factor Analysis Loadings of Self-Image Concerns Items

Item	Individual-Level		Culture-Level	
	Self-Image Concerns about apologizing	**Self-Image Concerns about not apologizing**	**Self-Image Concerns about apologizing**	**Self-Image Concerns about not apologizing**
Apologizing for a wrongdoing would harm my view of myself.	.698		.882	
If I apologised for something I have done wrong, I would lose respect for myself.	.715		.940	
I would see myself as weak after apologising for a wrongdoing.	.789		.944	
Apologizing to another person would make me feel inferior to that person.	.791		.924	
I would see myself as incompetent if I apologized.	.796		.922	
Apologizing after I have done something wrong would make me feel powerless.	.768		.927	
If I failed to apologise for something I have done wrong, I would lose respect for myself.		.710		.939
Failing to apologise for a wrongdoing would harm my view of myself.		.711		.973
If I did not apologise for something I did wrong, I would think of myself as lacking integrity.		.639		.760

Note. Shown are the standardized loadings for the final solution of the multilevel confirmatory factor analysis conducted with the self-image concerns items (two factors at the individual-level, and two factors at the culture-level).

In a fifth and final step, we then tested the possibility of **isomorphism** across levels for the final model. A constrained model in which we constrained the loadings of all items to be the same across both levels of analyses fit the data as well as an unconstrained model (Constrained: $\chi2[142] = 1407.563$, CFI = .936, TLI = .930, $SRMR_{Within}$ = .066, $SRMR_{Between}$ = .260, RMSEA = .040; Unconstrained: $\chi2[135] = 1395.932$, CFI = 0.937, TLI = 0.927, RMSEA = 0.041, $SRMR_{Within}$ = .066, $SRMR_{Between}$ = .239, ΔCFI = .001). We therefore decided to continue with and calculate our factor scores for reluctance to apologize based on the isomorphism model (see Table S14 for final loadings). All factors showed significant variances in the final model.

Table S14

Multilevel Confirmatory Factor Isomorphism Analysis Loadings of Self-Image Concern Items

	Individual-Level		**Culture-Level**	
Item	**Self-Image Concerns about apologizing**	**Self-Image Concerns about not apologizing**	**Self-Image Concerns about apologizing**	**Self-Image Concerns about not apologizing**
Apologizing for a wrongdoing would harm my view of myself.	0.698		0.868	
If I apologised for something I have done wrong, I would lose respect for myself.	0.717		0.909	
I would see myself as weak after apologising for a wrongdoing.	0.790		0.932	
Apologizing to another person would make me feel inferior to that person.	0.791		0.925	
I would see myself as incompetent if I apologized.	0.795		0.924	
Apologizing after I have done something wrong would make me feel powerless.	0.769		0.917	
If I failed to apologise for something I have done wrong, I would lose respect for myself.		0.710		0.935
Failing to apologise for a wrongdoing would harm my view of myself.		0.712		0.969
If I did not apologise for something I did wrong, I would think of myself as lacking integrity.		0.638		0.799

Note. Shown are the standardized loadings for the final solution of the multilevel confirmatory factor analysis for isomorphism (constraining loading strength to be equal across both levels) conducted with the self-image concerns items (two factors at the individual-level, and two factors at the culture-level). Please note that, despite the isomorphism constraints, the standardized estimates differ between levels due because the respective standardization of the (identical) unstandardized estimates is done using separate measures of standard deviations at the two levels.

SM.4.3. Social-Image Concerns

We first conducted an **exploratory factor analysis** to identify the underlying structure for these items at the individual level. Items were uncentered and clustered by the 28 samples made up by the combination of gender (male vs female) and country. A two-factor solution appeared to be the most theoretically meaningful and parsimonious solution. A one-factor solution fit the data substantially less ($\chi2[27] = 3424.432$, CFI = .880, TLI = .840, SRMR = .120, RMSEA = .152), while a three-factor solution contained a single-item factor. Fit of the final two-factor solution was excellent ($\chi2[19] = 37.968$, CFI = .999, TLI = .999, SRMR = .006, RMSEA = .014). As shown in Table S15, primary loadings of items were high (all above 0.6) and significant, with cross-loadings being below 0.1 for all items. Based on the pattern of item loadings, we interpreted the first factor as measuring social-image concerns about apologizing and the second factor as measuring social-image concerns about not apologizing.

Table S15

Exploratory Factor Analysis Loadings of Social-Image Concerns Items

Item	Social Image Concerns about apologizing	Social Image Concerns about not apologizing
Apologizing for wrongdoings would harm my reputation in the eyes of other people.	.782	.007
If I apologised for something I've done wrong, I would lose respect from other people.	.749	.025
I would look weak to other people if I apologised for a wrongdoing.	.857	-.004
Apologizing to another person would make that person see me as inferior to them.	.819	.011
Others would see me as incompetent if I apologised.	.844	-.012
Apologizing after I have done something wrong would make me look powerless to others.	.849	-.012
If I failed to apologise for something I have done wrong, I would lose others' respect.	.001	.763
Failing to apologise for a wrongdoing would harm my reputation.	.012	.738
If I did not apologise for something I did wrong, people would see me as lacking integrity.	-.048	.683

Note. Shown are the standardized loadings for the final two-factor solution of the exploratory factor analysis conducted with the social-image concerns items.

In the second step, we conducted a **confirmatory factor analysis** with the two-factor structure as well as a method factor to assess acquiescence in responding (see Table S12 for primary loadings on substantive factors). Fit of the model was excellent ($\chi2[67] = 783.047$, CFI = .962, TLI = .956, SRMR = .072, RMSEA = .044),

and loadings for all items were significant. Modification indices suggested one possible cross-loadings of items related to the substantive factors ($\chi 2$ change = 10.552), but as this was low in strength (-0.052) compared to the respective primary loading (0.645) and given that the model already showed uniformly good fit indices we decided to not add any cross-loadings to the model in this step.

Table S16

Confirmatory Factor Analysis Loadings of Social-Image Concerns Items

Item	Social-Image Concerns about apologizing	Social-Image Concerns about not apologizing
Apologizing for wrongdoings would harm my reputation in the eyes of other people.	.730	
If I apologised for something I've done wrong, I would lose respect from other people.	.703	
I would look weak to other people if I apologised for a wrongdoing.	.804	
Apologizing to another person would make that person see me as inferior to them.	.770	
Others would see me as incompetent if I apologised.	.793	
Apologizing after I have done something wrong would make me look powerless to others.	.795	
If I failed to apologise for something I have done wrong, I would lose others' respect.		.740
Failing to apologise for a wrongdoing would harm my reputation.		.712
If I did not apologise for something I did wrong, people would see me as lacking integrity.		.648

Note. Shown are the standardized loadings for the final two-factor solution of the confirmatory factor analysis conducted with the social-image concerns items.

In the third step, we conducted **multigroup invariance testing** with the established two-factor structure. We tested invariance both across cultural regions, and across genders (female and male). An constrained model fit as well as an unconstrained model across gender (Constrained: $\chi 2[162] = 1162.457$, CFI = .932, TLI = .937, SRMR = .0048, RMSEA = .047; Unconstrained: $\chi 2[160] = 1174.271$, CFI = .931, TLI = .933, SRMR = .048, RMSEA = .048; ΔCFI = .001) and region groups (Constrained: $\chi 2[428] = 2024.916$, CFI = .940, TLI = .945, SRMR = .047, RMSEA = .058; Unconstrained: $\chi 2[412] = 2011.669$, CFI = .939, TLI = .943, SRMR = .046, RMSEA = .060; ΔCFI = .001). We thus assumed invariance of our items across genders and regions.

In the fourth step, we conducted a **multilevel confirmatory factor** analysis to model the factor structure of our data at the between-samples level. We found that a two-factor model on the between-samples level (see Table S17) was the most theoretically meaningful, interpretable, and fit the data well ($\chi2[136] = 1566.034$, CFI = 0.938, TLI = 0.929, RMSEA = 0.044, $SRMR_{Within} = .066$, $SRMR_{Between} = .250$). Modification indices suggested one possible cross-loadings of items related to the substantive factors ($\chi2$ change = 34.879), but as this was low in strength (-0.075) compared to the respective primary loading (0.760) and given that the model already showed uniformly good fit indices we decided to not add any cross-loadings to the model in this step.

Table S17

Multilevel Confirmatory Factor Analysis Loadings of Social-Image Concerns Items

	Individual-Level		**Culture-Level**	
Item	**Social Image Concerns about apologizing**	**Social Image Concerns about not apologizing**	**Social Image Concerns about apologizing**	**Social Image Concerns about not apologizing**
Apologizing for wrongdoings would harm my reputation in the eyes of other people.	.719		.911	
If I apologised for something I've done wrong, I would lose respect from other people.	.689		.918	
I would look weak to other people if I apologised for a wrongdoing.	.796		.949	
Apologizing to another person would make that person see me as inferior to them.	.762		.925	
Others would see me as incompetent if I apologised.	.788		.921	
Apologizing after I have done something wrong would make me look powerless to others.	.786		.932	
If I failed to apologise for something I have done wrong, I would lose others' respect.		.709		.980
Failing to apologise for a wrongdoing would harm my reputation.		.683		.973
If I did not apologise for something I did wrong, people would see me as lacking integrity.		.628		.819

Note. Shown are the standardized loadings for the final solution of the multilevel confirmatory factor analysis conducted with the social-image concerns items (two factors at the individual-level, and two factors at the culture-level).

In a fifth and final step, we then tested the possibility of **isomorphism** across levels for the final model. A constrained model in which we constrained the loadings of all items to be the same across both levels of analyses fit the data as well as an unconstrained model (Constrained: $\chi2[143] = 1557.800$, CFI = .938, TLI = .933, $SRMR_{Within}$ = .066, $SRMR_{Between}$ = .272, RMSEA = .043; Unconstrained: $\chi2[136] = 1566.034$, CFI = 0.938, TLI = 0.929, RMSEA = 0.044, $SRMR_{Within}$ = .066, $SRMR_{Between}$ = .250, ΔCFI = .000). We therefore decided to continue with and calculate our factor scores for reluctance to apologize based on the isomorphism model (see Table S18 for final loadings). All factors showed significant variances in the final model.

Table S18

Multilevel Confirmatory Factor Isomorphism Analysis Loadings of Social-Image Concern Items

Item	Individual-Level		Culture-Level	
	Social Image Concerns about apologizing	**Social Image Concerns about not apologizing**	**Social Image Concerns about apologizing**	**Social Image Concerns about not apologizing**
Apologizing for wrongdoings would harm my reputation in the eyes of other people.	.720		.890	
If I apologised for something I've done wrong, I would lose respect from other people.	.691		.871	
I would look weak to other people if I apologised for a wrongdoing.	.796		.942	
Apologizing to another person would make that person see me as inferior to them.	.762		.924	
Others would see me as incompetent if I apologised.	.786		.925	
Apologizing after I have done something wrong would make me look powerless to others.	.787		.920	
If I failed to apologise for something I have done wrong, I would lose others' respect.		.709		.977
Failing to apologise for a wrongdoing would harm my reputation.		.683		.970
If I did not apologise for something I did wrong, people would see me as lacking integrity.		.628		.825

Note. Shown are the standardized loadings for the final solution of the multilevel confirmatory factor analysis for isomorphism (constraining loading strength to be equal across both levels) conducted with the social-image concerns items (two factors at the individual-level, and two factors at the culture-level). Please note that, despite the isomorphism constraints, the standardized estimates differ between levels due because the respective standardization of the (identical) unstandardized estimates is done using separate measures of standard deviations at the two levels.

SM.4.4. Combined Self and Social-Image Concerns

In the present work, we considered self and social image concerns as tapping into different, but related facets of social functioning, and as such we established the most suitable measurement models separately for each of these facets. However, to explore whether our proposed four-way division of image concerns into self-image versus social image concerns and into concerns about apologizing versus concerns about not apologizing would also emerge in a combined analysis, we also conducted an additional set of measurement analyses for image concerns using all items together.

We first conducted an **exploratory factor analysis** to identify the underlying structure for these items at the individual level. Items were uncentered and clustered by the 28 samples made up by the combination of gender (male vs. female) and country. A four-factor solution appeared to be the most theoretically meaningful and parsimonious solution, showing excellent fit indices ($\chi2[87] = 266.124$, CFI = .996, TLI = .993, SRMR = .008, RMSEA = .019). A one-factor solution ($\chi2[135] = 12124.028$, CFI = .751, TLI = .718, SRMR = .131, RMSEA = .127), a two-factor solution ($\chi2[118] = 3856.608$, CFI = .922, TLI = .899, SRMR = .040, RMSEA = .076), and a three-factor solution fit the data substantially less ($\chi2[102] = 821.803$, CFI = .985, TLI = .978, SRMR = .019, RMSEA = .036), while a five-factor solution contained a factor without any primary loadings. As shown in Table S19, primary loadings of items were high (all above 0.6) and significant, with cross-loadings being below 0.1 for all items.

Table S19

Exploratory Factor Analysis Loadings of Self and Social-Image Concerns Items Combined

Item	Self-Image Concerns about apologizing	Social Image Concerns about apologizing	Self-Image Concerns about not apologizing	Social Image Concerns about not apologizing
Apologizing for a wrongdoing would harm my view of myself.	.795	-.038	-.016	.011
If I apologised for something I have done wrong, I would lose respect for myself.	.804	-.025	.002	.001
I would see myself as weak after apologising for a wrongdoing.	.811	.056	.015	-.037
Apologizing to another person would make me feel inferior to that person.	.782	.084	.010	.001
I would see myself as incompetent if I apologized.	.844	.014	.001	-.002
Apologizing after I have done something wrong would make me feel powerless.	.810	.027	.004	.029
If I failed to apologise for something I have done wrong, I would lose respect for myself.	.044	-.018	.744	.007
Failing to apologise for a wrongdoing would harm my view of myself.	.014	.021	.771	-.015
If I did not apologise for something I did wrong, I would think of myself as lacking integrity.	-.057	-.008	.600	.119
Apologizing for wrongdoings would harm my reputation in the eyes of other people.	.050	.739	.007	.007
If I apologised for something I've done wrong, I would lose respect from other people.	.145	.627	-.019	.048
I would look weak to other people if I apologised for a wrongdoing.	-.001	.859	.003	-.005
Apologizing to another person would make that person see me as inferior to them.	.001	.821	.024	-.006
Others would see me as incompetent if I apologised.	.007	.838	-.006	-.006
Apologizing after I have done something wrong would make me look powerless to others.	-.012	.860	-.008	-.007
If I failed to apologise for something I have done wrong, I would lose others' respect.	.035	-.019	-.036	.789
Failing to apologise for a wrongdoing would harm my reputation.	.023	.006	.034	.707
If I did not apologise for something I did wrong, people would see me as lacking integrity.	-.079	.031	.081	.628

Note. Shown are the standardized loadings for the final four-factor solution of the exploratory factor analysis conducted with the combined self and social-image concerns items.

In the second step, we conducted a **confirmatory factor analysis** with the four-factor structure as well as a method factor to assess acquiescence in responding (see Table S20 for primary loadings on substantive factors). Fit of the model was excellent ($\chi2[206] = 1334.846$, CFI = .975, TLI = .972, SRMR = .062, RMSEA = .032), and loadings for all items were significant. Modification indices suggested several possible cross-loadings of items related to the substantive factors, but as these were all low in strength (< .150) compared to the respective primary loading (all > .669) and given that the model already showed uniformly good fit indices we decided to not add any cross-loadings to the model in this step.

Table S20

Confirmatory Factor Analysis Loadings of Self and Social-Image Concerns Items Combined

Item	Self-Image Concerns about apologizing	Social Image Concerns about apologizing	Self-Image Concerns about not apologizing	Social Image Concerns about not apologizing
Apologizing for a wrongdoing would harm my view of myself.	.707			
If I apologised for something I have done wrong, I would lose respect for myself.	.729			
I would see myself as weak after apologising for a wrongdoing.	.802			
Apologizing to another person would make me feel inferior to that person.	.804			
I would see myself as incompetent if I apologized.	.803			
Apologizing after I have done something wrong would make me feel powerless.	.780			
If I failed to apologise for something I have done wrong, I would lose respect for myself.		.721		
Failing to apologise for a wrongdoing would harm my view of myself.		.725		
If I did not apologise for something I did wrong, I would think of myself as lacking integrity.		.669		
Apologizing for wrongdoings would harm my reputation in the eyes of other people.			.732	
If I apologised for something I've done wrong, I would lose respect from other people.			.711	
I would look weak to other people if I apologised for a wrongdoing.			.804	
Apologizing to another person would make that person see me as inferior to them.			.770	
Others would see me as incompetent if I apologised.			.794	
Apologizing after I have done something wrong would make me look powerless to others.			.794	
If I failed to apologise for something I have done wrong, I would lose others' respect.				.723
Failing to apologise for a wrongdoing would harm my reputation.				.711
If I did not apologise for something I did wrong, people would see me as lacking integrity.				.669

Note. Shown are the standardized loadings for the final four-factor solution of the confirmatory factor analysis conducted with the combined self and social-image concerns items.

In the third step, we conducted **multigroup invariance testing** with the established four-factor structure. We tested invariance both across cultural regions, and across genders (female and male). An constrained model fit as well as an unconstrained model across regions (Constrained: $\chi2[1196] = 3300.666$, CFI = .960, TLI = .961, SRMR = .041, RMSEA = .040; Unconstrained: $\chi2[1124] = 3146.974$, CFI = .961, TLI = .960, SRMR = .041, RMSEA = .041; ΔCFI = .001), but for gender only the constrained model converged, albeit with good fit (Constrained: $\chi2[470] = 1790.714$, CFI = .961, TLI = .962, SRMR = .041, RMSEA = .032). We thus assumed invariance of our items across genders and regions.

In the fourth step, we conducted a **multilevel confirmatory factor** analysis to model the factor structure of our data at the between-samples level. We found that a four-factor model on the between-samples level (see Table S21) was the most theoretically meaningful, interpretable, and fit the data well ($\chi 2[413] = 2637.262$, CFI = 0.959, TLI = 0.955, RMSEA = 0.031, $SRMR_{Within} = .056$, $SRMR_{Between} = .170$). Modification indices suggested several possible cross-loadings of items related to the substantive factors, but as these were all low in strength (< .167) compared to the respective primary loading (all > .651) and given that the model already showed uniformly good fit indices we decided to not add any cross-loadings to the model in this step.

Table S21

Multilevel Confirmatory Factor Analysis Loadings of Self and Social-Image Concerns Items

	Individual-Level				Culture-Level			
Item	**Self-Image Concerns about apologizing**	**Social Image Concerns about apologizing**	**Self-Image Concerns about not apologizing**	**Social Image Concerns about not apologizing**	**Self-Image Concerns about apologizing**	**Social Image Concerns about apologizing**	**Self-Image Concerns about not apologizing**	**Social Image Concerns about not apologizing**
Apologizing for a wrongdoing would harm my view of myself.	.696				.943			
If I apologised for something I have done wrong, I would lose respect for myself.	.713				.993			
I would see myself as weak after apologising for a wrongdoing.	.793				.997			
Apologizing to another person would make me feel inferior to that person.	.796				.983			
I would see myself as incompetent if I apologized.	.797				.989			
Apologizing after I have done something wrong would make me feel powerless.	.769				.981			
If I failed to apologise for something I have done wrong, I would lose respect for myself.		.702				.966		
Failing to apologise for a wrongdoing would harm my view of myself.		.699				.998		
If I did not apologise for something I did wrong, I would think of myself as lacking integrity.		.661				.767		
Apologizing for wrongdoings would harm my reputation in the eyes of other people.			.721				.956	
If I apologised for something I've done wrong, I would lose respect from other people.			.696				.963	
I would look weak to other people if I apologised for a wrongdoing.			.796				.988	
Apologizing to another person would make that person see me as inferior to them.			.764				.962	
Others would see me as incompetent if I apologised.			.789				.969	
Apologizing after I have done something wrong would make me look powerless to others.			.787				.962	
If I failed to apologise for something I have done wrong, I would lose others' respect.				.690				.996
Failing to apologise for a wrongdoing would harm my reputation.				.683				.988
If I did not apologise for something I did wrong, people would see me as lacking integrity.				.651				.813

Note. Shown are the standardized loadings for the final solution of the multilevel confirmatory factor analysis conducted with the self and social-image concerns items (four factors at the individual-level, and four factors at the culture-level).

In a fifth and final step, we then tested the possibility of **isomorphism** across levels for the final model. A constrained model in which we constrained the loadings of all items to be the same across both levels of analyses fit the data as well as an unconstrained model (Constrained: $\chi 2[428] = 2654.491$, CFI = .959, TLI = .956, $SRMR_{Within}$ = .056, $SRMR_{Between}$ = .180, RMSEA = .031; Unconstrained: $\chi 2[413] = 2637.262$, CFI = 0.959, TLI = 0.955, RMSEA = 0.031, $SRMR_{Within}$ = .056, $SRMR_{Between}$ = .170, ΔCFI = .000). All factors showed significant variances in the final model.

Table S22

Multilevel Confirmatory Factor Isomorphism Analysis Loadings of Self and Social-Image Concern Items

	Individual-Level				Culture-Level			
Item	**Self-Image Concerns about apologizing**	**Social Image Concerns about apologizing**	**Self-Image Concerns about not apologizing**	**Social Image Concerns about not apologizing**	**Self-Image Concerns about apologizing**	**Social Image Concerns about apologizing**	**Self-Image Concerns about not apologizing**	**Social Image Concerns about not apologizing**
Apologizing for a wrongdoing would harm my view of myself.	.697				.920			
If I apologised for something I have done wrong, I would lose respect for myself.	.716				.971			
I would see myself as weak after apologising for a wrongdoing.	.793				.997			
Apologizing to another person would make me feel inferior to that person.	.795				.984			
I would see myself as incompetent if I apologized.	.795				.983			
Apologizing after I have done something wrong would make me feel powerless.	.770				.978			
If I failed to apologise for something I have done wrong, I would lose respect for myself.		.702				.966		
Failing to apologise for a wrongdoing would harm my view of myself.		.701				.994		
If I did not apologise for something I did wrong, I would think of myself as lacking integrity.		.659				.826		
Apologizing for wrongdoings would harm my reputation in the eyes of other people.			.722				.925	
If I apologised for something I've done wrong, I would lose respect from other people.			.698				.906	
I would look weak to other people if I apologised for a wrongdoing.			.797				.979	
Apologizing to another person would make that person see me as inferior to them.			.763				.959	
Others would see me as incompetent if I apologised.			.788				.960	
Apologizing after I have done something wrong would make me look powerless to others.			.787				.951	
If I failed to apologise for something I have done wrong, I would lose others' respect.				.691				.992
Failing to apologise for a wrongdoing would harm my reputation.				.683				.984
If I did not apologise for something I did wrong, people would see me as lacking integrity.				.649				.841

Note. Shown are the standardized loadings for the final solution of the isomorphic multilevel confirmatory factor analysis conducted with the self and social-image concerns items (four factors at the individual-level, and four factors at the culture-level).

SM.6. Preregistration Information

All hypotheses and analytical steps were preregistered on the Open Science Framework (https://osf.io/cew5x/?view_only=bf85cbb0cab3469ca246367cdd1998a6).

At the time of the preregistration, all data had been collected but none of the preregistered analyses had been run, with the exception of the measurement models used for personal and perceived normative honor endorsement (which were described in a different manuscript focusing on the prevalence of honor in the Mediterranean; Vignoles et al., currently under review at PSPB).

SM.6.1. Deviations from the Preregistration

Here we would like to outline any adjustments from the original pre-registration plan and provide theoretical considerations and justifications for our choices.

- **Use of relative measures for image concerns**: We pre-registered to test our hypotheses H2a and H2b using separate mediators for self-image and social-image concerns at both levels. However, for both self and social image concerns, our measurement models unexpectedly showed that a two-factor solution separating a factor for *image concerns of apologizing* and a factor for *image concerns of not apologizing* fit the data better than a one-factor solution at both within-cultures and between-cultures levels of analysis (suggesting that the three additional items regarding failures to apologize did not function as reversed items on a unidimensional scale as we had expected). As outlined in the main manuscript, we therefore decided to continue by calculating a relative measures (i.e., the score for image concerns of apologizing minus the score for image concerns following not apologizing, separately for self and social image concerns) to test our hypotheses.

- **Exclusion of participants based on open-ended text responses:** We pre-registered only to exclude participants from our dataset if they did not meet our eligibility criteria or did not report the same age in both age questions (for Canada only). In preparation for our data analysis, we decided to check the open-ended responses given by participants to describe their apology situation as well as any open-ended descriptions of alternative reconciliatory behaviors (if not having offered an apology). As a consequence, we excluded 165 participants (who showed potential problems in their open-ended description of the apology situation) from analyses that included the recalled apology behavior as a dependent variable (N = 5,306). Furthermore, we excluded those participants as well as an additional 20 participants (who showed potential problems in their open-ended description of the alternative apology behavior) from analyses that examined the alternative reconciliatory behaviors (N = 1,350; only participants that reported not offering an apology). A series of robustness analyses showed that the pattern of mediation results remained the same if these participants were excluded from all analyses.

SM.7. Descriptive Statistics by Country

Table S23

Culture-Level Descriptive Statistics (Between-Sample Variables)

Country	Gender	Personal Honor	Perceived Normative Honor	Self Image Concerns - Apologizing	Self Image Concerns - Not Apologizing	Social Image Concerns - Apologizing	Social Image Concerns - Not Apologizing	Reluctance to Apologize
Canada	Male	-0.38	-0.3	-0.17	-0.18	0	0.61	-0.23
Canada	Female	-0.7	-0.58	-0.52	0.2	-0.39	0.6	-0.47
Turkish Cypriot Community	Male	0.43	0.3	-0.57	-1.51	-0.81	-1.64	0.09
Turkish Cypriot Community	Female	0.21	0.28	-0.38	-1.29	-0.58	-1.47	0.33
Greek Cypriot Community	Male	-0.18	0.12	-0.04	0.07	0.2	0.14	-0.09
Greek Cypriot Community	Female	-0.4	-0.06	-0.17	0.21	-0.01	0.01	-0.17
Egypt	Male	0.88	0.6	-0.4	-0.51	-0.33	-0.51	0.05
Egypt	Female	0.79	0.64	-0.31	-0.18	-0.31	-0.61	-0.05
Greece	Male	-0.15	-0.03	0.28	0.27	0.48	0.26	0.34
Greece	Female	-0.52	-0.06	0.33	0.46	0.44	0.3	0.11
Italy	Male	-0.05	-0.09	0.22	0.44	0.12	0.14	0.03
Italy	Female	-0.41	-0.34	0.07	0.48	-0.07	0.05	0.01
Japan	Male	0.02	-0.19	0.63	0.73	0.56	0.81	0.12
Japan	Female	-0.1	-0.35	0.44	0.7	0.36	0.98	-0.18
Korea	Male	-0.08	-0.19	0.69	0.23	0.51	0.37	0.31
Korea	Female	-0.25	-0.39	0.44	0.24	0.31	0.31	0.22
Lebanon	Male	0.61	0.52	-0.16	-0.39	0.02	-0.37	0.07
Lebanon	Female	0.47	0.49	-0.22	-0.45	-0.16	-0.44	0.03
Spain	Male	0.03	0	0.27	0.53	0.12	0.29	-0.12
Spain	Female	-0.25	-0.21	0.04	0.67	-0.14	0.43	-0.24
Tunisia	Male	0.58	0.58	-0.38	-0.45	-0.08	-0.53	-0.05
Tunisia	Female	0.63	0.56	-0.41	-0.67	-0.12	-0.76	-0.04
Turkey	Male	0.1	-0.03	-0.03	-0.54	-0.07	-0.32	0.01
Turkey	Female	-0.12	-0.05	-0.2	0.03	-0.34	0.09	-0.14
UK	Male	-0.34	-0.37	0.24	0.19	0.28	0.52	0.12
UK	Female	-0.49	-0.4	-0.03	0.3	-0.13	0.4	-0.22
United States	Male	-0.04	-0.16	0.38	0.27	0.23	0.19	0.17
United States	Female	-0.27	-0.3	-0.02	0.14	-0.1	0.15	-0.01

Note. Values represent factor scores for our 28 cultural groups taken from the final measurement models. Please note that these values are therefore only meaningful relative to each other (not in absolute) and do not have any standard deviation.

SM.8. Parameter Estimates for Mediation Analyses: Country Clustering

Table S24

Parameter Estimates for Two Mediator Models Involving Perceived Normative Honor Endorsement (Clustered by Countries, Controlling for Gender)

Perceived Normative Endorsement of Honor	Reluctance to Apologize (DV)										Offered Apologies (DV)									
	Self-Image Concerns					Social-Image Concerns					Self-Image Concerns					Social-Image Concerns				
	b	*SE*	*p*	*95% CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*
Between-groups parameters																				
Honor → Image Concerns ($a_{1/2}$)	.518	.246	.035*	.036, 1.00	.448	.981	.224	< .001*	.542, 1.421	.786	.518	.246	.035*	.036, 1.00	.448	.981	.224	< .001*	.542, 1.421	.786
Image Concerns → Outcome ($b_{1/2}$)	.168	.014	< .001*	.141, .195	.481	.101	.012	< .001*	.077, .125	.313	-.050	.031	.109	-.112, .011	-.359	-.114	.028	< .001*	-.168, -.060	-.876
Honor → Outcome (c'_1)	-.097	.081	.229	-.255, .061	-.241	-	-	-	-	-	.232	.100	.021*	.036, .429	1.434	-	-	-	-	-
Total effect (c_1)	.089	.110	.417	-.126, .305	.221	-	-	-	-	-	.095	.118	.421	-.136, .325	.584	-	-	-	-	-
Indirect effect ($a_{1/2}$ * $b_{1/2}$)	.087	.040	.028*	.009, .164	.216	.099	.028	< .001*	.027, .154	.246	-.026	.016	.095	-.057, .005	-.161	-.112	.031	< .001*	-.172, -.051	-.689
Correlation/Covariance Mediators	.071	.034	.037*	.004, .137	.756	-	-	-	-	-	.071	.034	.037*	.004, .137	.756	-	-	-	-	-
Modelled variance																				
R^2 (Mediator)			20.1%					61.8%					21.1%					61.8%		
R^2 (Outcome)			39.7%					-					1.9%					-		
Within-groups parameters																				
Image Concerns → Outcome (b)	.168	.014	< .001*	.141, .195	.314	.101	.012	< .001*	.077, .125	.176	-.050	.031	.109	-.112, .011	-.338	-.114	.028	< .001*	-.168, -.060	-.708
Gender → Outcome	-.070	.026	.006*	-.120, -.020	-.036	-	-	-	-	-	-.170	.086	.049*	-.338, -.001	-.316	-	-	-	-	-
Gender → Image Concerns	-.304	.065	< .001*	-.432, -.176	-.084	-.233	.059	< .001*	-.349, -.117	-.070	-.313	.062	< .001*	-.434, -.192	-.087	-.243	.065	< .001*	-.371, -.115	-.073
Self-Promotion & Retaliation																				
Self-Promotion → Image Concerns ($a_{3/4}$)	.399	.075	< .001*	.252, .547	.191	.429	.064	< .001*	.303, .554	.222	.408	.072	< .001*	.267, .550	.197	.436	.064	< .001*	.312, .561	.226
Self-Promotion → Outcome (c'_2)	.083	.029	< .001*	.026, .139	.074	-	-	-	-	-	-.029	.060	.627	-.148, .089	-.095	-	-	-	-	-
Total effect (c_2)	.193	.043	< .001*	.109, .277	.173	-	-	-	-	-	-.100	.053	.062	-.204, .005	-.322	-	-	-	-	-
Indirect effect ($a_{1/2}$ * $b_{1/2}$)	.067	.013	< .001*	.041, .093	.060	.043	.011	< .001*	.022, .065	.039	-.021	.013	.126	-.047, .006	-.067	-.050	.013	< .001*	-.076, -.023	-.160
Defense of Family Reputation																				
Family Defense → Image Concerns ($a_{5/6}$)	-.785	.073	< .001*	-.929, -.642	-.400	-.739	.071	< .001*	-.879, -.600	-.406	-.794	.072	< .001*	-.936, -.652	-.403	-.749	.069	< .001*	-.884, -.614	-.410
Family Defense → Outcome (c'_3)	-.160	.031	< .001*	-.220, -.100	-.153	-	-	-	-	-	.006	.071	.938	-.135, .146	.019	-	-	-	-	-
Total effect (c_3)	-.366	.036	< .001*	-.437, -.295	-.350	-	-	-	-	-	.131	.059	.027*	.015, .247	.445	-	-	-	-	-
Indirect effect ($a_{5/6}$ * $b_{3/4}$)	-.132	.019	< .001*	-.169, -.094	-.126	-.075	.014	< .001*	-.102, -.047	-.071	.040	.026	.118	-.010, .090	.136	.085	.021	< .001*	.044, .127	.290
Correlation/Covariance Mediators	1.716	.075	< .001*	1.568, 1.864	.635	-	-	-	-	-	1.701	.071	< .001*	1.561, 1.841	.634	-	-	-	-	-
Modelled variance																				
R^2 (Mediator)			10.6%					10.5%					10.8%					10.7%		
R^2 (Outcome)			25.9%					-					2.1%					-		

Note. * $p < .05$.

Table S25

Parameter Estimates for Two Mediator Models Involving Personal Honor Endorsement (Clustered by Countries, Controlling for Gender)

Personal Endorsement of Honor	Reluctance to Apologize (DV)										Offered Apologies (DV)									
	Self-Image Concerns					Social-Image Concerns					Self-Image Concerns					Social-Image Concerns				
	b	*SE*	*p*	*95% CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*
Between-groups parameters																				
Honor → Image Concerns ($a_{1/2}$)	.473	.217	.029*	.048, .897	.478	.752	.217	.001*	.327, 1.176	.704	.473	.217	.029*	.048, .897	.478	.752	.217	.001*	.327, 1.176	.704
Image Concerns → Outcome ($b_{1/2}$)	.164	.015	< .001*	.135, .192	.462	.102	.013	< .001*	.076, .127	.310	-.047	.034	.169	-.11, .020	-.215	-.110	.028	< .001*	-.165, -.055	-.545
Honor → Outcome (c'_1)	-.067	.76	.380	-.216, .082	-.191	-	-	-	-	-	-.077	.053	.146	-.181, .027	-.358	-	-	-	-	-
Total effect (c_1)	.087	.098	.377	-.106, .280	.248	-	-	-	-	-	-.182	.071	.010*	-.321, -.043	-.845	-	-	-	-	-
Indirect effect ($a_{1/2}$ * $b_{1/2}$)	.077	.033	.019*	.013, .142	.221	.076	.025	.002*	.027, .126	.218	-.022	.015	.144	-.052, .008	-.103	-.083	.025	.001*	-.131, -.035	-.384
Correlation/Covariance Mediators	.074	.037	.045*	.002, .145	.695	-	-	-	-	-	.074	.037	.045*	.002, .145	.695	-	-	-	-	-
Modelled variance																				
R^2 (Mediator)			22.9%					49.6%					22.9%					49.6%		
R^2 (Outcome)			39.8%					-					4.6%					-		
Within-groups parameters																				
Image Concerns → Outcome ($b_{1/2}$)	.164	.015	< .001*	.135, .192	.307	.102	.013	< .001*	.076, .127	.177	-.047	.034	.169	-.114, .020	-.316	-.110	.028	< .001*	-.165, -.055	-.688
Gender → Outcome	-.062	.025	.012*	-.111, -.014	-.032	-	-	-	-	-	-.174	.089	.051	-.348, .000	-.325	-	-	-	-	-
Gender → Image Concerns	-.227	.045	< .001*	-.315, -.140	-.063	-.173	.043	< .001*	-.258, -.088	-.052	-.223	.038	< .001*	-.298, -.148	-.062	-.172	.049	< .001*	-.269, -.075	-.051
Self-Promotion & Retaliation																				
Self-Promotion → Image Concerns ($a_{3/4}$)	.837	.091	< .001*	.659, 1.015	.385	.704	.080	< .001*	.547, .861	.349	.847	.097	< .001*	.656, 1.038	.390	.717	.090	< .001*	.541, .893	.356
Self-Promotion → Outcome (c'_2)	.114	.025	< .001*	.065, .163	.099	-	-	-	-	-	-.046	.071	.515	-.184, .092	-.143	-	-	-	-	-
Total effect (c_2)	.323	.044	< .001*	.236, .410	.278	-	-	-	-	-	-.164	.056	.003*	-.275, -.054	-.511	-	-	-	-	-
Indirect effect ($a_{1/2}$ * $b_{1/2}$)	.137	.020	< .001*	.099, .176	.118	.072	.015	< .001*	.042, .101	.062	-.040	.030	.188	-.099, .019	-.123	-.079	.019	< .001*	-.116, -.041	-.245
Defense of Family Reputation																				
Family Defense → Image Concerns ($a_{5/6}$)	-.763	.059	< .001*	-.878, -.648	-.412	-.666	.057	< .001*	-.777, -.554	-.387	-.751	.060	< .001*	-.869, -.632	-.404	-.660	.060	< .001*	-.778, -.542	-.382
Family Defense → Outcome (c'_3)	-.128	.021	< .001*	-.170, -.087	-.130	-	-	-	-	-	.013	.062	.837	-.109, .134	.046	-	-	-	-	-
Total effect (c_3)	-.321	.029	< .001*	-.378, -.265	-.325	-	-	-	-	-	.120	.051	.018*	.020, .220	.437	-	-	-	-	-
Indirect effect ($a_{5/6}$ * $b_{3/4}$)	-.125	.015	< .001*	-.155, -.095	-.126	-.068	.012	< .001*	-.091, -.044	-.068	.035	.026	.170	-.015, .085	.128	.072	.018	< .001*	.036, .108	.263
Correlation/Covariance Mediators	1.568	.055	< .001*	1.478, 1.694	.617	-	-	-	-	-	1.579	.060	< .001*	1.462, 1.696	.617	-	-	-	-	-
Modelled variance																				
R^2 (Mediator)			16.1%					13.7%					15.9%					13.7%		
R^2 (Outcome)			25.8%					-					2.1%					-		

Note. * $p < .05$.

SM.9. Parameter Estimates for Mediation Analyses with Strictest Exclusion Criteria

Table S26

Parameter Estimates for Two Mediator Models Involving Perceived Normative Honor Endorsement

Perceived Normative Endorsement of Honor	Reluctance to Apologize (DV)										Offered Apologies (DV)									
	Self-Image Concerns					Social-Image Concerns					Self-Image Concerns					Social-Image Concerns				
	b	*SE*	*p*	*95% CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*
Between-groups parameters																				
Honor → Image Concerns ($a_{1/2}$)	.500	.169	.003*	.637, .739	.460	.944	.156	< .001*	.638, 1.251	.762	.500	.169	.003*	.168, .831	.460	.944	.156	< .001*	.638, 1.251	.762
Image Concerns → Outcome ($b_{1/2}$)	.167	.011	< .001*	.145, .189	.401	.101	.013	< .001*	.077, .126	.278	-.048	.028	.082	-.103, .006	-.391	-.115	.027	< .001*	-.168, -.062	-1.058
Honor → Outcome (c'_1)	-.063	.069	.363	-.199, .073	-.139	-	-	-	-	-	-.107	.200	.592	-.285, .499	.798	-	-	-	-	-
Total effect (c_1)	.116	.096	.224	-.071, .303	.257	-	-	-	-	-	-.025	.209	.903	-.435, .384	-.188	-	-	-	-	-
Indirect effect ($a_{1/2}$ * $b_{1/2}$)	.083	.028	.003*	.029, .138	.185	.096	.021	< .001*	.055, .136	.212	-.024	.014	.092	-.052, .004	-.180	-.108	.027	< .001*	-.161, -.056	-.806
Correlation/Covariance Mediators	.076	.024	.002*	.029, .123	.787	-	-	-	-	-	.076	.024	< .001*	.029, .123	.787	-	-	-	-	-
Modelled variance																				
R^2 (Mediator)			21.2%					58.1%					21.2%					58.1%		
R^2 (Outcome)			32.6%										1.2%							
Within-groups parameters																				
Image Concerns → Outcome ($b_{3/4}$)	.167	.011	< .001*	.145, .189	.311	.101	.013	< .001*	.077, .126	.175	-.048	.028	.082	-.103, .006	-.335	-.115	.027	< .001*	-.168, -.062	-.737
Self-Promotion & Retaliation																				
Self-Promotion → Image Concerns ($a_{3/4}$)	.394	.062	< .001*	.272, .515	.190	.422	.051	< .001*	.322, .521	.219	.398	.059	< .001*	.282, .514	.192	.431	.051	< .001*	.331, .530	.223
Self-Promotion → Outcome (c'_2)	.083	.023	< .001*	.038, .128	.074	-	-	-	-	-	-.030	.058	.601	-.143, .083	-.101	-	-	-	-	-
Total effect (c_2)	.191	.034	< .001*	.124, .258	.172	-	-	-	-	-	-.099	.056	.077	-.208, .011	-.330	-	-	-	-	-
Indirect effect ($a_{1/2}$ * $b_{1/2}$)	.066	.011	< .001*	.045, .087	.059	.043	.009	< .001*	.024, .061	.038	-.019	.012	.102	-.042, .004	-.064	-.049	.012	< .001*	-.074, -.025	-.164
Defense of Family Reputation																				
Family Defense → Image Concerns ($a_{5/6}$)	-.781	.059	< .001*	-.897, -.665	-.401	-.732	.057	< .001*	-.845, -.619	-.405	-.791	.057	< .001*	-.903, -.679	-.402	-.747	.055	< .001*	-.854, -.639	-.409
Family Defense → Outcome (c'_3)	-.160	.026	< .001*	-.211, -.109	-.153	-	-	-	-	-	.008	.062	.902	-.114, .129	.027	-	-	-	-	-
Total effect (c_3)	-.365	.033	< .001*	-.430, -.299	-.349	-	-	-	-	-	.131	.059	.026*	.016, .247	.463	-	-	-	-	-
Indirect effect ($a_{5/6}$ * $b_{3/4}$)	-.130	.015	< .001*	-.159, -.102	-.125	-.074	.013	< .001*	-.100, -.048	-.071	.038	.023	.090	-.006, .082	.135	.086	.020	< .001*	.046, .125	.301
Correlation/Covariance Mediators	1.696	.054	< .001*	1.590, 1.802	.634	-	-	-	-	-	1.681	.054	< .001*	1.584, 1.797	.634	-	-	-	-	-
Modelled variance																				
R^2 (Mediator)			10.1%					10.0%					10.2%					10.3%		
R^2 (Outcome)			25.3%										1.2%							

Note. * $p < .05$.

Table S27

Parameter Estimates for Two Mediator Models Involving Personal Honor Endorsement

Personal Endorsement of Honor	Reluctance to Apologize (DV)										Offered Apologies (DV)									
	Self-Image Concerns					Social-Image Concerns					Self-Image Concerns					Social-Image Concerns				
	b	*SE*	*p*	*95% CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*
Between-groups parameters																				
Honor → Image Concerns ($a_{1/2}$)	.478	.147	.001*	.189, .766	.519	.723	.152	< .001*	.424, 1.022	.689	.478	.147	.001*	.189, .766	.519	.723	.152	< .001*	.424, 1.022	.689
Image Concerns → Outcome ($b_{1/2}$)	.164	.012	< .001*	.141, .186	.386	.102	.013	< .001*	.076, .128	.274	-.044	.029	.127	-.101, .013	-.296	-.112	.027	< .001*	-.166, -.059	-.853
Honor → Outcome (c'_1)	-.033	.058	.571	-.146, .081	-.084	-	-	-	-	-	.023	.132	.861	-.236, .282	.168	-	-	-	-	-
Total effect (c_1)	.119	.077	.125	-.033, .271	.305	-	-	-	-	-	-.079	.143	.579	-.359, .201	-.573	-	-	-	-	-
Indirect effect ($a_{1/2}$ * $b_{1/2}$)	.078	.023	.001*	.033, .124	.200	.074	.018	< .001*	.038, .109	.189	-.021	.014	.119	-.048, .005	-.154	-.081	.021	< .001*	-.121, -.041	-.588
Correlation/Covariance Mediators	.075	.026	.004*	.024, .125	.719	-	-	-	-	-	.075	.026	.004*	.024, .125	.719	-	-	-	-	-
Modelled variance																				
R^2 (Mediator)			26.9%					47.4%					26.9 %					47/.4%		
R^2 (Outcome)			33.6%										1.8%							
Within-groups parameters																				
Image Concerns → Outcome ($b_{3/4}$)	.164	.012	< .001*	.141, .186	.305	.102	.013	< .001*	.076, .128	.176	-.044	.029	.127	-.101, .013	-.307	-.112	.027	< .001*	-.166, -.059	-.721
Self-Promotion & Retaliation																				
Self-Promotion → Image Concerns ($a_{3/4}$)	.838	.073	< .001*	.696, .981	.381	.705	.073	< .001*	.578, .831	.345	.841	.075	< .001*	.694, .988	.383	.715	.069	< .001*	.580, .850	.351
Self-Promotion → Outcome (c'_2)	.112	.020	< .001*	.072, .151	.095	-	-	-	-	-	-.048	.060	.424	-.164, 069	-.150	-	-	-	-	-
Total effect (c_2)	.321	.034	< .001*	.253, .388	.272	-	-	-	-	-	-.165	.055	.002*	-.272, -.058	-.521	-	-	-	-	-
Indirect effect ($a_{1/2}$ * $b_{1/2}$)	.137	.016	< .001*	.107, .168	.116	.072	.014	< .001*	.045, .099	.061	-.037	.025	.143	-.087, .013	-.118	-.080	.019	< .001*	-.117, -.044	-.254
Defense of Family Reputation																				
Family Defense → Image Concerns ($a_{5/6}$)	-.752	.053	< .001*	-.856, -.648	-.406	-.657	.048	< .001*	-.751, -.563	-.382	-.750	.052	< .001*	-.851, -.649	-.402	-.660	.048	< .001*	-.754, -.565	-.381
Family Defense → Outcome (c'_3)	-.129	.019	< .001*	-.166, -.091	-.130	-	-	-	-	-	.014	.054	.793	-.091, .119	.052	-	-	-	-	-
Total effect (c_3)	-.319	.026	< .001*	-.370, -.268	-.321	-	-	-	-	-	.121	.051	.017*	.022, .221	.450	-	-	-	-	-
Indirect effect ($a_{5/6}$ * $b_{3/4}$)	-.123	.013	< .001*	-.149, -.097	-.124	-.067	.011	< .001*	-.089, -.045	-.067	.033	.022	.131	-.101, .076	.123	.074	.018	< .001*	.039, .110	.275
Correlation/Covariance Mediators	1.573	.046	< .001*	1.482, 1.664	.617	-	-	-	-	-	1.570	.047	< .001*	1.478, 1.662	.616	-	-	-	-	-
Modelled variance																				
R^2 (Mediator)			15.3%					13.1%					15.3%					15.3%		
R^2 (Outcome)			25.1%										2.0%							

Note. * $p < .05$.

SM.10. Exploratory Analyses: Separating Image Concerns about Apologizing versus Not Apologizing

As a set of further analyses exploring implications of our decision to use difference scores for image concerns, we ran an alternative series of analyses in which we included image concerns about apologizing and image concerns about not apologizing as separate, simultaneous mediators (instead of combining them into difference scores for social image and self-image concerns respectively; see tables 28 to 32 below for descriptives and model information).

At the *cultural level of analysis*, the links between honor (personal and perceived normative) and reluctance to apologize were mediated by a negative indirect path through self- and social image concerns about apologizing, and a positive indirect path through self- and social image concerns about not apologizing. The links between honor and lower incidence of offered apologies were mediated negatively only by lower social image concerns about not apologizing.

One reason for these seemingly contradictory pathways is that members of higher honor cultures tended to report lower self- and social image concerns on both dimensions—in other words, irrespective of whether or not they apologized, members of these cultural groups were seemingly less willing to admit that their self or social image might be affected by a situation in which they had committed a misdeed. This is consistent with theoretical proposals that members of "honor cultures" would be more defensive of their self and social image in general. However, a closer look at the model parameters shows that as honor culture increases, self-reported concerns about the impact of failing to apologize reduce more steeply than concerns about the impact of apologizing (see Figures S1 and S2). Thus, on balance, members of cultures with stronger honor norms and values were less likely to see greater risks to their self- and social image of not apologizing compared to the risks of apologizing (see Table S28 for the percentages in each sample)—which is in line with our predictions.

At the *individual level of analysis*, we found that all concerns mediated the link between personal values of self-promotion & retaliation and reluctance to apologize positively, whereas all concerns mediated the link between personal values of defense of family reputation and reluctance to apologize negatively - largely matching our main findings. The corresponding findings for perceived normative values were similar except that participants who perceived that self-promotion & retaliation values were more normative also tended to report slightly lower social image concerns about not apologizing (but showed no relationship with self-image concerns about not apologizing). The pattern for offered apologies at the individual level only showed significant mediation effects for social image concerns: whereas the link between self-promotion & retaliation and offered apologies was negatively mediated only by social image concerns about apologizing, the link between defense of family reputation and offered apologies was consistently positively mediated by both types of social image concerns.

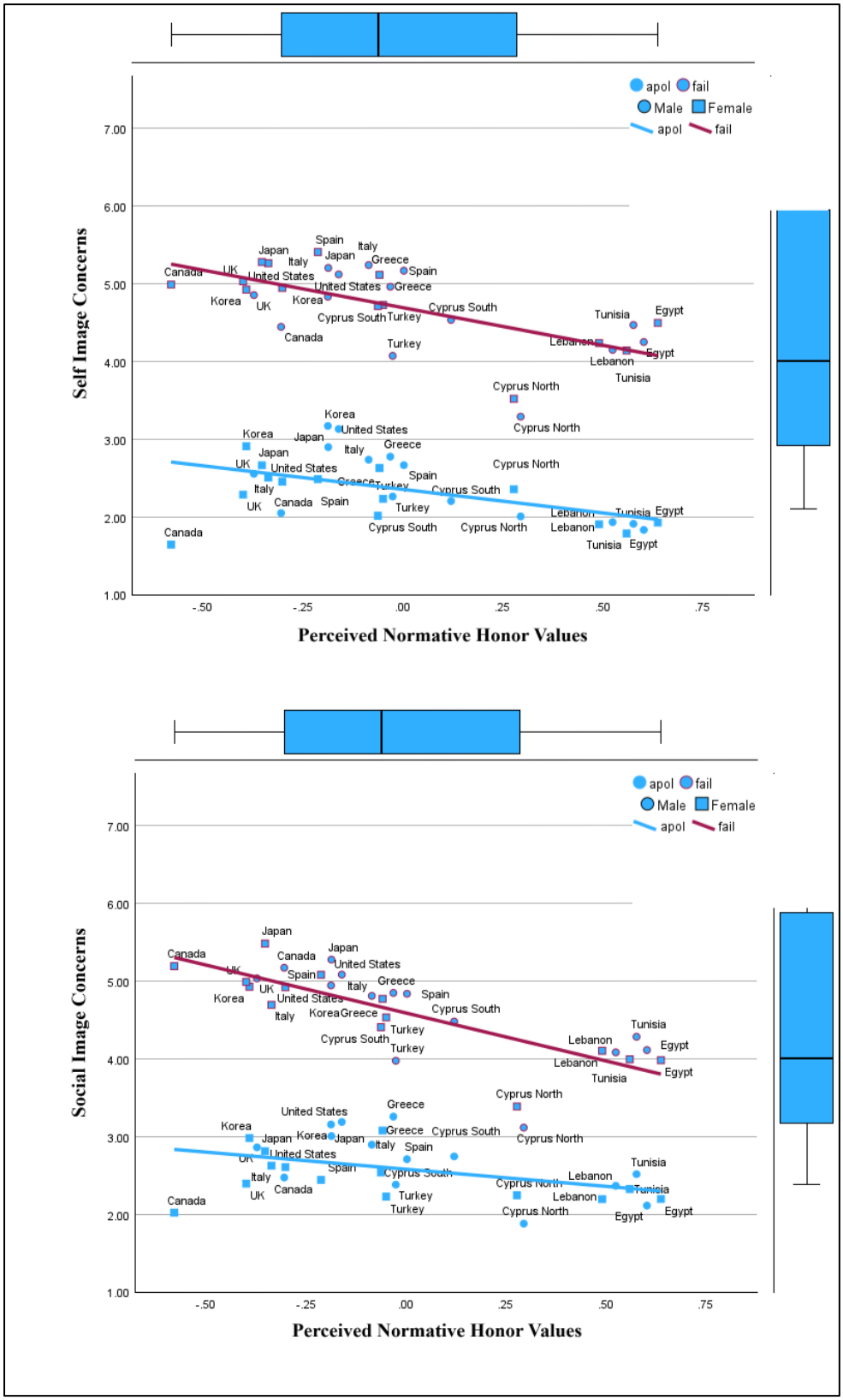
Table S28

Mean image concerns (raw scores) about apologizing or failing to apologize for each cultural group, and percentages of participants in each group who reported higher image concerns about apologizing than about not apologizing.

Country	Gender	Self-image concerns			Social image concerns		
		Apologizing	Not apologizing	% more concerned about apologizing than not	Apologizing	Not apologizing	% more concerned about apologizing than not
Canada	Women	1.64	4.99	4.8	2.02	5.19	4.3
Canada	Men	2.05	4.44	8.7	2.47	5.17	4.6
Turkish Cypriot Community	Women	2.36	3.52	30.3	2.24	3.39	27.1
Turkish Cypriot Community	Men	2.01	3.29	26.4	1.88	3.11	20.8
Greek Cypriot Community	Women	2.01	4.71	6.8	2.54	4.41	12.2
Greek Cypriot Community	Men	2.20	4.53	12.9	2.74	4.48	19.0
Egypt	Women	1.93	4.49	11.2	2.20	3.98	13.8
Egypt	Men	1.83	4.25	8.5	2.11	4.11	8.5
Greece	Women	2.63	5.11	15.0	3.08	4.77	21.6
Greece	Men	2.77	4.96	13.5	3.26	4.85	20.1
Italy	Women	2.50	5.26	10.1	2.63	4.69	11.0
Italy	Men	2.74	5.24	15.0	2.89	4.81	20.0
Japan	Women	2.66	5.28	12.1	2.81	5.48	9.0
Japan	Men	2.90	5.20	12.5	3.01	5.27	14.0
Korea	Women	2.91	4.92	15.5	2.98	4.93	15.5
Korea	Men	3.17	4.83	18.2	3.15	4.94	19.2
Lebanon	Women	1.90	4.24	9.1	2.19	4.10	13.1
Lebanon	Men	1.93	4.15	11.5	2.37	4.08	14.5
Spain	Women	2.49	5.41	11.5	2.44	5.08	8.0
Spain	Men	2.67	5.17	15.7	2.71	4.84	10.2
Tunisia	Women	1.79	4.14	10.2	2.32	3.99	17.3
Tunisia	Men	1.91	4.47	9.5	2.52	4.28	16.5
Turkey	Women	2.23	4.73	13.5	2.23	4.53	10.5
Turkey	Men	2.26	4.07	17.5	2.38	3.97	20.0
UK	Women	2.29	5.03	9.0	2.39	4.99	9.0
UK	Men	2.55	4.85	14.0	2.86	5.03	13.0
United States	Women	2.45	4.94	12.6	2.61	4.92	11.6
United States	Men	3.13	5.12	18.6	3.19	5.08	19.1

Figure S1

Scatterplot of Perceived Normative Honor Values against Types of Image Concerns



Note. Blue circles and lines represent image concerns about apologizing, red circles and lines represent image concerns about failing to apologize.

Table S29

Parameter Estimates for Simultaneous Mediator Models (Concerns about Apologizing and Failing to Apologize) Predicting Reluctance to Apologize and Involving Perceived Normative Honor Endorsement

Perceived Normative Endorsement of Honor	Self-Image Concerns										Social-Image Concerns									
	Apologizing (1)					Failure to Apologize (2)					Apologizing (3)					Failure to Apologize (4)				
	b	*SE*	*p*	*95% CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*
Between-groups parameters																				
Honor → Image Concerns ($a_{1/2/3/4}$)	-.511	.163	.002*	-.829, -.192	-.527	-1.010	.190	<.001*	-1.382, -.0638	-.647	-.351	.147	.017*	-.639, -.062	-.377	-1.295	.186	<.001*	-1.660, -.930	-.752
Image Concerns → Outcome ($b_{1/2/3/4}$)	.268	.020	<.001*	.229, .308	.619	-.097	.011	<.001*	-.119, -.076	-.362	.115	.019	<.001*	.078, .153	.255	-.061	.012	<.001*	-.085, -.037	-.249
Honor → Outcome (c'_1)	.116	.058	.044*	.003, .230	.277	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total effect (c_1)	.116	.096	.224	-.071, .303	.276	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indirect effect ($a_{1/2/3/4}$ * $b_{1/2/3/4}$)	-.137	.041	.001*	-.217, -.057	-.326	.098	.021	<.001*	.058, .139	.234	-.040	.020	.042*	-.079, -.001	-.096	.116	.058	.044*	.037, .121	.187
Correlation/Covariance Mediators: (2)	.072	.024	.002*	.026, .118	.593	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Correlation/Covariance Mediators: (3)	.077	.021	<.001*	.035, .119	.875	.084	.035	.017*	.015, .154	.663	-	-	-	-	-	-	-	-	-	-
Correlation/Covariance Mediators: (4)	.058	.023	.010*	.014, .103	.503	.141	.065	.029*	.015, .268	.843	.086	.036	.017*	.015, .157	.709	-	-	-	-	-
Modelled variance																				
R^2 (Mediator)			27.7%					41.9%					14.2%					56.6%		
R^2 (Outcome)			40.5%					-					-					-		
Within-groups parameters																				
Image Concerns → Outcome ($b_{5/6/7/8}$)	.268	.020	<.001*	.229, .308	.329	-.097	.011	<.001*	-.119, -.076	-.130	.115	.019	<.001*	.078, .153	.143	-.061	.012	<.001*	-.085, -.037	-.078
Self-Promotion & Retaliation																				
Self-Promotion → Image Concerns ($a_{5/6/7/8}$)	.428	.038	<.001*	.353, .503	.314	.036	.030	.218	-.022, .094	.025	.496	.033	<.001*	.431, .561	.360	.073	.023	.002*	.027, .119	.051
Self-Promotion → Outcome (c'_2)	.025	.021	.220	-.015, .066	.023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total effect (c_2)	.190	.033	<.001*	.125, .254	.171	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indirect effect ($a_{5/6/7/8}$ * $b_{5/6/7/8}$)	.115	.010	<.001*	.095, .135	.103	-.004	.003	.240	-.009, .002	-.003	.057	.013	<.001*	.033, .082	.052	-.004	.002	.007*	-.008, -.001	-.004
Defense of Family Reputation																				
Family Defense → Image Concerns ($a_{9/10/11/12}$)	-.475	.036	<.001*	-.546, -.405	-.371	.310	.028	<.001*	.256, .364	.221	-.464	.034	<.001*	-.531, -.397	-.358	.276	.028	<.001*	.221, .330	.207
Family Defense → Outcome (c'_3)	-.137	.024	<.001*	-.184, -.090	-.131	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total effect (c_3)	-.365	.032	<.001*	-.427, -.303	-.350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indirect effect ($a_{9/10/11/12}$ * $b_{5/6/7/8}$)	-.127	.011	<.001*	-.149, -.106	-.122	-.030	.004	<.001*	-.038, -.022	-.029	-.054	.012	<.001*	-.077, -.030	-.051	-.017	.004	<.001*	-.025, -.009	-.016
Correlation/Covariance Mediators: (2)	-.045	.039	.246	-.121, .031	-.032	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Correlation/Covariance Mediators: (3)	.937	.038	<.001*	.863, 1.011	.741	-.017	.038	.663	-.091, .058	-.012	-	-	-	-		-	-	-	-	-
Correlation/Covariance Mediators: (4)	.018	.032	.573	-.044, .080	.013	.768	.076	<.001*	.619, .916	.520	.094	.040	.019*	.016, .171	.070	-	-	-	-	-
Modelled variance																				
R^2 (Mediator)			9.1%					5.6%					9.7%					5.9%		
R^2 (Outcome)			28.9%					-					-					-		

Table S30

Parameter Estimates for Simultaneous Mediator Models (Concerns about Apologizing and Failing to Apologize) Predicting Offered Apologies and Involving Perceived Normative Honor Endorsement

Perceived Normative Endorsement of Honor	Self-Image Concerns										Social-Image Concerns									
	Apologizing (1)					Failure to Apologize (2)					Apologizing (3)					Failure to Apologize (4)				
	b	*SE*	*p*	*95% CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*
Between-groups parameters																				
Honor → Image Concerns ($a_{1/2/3/4}$)	-.511	.163	.002*	-.829, -.192	-.527	-1.010	.190	<.001*	-1.382, -.638	-.647	-.351	.163	.002*	-.639., -.062	-.377	-1.295	.186	<.001*	-1.660. -.930	-.752
Image Concerns → Outcome ($b_{1/2/3/4}$)	-.047	.042	.268	-.130., .036	-.374	.042	.034	.215	-.025, .110	.545	-.147	.048	.002	-.241, -.052	-1.122	.090	.034	.008*	.023, .156	1.274
Honor → Outcome (c'_1)	.071	.206	.729	-.332, .474	.586	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total effect (c_1)	-.013	.219	.954	-.441, .416	-.105	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indirect effect ($a_{1/2/3/4}$ * $b_{1/2/3/4}$)	.024	.022	.275	-.019, .067	.197	-.043	.030	.157	-.102, .016	-.353	.051	.029	.072	-.005, .107	.423	-.116	.041	.004*	-.196, -.037	-.958
Correlation/Covariance Mediators: (2)	.072	.024	.002*	.026, .118	.593	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Correlation/Covariance Mediators: (3)	.077	.021	<.001*	.035, .119	.875	.084	.035	.017*	.015, .154	.663	-	-	-	-	-	-	-	-	-	-
Correlation/Covariance Mediators: (4)	.058	.023	.010*	.014, .103	.503	.141	.065	.029*	.015, .268	.843	.086	.036	.017*	.015, .157	.709	-	-	-	-	-
Modelled variance																				
R^2 (Mediator)			27.7%					41.9%					14.2%					5.8%		
R^2 (Outcome)			1.0%																	
Within-groups parameters																				
Image Concerns → Outcome ($b_{5/6/7/8}$)	-.047	.042	.268	-.130, .036	-.210	.042	.034	.215	-.025, .110	.204	-.147	.048	.002	-.241, -.052	-.666	.090	.034	.008*	.023, .156	.412
Self-Promotion & Retaliation																				
Self-Promotion → Image Concerns ($a_{5/6/7/8}$)	.438	.040	<.001*	.359, .516	.320	.036	.029	.215	-.021, .093	.025	.502	.035	<.001*	.433, .570	.361	.070	.027	.009*	.017, .122	.025
Self-Promotion → Outcome (c'_2)	-.013	.052	.806	-.115, .089	-.042	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total effect (c_2)	-.099	.055	.070	-.206, .008	-.334	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indirect effect ($a_{5/6/7/8}$ * $b_{5/6/7/8}$)	-.021	.019	.280	-.058, .017	-.067	.002	.002	.371	-.002, 005	.005	-.074	.024	.002*	-.121, -.026	-.240	.006	.004	.075	-.001, .013	.010
Defense of Family Reputation																				
Family Defense → Image Concerns ($a_{9/10/11/12}$)	-.489	.036	<.001*	-.560, -.418	-.377	.306	.028	<.001*	.252, .361	.219	-.476	.035	<.001*	-.545, -.407	-.361	.274	.029	<.001*	.217, .331	.206
Family Defense → Outcome (c'_3)	.002	.060	.976	-.116, .119	.006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total effect (c_3)	.132	.059	.025*	.017, .248	.455	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indirect effect ($a_{9/10/11/12}$ * $b_{5/6/7/8}$)	.023	.021	.271	-.018, 064	.079	.013	.011	.222	-.008, .034	.045	.070	.022	.001*	.027, .112	.240	.025	.010	.011*	.006, .044	.085
Correlation/Covariance Mediators: (2)	-.039	.040	.326	-.118, .039	-.028	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Correlation/Covariance Mediators: (3)	.951	.039	<.001*	.874, 1.029	.742	-.017	.039	.665	-.093, 059	-.012	-	-	-	-	-	-	-	-	-	-
Correlation/Covariance Mediators: (4)	.027	.033	.416	-.038, .091	.020	.748	.068	<.001*	.614, .881	.515	.102	.042	.014*	.021, .184	.076	-	-	-	-	-
Modelled variance																				
R^2 (Mediator)			9.3%					5.5%					9.7%					5.8%		
R^2 (Outcome)			2.1%																	

Table S31

Parameter Estimates for Simultaneous Mediator Models (Concerns about Apologizing and Failing to Apologize) Predicting Reluctance to Apologize and Involving Personal Honor Endorsement

Perceived Normative Endorsement of Honor	Self-Image Concerns										Social-Image Concerns									
	Apologizing (1)					Failure to Apologize (2)					Apologizing (3)					Failure to Apologize (4)				
	b	*SE*	*p*	*95% CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*
Between-groups parameters																				
Honor → Image Concerns ($a_{1/2/3/4}$)	-.331	.133	.013*	-.592, -.070	-.403	-.809	.161	<.001*	-1.124, -.493	-.612	-.270	.125	.031*	-.515, -.025	-.343	-.993	.156	<.001*	-1.300, -.686	-.681
Image Concerns → Outcome ($b_{1/2/3/4}$)	.267	.021	<.001*	.227, .307	.612	-.101	.011	<.001*	-.123, -.079	-.371	.116	.019	<.001*	.078, .154	.255	-.066	.013	<.001*	-.092, -.040	-.268
Honor → Outcome (c'_1)	.092	.046	.047*	.001, .182	.256	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total effect (c_1)	.119	.077	.125	-.033, .271	.332	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indirect effect ($a_{1/2/3/4}$ * $b_{1/2/3/4}$)	-.088	.035	.011*	-.157, -.020	-.246	.081	.018	<.001*	.047, .116	.227	-.031	.016	.049*	-.063, .000	-.087	.066	.017	<.001*	.033, .098	.183
Correlation/Covariance Mediators: (2)	.090	.027	.011*	.036, .143	.661	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Correlation/Covariance Mediators: (3)	.084	.023	<.001*	.039, .128	.871	.090	.037	.015*	.017, .163	.676	-	-	-	-	-	-	-	-	-	-
Correlation/Covariance Mediators: (4)	.084	.030	.005*	.025, .143	.602	.165	.072	.022*	.024, .163	.853	.096	.040	.017*	.017, .174	.702	-	-	-	-	-
Modelled variance																				
R^2 (Mediator)			16.2%					37.4%					11.8%					42.7%		
R^2 (Outcome)			28.5%					-					-					-		
Within-groups parameters																				
Image Concerns → Outcome ($b_{5/6/7/8}$)	.267	.021	<.001*	.227, .307	.327	-.101	.011	<.001*	-.123, -.079	-.135	.116	.019	<.001*	.078, .154	.144	-.066	.013	<.001*	-.092, -.040	-.084
Self-Promotion & Retaliation																				
Self-Promotion → Image Concerns ($a_{5/6/7/8}$)	.672	.048	<.001*	.577, 767	.468	-.160	.032	<.001*	-.223, -.097	-.102	.639	.048	<.001*	.545, .734	.439	-.062	.032	.053	-.126, .001	-.042
Self-Promotion → Outcome (c'_2)	.045	.020	.020*	.007, .084	.039	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total effect (c_2)	.319	.034	<.001*	.253, .385	.272	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indirect effect ($a_{5/6/7/8}$ * $b_{5/6/7/8}$)	.179	.017	<.001*	.146, .213	.153	.016	.003	<.001*	.009, .023	.014	.074	.016	<.001*	.043, .105	.063	.004	.002	.068	.000, .009	.004
Defense of Family Reputation																				
Family Defense → Image Concerns ($a_{9/10/11/12}$)	-.447	.033	<.001*	-.512, -.381	-.368	.317	.027	<.001*	.264, .370	.239	-.390	.035	<.001*	-.460, -.321	-.317	.276	.024	<.001*	.229, .322	.218
Family Defense → Outcome (c'_3)	-.106	.018	<.001*	-.141, -.072	-.107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total effect (c_3)	-.321	.025	<.001*	-.370, -.272	-.324	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indirect effect ($a_{9/10/11/12}$ * $b_{5/6/7/8}$)	-.119	.012	<.001*	-.144, -.095	-.120	-.032	.004	<.001*	-.040, -.024	-.032	-.045	.010	<.001*	-.065, -.026	-.046	-.018	.004	<.001*	-.026, -.010	-.018
Correlation/Covariance Mediators: (2)	-.009	.041	.822	-.089, .071	-.007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Correlation/Covariance Mediators: (3)	.834	.033	<.001*	.770, .899	.718	.022	.041	.585	-.057, .102	.085	-	-	-	-	-	-	-	-	-	-
Correlation/Covariance Mediators: (4)	.030	.034	.378	-.037, .098	.024	.795	.069	<.001*	.659, .930	.529	.111	.043	.009*	.027, .195	.085	-	-	-	-	-
Modelled variance																				
R^2 (Mediator)			18.1%					4.3%					15.3%					4.0%		
R^2 (Outcome)			28.5%					-					-					-		

Table S32

Parameter Estimates for Simultaneous Mediator Models (Concerns about Apologizing and Failing to Apologize) Predicting Offered Apologies and Involving Personal Honor Endorsement

Perceived Normative Endorsement of Honor	Self-Image Concerns										Social-Image Concerns									
	Apologizing (1)					Failure to Apologize (2)					Apologizing (3)					Failure to Apologize (4)				
	b	*SE*	*p*	*95% CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*	*b*	*SE*	*p*	*95%CI*	*β*
Between-groups parameters																				
Honor → Image Concerns ($a_{1/2/3/4}$)	-.331	.133	.013*	-.592, -.070	-.403	-.809	.161	<.001*	-1.124, -.493	-.612	-.270	.125	.031*	-.515, -.025	-.343	-.993	.156	<.001*	-.1300, -.686	-.681
Image Concerns → Outcome ($b_{1/2/3/4}$)	-.043	.044	.319	-.129, .042	-.257	.041	.035	.245	-.028, .109	.388	-.145	.049	.003*	-.240, -.049	-.823	.088	.035	.011*	.020, .156	.929
Honor → Outcome (c'_1)	-.027	.135	.840	-.292, .238	-.197	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total effect (c_1)	-.094	.143	.508	-.374, .185	-.681	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indirect effect ($a_{1/2/3/4}$ * $b_{1/2/3/4}$)	.014	.015	.335	-.015, .043	.104	-.033	.025	.194	-.083, .017	-.237	.039	.024	.100	-.008, .086	.282	-.088	.031	.005*	-.149, -.026	-.633
Correlation/Covariance Mediators: (2)	.090	.027	.001*	.036, .143	.661	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Correlation/Covariance Mediators: (3)	.084	.023	<.001*	.039, .128	.871	.090	.037	.015*	.017, .163	.676	-	-	-	-	-	-	-	-	-	-
Correlation/Covariance Mediators: (4)	.084	.030	.005*	.025, .143	.602	.165	.072	.022*	.024, .305	.853	.096	.040	.017*	.017, .174	.702	-	-	-	-	-
Modelled variance																				
R^2 (Mediator)			16.2%					37.4%					11.8%					46.3%		
R^2 (Outcome)			1.8%																	
Within-groups parameters																				
Image Concerns → Outcome ($b_{5/6/7/8}$)	-.043	.044	.319	-.129, .042	-.194	.041	.035	.245	-.028, .109	.196	-.145	.049	.003*	-.240, -.049	-.657	.088	.035	.011*	.020, .156	.404
Self-Promotion & Retaliation																				
Self-Promotion → Image Concerns ($a_{5/6/7/8}$)	.691	.050	<.001*	.592, .790	.477	-.152	.033	<.001*	-.216, -0.087	-.097	.658	.050	<.001*	.560, .756	.447	-.057	.036	.113	-.128, .014	-.039
Self-Promotion → Outcome (c'_2)	-.030	.055	.587	-.138, .078	-.092	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total effect (c_2)	-.166	.054	.002*	-.272, -.061	-.513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indirect effect ($a_{5/6/7/8}$ * $b_{5/6/7/8}$)	-.030	.031	.328	-.090, .030	-.093	-.006	.006	.268	-.017, .005	-.019	-.095	.031	.002*	-.155, -.035	-.294	-.005	.003	.131	-.012, .001	-.016
Defense of Family Reputation																				
Family Defense → Image Concerns ($a_{9/10/11/12}$)	-.456	.034	<.001*	-.523, -.389	-.371	.296	.025	<.001*	.246, .345	.224	-.402	.037	<.001*	-.474, -.329	-.322	.259	.025	<.001*	.210, .307	.205
Family Defense → Outcome (c'_3)	.009	.050	.857	-.090, .108	.033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total effect (c_3)	.122	.051	.016	.023, .221	.443	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indirect effect ($a_{9/10/11/12}$ * $b_{5/6/7/8}$)	.020	.020	.329	-.020, .059	.072	.012	.010	.237	-.008, .032	.044	.058	.018	.001*	.023, .093	.212	.023	.009	.015*	.005, .041	.083
Correlation/Covariance Mediators: (2)	-.009	.040	.825	-.087, .069	-.007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Correlation/Covariance Mediators: (3)	.842	.034	<.001*	.776, .909	.718	.018	.040	.663	-.061, .096	.013	-	-	-	-	-	-	-	-	-	-
Correlation/Covariance Mediators: (4)	.035	.034	.307	-.032, .101	.027	.780	.065	<.001*	.653, .908	.526	.116	.043	.007*	.032, .200	.089	-	-	-	-	-
Modelled variance																				
R^2 (Mediator)			18.6%					3.7%					15.8%					3.6%		
R^2 (Outcome)			2.1%																	