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With great(er) power comes great(er) responsibility: an intercultural investigation of the effect of social roles on moral responsibility attribution

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ABSTRACT

This paper investigates the relevance of social roles and hierarchies for the attribution of blame and causation in five culturally different countries, namely China, Germany, Poland, the United Arab Emirates, and the United States of America. We demonstrate that in all these countries, hierarchical differences between the social roles occupied by two agents and associated differences in duties to care for others affect how these two agents are morally and causally judged when they make a decision together. Agents higher in a hierarchy are attributed more blame and considered more causally responsible for an action's consequences. We also demonstrate that the degree of this effect depends on culture-specific differences in how hierarchies are conceived.

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1. Introduction

Suppose that you and a colleague need to make a tough decision on how to cut costs in your department. The decision you consider reduces costs effectively but has adverse side effects. You and your colleague need to agree, as either of you not being on board would prevent the decision from taking effect. Since neither of you cares about the adverse side effects, you take action. Now, suppose further that after the negative side effects of the decision have manifested, someone wishes to point fingers and assign blame. Who do you think is to blame, and to what extent?

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Intuitively, it seems clear that if blame is justified and can be properly ascribed to someone, then you and your colleague share the responsibility equally. You both knew that what you were doing would have negative side effects. Both you and your colleague needed to agree, and neither cared about the adverse side effects. Everything that could tip the moral scale in either your or your colleague's direction seems perfectly symmetrical.

However, things become interesting when the two parties involved differ in one seemingly irrelevant way: their respective places in the social hierarchy. Suppose that it is not you and your colleague who need to decide how to cut costs, but you and your boss. It seems that because your boss occupies a higher position in your company's hierarchy, she bears a greater moral responsibility for the negative consequences of that decision. Indeed, recent empirical research indicates that social roles and hierarchies are essential to how we assign both causation and moral responsibility¹ (Kaspar et al., 2016; Willemsen et al., 1990). However, the pervasiveness and full explanation of this effect are still not fully understood.

This paper investigates the relevance of social roles and hierarchies for attributing blame and causation in five culturally different countries (henceforth also "cultures")²: China, Germany, Poland, the United Arab Emirates, and the United States of America. In line with previous studies (Kaspar et al., 2016; Willemsen et al., 1990), we demonstrate that in all these cultures, hierarchical differences between the social roles that two agents occupy affect how these two agents are morally and causally judged when they decide together on a course of action. Those higher in a hierarchy are attributed more blame and are considered more of a cause. We also demonstrate that the extent of this effect varies with culture-specific differences in how hierarchies are conceived, that is, differences in the social expectations against which employees and their superiors are measured.

2. Previous work in moral cognition

Situations where two or more agents make decisions together with notable moral implications are daily occurrences. As colleagues, partners, or teammates, we must often make decisions that require everyone to agree on a course of action. What is characteristic of this kind of *togetherness* is intensive interaction within a team of, say, colleagues (or parents, neighbors, etc.) to coordinate the team members' actions. In the case of parents co-raising children, it is unlikely that parenting decisions will match by coincidence. Instead, the partners coordinate their decisions and reach an agreement intentionally. This kind of togetherness typically involves interacting to discuss various options, lay out personal values, evaluate pros and cons, plan how to reach the agreed-upon goal, and determine who will be in charge of which steps along the way. The

whole process is shaped by what we call a *coordinated interaction*. In the rest of this paper, we have this form of togetherness in mind when we talk about two agents *acting* or *deciding together*.³

Despite the ubiquity of coordinated, interactive decisions and how interwoven each person's life is with the lives of others, moral decision-making involving more than one party is currently underrepresented in moral psychology.⁴ Instead, academic focus in this field tends to center on an individual agent's moral responsibility, contrasting the agent with the passive patients affected by her decision. The experimental stimuli usually contain descriptions of an agent who acts alone and performs an action with mediate or immediate consequences for others, such as diverting a trolley, pushing a person off a bridge, smothering a baby, harming the environment, deleting an important e-mail, breaking a promise, or not watering plants. In all these cases, the agent makes the decision and acts alone. Coordinated, interactive decisions and actions are largely absent from the empirical investigation of morality (for an overview, see Doris et al., 2020; Waldmann et al., 2021; Wiegmann & Sauer, 2021).

One might object that this is not entirely true. For instance, some studies have examined moral scenarios in which two agents are necessary for the bad outcome to occur, while others have investigated stories in which the outcome is overdetermined, such that agents A and B both act to bring about the outcome even though the action of either agent alone would have sufficed (Icard et al., 2017; Kirfel & Lagnado, 2017; Kominsky et al., 2015; Livengood & Machery, 2007; Reuter et al., 2014; Stephan et al., 2017). These are examples of studies on moral scenarios involving more than one agent.

However, these previous studies have not examined the kind of togetherness in decision-making or acting we have in mind. In all these scenarios, the agents each act on their own, unaware of each other's identity and actions. The two agents do not *coordinate* their actions and do not *interact* in any way to cause any outcome. A notable exception is this vignette from Joshua Knobe (2003):

The vice-president of a company went to the chairman of the board and said, 'We are thinking of starting a new program. It will help us increase profits, but it will also harm the environment.' The chairman of the board answered, 'I don't care at all about harming the environment. I just want to make as much profit as I can. Let's start the new program.'

In this story, both the vice president and the chairman interact more meaningfully, namely by discussing a possible course of action and exchanging their views on the proposed program. However, it is unclear to what extent the two agents' reaching an agreement is necessary for the program to be implemented. Whether an objection from the vice president or the chairman of the board would prevent the action from taking effect is left open, allowing for interpretation. While much ink has been spilled on replicating, explaining, or rejecting the Knobe Effect (e.g., Beebe & Buckwalter, 2010; Hindriks et al.,

2016; Nichols & Ulatowski, 2007; Paprzycka, 2015), no one has discussed the potential of using a Knobe-style vignette to investigate joint decision-making and joint actions. We aim to develop the classical Knobe scenario to focus explicitly on such coordination.

A second common feature of the moral psychology debate is the tendency to leave each agent's social status unspecified, considering that information irrelevant to the investigation. Again, Knobe's vignette is a rare exception in making explicit the two agents' significant positions in their company. Still, there is virtually no research on whether the social role or status of these agents is relevant in evaluating them morally.

In addition to social roles, different positions in the social hierarchy could influence moral judgments (Haidt & Baron, 1996; Hamilton & Sanders, 1981; Malle et al., 2014; Rai & Fiske, 2011). Intuitively, we tend to assign moral responsibility differently when two agents act not as equals but as, for instance, boss and employee. Even though Knobe's vignette features two agents who act together in the relevant sense, it does not allow us to explore the impact of social hierarchy as the roles of these two agents place them eye to eye within their company hierarchy, making them approximate peers.

Kaspar et al. (2016) adapted Knobe's vignette to investigate whether differences in hierarchical position impact the perceived moral responsibility of two agents who make a decision jointly. Instead of a chairman and a vice president, they introduced an employee and his boss. Kaspar and colleagues used the following vignette (Kaspar et al., 2016):

An employee of a big company went to his boss and said: "We could launch a new product. It will help us increase profits, but in the long run it will also harm the customers who use it."

His boss answered: "I don't care at all about harming customers. I just want to make as much profit as I can. I will launch the new product, but I cannot do this alone. I will need your support!"

They launched the new product. Sure enough, the customers were harmed.

Their experiments demonstrated a clear asymmetry between the amount of praise and blame attributed to the boss and the amount attributed to the employee. The employee was attributed significantly less blame but more praise for the consequences of the joint activity. This two-way interaction occurred in two cultures: Germany and the United Arab Emirates.

In 2018, Willemsen, Kaspar, and Newen pointed out that Kaspar and colleagues' vignette allows for an interpretation according to which the boss contributes more to the outcome than the employee. The boss eventually takes matters into his own hands and makes the decision, thereby becoming the proximate cause of the outcome.⁵ Attributed causation is an essential modulator for the attribution of praise and blame (Alicke, 1992; Hitchcock

& Knobe, 2009). An agent who is more involved in bringing about an outcome is typically judged more blameworthy for adverse effects, all other things being equal. Therefore, it is reasonable to assume that the asymmetry in blame and praise ascribed respectively to the boss and to an employee can be at least partly explained by a perceived asymmetry in their causal involvement without any appeal to the agents' different social roles. But does causal involvement give us a full explanation of the asymmetry between the moral attributions to the employee and those to the boss?

Willemsen et al. (1990) demonstrated that the boss was considered more causally relevant than the employee. To test whether this difference in perceived causal involvement can fully account for the difference in attributed moral responsibility, they created a variation of the vignette in which the roles are reversed, and it is the employee – hence the person *lower* in the hierarchy – who makes the decision. The results are interesting in two respects. First, reversing the decision-making roles did not lead to a reversal in attributions of *causation*. Instead, although the employee was assigned more causation when he made the decision than when he did not, he was not assigned more causation than his boss. Reversing the decision-making roles merely led to the two agents' being causally on par. Second, reversing the decision-making roles and thereby increasing the employee's perceived causal involvement could not fully account for differences in *blame* attribution. The boss still received more blame than the employee, even though the decision was explicitly transferred to the employee. Willemsen and colleagues speculate that the hierarchically subordinate social role of the employee partly blocked the attribution of blame. Taken together, these two results allow for the provisional conclusion that social roles and relative positions in hierarchies affect attributions of causation and blame.

3. Cultural differences in hierarchical and social role expectations

The influence that social roles and hierarchies exert on moral cognition is still only poorly understood. While we have evidence that bosses and employees are not considered on par, we do not know why this effect occurs: We lack a complete understanding of what it is about a social role that determines how much blame and praise are appropriate.

In this section, we develop the idea that social roles are constituted by expectations of how agents occupying these roles can and should act. Since these expectations differ for distinct social roles, even when a boss and an employee do exactly the same thing, they can violate different social expectations. We hypothesize that these violations of expectations drive blame and praise attribution. Furthermore, we argue that these role-specific expectations differ across cultures.

3.1. Social roles as sets of expectations

We submit that social roles are constituted by expectations of how agents occupying these roles can and should act (see, e.g., Willemsen et al., 1990, 2022). The notion of expectations we have in mind here is not technical but intended to reflect the term's ordinary meaning. The expectations we wish to consider are *social expectations*. In this context, it has been common practice to distinguish between *empirical*, also known as *statistical*, expectations on the one hand and *normative* expectations on the other (Bicchieri, 2006; Sytsma et al., 2012). *Statistical* social expectations refer to a subject's belief that a sufficiently large subset of their community conforms to a norm (in relevantly similar situations). Based on this conformity to norms, we can infer that a member of this community is likely to behave in the same way (Bicchieri, 2006). *Normative* expectations describe a person's belief that a particular norm needs or *ought* to be followed (e.g., Bicchieri, 2006, 2016; Tomasello, 2016).⁶ When it comes to moral transgressions, the expectations that are violated are, first and foremost, normative expectations. When our normative expectations regarding how an agent should have acted are not met, we react with surprise and resentment and are inclined to sanction and blame the agent for breaking them.

Following these distinctions, we can describe our expectations in the above example more precisely. We have *empirical* expectations that it is the manager who decides whether to sell the company or implement new technologies – this is how things work in almost all cases and is statistically the most likely scenario. We also *normatively* expect the manager to do the right thing for the company, its employees, and anyone affected by their decision; the manager *should* do the right thing. If these normative expectations are violated by a display of a surprising lack of care, we blame the manager.

The notion of expectations has occupied a prominent role in experimental philosophy and psychology as violations of our expectations seem to affect various moral and non-moral judgments (e.g., Beebe & Buckwalter, 2010; Icard et al., 2017; Livengood & Machery, 2007; Nichols & Ulatowski, 2007; Willemsen, 2016). It is, therefore, plausible that violations of role-specific expectations, both empirical and normative, likewise have effects on such judgments.

3.2. Cultural differences in social role expectations

For our study, we chose a relatively institutionalized setting in which social expectations are more formal than in, for instance, parent – child relationships. We considered social roles associated with bosses and employees.

Intuitively, it is plausible that all cultures share critical expectations that distinguish bosses from their employees: bosses have more diverse behavioral opportunities than their employees as well as additional rights. Also, it seems plausible that in all cultures, bosses are expected to care about the consequences of their actions. However, to paraphrase Spiderman (and some less famous ancient philosophers and religious scholars), “With greater power comes greater responsibility.” We consider it a compelling assumption, in line with everyday experience, that bosses, across cultures, are held more morally responsible than their subordinates for the adverse outcomes of their actions.⁷

Despite these expectable cross-cultural similarities, we also have good reasons to suspect differences in how social roles and hierarchies are handled across cultures. One crucial factor is the extent of the hierarchical difference, that is, the *power distance*. Hofstede (1991) argues that power distance describes “the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally” (p. 28). Cultures can differ concerning the size of power distances between bosses and their employees. Vertical hierarchies characterize cultures in which power distances tend to be large; in contrast, cultures with small power distances have horizontal hierarchies.

However, power distance alone does not account for the full complexity of variations across cultures. In addition, we must account for the differences between so-called individualistic and collectivistic cultures (Triandis & Gelfand, 1998; Triandis, 1995). Individualistic cultures tend to focus more strongly on individuals and their needs, with the larger community playing a secondary role. In contrast, collectivist societies emphasize the community’s well-being and assign the individual group member a subordinate place.

Triandis and Gelfand (1998) introduced a systematic classification in which both distinctions – horizontal vs. vertical and individualistic vs. collectivist – are operationalized (see Table 1). They proposed that in cultures characterized by vertical individualism (VI), people compete with one another, wish to be unique and stand out as individuals, and strive for high status. Individuals in VI societies see each other as unique and expect inequality among group members due to that individual-level competition. By contrast, in cultures characterized by horizontal individualism (HI), people do not strive for a higher status. However, they also want to be unique and autonomous and stand out from the group. As a result, inequalities are less pronounced and less frequent in such societies.

In cultures dominated by vertical collectivism (VC), the internal integrity of the group and the interdependencies of its members are valued. Such societies see themselves as competing with other societies. VC cultures accept inequality and differences in status as long as these

Table 1. The four categories according to Triandis and Gelfand (1998).

	Collectivism	Individualism
Vertical	VC: Individuals consider themselves as members of groups, consider their group unique, and strive for it to reach a higher status.	VI: Individuals consider themselves unique and compete with others as they strive for higher status.
Horizontal	HC: Individuals consider themselves as members of groups and consider their group unique, yet they do not strive for their group to reach a higher status.	HI: Individuals consider themselves unique but do not strive for higher status.

inequalities contribute to the goal of reaching a higher collective status of the group. Finally, in cultures characterized by horizontal collectivism (HC), people see themselves as similar to others and do not readily submit to the will of authorities. Like those in VC societies, individuals in HC societies value equality, sociability, common goals, and interdependencies with others.

How can we apply this conception to our research question, and what empirically testable predictions does it make? Intuitively, societies that accept inequalities as a necessary by-product of striving for higher status should also accept differences in blame attribution between bosses and employees: If you aim for high status and authority over others, you must be prepared to take responsibility for your actions. In contrast, the blame should be attributed more equally in societies that see all group members as equals and do not accept hierarchical differences.

4. Experiment

In this study, we investigated the social role effect in five different cultures, expanding the work of Kaspar et al. (2016) and Willemsen et al. (1990). We used manipulations of the vignette in which two individuals with different social roles and places in the social hierarchy (manager vs. technician) accept adverse side effects on the health of residents for the sake of optimizing the cost of their corporate activities. Following Willemsen et al. (1990), we implemented two variants of this scenario: under the normal hierarchy condition, the manager made the final decision, whereas, under the reversed hierarchy condition, the final decision was in the hands of the technician (see the Methods section below for the full text of both conditions).

We selected five countries expected to differ in the extent to which various features of VC, HC, VI, and HI are pronounced (see Kaspar et al., 2016). However, we did not assume that the five selected countries would show completely different patterns. For our purpose, the expectation that the five countries would differ substantially along the four dimensions was

enough to allow us to examine the effects of those dimensions on moral evaluations as suggested by Kaspar et al. (2016).⁸

4.1 Predictions

Based on previous work by Kaspar et al. (2016) and Willemsen et al. (2018), we made the following predictions (see Table 2) concerning three dependent variables, namely causation attribution (H1), blame attribution (H2), and attributed duty to care (H3).

We assumed that these predictions would apply in principle to all cultures studied here (operationalized via country affiliation), albeit to varying degrees. Thus, one main goal of the present study was to determine the extent to which the hypothesized effects can be generalized across cultures.

4.2. Methods

4.2.1. Participants

We recruited participants over 18 years old from five different countries, namely China, Germany, Poland, the United Arab Emirates (UAE), and the United States of America (US). We collaborated with international colleagues in these countries, who distributed the survey link via college mailing list and social media (Facebook). Participation was voluntary, and we did not pay participants recruited via mailing lists or social media. In the United States, college policy concerning the use of mailing lists made it

Table 2. Predictions H1a to H3b for the three evaluation dimensions causation attribution, blame attribution, and attributed duty to care.

Evaluation Dimension	Prediction
Causation Attribution	H1a In the case of the normal decision hierarchy, the manager will be assigned more causation than the technician.
	H1b In the case of the reversed decision hierarchy, the difference in causation attribution between the manager and technician will be reduced, but the technician will not be assigned more causation than the manager.
	H1c The cultures will differ in the extent to which the difference in causation attribution between manager and technician will be reduced in the case of the reversed decision hierarchy compared to that of the normal decision hierarchy.
Blame Attribution	H2a In the case of the normal decision hierarchy, the manager will be assigned more blame than the technician.
	H2b In the case of the reversed decision hierarchy, the difference in blame attribution between manager and technician will be reduced, but the technician will not be assigned more blame than the manager.
	H2c The cultures will differ in the extent to which the difference in blame attribution between manager and technician will be reduced in the case of the reversed decision hierarchy compared to that of the normal decision hierarchy.
Attributed Duty to Care	H3a In the normal decision hierarchy, the manager will be assigned more duty to care than the technician.
	H3b In the reversed decision hierarchy, the manager will be assigned more duty to care than the technician.

necessary to recruit additional participants via Amazon's Mechanical Turk for monetary compensation (\$ 1.10).

A power analysis prior to conducting the experiment revealed 352 participants per country as the target sample to detect a small effect of $d = 0.3$ for the most subject-demanding test, namely the planned contrast of two independent means with an α error probability of 0.05 and a power of 0.8 (two-tailed t -test for independent samples).

Participants were only included in the analysis and categorized as members of a culture if they answered "Yes" to the following three questions: "Is [the language of study] your native language?", "Have you spent most of your life in [the country of study]?", and "Do you consider yourself a member of the [Country of Study] culture?"

We excluded participants who spent less than two minutes on the survey, as we determined in a pretest that even the quickest readers would need at least two and a half minutes to read all the material and fill out the survey carefully. We further excluded participants who did not finish the survey or did not meet the inclusion criteria (see above). The final sample included 1,752 participants (1,174 female and 578 male), 347 to 352 per culture, with a mean age of 26.53 years ($SD = 10.38$).

4.2.2. *Stimuli and design*

We first designed the English version of the experimental stimulus. This material included the standardized questionnaire on cultural differences, our two different test conditions (normal and reversed decision hierarchy), and the test queries. The resulting questionnaire was then translated by a native speaker of each target language who was also an expert user of English, and another native speaker double-checked each translation. Neither translator was familiar with the purpose of the study, and both translators had to agree on the translation. The English version of the material is presented below.⁹

Normal and reversed (in brackets) decision hierarchy

The economic situation of a company is difficult and the company needs to reduce costs. For this reason, an external business consultant worked out a proposal of how to reduce costs.

The technician [manager] says: "We both just heard the consultant's suggestion to improve the manufacturing process by using a new spare part that lasts longer and is much cheaper than the one we're currently using. It was also pointed out that it leads to higher emission rates. This will harm the people living in the city nearby by having negative effects on their health. But I don't care about harming these people. I also see the potential to reduce costs in other ways. It's on you to decide whether we switch to the new spare part or not."

The manager [technician] responds: “From a technical perspective, the new spare part will work just as well as the more expensive one and it will certainly allow us to save a lot of money. I therefore suggest we install the new spare part. Reducing costs is all that matters to me. I don’t care about harming these people.”

After the manager’s [technician’s] decision, the cheap, longer-lasting spare part is installed. The people in the city nearby are harmed. The company successfully manages to save money.

We realized a 2 (decision hierarchy: normal vs. reversed) \times 2 (judged person: manager vs. technician) \times 5 (countries: Germany, US, Poland, UAE, China) mixed design. In each country, participants were randomly assigned to one of the two decision hierarchy conditions, normal or reversed (between-participants factor). Each participant judged the manager and the technician (within-participants factor) with respect to the three dependent variables: causation attribution, blame attribution, and attribution of duty to care. These questions were presented in fixed order, but the sequence of the persons being judged (manager and technician) was randomized. The sentences under causation attribution and attribution of duty to care have been evaluated with a seven-point scale ranging from 1 (strongly disagree) to 7 (strongly agree).³

(1) Causation attribution

- (a) The manager caused the people in the city nearby to be harmed.
- (b) The technician caused the people in the city nearby to be harmed.

(2) Blame attribution

- (a) Please indicate how much blame the manager deserves for harming the people in the city nearby, using a scale from 1 (no blame at all) to 7 (a lot of blame).
- (b) Please indicate how much blame the technician deserves for harming the people in the city nearby, using a scale from 1 (no blame at all) to 7 (a lot of blame).

(3) Attribution of duty to care

- (a) The manager should care about the people affected by his activities.
- (b) The technician should care about the people affected by his activities.

Afterwards, participants filled out a questionnaire (based on Triandis & Gelfand, 1998) that measures horizontal individualism (HI, Cronbach’s $\alpha = 0.63$) and collectivism (HC, $\alpha = 0.68$) as well as vertical individualism (VI, $\alpha = 0.62$) and collectivism (VC, $\alpha = 0.68$). Each dimension was captured by four items on a seven-point scale ranging from 1 (strongly disagree) to 7 (strongly agree).

4.2.3. Analysis plan

Cultural response bias (i.e., systematic differences in the ratings independent of the rating content) is a serious problem in cross-cultural comparisons. Following Kaspar et al. (2016), we adjusted the data using within-culture standardization via grand mean centering (Fischer, 2004). We calculated the grand mean for each culture over all 22 rating-scale items of the study (causation attribution, blame attribution, attributed duty to care, and horizontal/vertical individualism and collectivism). The grand mean for each culture was subtracted from each individual item score obtained from members of that culture. The resulting corrected values were used in all subsequent analyses.

We analyzed differences between cultures with respect to horizontal/vertical individualism and collectivism by means of 4 (cultural dimension: HI, VI, HC, VC) \times 5 (country) ANOVA (Greenhouse-Geisser applied). In case of a significant interaction, we subsequently analyzed the simple main effects.

Following Roth and Kaspar (2023), we computed difference scores between manager and technician (manager minus technician) regarding causation attribution (H1), blame attribution (H2), and attribution of duty to care (H3) to test out the main hypotheses. Hypotheses H1a, H1b, H2a, H2b, H3a, and H3b were tested by comparing this difference score with zero using one-sample *t*-tests. To test the interaction hypotheses H1c and H2c, we computed a 5 (country) \times 2 (decision hierarchy) ANOVA with the respective difference scores as dependent variables. In case of a significant interaction, we subsequently computed *t*-tests for independent samples (Welch's test in cases of variance inhomogeneity) to compare the normal with the reversed decision hierarchy for each country.

Effect sizes were calculated via η_p^2 (ANOVA) or Cohen's *d* (*t*-test). In case of multiple testing, Bonferroni-adjusted significance levels were used. Two-sided *p*-values are reported in all cases.

4.3. Results

4.3.1. Differences between countries in collectivism and individualism

The 4 (cultural dimension) \times 5 (country) ANOVA revealed a significant main effect of the cultural dimension ($F = 569.715$, $p < 0.001$, $\eta_p^2 = 0.246$), a significant main effect of the country ($F = 10.007$, $p < 0.001$, $\eta_p^2 = 0.022$), and a significant interaction between these two factors ($F = 51.370$, $p < 0.001$, $\eta_p^2 = 0.105$). To scrutinize the interaction, one-way ANOVAs with the factor *country* were separately computed for each of the four cultural dimensions (Bonferroni-adjusted significance level $p = 0.013$). In case of a significant effect, pairwise comparisons via *t*-tests (Bonferroni-adjusted) were computed.

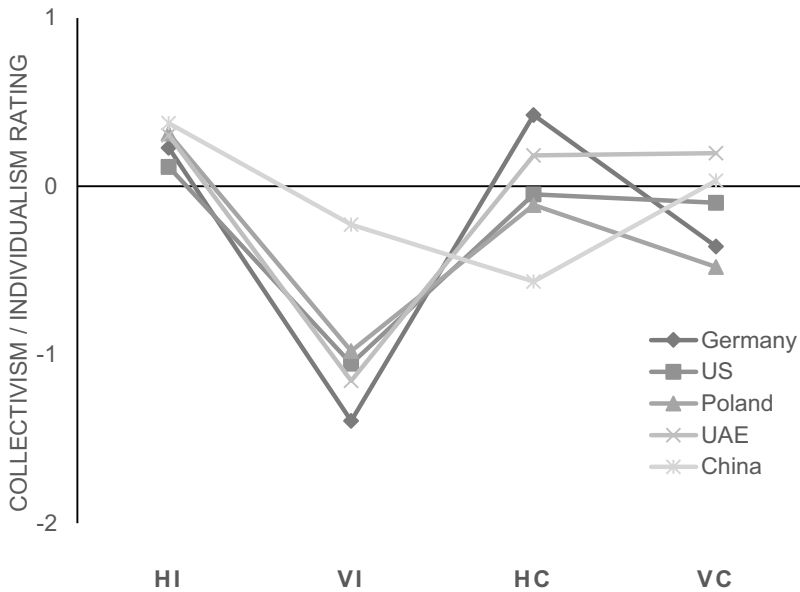


Figure 1. Horizontal/Vertical individualism (HI/VI) and collectivism (HC/VC) for the five countries.

All four ANOVAs were significant (all $F_s \geq 4.027$, $p_s < 0.003$, $\eta_p^2 \geq 0.009$). The pairwise comparisons showed the following result pattern (see [Figure 1](#)): With respect to horizontal individualism (HI), China ($p = 0.002$) and Poland ($p = 0.048$) showed a higher mean score than the US. There were no other significant differences between the countries (all $p_s \geq 0.076$). With respect to vertical individualism (VI), Germany had the lowest mean score and differed from all the other countries (all $p_s < 0.024$), China had the highest mean score and differed from all the other countries (all $p_s < 0.001$), whereas the US, Poland, and the UAE did not differ from each other (all $p_s > 0.257$). With respect to horizontal collectivism (HC), Germany had the highest mean score and differed from all the other countries (all $p_s < 0.011$), and China had the lowest mean score and differed from all the other countries (all $p_s < 0.001$). Additionally, the UAE had a higher mean score than the US ($p = 0.016$) and Poland ($p < 0.001$), whereas no difference was found between the US and Poland ($p > 0.999$). Finally, with respect to vertical collectivism (VC), the UAE had the highest mean score and differed from all the other countries (all $p_s < 0.002$) except for China ($p = 0.398$). Poland had the lowest mean score and differed from all the other countries (all $p_s < 0.001$) except for Germany ($p > 0.999$). Also, Germany had a lower mean score than the US ($p = 0.010$) and China ($p < 0.001$), and the US and China did not differ ($p = 0.927$).

To sum up, we found significant differences between countries along all four cultural dimensions, with the five countries characterized by

varying rankings across the dimensions. As expected, the selection of countries exhibits considerable heterogeneity in terms of collectivism and individualism, on the one hand, and vertical versus horizontal hierarchy, on the other.

4.3.2. Causation attribution (H1)

The results for causation attribution are visualized in Figure 2 and results of the corresponding *t*-tests are presented in Table 3. First, with the normal decision hierarchy, the manager was assigned more causation than the technician in Germany, the US, Poland, and China. In the UAE, this effect missed the adjusted significance level of $p = 0.01$. Thus, H1a was supported by the data (except in the UAE), and the effect sizes *d* were medium to large according to Cohen (1992).

With the reversed decision hierarchy, the difference between manager and technician in causation attribution was reduced as predicted, even changing sign in some countries. To be more specific, in each country, the difference was virtually eliminated: no statistically significant difference between manager and technician in causation attribution was found in all countries. As indicated by effect size *d*, the difference between manager and technician was small to nonexistent in absolute terms. Thus, the data supported H1b, i.e., that in the reversed decision hierarchy, the difference between manager and technician in causation attribution is reduced, but the technician is not assigned more causation than the manager.

The 5 (country) \times 2 (decision hierarchy) ANOVA with the difference between manager and technician in attributed causation as the dependent variable showed a significant main effect of country ($F = 6.021$, $p < 0.001$, $\eta_p^2 = 0.014$), a significant main effect of decision hierarchy ($F =$

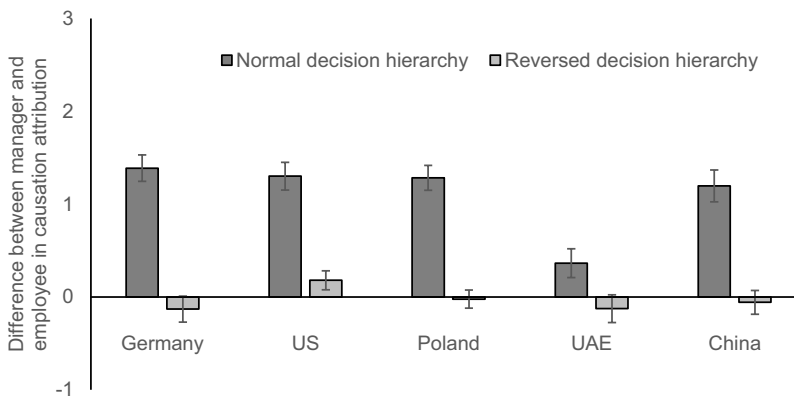


Figure 2. The effect of country and decision hierarchy (normal vs. reversed) on causation attribution (difference score: manager minus technician). Error bars represent the standard error around the mean.

Table 3. Results of one-sample *t*-tests comparing the difference “manager minus technician” with zero concerning causation attribution (H1), blame attribution (H2), and attribution of duty to care (H3) for all five countries.

	Normal decision hierarchy			Reversed decision hierarchy		
	<i>t</i>	<i>p</i>	<i>d</i>	<i>t</i>	<i>p</i>	<i>d</i>
Causation attribution						
Germany	9.805	<0.001	0.725	-0.938	0.350	-0.072
US	8.709	<0.001	0.651	1.757	0.081	0.134
Poland	9.577	<0.001	0.714	-0.240	0.811	-0.018
UAE	2.342	0.020	0.182	-0.844	0.400	-0.063
China	6.957	<0.001	0.521	-0.454	0.650	-0.035
Blame attribution						
Germany	11.893	<0.001	0.879	2.113	0.036	0.163
US	10.428	<0.001	0.779	3.107	0.002	0.236
Poland	12.840	<0.001	0.957	0.777	0.438	0.059
UAE	6.957	<0.001	0.542	2.140	0.034	0.159
China	14.484	<0.001	1.086	5.235	<0.001	0.399
Attribution of duty to care						
Germany	5.374	<0.001	0.397	4.963	<0.001	0.383
US	4.369	<0.001	0.327	1.552	0.122	0.118
Poland	6.587	<0.001	0.491	3.895	<0.001	0.297
UAE	5.425	<0.001	0.422	2.537	0.012	0.188
China	7.022	<0.001	0.526	6.997	<0.001	0.533

Significance level was adjusted to $p = 0.01$ due to multiple testing (five countries).

167.627, $p < 0.001$, $\eta_p^2 = 0.088$), and a significant two-way interaction ($F = 3.898$, $p = 0.004$, $\eta_p^2 = 0.009$), supporting H1c. To scrutinize this interaction, we finally computed *t*-tests for each country for independent samples to compare the normal with the reversed decision hierarchy (adjusted significance level $p = 0.01$). With the normal decision hierarchy, the difference between manager and technician in causation attribution (manager minus technician) was significantly greater than with the reversed decision hierarchy in Germany ($t = 7.639$, $p < 0.001$, $d = 0.814$), the US ($t = 6.204$, $p < 0.001$, $d = 0.657$), Poland ($t = 7.902$, $p < 0.001$, $d = 0.836$), and China ($t = 5.853$, $p < 0.001$, $d = 0.623$). The difference between the normal and reversed decision hierarchies missed the adjusted significance level in the UAE ($t = 2.271$, $p = 0.024$, $d = 0.244$). Thus, the difference between manager and technician in causation attribution was reduced in the reversed decision hierarchy as compared to the normal decision hierarchy, but this reduction effect varied considerably in size across countries, as indicated by the significant interaction and effect sizes *d*.

4.3.3. Blame attribution (H2)

First, with the normal decision hierarchy, the manager was assigned more blame than the technician in all five countries; see Figure 3 and Table 3. Thus, H2a was supported by the data, and the effect size was medium to very large (see Cohen, 1992).

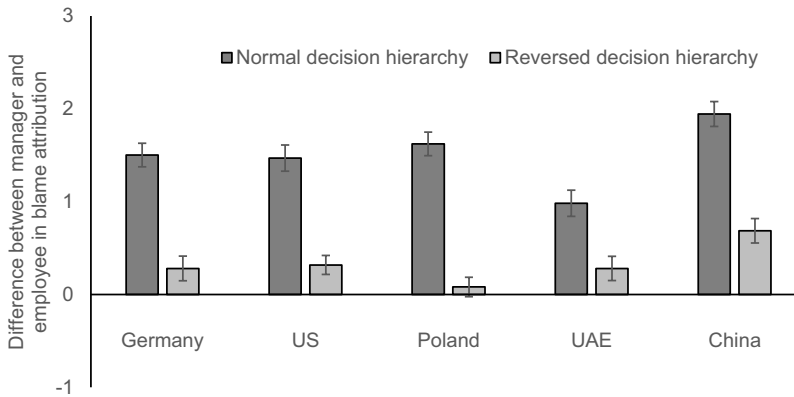


Figure 3. The effect of country and decision hierarchy (normal vs. reversed) on blame attribution (difference score: manager minus technician). Error bars represent the standard error around the mean.

With the reversed decision hierarchy, the difference between manager and technician in blame attribution was again reduced in all countries, as reflected by effect size d . However, in this case the manager still received significantly more blame than the technician in two countries, namely the US and China. For Germany, Poland, and the UAE, the effect missed the adjusted significance level of $p = 0.01$. Thus, the data supported H2b.

The 5 (country) \times 2 (decision hierarchy) ANOVA with the difference between manager and technician in attributed blame as dependent variable showed a significant main effect of country ($F = 7.488$, $p < 0.001$, $\eta_p^2 = 0.017$), a significant main effect of decision hierarchy ($F = 211.219$, $p < 0.001$, $\eta_p^2 = 0.108$), and a significant interaction between the two factors ($F = 2.799$, $p = 0.025$, $\eta_p^2 = 0.006$), supporting H1c. For each country, we again computed t -tests for independent samples to compare the normal with the reversed decision hierarchy to scrutinize this interaction (adjusted significance level $p = 0.01$). With the normal decision hierarchy, the difference between manager and technician in blame attribution (manager minus technician) was significantly greater than with the reversed decision hierarchy in Germany ($t = 6.682$, $p < 0.001$, $d = 0.714$), the US ($t = 6.612$, $p < 0.001$, $d = 0.701$), Poland ($t = 9.388$, $p < 0.001$, $d = 0.996$), the UAE ($t = 3.649$, $p < 0.001$, $d = 0.392$), and China ($t = 6.701$, $p < 0.001$, $d = 0.716$). In all these countries, the difference between manager and technician in blame attribution was significantly reduced with the reversed decision hierarchy as compared to the normal decision hierarchy, but the significant interaction and the effect sizes d indicate that this reduction varied considerably across countries (supporting H2c).

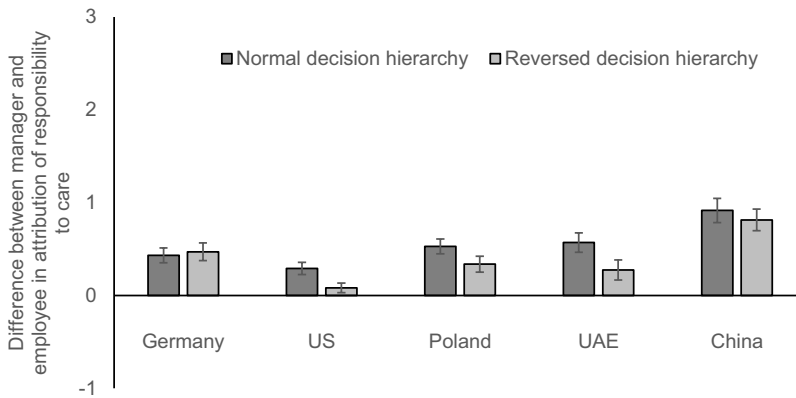


Figure 4. The effect of country and decision hierarchy (normal vs. reversed) on the attribution of duty to care (difference score: manager minus technician). Error bars represent the standard error around the mean.

4.3.4. Attribution of duty to care (H3)

With the normal decision hierarchy, the manager was assigned more duty than the technician to care about the people in the city nearby in all countries; see Figure 4 and Table 3. Thus, H3a was supported by the data. The effect size was small to medium (see Cohen, 1992), with sizes varying across countries.

With the reversed decision hierarchy, the manager was also assigned more duty to care than the technician in Germany, Poland, and China. In contrast, the difference between manager and technician did not reach the adjusted significance level in the US and the UAE. Notably, effect sizes varied considerably across countries and were smaller than with the normal decision hierarchy (except for China). To conclude, H3b was supported by the data (except for the US and UAE).

4.3.5. Exploratory analysis of gender effects

Finally, we examined possible gender effects on the differences in moral judgments for the manager and technician, which were the focus of the present study. First, we computed a 5 (country) \times 2 (decision hierarchy) \times 2 (gender) ANOVA with the difference in attributed causation between the manager and the technician as a dependent variable. Besides significant main effects of country ($F = 2.462$, $p = 0.043$, $\eta_p^2 = 0.006$) and decision hierarchy ($F = 93.426$, $p < 0.001$, $\eta_p^2 = 0.051$) and a significant interaction between these two factors ($F = 2.612$, $p = 0.034$, $\eta_p^2 = 0.006$), reflecting the results presented above, no further significant effects were found (all $F_s \leq 2.041$, $p_s \geq 0.153$, $\eta_p^2 \leq 0.003$). Thus, no gender effect was found regarding causation attribution.

In contrast, the same ANOVA with the difference in attributed blame between the manager and the technician as dependent variable revealed a significant main effect of gender ($F = 12.199$, $p < 0.001$, $\eta_p^2 = 0.007$), besides the known effects of country ($F = 5.157$, $p < 0.001$, $\eta_p^2 = 0.012$) and decision hierarchy ($F = 143.142$, $p < 0.001$, $\eta_p^2 = 0.076$). No interaction was found (all $F_s \leq 1.978$, $p_s \geq 0.095$, $\eta_p^2 \leq 0.005$). The difference in attributed blame between the manager versus the technician was greater in males than in females.

Similar, regarding the difference in the attribution of duty to care between the manager and the technician, the ANOVA showed a significant main effect of gender ($F = 14.719$, $p < 0.001$, $\eta_p^2 = 0.008$), besides the known main effect of country ($F = 13.154$, $p < 0.001$, $\eta_p^2 = 0.029$). No further significant effects were found (all $F_s \leq 2.097$, $p_s \geq 0.148$, $\eta_p^2 \leq 0.001$). The difference in attributed duty to care between the manager versus the technician was greater in males than in females.

To conclude, the perceived difference in the agents' blameworthiness (manager > technician) and their perceived duty to care (manager > technician) was more pronounced in males than in females. In contrast, no gender effect was found regarding attributed causation (manager > technician). Furthermore, these gender effects did not significantly vary across countries and decision hierarchies (i.e., no interaction effects). Thus, these gender effects were relatively stable.

5. General discussion

Most empirical studies investigating moral cognition rely on vignette studies in which one agent, whose social role is generally unknown, acts alone. While these studies have provided critical insights into the factors determining moral judgments and decisions, they are limited. As we have argued, humans often act as members of groups and need to make decisions together. Some of these decisions are made with peers, i.e., other agents occupying comparable social roles; other choices are made in the presence of hierarchical asymmetries, with one agent occupying a higher social position than the other.

Building on previous empirical studies by Kaspar et al. (2016) and Willemsen et al. (1990), we have argued that social roles determine how much blame we ascribe to each of two agents who act together. Going beyond previous research, we tested the social role effect in five different cultures. We presented participants with one of two stories in which a boss (manager) or his employee (technician) needs to make a decision about how to reduce costs. The two discuss a potential course of action along with the pros and cons of using a new spare part. Knowing about the adverse side effects of switching to the new spare part, the boss and

the employee each decide to switch – with the boss making the decision in one version of the story and the employee making the decision in the other.

In this study, we replicated the effect of social roles in five different cultures, namely in China, Germany, Poland, the United Arab Emirates, and the United States of America. In all the cultures we detected a significant difference between the level of blame attributed to the manager and that attributed to the technician for normal decision hierarchy. However, reversing the decision hierarchy and letting the technician decide did not reverse the respective amounts of blame the two agents received. These results are partly mirrored in the attribution of causation, although with some important differences. While the manager was ascribed more causation when he made the decision, reversing the decision-making roles led to the two agents' being seen as causally on par across all countries.

Both effects are interesting in their own right and support the relevance of social roles and hierarchies. One might expect that if two agents act together and are both necessary for the outcome of their decision, they should be blamed equally. Social roles should not matter for the attribution of blame. This is not what we find at all. Social roles and the associated duty to care for the consequences of one's decisions strongly affect blame attribution. The manager was assigned more duty to care about the people in the city nearby than the technician. This effect was present in all countries when the manager made the decision. This difference remained in three out of five countries when the technician decided. Thus, how much duty to care we assign seems to depend less on who ultimately makes the decision and more on the social role of that person. Our results demonstrate that, across five culturally diverse countries, social hierarchies significantly affect how attributions of blame, causation, and duty to care are distributed between two agents who act together in a coordinated fashion. While we lack conclusive evidence that this effect occurs in *all* cultures, we believe there is good reason to think so. Of course, more cross-cultural investigations should shed further light on the influence of social roles. In any case, several lessons can already be learned from our results.

The effect of social roles on the attribution of blame may surprise moral philosophers. If not, they are at least likely to consider it an inappropriate deviation – a bias or other sort of error in reasoning – from the normative-ethical principle of universalizability (Gewirth, 1969; , 1954; Kant, 1785). Ethical theories study what moral principles we should live by – what actions ought to be taken, what ends are intrinsically good, what character traits are virtuous, and what moral rights we have. The answers to these questions do not usually take factors as contingent as social status into account (but see, for instance, Downie, 1964; MacIntyre, 1981). While we do believe that normative ethicists may have good reasons for ignoring such

factors, our study reveals an essential gap between ethical theory and moral practice.

This gap is significantly smaller in other academic domains and practical life. In legal contexts, an agent's liability may depend strongly and, intentionally so, on their hierarchical status. For instance, one of the reasons to even establish hierarchies in companies is to determine each agent's rights and duties and, as a consequence, to distribute moral and legal responsibility in line with these rights and duties. The legal systems acknowledge the relevance of hierarchies in coordinating responsibilities. In the United States, for example, the legal doctrine called *Respondeat Superior* specifies that an employee and their employer, in principal, ought to be held both responsible for the employee's wrongful act, if the act was committed within the scope of the employment. The German and Polish legal system also recognize the relevance of hierarchies in a similar way.¹⁰

We suggest that within moral psychology, more attention needs to be dedicated to scenarios in which two agents act together in a coordinated way. It has already been suggested that we can distinguish between two types of causal structures: those in which two agents are necessary and jointly sufficient for the outcome to occur (conjunctive), and those in which two agents are individually sufficient and together overdetermine the result (disjunctive). We suggest that this distinction based on the agents' causal contributions is not fine-grained enough and should be supplemented by an additional dimension, namely how the two agents' actions relate to one another. Thus, in addition to the factor "Causal Structure", we can further add "Coordination" to ultimately reach a more complex space of possible interactions.

- (1) Causal Structure
 - Conjunctive
 - Disjunctive
- (2) Coordination
 - Coordinated interaction
 - Agents act independently of one another

As both causal structures can display or lack coordinated interaction, this gives us four categories for exploration. We suggest systematic manipulations of two other, non-causal, factors, namely norm violations and hierarchy, with these four causal categories in mind. Many studies have already manipulated which of the two agents in either a conjunctive or a disjunctive structure violated a norm and which one adhered to it. In conjunctive structures with two independently acting agents, the norm violator is assigned more causation and blame – an effect dubbed abnormal inflation (Gill et al., 2022; Güver & Kneer, *forthcoming*; O'Neill et al., 2022).

However, in cases of disjunctive causation, the norm violator is assigned less causation and blame (e.g., Kominsky et al., 2015). So far, we lack evidence of what happens if the two agents in these structures engage in joint decision-making and actions instead of acting independently.

We also need more systematic evidence on the effects of social roles and hierarchical differences within these causal structures. Our scenario used a conjunctive structure in which two agents violate an implicit norm regarding how one should act. So far, we have not tested disjunctive cases in which the superior and the employee are individually sufficient for the decision.

Finally, and noteworthy, we also found further evidence that the personal attributes of the person making the assessment also have an influence on the attribution process. The difference in attributed blame, as well as duty to care, between the manager versus the technician was greater in males than in females. Roth and Kaspar (2023) used a similar scenario in which a manager and an employee advocated the optimization of the manufacturing process at the expense of the environment (and the final decision was made by the manager). They already found that female participants ascribed more blame to the agents than male participants. Although the signature of the results is somewhat different (larger difference scores here vs. higher absolute scores there), gender appears to be a characteristic that seems to modulate the extent of blame attribution. Thus, a focus on the characteristics of the judges spans another dimension that has hardly been considered so far but seems to be important for future research.

Extending moral psychology research in this way will further speak to moral philosophy and has the potential to inform normative ethical debates. Our studies suggest that thinking of moral philosophy as a debate solely at the level of individuals might not be entirely appropriate. Instead, the individual's moral responsibility depends on the social setting in which the action takes place and how that action relates to other agents and their social status.

Notes

1. The term “responsibility” is, unfortunately rather ambiguous and is often used in a moral sense – as in “moral responsibility”—or in a non-moral sense – usually to refer to “causal responsibility”, “legal responsibility”, or a prospective duty. In the following, we consider “moral responsibility” the umbrella term that covers both positive moral responsibility, namely praise, and negative moral responsibility, viz. blame. We remain neutral concerning the question of whether praise and blame just are two variants of moral responsibility or constitute important parts of moral responsibility, e.g., the *attribution* or *social practice of holding* morally responsible.
2. We generally reject the conflation of countries and cultures, as two or more countries might share the same culture, and two or more different cultures might exist in the

same country. We also wish to remain silent on whether and how cultures can and should be individuated. For our purposes here, cultures are understood as sets of values, social practices, and expectations that groups of individuals share and collectively keep alive and that contribute to their self-identification. In this paper, we assume, following Triandis and Gelfand (1998), that the five countries we selected differ significantly in important cultural respects. The empirical results presented in Section 4.5 confirm this assumption. Therefore, just for the purposes of this paper, we use “country” and “culture” interchangeably to refer to the five samples or participants, namely the China, Germany, Poland, the United Arab Emirates, and the United States of America.

3. We would like to emphasize that we remain neutral on whether this coordinated interaction constitutes a proper case of joint actions or joint decisions. Without making strong commitments, we consider it plausible that joint actions and joint decisions are a special sort of coordinated interaction that we consider relevant. Please note that for two agents to act or decide together in a coordinated, interactive way, the agents do not need to be equally involved in every step of the decision-making or the realization of the action. For instance, in professional settings, decisions quite frequently need to be made jointly. Still, each contributor to such a decision brings distinctive skills and expertise to the table. For example, one person might shed light on the technical dimension, another might provide an economic perspective, and a third might focus on the pros and cons in terms of customer satisfaction, risk management, or environmental issues. Also, one person usually takes the initiative and is the first to say, “OK, let’s do it.” We argue that as long as (1) everyone involved is necessary for the decision-making process or the action to be performed and (2) the agents coordinate their activities, the decision is made *together*.
4. In contrast, behavioral economics has investigated the topic extensively (e.g., Bosman et al., 2006; Fehr & Gächter, 2002; Gillet et al., 2009; He et al., 2012; Kocher et al., 2020). However, although this research examines coordinated, interactive decisions and actions, it differs in several ways from the line of research we want to pursue here. First, the majority of studies based on interactive behavioral games involve interactions between anonymous strangers equal in social status and do not reflect social hierarchies that characterize complex multiple-party interactions in the external world. Even if the behavioral games assign more influence to some roles than to others, as in the case of the Dictator Game, each assignment of players to roles is typically random and starts and ends with the game (but see Brandts et al., 2015; Cappelen et al., 2016; Fehr et al., 2013; Güth et al., 2004; Silverman et al., 2014 for behavioral experiments incorporating factors such as social diversity, leadership, and authority). Moreover, behavioral games typically examine the decisions and actions of individual players who are taking into account the decisions and actions of other players. Although these decisions and actions are interactive and broadly coordinated, they are often not the kinds of cases of joint decision-making and effort we have in mind, which require that two or more agents make a decision and take a course of action *together*. Finally, most behavioral game experiments have not focused on examining the cognitive factors and mechanisms that underpin moral decision-making and behavior (Hoeft, [forethcomming](#); but see Battigalli & Dufwenberg, 2009; Camerer, 2003; Wagner, 2013 for a more recent trend in this direction).
5. Indeed, Kaspar et al. (2016) argued that an alternative explanation might hold that the relevant factor is not the social role itself but how strongly the protagonists are causally involved in the joint activity. Such causal involvement might coincide with the agent’s social role.

6. Note that while a normative expectation should be considered binding by the person holding the expectation, we should not hope for normative expectations and actual behaviors to always converge (Eagly & Chaiken, 1993). It is reasonable to think that normative expectations are only pro tanto reasons to act in a certain way. They are *dispositions* to be inclined to comply – but only if they are not outweighed by other reasons that have a stronger motivational force in the particular context in question.
7. In the United States, for example, the legal doctrine called *Respondeat Superior* – which translates to, “let the master answer”—specifies that an employee and their superior ought to be held both responsible for the employee’s wrongful act. Note that this doctrine applies only to activities conducted in a professional context where the hierarchical differences between boss and employee are relevant (see, e.g., Burns, 2011; Van Loo, 2020; Young, 1990). We thank an anonymous reviewer for drawing our attention to this legal principle. Cases in which *respondeat superior* was invoked include, among others: 1. The United States Supreme Court case of *Faragher v. City of Boca Raton* (1998) applied the doctrine of *respondeat superior*. In this case, the Court held that an employer may be held liable for the sexual harassment of a supervisor if the employer was negligent in responding to the harassment. 2. In the case of *Goggin v. Pennsylvania Department of Corrections* (2005), the court applied the doctrine of *respondeat superior* in holding that the state department of corrections was liable for the medical negligence of one of its employees.
8. The data used in this study are publically available here: [https://osf.io/62xhz/?view_only=1f275861ccd24e578c14e48f9a714562]. The experimental design was pre-registered with the Open Science Framework (https://osf.io/8wyng/?view_only=54708b698e2c44dc9306f4c4b4706854). The experimental design follows exactly our description in the pre-registration, including the vignettes, DVs, manipulated factors, order of presentation, etc. However, we would like to disclose that the actual design reported in this paper deviates from the pre-registration concerning the recruitment of participants and the culture-specific analyses. Despite our best efforts, we could not meet our self-set goals to only collect currently enrolled students within the first two years of their programme. This was particularly difficult in the United States, where legal reasons prevented us from contacting and recruiting enough undergrad students without compensation. To be able to reach the required number of participants in each condition, we recruited missing participants on Amazon’s Mechanical Turk, resulting in deviations from the upper age limit of 30. Also, some of our pre-registered hypothesis rely on the assumption that the countries we selected would fall clearly into one of the categories HC, VC, HI, and VI. This was not the case. As a consequence, we only analyzed the data based on those predictions that did not rely on those cultural assumptions.
9. Emphases serve purely illustrative purposes in this paper and were absent from the version that participants read.
10. For instance, as a consequence of the Volkswagen emission scandal (see, Rhodes, 2016 and also Kaspar et al. (2016) for a discussion), it was the CEO who resigned.

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