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Grateful but harsh? Dispositional gratitude predicts moral condemnation in the U.S., the UK, and China

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ABSTRACT

People differ in their tendency to be grateful, and this affects interpersonal dynamics. Previous research found that individuals with high (versus low) levels of dispositional gratitude exhibited more prosocial behaviors. In this study we demonstrate that dispositional gratitude may also be associated with negative responses toward others. Specifically, we examined the link between dispositional gratitude and condemnations of various moral transgressions. Given that moral norms might be culture-specific, we recruited participants from the U.S., the UK, and China ($N = 593$ in total) to test potential cultural moderators. Results showed that the higher people scored on dispositional gratitude, the more morally wrong they evaluated transgressions to be, and the more punishment they thought that transgressors deserved. The associations were robust across moral domains, countries, and perceived levels of societal tightness. These findings underscore the pervasive and differentiated impact of dispositional gratitude in interpersonal relations, as it may not only increase prosocial behavior but also intensify negative responses to others who violate moral norms.

1. Introduction

When witnessing immoral behaviors, moral emotions—“emotions that are linked to the interests or welfare either of society as a whole or at least of persons other than the judge or agent” (Haidt, 2003, p. 276)—play an important role in how people respond. Negative moral emotions like disgust, for example, have been shown to increase the harshness of moral judgments (for meta-analyses, see Donner et al., 2023; Landy & Goodwin, 2015); moral anger and outrage have been found to yield harsher second- and third-party punishment (e.g., Gummerum et al., 2022; Rothschild & Keefer, 2018). How positive moral emotions affect moral condemnation has received less attention, but the available studies also suggest a possible link. For example, two studies found that state compassion shaped punitive behaviors measured by assigning hot sauce, vignettes, or economic games (Condon & DeSteno, 2011; Pfattheicher et al., 2019). More relevantly, another study found that after inducing state gratitude, participants used more resources to punish unfair behaviors than those in the neutral and happiness conditions (Vayness et al., 2020). Expanding on this insight, we tested whether a more general disposition of experiencing gratitude was associated with moral condemnation.

1.1. Dispositional gratitude and moral condemnation

Some people experience gratitude more strongly and more frequently than others. The tendency to feel grateful when receiving others' benevolence is referred to as *dispositional gratitude* (McCullough et al., 2002). This disposition can have strong implications for one's own moral conduct and beliefs (Keefer et al., 2021; Ma et al., 2017). Nonetheless, little is known about how dispositionally grateful individuals respond to others' (im)moral behaviors (but see Keefer et al., 2021).

As a moral emotion, gratitude has been found to be strongly associated with more prosocial behaviors at both the dispositional and state levels (Ma et al., 2017). Dispositional gratitude, for example, was found to positively predict more helping behaviors (McCullough et al., 2002), transferring more money to others in economic games (Yost-Dubrow & Dunham, 2018), and more relationship-maintaining behaviors (Spence et al., 2014). Although these findings suggest that people who are inclined to experience gratitude approach others in a positive (prosocial) way, we aim to demonstrate that they might also have harsher (thus more negative) responses to others' moral transgressions.

From a functional perspective, condemning moral transgressions enhances cooperation and maintains social order by conveying moral

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norms and deterring the transgressor from future misdeeds (Krebs, 2008; Machery & Mallon, 2010). Thus, driven by a prosocial tendency, dispositionally more grateful individuals might condemn transgressions more harshly to encourage collaboration and ensure societal stability. Moreover, expressing disapproval of moral transgressions enhances one's reputation by signaling cooperative intentions (Malle, 2021). Considering that gratitude prompts people to seek out social relationships with others (Algoe, 2012), those higher in dispositional gratitude might be more incentivized to condemn transgressors.

Dispositionally grateful people were indeed found to experience stronger moral outrage toward harmful and unfair actions (Keefer et al., 2021). Nonetheless, moral outrage is only the emotional aspect when responding to moral transgressions (Batson et al., 2007). Other condemning responses like wrongness judgments and punishment might be related to moral outrage but remain conceptually distinct (Ellemers et al., 2019). To more comprehensively assess how dispositional gratitude is linked to moral condemnations, we measured the extent to which people consider the transgression as morally wrong (i.e., wrongness judgments) and the extent to which they feel the transgressor should be punished (i.e., punishment judgments). Given that wrongness and punishment judgments are closely related but nevertheless distinct types of condemnation (Kneer & Machery, 2019), we preregistered separate hypotheses. We expect dispositional gratitude would be positively associated with harsher judgments of wrongness (Hypothesis 1a) and punishments (Hypothesis 1b).

Morality is not unidimensional. Moral foundation theory discerns two moral domains (Graham et al., 2011): The individualizing domain highlights individual rights and responsibilities (e.g., physical or emotional harm, treating someone unfairly), whereas the binding domain emphasizes group interests and cohesiveness (e.g., disregarding commands from authority, betraying one's own group). Expanding on previous research that only involved the individualizing domain (Keefer et al., 2021), we studied moral transgressions in both domains to explore whether the link between dispositional gratitude and moral condemnation would be contingent on which domain the transgression pertained to.

1.2. Moral condemnation and culture

Culture has been argued to play a critical role in shaping moral values and moral condemnation (Atari et al., 2023; Baumeister & Vonasch, 2012). Despite the prosperous morality research in WEIRD samples (Western, educated, industrialized, democratic, and rich; Henrich et al., 2010), less is known about non-WEIRD samples (Dogruyol et al., 2019). Given that morality is sensitive to cultural contexts (Atari et al., 2023), we tested the relationship between dispositional gratitude and moral condemnations in three culturally different countries: The U.S., the UK, and China.

The U.S. and the UK are generally seen as more individualistic, whereas China is deemed more collectivistic (Hofstede et al., 2010). Individualistic cultures emphasize personal rights and autonomy, whereas collectivistic cultures value common goods and social harmony. This cultural dimension has been linked to the conceptual difference between the individualizing and binding moral domains (Graham et al., 2011): Both individualistic cultures and the individualizing domain emphasize individuals' interests and rights, while both collectivistic cultures and the binding domain focus on upholding collective interests and group cohesion. Following these insights, we tested whether in the individualizing domain, the associations of dispositional gratitude with wrongness and punishment judgments would be stronger in the U.S. and the UK than in China (Hypothesis 2a); and whether in the binding domain, the associations of dispositional gratitude with wrongness and punishment judgments would be stronger in China than in the U.S. and

the UK (Hypothesis 2b).

In addition to this comparison at the country level, we also assessed the potential influence of the perceptions participants had about societal tightness, which is defined as "the strength of social norms and the degree of sanctioning within societies" (Gelfand et al., 2006, p. 1226). People who perceive their society as socially tight have a higher regard for social order than those who perceive their culture to be looser (Gelfand et al., 2011). This suggests a possible link between societal tightness and how people respond to transgressions. Previous research indeed showed that inducing perceptions of a tighter society increased the motivation to punish norm violators (Jackson et al., 2021).

Perceived societal tightness differs not only between countries (with China being tighter than the U.S. and the UK; Gelfand et al., 2011) but also between regions within a country (e.g., states in the U.S., provinces in China; Chua et al., 2019; Harrington & Gelfand, 2014). We therefore assessed perceived societal tightness at the individual level with a validated scale (Gelfand et al., 2011). We preregistered that we would aggregate tightness scores to the regional level (i.e., states for the U.S., constituent countries for the UK, and provinces for China) and test whether the relationship between dispositional gratitude and the judgments of wrongness (Hypothesis 3a) and punishment (Hypothesis 3b) would be stronger for participants who perceived their culture to be tighter.

1.3. Current research

We examined the relationship between dispositional gratitude and moral condemnation (wrongness and punishment judgments) of transgressions across moral domains (individualizing and binding). To test potential cultural influences on the relationship, we recruited online samples from the U.S., the UK, and China and measured participants' perceptions of their country's societal tightness. The study was preregistered on <https://aspredicted.org/yvtj-7v28.pdf>. All materials, data, and code for this article are available on https://osf.io/2cd4q/?view_only=bc5225e94f0d46ffa1e1d0fced6abd2. The study was approved by the Psychology Research Ethics Committee of the university.

2. Methods

2.1. Participants

Based on our previous studies, we expected to find small to medium effects. Power analysis using G*Power (Faul et al., 2007) suggested a sample size of $N = 429$ for an effect of $f = 0.16$, with $1 - \beta = 0.85$ and $\alpha = 0.05$. To be on the conservative side and to increase power, we planned to recruit 600 participants (200 per country). The American and British samples were recruited via Prolific¹; and the Chinese sample via Wenjuanxing (a comparable online platform in China).² After excluding

Table 1
Sample characteristics of participants in each country.

Country	N	% male	M _{age}	SD _{age}	% Bachelor	Region
U.S.	193	56.5 %	38.80	14.00	61.7 %	36/50
UK	188	35.6 %	37.58	13.09	58.5 %	4/4
China	212	41.5 %	33.76	8.45	86.9 %	27/34

Note. % male = the percentage of male participants; % Bachelor = the percentage of participants having a degree of or above Bachelor's; region = regions covered in our samples out of the total numbers of regions in the country.

¹ <https://www.prolific.com>.

² <https://www.wjx.cn>.

responses from those who did not pass an attention check, our final sample included 593 participants (for demographic information, see Table 1).

2.2. Procedure and measures

All participants completed a survey measuring the key variables in the same order. For the Chinese sample, we adopted validated Chinese versions for dispositional gratitude and societal tightness (Kong et al., 2017; Leng et al., 2023) and translated moral transgression items following the back-translation procedure (Brislin, 1986). Specifically, the first author translated the vignettes from English into Chinese, after which another native Chinese speaker with a proficient English level translated the items back into English. We compared the two English versions and made necessary adjustments. We also slightly modified the wording to make the sentences more natural based on three native Chinese speakers' feedback (see Supplementary Materials for English and Chinese versions of all the items).

After providing informed consent, participants first answered six questions measuring dispositional gratitude (McCullough et al., 2002) on a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*). Sample items are "I have so much in life to be thankful for" and "When I look at the world, I don't see much to be grateful for" (reverse coded). Then, they rated six items measuring societal tightness (Gelfand et al., 2011) on a 6-point Likert scale (1 = *strongly disagree*, 6 = *strongly agree*). Examples are "People in my country almost always comply with social norms" and "People in this country have a great deal of freedom in deciding how they want to behave in most situations" (reverse coded).

Next, participants read 12 transgression scenarios we randomly selected from the Moral Foundation Vignettes (Clifford et al., 2015), among which six were taken from the individualizing domain and six from the binding domain. Example scenarios for the individualizing domain are "A woman spanking her child with a spatula for getting bad grades in school" and "A student copying a classmate's answer sheet on a retake final exam." Example scenarios for the binding domain are "A student stating that her professor is a fool during an afternoon class" and "A teacher publicly saying she hopes another school wins the math contest." Some wording was modified to better fit participants' cultural backgrounds. For each scenario, participants indicated how morally wrong the behavior was (0 = *not at all wrong* to 6 = *extremely wrong*) and to what extent they thought the person should be punished (0 = *not at all* to 6 = *very much so*).

Lastly, participants provided demographics (age, gender, educational level, nationality, state/constituent country/province of residence, and duration of residence), were debriefed and thanked.

3. Results

3.1. Analysis strategies

We performed two 4-level mixed models to test our hypotheses. Both models had condemnation type (wrongness vs. punishment) on Level 1, moral domain (individualizing vs. binding) on Level 2, participants on Level 3, and country (China vs. UK vs. U.S.) on Level 4. Both models used maximum likelihood estimation and were performed with R packages *lme4* and *lmerTest* (Bates et al., 2015; Kuznetsova et al., 2017).

The first model included random intercepts for participant ID and specified a 4-way interaction between dispositional gratitude, country, moral domain, and condemnation type as a fixed factor. We expected dispositional gratitude to be positively related to higher scores in both condemnation types (H1a-H1b). We also expected a significant 3-way interaction between dispositional gratitude, country, and moral domain. Specifically, in the individualizing domain, we expected the relation to be stronger in the U.S. and the UK than in China; in the binding domain, we expected the relation to be stronger in China than in the U.S. and the UK (H2a-H2b). The second model included random

intercepts for countries and participant ID nested within countries.³ Fixed factors were similar to the first model except that now perceptions of societal tightness were included instead of country. We expected a positive interaction between dispositional gratitude and societal tightness on both types of condemnation (H3a-H3b).

3.2. Descriptive statistics

Confirmatory factor analyses (CFA) for wrongness and punishment judgments showed acceptable goodness-of-fit for the two-factor models (see Table S1 for more details). Thus, we averaged six items for individualizing and binding domains respectively to form the wrongness and punishment scores on the domain level. Due to the low reliability of the Chinese tightness scale ($\alpha = 0.38$), we dropped the reversely coded item ("People in this country have a great deal of freedom in deciding how they want to behave in most situations") in all three samples.⁴ After removing this item, the reliability of the Chinese tightness scale was improved to 0.71. Multiple group CFAs supported the metric invariance for dispositional gratitude ($\Delta CFI = 0.002$) and societal tightness ($\Delta CFI = 0.006$),⁵ according to the $\Delta CFI \leq 0.01$ cut-off (Cheung & Rensvold, 2002). Descriptive statistics for the key variables are presented in Table 2.

3.3. Hypotheses testing

Supporting H1a and H1b, results revealed a positive association between dispositional gratitude and harsher moral condemnations, $F(1, 593) = 15.21, p < .001, \eta^2 = 0.03$. That is, dispositionally more grateful participants judged the transgressions as more morally wrong (H1a) and the transgressors as deserving more punishment (H1b).⁶ However, contradicting H2a and H2b, the 3-way interactions between dispositional gratitude, countries, and moral domains on moral condemnation were nonsignificant, $F(2, 1779) = 2.92, p = .054, \eta^2 = 0.003$, indicating that the positive associations between dispositional gratitude and harsher condemnations were consistent across the two moral domains and the three countries (Table 3).

The model also revealed a significant interaction between country and moral domain on moral condemnation, $F(2, 1779) = 296.75, p < .001, \eta^2 = 0.25$. Participants from all three countries condemned transgressions in the individualizing domain more harshly than the binding domain ($ps < 0.001$, see Fig. 1). To further test whether the countries differed in the relative harshness for the two domains, we calculated the difference in condemnation scores between the two domains for each country. Positive difference scores reflect harsher condemnations in the individualizing domain than in the binding domain. A mixed ANOVA and post-hoc test with Bonferroni correction found consistent differences between the countries, both for wrongness and

³ We deviated from the preregistered plan to aggregate tightness scores to the regional level, and instead analyzed societal tightness at the individual level. This was because participants were not equally recruited from each region, and some regions only had one participant (for regional distribution, see Table S2), which made it inappropriate to aggregate the scores. Analyses using regional tightness scores for the U.S. and China derived from previous research (Chua et al., 2019; Harrington & Gelfand, 2014) showed a similar pattern as our individual-level results (see Table S3), thus validating our approach.

⁴ Analyses using the original tightness scale showed similar results when testing H3 (see Table S4).

⁵ Although the metric invariance was supported by the data, the scalar invariance was not ($\Delta CFI = 0.062$ for dispositional gratitude, and $\Delta CFI = 0.059$ for societal tightness). This may be less problematic given our focus on the correlations between variables rather than on mean comparisons. It does imply that one should be cautious in interpreting the mean differences in these two variables between countries.

⁶ Conclusions remained the same after controlling for age, gender, and educational level.

Table 2

Descriptive statistics for key variables in each country.

	<i>M</i>	<i>SD</i>	α	1	2	3	4	5
U.S.								
1. Gratitude	5.53 ^a	1.01	0.86	–				
2. Tightness	4.15 ^a	0.76	0.76	0.11	–			
3. Wrongness _{ind}	4.20 ^a	0.79	0.51	0.12	–0.05	–		
4. Wrongness _{bind}	2.84 ^a	1.33	0.83	0.17 [*]	0.08	0.33 ^{***}	–	
5. Punishment _{ind}	3.45 ^a	0.91	0.57	0.04	–0.05	0.73 ^{***}	0.32 ^{***}	–
6. Punishment _{bind}	2.10 ^a	1.20	0.82	0.08	0.06	0.25 ^{***}	0.80 ^{***}	0.45 ^{***}
UK								
1. Gratitude	5.44 ^a	1.12	0.88	–				
2. Tightness	4.48 ^b	0.69	0.75	0.12	–			
3. Wrongness _{ind}	4.61 ^b	0.76	0.61	0.20 ^{**}	0.04	–		
4. Wrongness _{bind}	2.88 ^a	1.13	0.78	0.11	–0.02	0.51 ^{***}	–	
5. Punishment _{ind}	3.84 ^b	0.82	0.63	0.05	–0.10	0.65 ^{***}	0.44 ^{***}	–
6. Punishment _{bind}	1.95 ^a	1.05	0.78	0.05	–0.07	0.33 ^{***}	0.73 ^{***}	0.57 ^{***}
China								
1. Gratitude	5.42 ^a	0.91	0.76	–				
2. Tightness	4.72 ^c	0.62	0.71	0.44 ^{***}	–			
3. Wrongness _{ind}	4.27 ^a	0.67	0.52	0.27 ^{***}	0.37 ^{***}	–		
4. Wrongness _{bind}	3.97 ^b	0.76	0.60	0.17 [*]	0.25 ^{***}	0.51 ^{***}	–	
5. Punishment _{ind}	3.67 ^b	0.74	0.52	0.22 ^{**}	0.36 ^{***}	0.63 ^{***}	0.35 ^{***}	–
6. Punishment _{bind}	3.44 ^b	0.87	0.70	0.10	0.26 ^{***}	0.39 ^{***}	0.73 ^{***}	0.60 ^{***}

Note: Wrongness_{ind} = wrongness in the individualizing domain; Wrongness_{bind} = wrongness in the binding domain; Punishment_{ind} = punishment in the individualizing domain; Punishment_{bind} = punishment in the binding domain. For the same variable across countries, means with different superscripts are significantly different. Although some reliabilities for wrongness and punishment judgments were relatively low, they were comparable to previous studies using similar vignettes (Wagemans et al., 2018).

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 3

Mixed model results for effects of dispositional gratitude, country, and moral domain on wrongness and punishment judgments.

Predictor	DV = wrongness			DV = punishment		
	<i>B</i>	<i>SE</i>	95 % CI	<i>B</i>	<i>SE</i>	95 % CI
Intercept	4.28	0.06	[4.15, 4.40]	3.67	0.06	[3.55, 3.80]
Gratitude	0.19	0.07	[0.06, 0.33]	0.18	0.07	[0.04, 0.31]
Country = UK	0.33	0.09	[0.15, 0.52]	0.16	0.09	[–0.02, 0.34]
Country = U.S.	–0.08	0.09	[–0.26, 0.10]	–0.23	0.09	[–0.41, –0.05]
Domain = Bind	–0.30	0.06	[–0.43, –0.18]	–0.23	0.06	[–0.35, –0.10]
Interaction						
Gratitude × UK	–0.06	0.09	[–0.24, 0.12]	–0.14	0.09	[–0.32, 0.04]
Gratitude × U.S.	–0.10	0.10	[–0.29, 0.09]	–0.14	0.10	[–0.33, 0.05]
Gratitude × Bind	–0.06	0.07	[–0.19, 0.08]	–0.08	0.07	[–0.22, 0.06]
UK × Bind	–1.42	0.09	[–1.60, –1.24]	–1.66	0.09	[–1.84, –1.48]
U.S. × Bind	–1.07	0.09	[–1.25, –0.89]	–1.13	0.09	[–1.31, –0.95]
Gratitude × UK × Bind	0.03	0.09	[–0.15, 0.21]	0.09	0.09	[–0.09, 0.27]
Gratitude × US × Bind	0.18	0.10	[–0.01, 0.37]	0.14	0.10	[–0.05, 0.33]
Random effects						
$\tau_{00}^{(ID)}$				0.423		
σ^2				0.429		
$N_{\text{observations}}$				2372		
$N_{\text{groups (ID)}}$				593		

Note. Bind = binding moral domain; CI = confidence interval; τ_{00} = variance of the intercept; σ^2 = residual variance. Country, domain, and condemnation type are dummy coded. The individualizing domain was the reference level for domains, and China was the reference level for countries. The left and right parts of the table show the results when wrongness and punishment are the reference levels for condemnation type respectively. Gratitude was grand-mean centered. Significant effects are in bold ($p < .05$).

punishment judgments (for details, see Table S5). That is, participants from the UK ($MD_{\text{wrongness}} = 1.72$; $MD_{\text{punishment}} = 1.89$) and the U.S. ($MD_{\text{wrongness}} = 1.36$; $MD_{\text{punishment}} = 1.35$) condemned transgressions in the individualizing domain (vs. the binding domain) more harshly than participants from China ($MD_{\text{wrongness}} = 0.30$; $MD_{\text{punishment}} = 0.22$), $ps < 0.001$. Moreover, condemnation of transgressions in the individual domain (vs. the binding domain) was somewhat higher in the UK than in the U.S., $p_{\text{wrongness}} = 0.008$, $p_{\text{punishment}} < 0.001$.

The second mixed model again revealed positive relations between

dispositional gratitude and harsher moral condemnations, $F(1, 590.46) = 11.56$, $p < .001$, $\eta^2 = 0.02$ (for parameter estimates, see Table 4). However, inconsistent with H3a and H3b, societal tightness did not moderate these relations, $F(1, 590.36) = 0.35$, $p = .556$, $\eta^2 = 0.001$, suggesting that dispositionally more grateful participants made harsher wrongness and punishment judgments regardless of their perceived level of societal tightness. Results did reveal a significant interaction between perceived societal tightness and moral domain, $F(1, 1779) = 27.23$, $p < .001$, $\eta^2 = 0.02$. That is, participants who perceived their

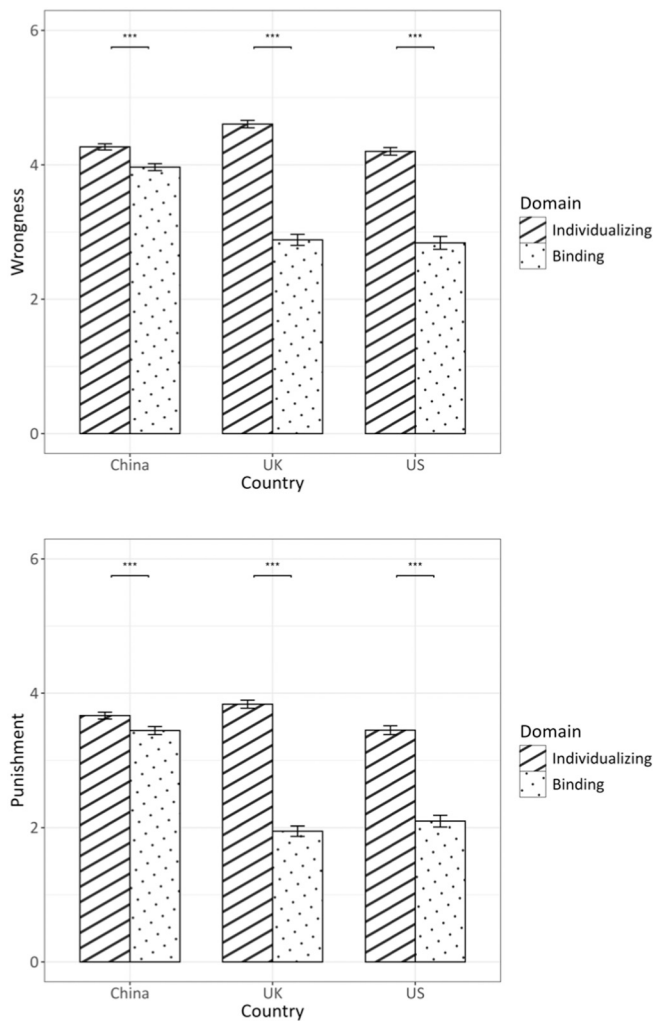


Fig. 1. Interactions between country and moral domain on wrongness (top) and punishment (bottom).

Note. Wrongness and punishment scores in the individualizing domain are significantly higher than the binding domain across the three countries. However, how much the two domains differ from each other varies between countries. Error bars show standard errors.

*** $p < .001$.

cultures to be tighter rated the transgressions in the binding domain, but not the individualizing domain, as more morally wrong and more deserving of punishment.

4. Discussion

We examined in three countries how dispositionally grateful individuals responded to moral transgressions. The results revealed a positive association between dispositional gratitude and moral condemnations, which was consistent across condemnation types (wrongness and punishment), moral domains (individualizing and binding), countries (U.S., UK, and China), and perceived levels of societal tightness.

4.1. Robust relation between dispositional gratitude and moral condemnation

The robust positive relation between dispositional gratitude and condemnation of moral transgressions complements the well-established prosocial outcomes of gratitude (Ma et al., 2017). Although performing prosocial behaviors may be considered more

positive than condemning others, the common denominator may be a concern for the collective. As discussed earlier, groups are not only served by members behaving prosocially, but also by members reacting to those who violate moral norms of the group (Krebs, 2008). The evidence that dispositional gratitude promotes both prosocial behaviors and condemnations of others' immoral behaviors may therefore underscore the conceptualization of gratitude as an adaptive emotion (McCullough et al., 2001).

Our findings regarding wrongness and punishment judgments demonstrate that the relation between dispositional gratitude and harsher reactions to moral transgressions extends beyond moral outrage (Keefer et al., 2021). The interesting finding that people who scored higher on dispositional gratitude considered moral transgressions more deserving of punishment also aligns with the study showing that state gratitude led to more costly punishment in an economic game (Vayness et al., 2020). Thus, the similar patterns between wrongness and punishment judgments highlight that dispositional gratitude may have implications for actual behavioral responses toward moral transgressions.

Furthermore, the relation exists in both the individualizing and binding domains, suggesting that dispositionally grateful people care about not only individuals but also group interests. This novel insight into the relation between dispositional gratitude and collective interests provides a broader perspective to the literature. To our knowledge, only one article tested state gratitude's effect on decisions in a public goods game (Kates & DeSteno, 2020). Their results showed that when collective resources were depleting, individuals in the gratitude condition took less from the resources than those in the happiness and control conditions. Based on the current findings, we see value in conducting more research to investigate how dispositional gratitude is linked to group-related behaviors.

4.2. Cultural differences in moral condemnation

Whereas we observed no variations in the association between dispositional gratitude and moral condemnation, our data did reveal several cultural differences when zooming in on each moral domain. Despite the finding that all three samples showed equally harsh attitudes in the individualizing domain, the harshness remained high in the binding domain only in the Chinese sample. These contrasts support the argument that condemnation of transgressions in the individualizing domain is relatively universal, while it might depend more on culture in the binding domain (Graham et al., 2011). Because the UK and the U.S. cultures are more individualistic (Hofstede et al., 2010), it stands to reason that people from these cultural backgrounds are less harsh toward group-threatening transgressions than those from collectivistic cultures (e.g., China).

Similarly, greater societal tightness was only significantly related to harsher condemnation in the binding, but not in the individualizing domain. This might be because individualizing transgressions are intrinsically deemed harmful and immoral (Schein & Gray, 2018), and therefore need not be regulated by social norms. By contrast, binding transgressions like betrayal are more crucial to a group's interest (Graham et al., 2011), and thus are more susceptible to how tight or loose the group's norm is.

4.3. Limitations and future directions

Studying the link between dispositional gratitude and moral condemnation across countries allowed us to assess the robustness of our findings. In doing so, we had to make some decisions in translating concepts. One of these decisions was instigated by research suggesting that the term "immoral" mostly refers to uncivilized behaviors in Chinese culture rather than harmful behaviors in Western cultures (Buchtel et al., 2015). To avoid capturing different concepts, we measured wrongness judgments by the item "How morally wrong is the behavior?" in the English survey, while the word "morally" was removed from the

Table 4

Mixed model results for effects of dispositional gratitude, societal tightness, and moral domain on wrongness and punishment judgments.

Predictor	DV = wrongness			DV = punishment		
	<i>B</i>	<i>SE</i>	95 % CI	<i>B</i>	<i>SE</i>	95 % CI
Intercept	4.34	0.16	[3.89, 4.80]	3.63	0.16	[3.18, 4.08]
Gratitude	0.15	0.04	[0.07, 0.23]	0.09	0.04	[0.01, 0.17]
Tightness	−0.02	0.04	[−0.11, 0.06]	−0.03	0.04	[−0.11, 0.06]
Domain = Bind	−1.11	0.04	[−1.20, −1.02]	−1.12	0.04	[−1.20, −1.03]
Interaction						
Gratitude × Tightness	−0.02	0.04	[−0.09, 0.06]	0.03	0.04	[−0.04, 0.11]
Gratitude × Bind	−0.02	0.05	[−0.11, 0.07]	−0.05	0.05	[−0.13, 0.04]
Tightness × Bind	0.15	0.04	[0.06, 0.24]	0.18	0.04	[0.09, 0.27]
Gratitude × Tightness × Bind	0.06	0.04	[−0.02, 0.14]	−0.01	0.04	[−0.09, 0.07]
Random effects						
τ_{00} (Country/ID)				0.389		
τ_{00} (Country)				0.075		
σ^2				0.571		
$N_{\text{observations}}$				2372		
$N_{\text{groups (country/ID)}}$				593		
$N_{\text{groups (country)}}$				3		

Note. Bind = binding moral domain; CI = confidence interval; τ_{00} = variance of the intercept; σ^2 = residual variance. Domain and condemnation type are dummy coded. The individualizing domain was the reference level for domains. The left and right parts of the table show the results when wrongness and punishment are the reference levels for condemnation type respectively. Gratitude and societal tightness were standardized. Significant effects are in bold ($p < .05$).

Chinese survey. Future research may directly verify the meaning of the wrongness judgment item in these cultures and test the robustness of our findings. Moreover, given that scalar invariance was not established for dispositional gratitude and societal tightness (see Note 5), observed mean differences across countries should be interpreted with caution.

In addition, we used single items to measure wrongness and punishment judgments, which made it difficult to assess their measurement invariance. Although the single items are used in other research as well (Malle, 2021), one might wonder whether it could have attenuated effect sizes by reduced reliability. Replication studies using multiple items would be needed to further confirm and assess the strength of the effects we observed.

This study used a cross-sectional design, meaning that the causal relationship between dispositional gratitude and moral condemnation cannot be determined. The order of the measurements (i.e., dispositional gratitude was measured before moral condemnation), however, suggests that the current findings are less likely explained by an effect of moral condemnation on dispositional gratitude. Relatedly, although the effect of dispositional gratitude on moral condemnation was robust across the three samples and two moral domains, the effect size was relatively small and should be interpreted with caution.

Additionally, we cannot draw firm conclusions on the mechanisms supporting the link between dispositional gratitude and moral condemnation; the prosocial motives discussed earlier might only be one of the explanations. Future research could explicitly test other possible mechanisms. For example, research showed honesty-humility to be positively correlated with harsher moral judgment (Schwartz et al., 2021). It would be interesting to test a possible connection to the current findings, and, for example, investigate whether the importance people attach to honesty-humility mediates the relationship between dispositional gratitude and harsher moral condemnation. Another potentially relevant factor is norm adherence. Multiple studies showed that after being induced to feel grateful, participants were more likely to conform to other participants and to obey instructions (Ng et al., 2017; Tong et al., 2021), suggesting that gratitude might heighten the willingness to adhere to social norms. Connecting to these insights, it may be interesting to investigate whether the effects of dispositional gratitude on moral condemnation reflect a willingness to promote or enforce others to adhere to social norms as well, and thus to test whether effects of gratitude we documented are mediated by a more general concern that people should adhere to social norms. Other factors that were found to be related to dispositional gratitude (e.g., religiosity and political ideology; Yost-Dubrow & Dunham, 2018) could also contribute to the

harsher condemnation (Piazza & Sousa, 2014), which might be worth exploring in the future.

In addition, it may be noted that whereas we did assess participants' perception of societal tightness, we did not measure to what extent they considered their culture to be individualistic or collectivistic. Our ideas concerning individualistic versus collectivistic cultures were derived from the well-established scores from Hofstede et al. (2010). Given that cultures can change (Grossmann & Varnum, 2015), researchers may directly measure individualism-collectivism in multiple countries to replicate the current findings.

As a final avenue for future research, we see value in moving beyond punishment judgments. Judging a violation as deserving more punishment does not necessarily mean that people would actually punish. After all, judgments might not always translate into actual behaviors. It would be informative to test whether and how dispositionally grateful individuals punish transgressors in setups such as economic games (e.g., third-party punishment game; Gummerum et al., 2022), laboratory-based tasks (e.g., assigning sound blast or chili pepper; Pedersen et al., 2018), or even real-life interventions (i.e., moral courage; Sasse et al., 2022).

5. Conclusion

As a moral emotion, gratitude is prevalent and valued in many (if not all) cultures (Merçon-Vargas et al., 2018). Scholars have mainly studied its impacts on one's own (prosocial) behaviors. It is only recently that researchers have begun to investigate how gratitude affects responses to others' behaviors. The current study falls in that latter approach by examining how dispositionally grateful people respond to others' moral transgressions. The consistent associations of dispositional gratitude with harsher wrongness judgments and stronger punitive tendencies across countries and moral domains suggest a potentially universal function of gratitude, which may be common in both approaches that highlight the role of gratitude in promoting and maintaining cooperation within groups. As such, the current study further underscores the importance of understanding the virtuous path through which gratitude may contribute to the good of society as a whole.

CRedit authorship contribution statement

Xueting Zhang: Writing – review & editing, Writing – original draft, Visualization, Methodology, Formal analysis, Data curation, Conceptualization. **Niels J. Van Doesum:** Writing – review & editing,

Methodology, Conceptualization. **Lotte F. Van Dillen:** Writing – review & editing, Methodology, Conceptualization. **Eric Van Dijk:** Writing – review & editing, Methodology, Conceptualization.

Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Xueting Zhang reports financial support was provided by China Scholarship Council. Xueting Zhang reports a relationship with China Scholarship Council that includes: funding grants. If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

We have shared the link to the data and code in the manuscript.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.paid.2025.113452>.

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