Empirical Research Paper

# Upright and Honorable: People Use Space to Understand Honor, Affecting Choice and Perception

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## Abstract

Honor is abstract. We predict that people make sense of honor metaphorically as an up–right position in space and that endorsing honor values makes this metaphor more accessible. Supporting our prediction, people in China (Study 1) and the United States (Studies 1–4) associate honor with up and right and dishonor with down and left, controlling for the association of positive with up–right (Studies 3, 4). We document downstream consequences for choice and perception of this metaphoric representation. Regarding choice, Americans who endorse honor values and voted for then-candidate Trump prefer photographs in which President Trump is positioned in the up–right quadrant (Study 5). Images from conservative news websites position the President's face in the up–right quadrant more than nonconservative ones (Study 6). Regarding perception, Americans who rate President Trump as honorable are more likely to perceive him as facing up and to the right in news website images (Study 7).

## Keywords

honor, dishonor, spatial representation, metaphor, culture

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Honor is the social esteem accorded to people and groups of virtue or talent. It is, in that sense, a form of social prestige and status (Sev'er & Yurdakul, 2001). Honor entails ethical (right-minded) and principled (upstanding) behavior and responses—honorable people and groups can be trusted (IJzerman & Cohen, 2011; Novin & Oyserman, 2016; Rodriguez Mosquera, 2013; Rodriguez Mosquera et al., 2002, 2011). A shared sense of what honor is important for reducing overt conflict and structuring relationships (Oyserman, 2017). However, honor and its components (prestige, status, social esteem, ethics, principles) are abstract ideas, variably defined, and without physical representation. People make sense of important but abstract concepts by using concretizing metaphors, applying what they know about the concrete concept to make sense of the abstract one (Lakoff & Johnson, 1980). In the current article, we use a culture-as-situated cognition theory framework (Oyserman, 2011) to integrate honor (IJzerman & Cohen, 2011; Novin & Oyserman, 2016) and conceptual metaphor theory (Lakoff & Johnson, 1980), making two novel predictions. First, people use up right spatial location as a concretizing metaphor to make sense of the abstract concept of honor with real-world downstream consequences for choice and perception. Second, people who endorse honor values are more attuned to this concretizing metaphor for the concept of honor. We proceed in steps, outlining the literature leading to our predictions and the gaps that our studies

address, then showing empirically that people associate honor and spatial location and that this has real-world consequences for choice and perception.

## Culture-as-Situated Cognition Theory

Culture-as-situated cognition theory (Oyserman, 2017) is a social-psychological theory of how cultures work. It suggests culture is a universal aspect of human evolution, evolving to address problems associated with the human need to be part of social groups to survive. Within this formulation, honor mindsets are likely to be universal because they provide a solution to a basic evolutionary concern of structuring relationships within a society to limit overt and costly conflict. Honor mindsets entail motivation and willingness to self-regulate, acceptance and enforcement of a code of ethics and of conduct (Nowak et al., 2016). From a culture-as-situated cognition perspective, cultures are likely to universally socialize for honor mindsets, though they likely differ in the accessibility of honor as a way to make sense of everyday

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experience. This differential accessibility should be reflected in differences in honor endorsement at the individual level within cultures as well (Oyserman, 2017; Oyserman & Yan, 2019). This implies that individuals who are high in honor value endorsement put a greater emphasis on reputation, social status, family, and ethical codes. They are more likely to use these concerns as meaning-making frameworks.

## Honor as Part of Culture

However, cultural psychological perspectives on honor have focused on between-society differences in honor value endorsement rather than on honor as either culturally general or on metaphorical representation of what honor entails (e.g., Cohen et al., 1996; Leung & Cohen, 2011; Rodriguez Mosquera et al., 2002; Uskul et al., 2013). Cultural psychologists studying honor researchers have instead distinguished between honor societies (e.g., the American South) and other societies (e.g., the American Northeast and Midwest, China) in responses to slights and insult—especially those related to gender–sexuality–chastity (Leung & Cohen, 2011). We did, however, find some research relevant to our prediction that honor may be metaphorically represented in space (IJzerman & Cohen. 2011; Novin & Oyserman, 2016). As detailed next, these researchers focused on the possibility that honor is embodied as an upright posture and an upright gaze.

In one set of studies, American (nonsouthern) students were randomly assigned to one of two groups (honor-accessible, control; Novin & Oyserman, 2016). The honor-accessible group read statements about honor (e.g., *Honorable people do not cheat people who trust them*). The control group read statements about everyday life (e.g., *Breakfast is an important meal*). After rating their agreement or disagreement with each presented statement, participants either continued to a stick figure choice task (Study 1) or to a word task (Study 2). These tasks provided a validity test of the idea that honor is available as a schema in memory. Participants in the honor-accessible group endorsed traditional gender roles, choosing the more potent stick figure to represent the male (Study 1) and were quicker to recognize as a correctly spelled word letter strings with words-relevant to honor (Study 2). Groups did not differ in speed in recognizing equally positively valenced honor-irrelevant words. How much a participant endorsed honor values did not moderate results in either study. Participants were just as fast to recognize honor-relevant word strings, no matter where the string was located on the screen. The null embodiment effect reported by Novin and Oyserman (2016) converges with IJzerman and Cohen (2011) who also tested the prediction that honor is embodied as an upright body posture. Although they sometimes found an effect of gaze, they did not find an effect of posture, and, they concluded that the result would likely be difficult to replicate because honor is not necessarily linked to one's *own* upright body posture.

## Conceptual Metaphor Theory

Although failing to provide clear evidence that honor is embodied as an upright posture, the above results do not rule out the possibility that honor is spatially represented as a concretizing metaphor. Conceptual metaphor theory argues that people use concretizing metaphors to make sense of abstract concepts, applying knowledge from the concrete to reason about the abstract (Lakoff & Johnson, 1980; Landau, 2016; Landau et al., 2010; Meier & Robinson, 2004). People do not make up their own metaphors, they use culturally available ones. Some metaphors are specific to a particular culture and others may be more universal, perhaps because they are grounded in evolutionary processes (Schnall, 2014). Although metaphors are understood to be available within cultures and hence shared by all members of a particular society, emerging research documents individual differences in metaphor accessibility. For example, religious people are more likely to metaphorically represent the self as in the heart, but nonreligious people also use this metaphor (Fetterman et al., 2019).

If honor is a universal aspect of human culture, grounded in evolutionary processes, then it would be a candidate for a universal concretizing metaphor. Based on the evidence detailed next, we predict that the concretizing metaphor for honor and dishonor will be spatial location. An honorable person is someone to look up to or to turn to. A dishonorable person is someone to look down upon or turn away from. We make this working prediction based both on examples from everyday language and from research with related abstract concepts including power, valence, divinity, and morality.

Thus, the powerful are up–high and the powerless are down–low (Schubert, 2005). Good is up (Crawford et al., 2006; Schnall, 2014) and to the right (Casasanto, 2009a). The divine is up and the profane is down (Meier, Hauser, et al., 2007). The Moral is up and the immoral is down (Meier, Sellbom, & Wygant, 2007) and heroes face right (Frimer & Sinclair, 2016). A metaphorical representation of honor as up–right can be found in a number of languages. In English, an "upright citizen," a "high-minded" or "right-minded" person is honorable—someone who stands on principle, is reliable, who will follow through. These expressions are not limited to English. In Hebrew, people describe someone as "my *right la droit*-hand" (ימיני יד) is to describe someone who is trusted and dependable. In French, *la droit* is both a location (right) and an experience (moral justice). Similar metaphorical expressions exist in Chinese. The characters "high" (高) and "up" (上) are used in honor-related words meaning "of high morality" (高尚), "noble" (高贵), and "of high social standing" (上流). In contrast, "low" (低、下) appear in dishonor-related words meaning "despicable" (低劣、下流). Whereas "right" is respectable with the phrase "no one can be on his right" (无出其右) meaning "no one surpasses him," "left" is disgraceful with "left paths" (左道) meaning "disgraceful ways to do things."

**Table 1.** Studies 1 to 5 and 7: Sample Demographics and Sample Size.

| | | | | Study, sample, and demographics | | | | | Sample size | |
| | | | | Gender | Age | | Race–ethnicity[a] | Native language | | |
| Study | Country | Source | Compensation | % women | M | SD | Largest group | % native speaker | N | Excluded N |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | United States | University | Credits | 76 | 19.97 | 3.76 | Asian Am 44% | 76 | 141 | 0 |
| 1 | China | Zbj.com | ¥2.50 | 39 | 28.03 | 3.74 | — | 100 | 98 | 0 |
| 2 | United States | MTurk | US$0.70 | 42 | 34.11 | 10.09 | White Am 74% | 97 | 227 | 0 |
| 3 | United States | University | Credits | 60 | 20.02 | 1.65 | White Am 38% | 81 | 52 | 0 |
| 4 | United States | University | Credits | 74 | 20.05 | 2.06 | Asian Am 48% | 79 | 89 | 4 |
| 5 | United States | MTurk | US$0.40 | 37 | 33.76 | 10.24 | White Am 75% | — | 278 | 0 |
| 7 | United States | MTurk | US$0.50 | — | — | — | — | — | 167 | 80 |

*Note.* N = Sample for analysis after excluding people whose IAT data were lost due to computer issues (Study 4) and who showed duplicate locations and IP addresses during a time when large amounts of suspicious MTurk activity occurred—including using server farms (Study 7). [a]Race-ethnicity is presented in the table for the largest group, other groups (in descending order of frequency) were: Study 1, 33% of participants were White, 7% Latino, 4% Black, 6% Middle Eastern, and 6% Other ethnicities. Study 2, 9% of participants were Black, 4% Latino, 9% Asian, and 4% Other ethnicities. Study 3, 33% of participants were Asian Am, 10% Black, 10% Hispanic, 4% Native American, and 6% multi-ethnic. Study 4, 30% of participants were White, 3% Black, 9% Hispanic, 2% Middle Eastern, 6% multiethnic, and 1% Other. Study 5, 7% of participants were Black, 6% Latinx, 9% Asian, 1% Native American, and 2% Other; native language omitted due to researcher error. Study 7, no demographics were obtained in Study 7 due to researcher error. Asian Am = Asian American; White Am = White American; MTurk = Amazon Mechanical Turk; IAT = Implicit Association Test.

## Current Studies

We use culture-as-situated cognition theory to synthesize conceptual metaphor and honor research to make two predictions, which we test across seven studies:

**Prediction 1:** People represent honor as being up and to the right (Studies 1, 2, 3, 4) with downstream consequences for choice (Studies 5, 6) and perception (Study 7) of honor-relevant targets. People will prefer up–right locations for honorable targets (Studies 5, 6) and perceive honorable targets as facing up and to the right (Study 7).

**Prediction 2:** The association between space and honor association is present even among people who score low in honor values, but this association should be more readily accessible among people who score higher in honor values (Studies 2, 3, 4, 5, 7).

Table 1 details sample recruitment, demographics, and participant exclusion (with rationale) for each study. Studies were programmed in Qualtrics, all task instructions are found in the supplemental material. We used Novin and Oyserman's (2016) Honor Values Scale, which shows satisfactory reliability and one-factor model fit (supplemental material presents the items and factor analytic results), and includes only items focused on honor (excluding items on traditional gender roles). We used basic lab tasks (Studies 1–4) to document that people associate honor with up–right and real-world materials (Studies 5–7) to document consequences.

Our real-world honor-relevant target is the current President of the United States, President Trump. We used photographs of President Trump as our target of judgment for two reasons. First, the Office of the President is considered worthy of respect and honor, making the President relevant to all Americans. Second, Americans differ in their evaluation of President Trump himself as honorable or dishonorable. Poll data show polarization in Americans' perceptions of Trump as respectable (Gallup, 2019), trustworthy (Pew Research Center, 2017) and moral ("Trump Administration Official Gets Low Mark on Ethics," 2018)—key features of having honor (e.g., Cross et al., 2014; Nisbett & Cohen, 1996). While 45% of Republicans named President Trump as the man that they most admired, only 2% of Democrats did so (Gallup, 2019). Almost two thirds (66%) of Republicans rate President Trump as highly trustworthy—more worthy of trust than previous American presidents. In contrast, most (83%) Democrats rate him as highly untrustworthy—less worthy of trust than previous American presidents (Pew Research Center, 2017). Most (71%) Republicans rate the ethical standards of the Trump administration as good or excellent, whereas most (64%) Democrats rate it as not good or poor ("Trump Administration Official Gets Low Mark on Ethics," 2018). This divergence allows us to use voting behavior, party affiliation, and political orientation as proxies for believing that Trump is honorable in Studies 5 and 6 (in Study 7, we assessed this belief directly).

## Study 1

We tested Prediction 1, that honor and dishonor are understood in terms of space.

**Table 2.** Study 1: Honor and Dishonor Phrases and the Percentage of Participants Choosing Each Directional Arrow and Average Phrase Choice in the United States and China.

| | % of respondents making each arrow choice | | | | | | | |
| | United States | | | | China | | | |
| Phrase | Up | Right | Down | Left | Up | Right | Down | Left |
|---|---|---|---|---|---|---|---|---|
| Honor | | | | | | | | |
| ○ *maintains honor* | 46.81 | 51.06 | 2.13 | 0.00 | 44.90 | 54.08 | 0.00 | 1.02 |
| ○ *respects me* | 54.61 | 36.88 | 3.55 | 4.96 | 67.35 | 24.49 | 3.06 | 5.10 |
| ○ *attends to family* | 52.48 | 41.13 | 1.42 | 4.96 | 41.84 | 38.78 | 6.12 | 13.27 |
| ○ *gains reputation* | 76.60 | 22.70 | 0.71 | 0.00 | 71.43 | 22.45 | 2.04 | 4.08 |
| ○ *defends honor* | 43.97 | 48.94 | 1.42 | 5.67 | 53.06 | 36.73 | 5.10 | 5.10 |
| ○ *acts loyally* | 51.77 | 46.10 | 1.42 | 0.71 | 53.06 | 38.78 | 5.10 | 3.06 |
| ○ *keeps faces* | 29.08 | 62.41 | 3.55 | 4.96 | 20.41 | 52.04 | 5.10 | 22.45 |
| ○ *acts right* | 44.68 | 51.77 | 2.13 | 1.42 | 41.84 | 46.94 | 6.12 | 5.10 |
| ○ *defends reputation* | 27.66 | 60.28 | 6.38 | 5.67 | 53.06 | 36.73 | 4.08 | 6.12 |
| ○ *protects face* | 29.79 | 61.70 | 2.13 | 6.38 | 36.73 | 47.96 | 2.04 | 13.27 |
| Mean location honor | **45.74** | **48.30** | 2.48 | 3.48 | **48.37** | **39.90** | 3.88 | 7.86 |
| Dishonor | | | | | | | | |
| ○ *is humiliated* | 2.13 | 2.13 | 82.98 | 12.77 | 6.12 | 6.12 | 80.61 | 7.14 |
| ○ *disregards honor* | 3.55 | 2.84 | 48.94 | 44.68 | 5.10 | 19.39 | 38.78 | 36.73 |
| ○ *loses status* | 0.71 | 2.84 | 85.82 | 10.64 | 3.06 | 10.20 | 78.57 | 8.16 |
| ○ *behaves disgracefully* | 1.42 | 4.26 | 68.79 | 25.53 | 2.04 | 8.16 | 79.59 | 10.20 |
| ○ *loses face* | 1.42 | 4.26 | 58.87 | 35.46 | 1.02 | 11.22 | 68.37 | 19.39 |
| ○ *behaves dishonorably* | 0.71 | 0.71 | 72.34 | 26.24 | 7.14 | 7.14 | 67.35 | 18.37 |
| ○ *cheats* | 3.55 | 0.00 | 65.96 | 30.50 | 3.06 | 12.24 | 63.27 | 21.43 |
| Mean location dishonor | 1.42 | 2.94 | **69.10** | **26.55** | 3.94 | 10.64 | **68.08** | **17.35** |

*Note.* Bold indicates the mean.

## Method

*Recruitment plan and participants.* Power analyses require a starting point (Van Voorhis & Morgan, 2007). Our best guess of effect size came from the odds ratio (OR) = 1.63 reported in Novin and Oyserman (2016). We used G*power to calculate the number of participants needed to achieve power = .80 and $\alpha$ = .05 in a logistic regression, yielding a suggested sample size of $N$ = 148. Our final sample ($N$ = 141 U.S. undergraduates, $n$ = 98 Chinese adults) fell short of plan, but post hoc analyses revealed that achieved power was higher than .99 in both countries with our attained sample sizes and effect sizes.

*Procedure.* Materials were presented in English for participants in the United States and in simplified Chinese for participants in China. We constructed the 17 phrases shown in Table 2 based on descriptions of what honor and dishonor entailed in Novin and Oyserman's (2016) Honor Values Scale. Ten phrases were honor related (e.g., "○ *maintains honor*" and "○ *respects me*") and seven were dishonor related (e.g., "○ *disregards honor*" and "○ *behaves disgracefully*"). We used these phrases to construct an arrow task following the paradigm of Richardson and colleagues

(2001, 2003). Participants were shown each phrase in randomized order. For each, they were asked to choose from the four arrows shown in Figure 1, the one that best represented the phrase. Each arrow began with a circle. This circle ("○") was the target of each phrase. After responding to the arrow task, participants reported their age, gender, and native language. American participants also reported ethnicity, country of birth, and how long they had lived in the United States (the exact wording of each item is provided in the supplemental material).

## Results and Discussion

Table 2 displays our results as the percentage of participants making each choice for each phrase as well as the mean (marked in bold) percentage of participants making each choice across phrases. Participants overwhelmingly selected arrows directing up or right to represent honor phrases (in the United States, 94% of the time; in China, 88% of the time) and arrows directing down or left for dishonor phrases (in the United States, 96% of the time; in China, 85% of the time). Chi-square by-item analyses revealed a significant relationship between phrase (honor, dishonor) and arrow choice (up or right, down or left) in the United States, $\chi^2(1, N = 2,397)$
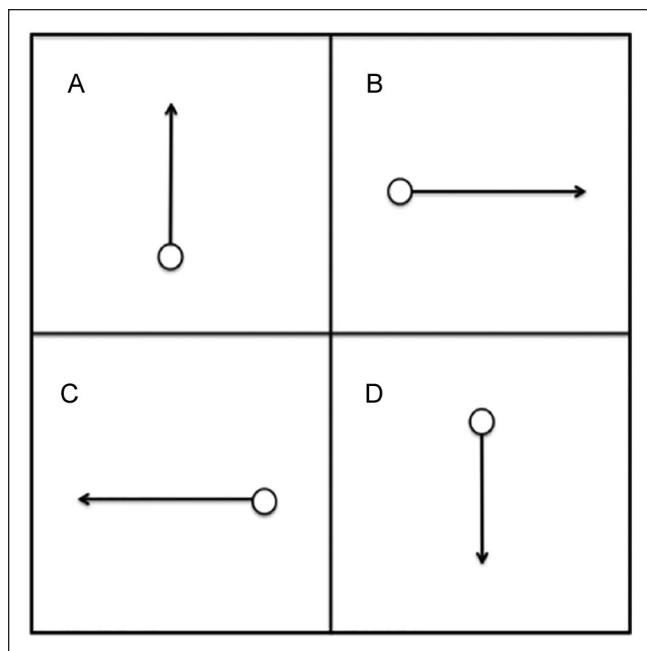
**Figure 1.** We presented four arrow choices to participants in Studies 1 and 2: (A) an up arrow, (B) a right arrow, (C) a left arrow, and (D) a down arrow.

$= 1{,}906.59$, $\phi = .89$, $p < .001$, and in China, $\chi^2(1, N = 1{,}666) = 899.03$, $\phi = .74$, $p < .001$. Indeed, the likelihood of choosing up or right arrows for honor phrases compared with dishonor phrases was 14.78 times higher in the United States and 6.05 times higher in China. Turning to dishonor phrases, the likelihood of choosing down or left arrows for dishonor phrases compared with honor phrases was 10.20 times higher in the United States and 4.10 times higher in China.

People spatially represent honor as up and right and dishonor phrases as down and left in both the United States and China. Interested readers can find additional analyses regarding the relative frequency of each choice in the supplemental material.

## Study 2

We tested Prediction 1, that people use space to make sense of honor and dishonor, and Prediction 2, that people who endorse honor values more will be more practiced in using space to represent honor. We ruled out an alternative explanation for Study 1, which is that Study 1 phrases contained different verbs, which may themselves be spatially represented. To rule this out, in Study 2, honor and dishonor phrase verbs were matched.

### Method

*Recruitment plan and participants.* We had no prior studies from which to estimate effect size for Prediction 2, so we conducted an a priori power analysis based on small effect size ($r = .20$), power $= .80$, and $\alpha = .05$, indicating that we needed at least 193 participants. Study 2 data were collected in conjunction with a separate study on consumer attitudes[1] unrelated to conceptual metaphors or honor, resulting in a somewhat larger final sample ($n = 227$ Americans).

*Procedure.* To create verb-equated honor and dishonor phrases, we used Google Ngram Viewer wildcard and part-of-speech functions (http://books.google.com/ngrams) to find verbs commonly associated with both honor- and dishonor-related concepts between 1901 and 2000. We used these common verbs to construct the six pairs of honor and dishonor phrases shown in Table 3. Participants completed Novin and Oyserman's (2016) 18-item Honor Values Scale (e.g., I prefer to live with honor, even if it means I will earn less money; $\alpha = .91$, 1 = *strongly disagree* to 7 = *strongly agree*), then saw the 12 phrases in Table 3 in randomized order with the four arrow response options shown in Figure 1, followed by demographics.

### Results and Discussion

*Honor phrases point up–right, dishonor phrases point down–left.* Our results strongly support Prediction 1. As detailed in Table 3, participants overwhelmingly selected arrows directing up or right to represent honor phrases (87.60% of the time) and arrows directing down or left to represent dishonor phrases (83.48% of the time). We used mixed effects logistic regressions (MELRs; Raudenbush & Bryk, 2002) with random intercepts to test Predictions 1 and 2 because we are interested in effects of both item-level (phrase) and person-level (endorsement of honor values) variables. MELR allows adjustment of standard errors for choice clustering (Level 1) within person (Level 2). To test Prediction 1, we used arrow choice (Level 1) nested within person (Level 2) as our outcome variable and phrase (honor, dishonor) as our Level 1 predictor. Phrase had a significant effect on the directional arrow people chose (up or right, down or left), OR = 35.915, $p < .001$, 95% confidence interval (CI) = [28.394, 45.428]. People represent honor as up–right and dishonor as down–left, replicating results from Study 1. Study 2 also rules out the possibility that effects are due to the verbs rather than to honor and dishonor because, in Study 2, the verbs used in honor phrases match the verbs used in dishonor phrases. Interested readers can find analyses of the relative frequency of choosing up versus right for honor phrases and of choosing down versus left for dishonor phrases in the supplemental material.

*People who endorse honor values more readily spatialize honor.* Results strongly support Prediction 2, tested using a random-intercept MELR with arrow choice (Level 1) nested within person (Level 2) as our outcome and phrase (Level 1), honor endorsement (Level 2), and their interaction as our predictors. People who endorsed honor values more had

**Table 3.** Study 2: Honor and Dishonor Phrases and the Percentage of Respondents Choosing Each Directional Arrow to Represent Each Phrase and Average Phrase Choice.

| Phrase | % of respondents making each arrow choice | | | |
| --- | --- | --- | --- | --- |
| | Up | Right | Down | Left |
| Honor | | | | |
| ○ *feels pride* | 68.28 | 19.38 | 7.93 | 4.41 |
| ○ *shows respect* | 55.95 | 30.84 | 7.93 | 5.29 |
| ○ *brings honor* | 71.37 | 17.62 | 5.73 | 5.29 |
| ○ *acts loyally* | 47.14 | 38.33 | 7.05 | 7.49 |
| ○ *creates trust* | 51.54 | 37.44 | 4.41 | 6.61 |
| ○ *behaves nobly* | 66.96 | 20.70 | 7.05 | 5.29 |
| Mean location honor | **60.21** | **27.39** | **6.68** | **5.73** |
| Dishonor | | | | |
| ○ *feels shame* | 5.29 | 11.45 | 60.35 | 22.91 |
| ○ *shows disrespect* | 9.25 | 9.25 | 57.71 | 23.79 |
| ○ *brings dishonor* | 8.81 | 6.61 | 65.20 | 19.38 |
| ○ *acts disloyally* | 7.93 | 10.13 | 53.74 | 28.19 |
| ○ *creates distrust* | 7.49 | 11.01 | 49.78 | 31.72 |
| ○ *behaves disgracefully* | 6.61 | 5.29 | 66.52 | 21.59 |
| Mean location dishonor | **7.56** | **8.96** | **58.88** | **24.60** |

*Note.* Bold indicates the mean.

greater odds of representing honor as up or right and dishonor as down or left, as revealed in the significant interaction between phrase and honor value endorsement, OR = 1.64, $p < .001$, 95% CI = [1.31, 2.06]. Decomposing this significant interaction, endorsement of honor values significantly increased the likelihood of choosing up or right arrows for honor phrases, OR = 1.58, $p = .032$, 95% CI = [1.039, 2.411] and increased the likelihood of choosing down or left arrows for dishonor phrases, OR = 1.45, $p = .047$, 95% CI = [1.01, 2.11]. Everyone spatialized honor, those who endorsed honor values did so more robustly.

## Study 3

We tested Predictions 1 and 2 using an Implicit Association Test (IAT). An IAT allows us to control for associations between valence and spatial location and hence rule out an additional alternative explanation for our results, which is that honor and dishonor are spatially represented due to their positive and negative valences.

### Method

*Recruitment plan and participants.* IATs typically generate large effect sizes, as reflected in recent studies testing implicit spatial associations with various abstract constructs (e.g., Bar-Anan et al., 2006; Cian et al., 2015; Meier, Hauser, et al., 2007). For Prediction 1, our power analysis suggested that only eight participants were needed to achieve the average IAT effect size of the aforementioned

studies ($d = 1.16$) with $\alpha = .05$ and power = .80. However, to err on the side of caution, for Prediction 2, we planned to recruit a minimum of 50 participants following a rule-of-thumb estimate for studies entailing correlation (Green, 1991). Participants were 52 American undergraduates.

*Procedure.* We constructed an IAT (Greenwald et al., 1998) as follows. We used the English book corpus (1990–2000) in Google Ngram Viewer to choose four equally frequent words in four categories of interest: honor (*prestige*, *pride*, *noble*, *integrity*), dishonor (*offense*, *vice*, *shame*, *corrupt*), positive (*miracle*, *presents*, *casual*, *sympathetic*), and negative (*stupid*, *trouble*, *harsh*, *suspicion*). We paired these words with our up–right words (*up*, *right*, *above*, *top*) and our down–left words (*down*, *left*, *below*, *bottom*). Participants first completed the IAT and then the Honor Values Scale ($\alpha = .87$) and the demographics used in Study 2. We followed standard IAT procedure and presented our participants with nine practice blocks and four test blocks (honor-congruent, honor-incongruent, valence-congruent, and valence-incongruent). Our IAT procedure is summarized in Table 4 and detailed in the supplemental material, which also provides exact words of all Study 3 items. We followed Brunel et al. (2004), counterbalancing the order of the four test blocks and their corresponding practice blocks. We recorded response latencies in the test blocks for data analyses.

After being seated at a computer, participants were instructed to press a key ("p" or "q") as fast as they could without making mistakes to classify target words appearing in the center of the screen. In the honor-congruent block, honor

**Table 4.** Study 3: Implicit Association Test Procedure.

| Block | Practice or test | Trial | Left key (q) response | Right key (p) response |
|---|---|---|---|---|
| 1 | Practice | 8 | Down–left words | Up–right words |
| 2 | Practice | 8 | Dishonor words | Honor words |
| 3 | Practice | 16 | Down–left + Dishonor words | Up–right + Honor words |
| 4 | Test | 16 | Down–left + Dishonor words | Up–right + Honor words |
| 5 | Practice | 8 | Honor words | Dishonor words |
| 6 | Practice | 16 | Down–left + Honor words | Up–right + Dishonor words |
| 7 | Test | 16 | Down–left + Honor words | Up–right + Dishonor words |
| 8 | Practice | 8 | Negative words | Positive words |
| 9 | Practice | 16 | Down–left + Negative words | Up–right + Positive words |
| 10 | Test | 16 | Down–left + Negative words | Up–right + Positive words |
| 11 | Practice | 8 | Positive words | Negative words |
| 12 | Practice | 16 | Down–left + Positive words | Up–right + Negative words |
| 13 | Test | 16 | Down–left + Positive words | Up–right + Negative words |

*Note.* Order of experiment blocks (Blocks 4, 7, 10, 13) and their corresponding practice blocks were counterbalanced. Trial = the number of words to be categorized in each block. Left key and Right key response = which words were linked to the left and right key in each block.

words and up–right words shared the same response key and dishonor words and down–left words shared the same response key. In the honor-incongruent block, the pairings were reversed. In the valence-congruent block, positive words and up–right words shared the same response key and negative words and down–left words shared the same response key. In the valence-incongruent block, the pairings were reversed.

Category names ("honor"–"dishonor" or "positive"– "negative" and/or "up-right"–"down-left") appeared on the upper right and upper left of the screen. Target words appeared in the center of the screen in randomized order. This yielded trials labeled honor or up–right/dishonor or down–left, positive or up–right/negative or down–left in the congruent conditions, and honor or down–left/dishonor or up–right and positive or down–left and dishonor or up–right in the incongruent conditions. Participants were instructed to press the "q" key if the word belonged to the category on the left and to press the "p" key if the word belonged to the category on the right. If categorization was correct, participants saw a blank screen for 150 ms followed by the next trial and if incorrect, they saw the word "INCORRECT" for 150 ms followed by the next trial.

*Data preparation, scoring, and analysis.* As detailed in the supplemental material, we followed Greenwald and colleagues' (1998) IAT data preparation, analysis, and presentation procedures (see also Cian et al., 2015) and the *D*-scoring procedure presented in Greenwald et al. (2003). We used log-transformed mean latencies in milliseconds for analyses but report raw millisecond means and standard deviations for ease of interpretation. No participant showed excessively fast (<300 ms) or slow (>3,000 ms) responding, hence none were excluded.

## Results and Discussion

*Honor is associated with up–right and dishonor with down–left.* Results strongly support Prediction 1 (people associate

honor with up–right and dishonor with down–left) and reveal that this is not an artifact of word valence. We conducted a mixed-design analysis of variance (ANOVA) with congruence with location (congruent, incongruent) as a within-subject factor and order (honor congruence first, honor incongruence first) as a between-subject factor. Log-transformed mean latencies were the dependent variables. People were faster at categorizing honor words paired with up and right location words and dishonor words paired with down and left location words ($M = 759.25$, $SD = 212.58$) than the reverse pairings ($M = 1,089.54$, $SD = 323.22$). The main effect of congruence was significant, $F(1, 50) = 142.33$, $p < .001$, $d = 1.66$, observed power is greater than .99. The main effect of order was not significant, $F(1, 50) = 0.05$, $p = .82$. The congruence by order interaction was significant, $F(1, 50) = 5.88$, $p = .02$, $\eta^2 = .11$, participants were faster at whichever block they completed first (detailed in Table S3 in supplemental material). Follow-up independent-sample *t*-test results suggest that this does not affect interpretation of the honor–space association.

*This pattern is not due to valence.* Next, we ruled out the alternative explanation that spatialization of honor was simply due to valence. In a repeated measures analysis of covariance (ANCOVA) with mean latencies as the dependent variable, congruence as the within-subject factor, and $D_{valence}$ as covariate, we found that the effect of congruence remained significant when controlling for the spatialization of valence ($D_{valence}$) in a repeated measures ANCOVA, $F(1, 50) = 14.92$, $p < .001$, $\Delta\eta^2 = .23$, observed power = .97. Moreover, as detailed in the supplemental material, spatialization of valence did not depend on a person's endorsement of honor values, further suggesting that spatialization of honor is distinct from spatialization of valence in general.
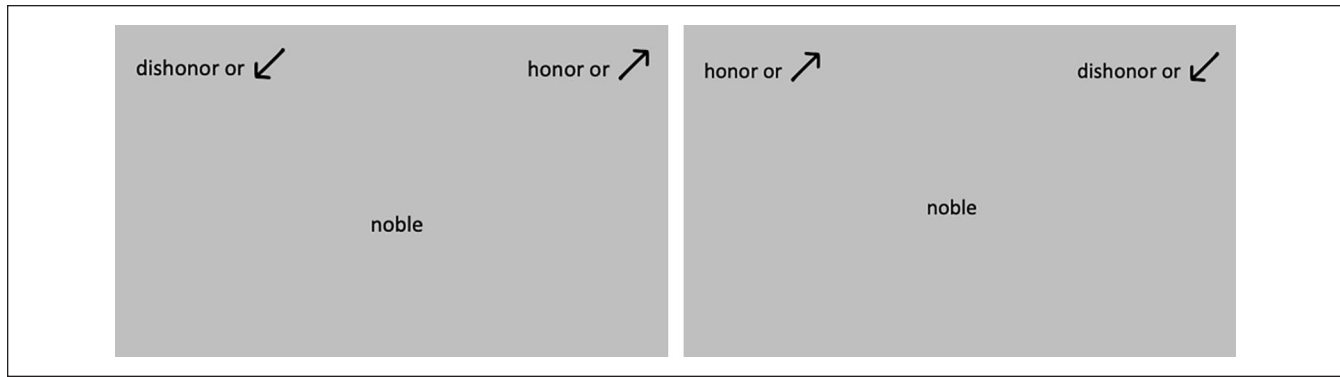
**Figure 2.** Screenshots showing the two versions of IAT used in Study 4.
*Note.* IAT = Implicit Association Test.

*People who endorse honor values more readily spatialize honor.* We tested Prediction 2 in a mixed effects regression model with mean latencies of honor blocks nested within participant as the outcome variable and congruence with spatial location (Level 1), order (Level 2), endorsement of honor values (Level 2), and their interactions as predictors. The interaction of endorsing honor values and honor–arrow congruence was in the predicted direction though not reaching $p < .05$ significance, $\beta = -.10$, $p = .06$, 95% CI = $[-0.20, 0.01]$. None of the other main effects and interaction was significant, $p$s $> .50$.

We decomposed this interaction by testing the magnitude of spatialization among people who scored below compared with people who scored above the median on the Honor Values Scale separately. We found that everyone spatializes honor but people who endorse higher honor values do so to a greater degree. Thus, people who scored below median in endorsement of honor values ($n = 26$) were faster at categorizing honor words paired with up and right location words and dishonor words paired with down and left location words ($M = 815.47$, $SD = 249.46$) than the reverse pairings ($M = 1,078.42$, $SD = 291.55$), repeated measures ANOVA, $F(1, 25) = 52.59$, $p < .001$, $d = 1.40$. People who scored above the median in endorsement of honor values ($n = 26$) showed the same pattern, but at a larger magnitude ($M = 703.04$, $SD = 152.93$ vs. $M = 1,100.67$, $SD = 357.59$), repeated measures ANOVA, $F(1, 25) = 92.05$, $p < .001$, $d = 2.41$.

*Discussion.* Study 3 results support our predictions that honor is associated with up–right and that people who endorse honor values are more prone to make this association. By controlling for the effect of valence, Study 3 rules out an alternative explanation to Studies 1 and 2, which is that honor and dishonor are valenced.

## Study 4

Study 4 addresses reviewer concern that IAT effects were simply due to semantic overlap between spatial location (up–right)

and honor by using arrows ($\nearrow$ and $\swarrow$) instead of words to represent location categories. We also designed two versions of IAT with a switch in category location to address handedness – the right-handed preference for the right side of the screen.

### Recruitment Plan and Participants

Based on our Study 3 Prediction 2 test achieved size of $f = 0.125$, we targeted a minimum of 86 participants for power $= .80$ and $p = .05$. Participants were 89 American undergraduates.

### Procedure

Our procedure was identical to Study 3 (Honor Values Scale, $\alpha = .86$) with two exceptions. First, rather than words, we used an arrow pointing up and to the right ($\nearrow$) to represent the category "up-right" and an arrow pointing down and to the left ($\swarrow$) to represent the category "down-left." Second, rather than one IAT version, we randomly assigned participants to one of two versions of the IAT. As depicted in the left panel of Figure 2, in one version, the up–right arrow "$\nearrow$" appeared on the upper right of the screen and was associated with right key response and the down–left arrow "$\swarrow$" appeared on the upper left of the screen and was associated with left key response. As depicted in the right panel of Figure 2, in the other version, the up–right arrow "$\nearrow$" that appeared on the upper left of the screen was associated with left key responses, whereas the down–left arrow "$\swarrow$" appeared on the upper right and was associated with right key responses. We followed the same data preparation and scoring procedures as in Study 3.

### Results and Discussion

We analyzed our data in two steps: first, testing Prediction 1 that honor is up–right and dishonor is down–left and ruling out alternative explanations that this relationship was due to semantic overlap, category location, or word valence. Then,

we tested Prediction 2, that people who endorse honor are more likely to show an honor IAT effect.

*Honor is associated with up–right, dishonor with down–left.* Results strongly support Prediction 1, that people associate honor with up–right and dishonor with down–left. We conducted a mixed-design ANOVA with log-transformed mean latencies as the dependent variable, honor–arrow congruence as the within-subject factor, and arrow category location as the between-subject factor (block order had no effect, as detailed in the supplemental material, so was not included as a factor). We found a main effect of honor–arrow congruence, $F(1, 86) = 122.71$, $p < .001$, $d = 1.24$, observed power $> .99$. People were faster at categorizing honor words paired with up–right words and dishonor words paired with down–left words ($M = 794.68$, $SD = 185.13$) than the reverse pairings ($M = 1,011.82$, $SD = 237.95$). We also found a main effect of category location, $F(1, 86) = 20.55$, $p < .001$. That is, participants who saw the up–right arrow category on the upper right of the screen ($M = 985.56$, $SD = 187.75$) were faster at sorting words than participants for whom the category location and response key was switched ($M = 827.58$, $SD = 146.04$). These were separate main effects and their interaction was not significant, $F(1, 86) = 0.33$, $p = .57$. Together, results suggest that people associate honor with an up–right spatial location and associate dishonor with the opposite (down–left) spatial location. This effect is not dependent on where the category name appeared or on right-hand dominance, and because up–right and down–left were represented with directional arrows, Study 4 rules out that this is due to semantic conflation.

*Honor is distinct from having a positive or a negative valence.* To test our prediction that honor spatialization is unique, not simply the spatialization of valence, we conducted a repeated measures ANCOVA. We used mean latencies as the dependent variable, honor–arrow congruence as the within-subject factor, and $D_{valence}$ as our covariate. We found that the effect of honor–location congruence remained significant when controlling for the spatialization of valence ($D_{valence}$), $F(1, 87) = 40.67$, $p < .001$, $\Delta\eta^2 = .32$.

*People who endorse honor values more readily spatialize honor.* We tested Prediction 2 in a mixed effects regression model with mean latencies of honor blocks nested within participant as the outcome variable and honor–arrow congruence (Level 1), arrow category location (Level 2), endorsement of honor values (Level 2), and interactions of these variables as predictors. The interaction between endorsing honor values and honor–arrow congruence was significant, $\beta = -.09$, $p = .02$, 95% CI $= [-0.17, -0.01]$.

We decomposed this interaction by testing the magnitude of spatialization among people who scored below and among people who scored above the median on the Honor Values Scale separately. People in the low honor endorsement group

($n = 41$) were faster at categorizing honor words paired with up and right words and dishonor words paired with down and left words ($M = 810.18$, $SD = 230.30$) than the reverse pairings ($M = 1,010.14$, $SD = 253.40$), repeated measures ANOVA, $F(1, 40) = 46.63$, $p < .001$, $d = 1.07$. People in the high honor endorsement group ($n = 48$) showed the same pattern at a larger magnitude ($M = 781.43$ vs. $M = 1,013.25$, $SD = 226.65$), repeated measures ANOVA, $F(1, 47) = 71.11$, $p < .001$, $d = 1.41$. Everyone spatialized honor, those who endorsed honor values did so more robustly.

A three-way interaction between congruence, honor value endorsement, and category location was not significant, $\beta = .10$, $p = .08$, 95% CI $= [-0.01, -0.22]$. Interested readers can find exploratory analyses to decompose this not-predicted moderation in the supplemental material.

## Study 5

We tested Predictions 1 and 2 using American citizen's recall of their voting behavior in the U.S. 2016 presidential election as our proxy indicator of their perception that the current President is honorable. Regarding Prediction 1, we predicted that people who reported voting for then-candidate Trump would prefer photographic images in which President Trump was in the up–right (honor) location rather than the down–left (dishonor) location more than citizens who reported either voting for a different candidate or not voting at all. Regarding Prediction 2, we predicted that this pattern would be stronger for people who endorsed honor values more highly. Data were collected in July 2017, a time in which President Trump's trustworthiness, a central feature of honor (Cross et al., 2014), was a highly salient topic due to investigations of his possible connection to the Russian interference in the 2016 Presidential election.

### Method

*Recruitment plan and participants.* Because our choice variable was binary and we did not have a good estimate of what our effect size might be, we calculated a target sample size of 253 participants using logistic regression based on a small effect size ($d = 0.20$) for Prediction 1, power $= .80$, and $\alpha = .05$. Participants were 278 American adults (voted for Trump, $n = 138$; did not vote for Trump, $n = 140$; 30% Republican, 27% Democrats, 36% no party affiliation, Independent 5%, Libertarian 1%, Green 1%). No participant was excluded.

*Procedure.* We used seven images of President Trump downloaded from the internet to create seven image pairs. In each pair, images were identical except that one was cropped so that President Trump appeared in the up–right location and the other was cropped so that President Trump appeared in the opposite (down–left) location, as shown in Figure 3 (all images are in our supplemental material). We pilot tested the images with a separate sample of 30 Amazon Mechanical
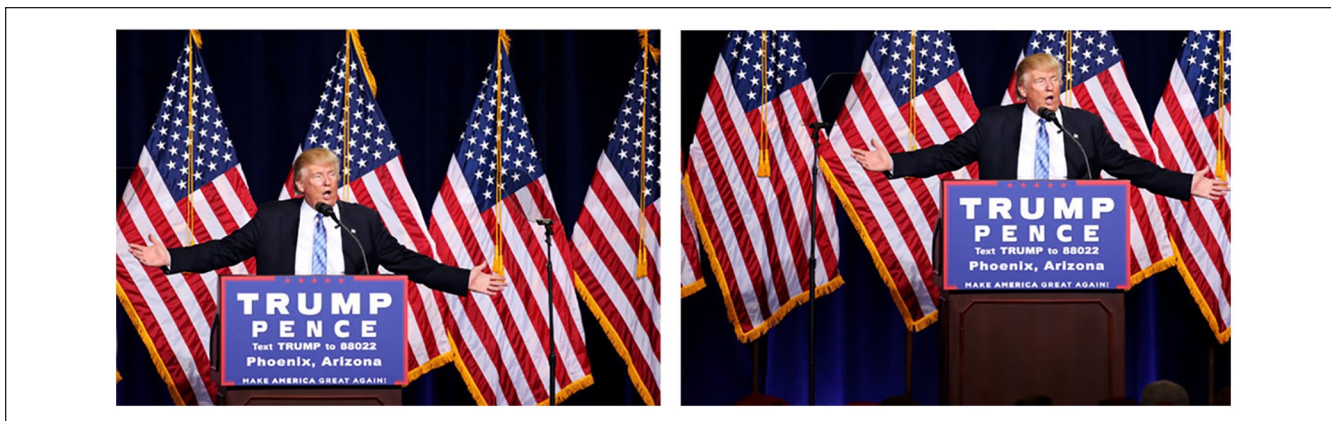
**Figure 3.** We presented participants with seven paired-images of President Trump, one pair at a time. In each pair, one image showed the President in the down–left location (left) and the other image showed the President in the up–right location (right).
*Note.* After viewing each pair, participants chose one to use to illustrate an article about American politics.
Source: Travis Dove, The New York Times.

Turk participants to ensure that the two versions of the image were given comparable quality ratings (see supplemental material for results).

We told our participants that in collaboration with online news websites, our goal was to understand people's preference for photographs. They would see a series of option sets and in each case, choose the photograph they thought was the better one to appear in an article about American politics. Each participant saw all seven image pairs in randomized order. In each image pair, we randomized whether the up–right or the down–left version appeared on the right. We ensured that we had sufficient numbers of people who voted for then-candidate Trump and of people who voted for other candidates or did not vote at all in the following way. When participants logged onto our site, we asked a filler question (gender) and then asked for whom they voted during the 2016 Presidential election. After responding, participants completed the photograph task and the Novin and Oyserman Honor Values Scale ($\alpha = .89$) used in Studies 2 to 4. We counterbalanced order of presentation so that 138 participants completed the photograph task first and 140 participants completed the Honor Values Scale first. Political ideology (1 = *very liberal*, 7 = *very conservative*), party affiliation, age, and race–ethnicity were the final items completed.

### Results and Discussion

*Preference for honor location was not affected by our honor proxy.* We did not find support for Prediction 1 with our honor proxy of having voted for then-candidate Trump. On average, people preferred photographs in which the President of the United States of America was located in the up–right quadrant of the image (62%), this was significantly higher than 50% chance in a one-sample *t* test, $t(278) = 8.43, p < .001$, 95% CI of the difference = [0.09, 0.14]. To test Prediction 1, we used MELR with voted for Trump (yes, no) as our predictor variable and choice (up–right, down–left) nested within person as our outcome variable, OR = 0.92, $p = .54$, 95% CI = [0.71,

1.19]. Image location preference was not affected by whether participants voted for then-candidate Trump.

*People who endorse honor values are more likely to spatialize honor.* We did find support for Prediction 2, again using MELR. Endorsing honor values does affect choice, as suggested by a significant interaction between having voted for Trump and honor values, OR = 1.63, $p = .002$, 95% CI = [1.20, 2.20]. To unpack this interaction, we examined the effect of endorsing honor values on choice separately for people who said they had voted for then-candidate Trump (Figure 4, left panel) and for people who said they had instead either voted for a different candidate or had not voted at all (Figure 4, right panel). Among people who reported voting for then-candidate Trump, endorsing honor values increased the likelihood they chose images in which President Trump was in the up–right quadrant of the photograph, OR = 1.43, $p < .001$, 95% CI = [1.18, 1.73]. This pattern was not found among people who had not voted for Trump, OR = 0.90, $p = .36$, 95% CI = [0.71, 1.13].

*Discussion.* We used images that we had cropped to operationalize spatialization of honor and voting for then-candidate Trump as our proxy measure of whether a participant perceived President Trump to be an honorable person. Results are similar (as detailed in the supplemental material) if conservatism or being a Republican is used as our proxy measure of perceiving President Trump to be an honorable person. In each case, we did not find a main effect of spatializing honor, only an interaction effect with honor values. As suggested in the review process, in Study 6, we tested our prediction again, using a different proxy for perceiving President Trump to be an honorable person, partisanship of news media outlets.

## Study 6

We tested Prediction 1 by using conservative news sources as our proxy measure of experiencing the President as honorable,
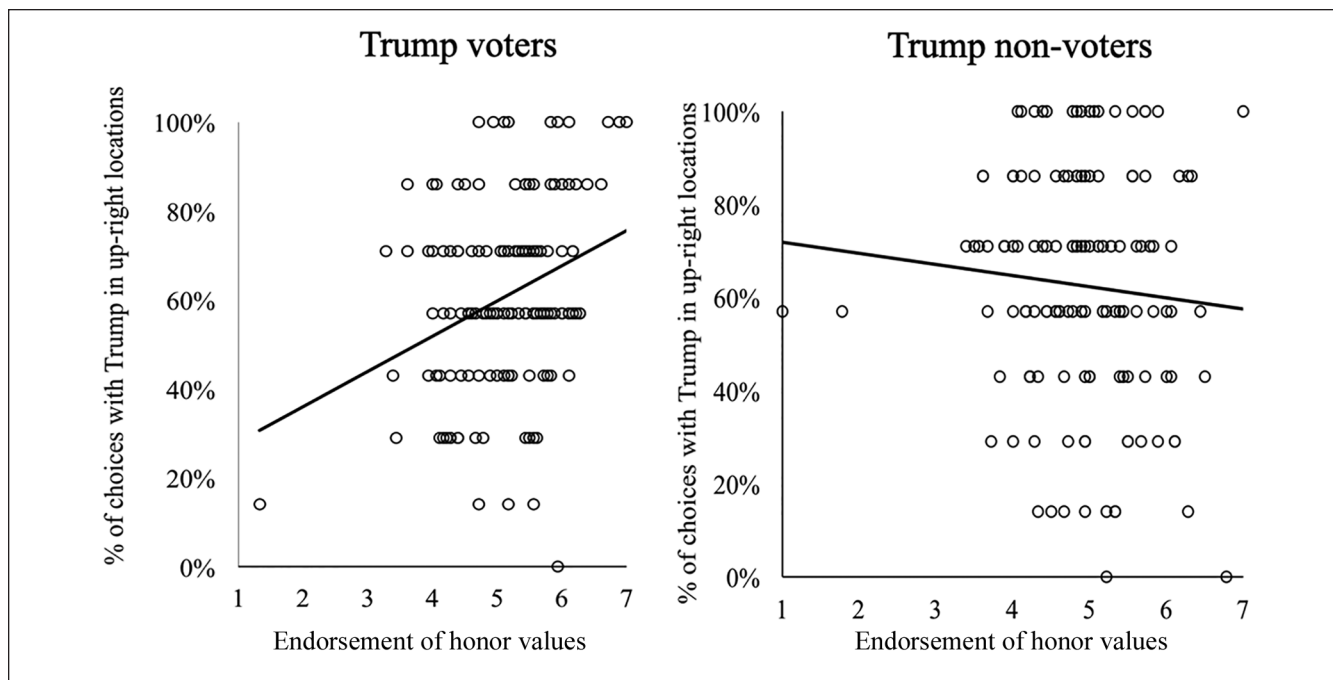
**Figure 4.** Spatializing honor affects choice when the target is relevant: Among Americans who endorse honor values and voted for then-candidate Trump (left panel, Trump voters) in the 2016 U.S. Presidential election and not among other Americans (right panel, non-Trump voters).

*Note.* Trump voters are Americans who reported that they voted for then-candidate Trump in the 2016 U.S. Presidential election. Trump non-voters are Americans who reported that they did not vote at all or that they voted for a candidate other than Trump in the 2016 U.S. presidential election (right panel, Trump non-voters).

predicting that these websites would choose more images in which President Trump's face was in an up–right location (rather than a down–left location) than nonconservative ones.

## Method

*Procedure.* We downloaded the complete pool from nine news sources ($N = 4,307$) of images tagged as "President Trump" between January 1, 2017, and December 31, 2017, the President's first year in office. The news websites were conservative (*Breitbart*, *Fox News*, *National Review*, *Townhall*, *The Weekly Standard*) and nonconservative (*The New York Times*, *Dailykos*, *Huffington Post*, *Slate*). We retained the 952 images that depicted President Trump alone, with the exception of 19 images that were not codable—four were collage images made up of multiple Trump appearances and 15 were images in which the President's face filled both up or right and down or left regions. Of 952 images, 64.4% ($n = 613$) were from conservative sites (20.59% of the total were from *Breitbart*, 19.96% *Fox News*, 14.70% *Townhall*, 6.62% *The Weekly Standard*, and 2.52% *National Review*). The remaining 35.6% ($n = 339$) were from nonconservative sites (24.16% of the total were from *Dailykos*, 8.93% *The New York Times*, 1.89% *Huffington Post*, and 0.63% *Slate*).

We superimposed a 3 (horizontal: left, center, right) × 3 (vertical: up, center, down) grid on each image. Two coders blind to

source independently coded each image for locations in which a significant portion of the President's face appeared. Coders agreed substantially (average κ = .81), discussing any disagreement to consensus. Figure 5 depicts the up-right and down-left face–locations of interest to us (up-right: straight-up, up-and-right, and level-and-right, is numbered 2, 3, and 6 and depicted in yellow; down–left: straight-down, down-and-left, and level-and-left, is numbered 4, 7, and 8 and depicted in blue). The President's face was found in these regions in 663 images. We omitted the central quadrant as faces are commonly centered on the page (the President's face was partially in this quadrant in 58.95% of images and fully in this quadrant in 28.94% of images). We did not code for the location of the President's body

## Results

Results support Prediction 1 using our conservative new source proxy for President Trump being honorable, suggesting that spatial preference for an honor-worthy target may be detected in the real world. Results are subtle. All outlets more commonly depicted President Trump's face in up–right rather than down–left parts of the image (see Figure 6). However, conservative news outlets depicted his face in up–right parts of the image (60.43%) more frequently than nonconservative news outlets (54.41%). Parallelly, conservative outlets depicted President Trump's face in down–left parts of the image (10.76%) less
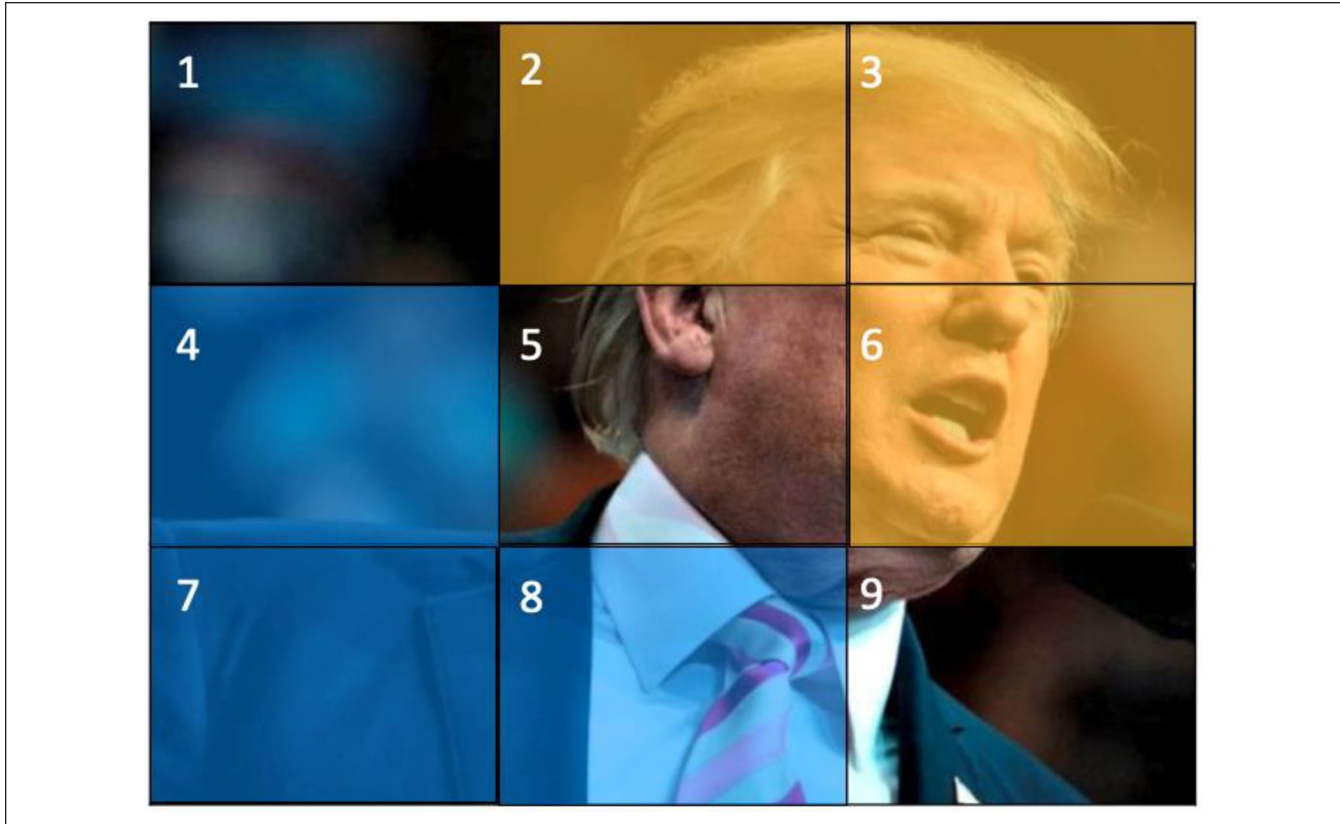
**Figure 5.** A news image of President Trump superimposed with our 3x3 face-location coding grid.
*Note.* Colored locations are our regions of interest with up-right in yellow and down-low in blue. For ease of reading in grey scale, locations are also numbered. Center is numbered 5. Up-right (yellow) locations are numbered 2, 3, and 6. Down-left (blue) locations are numbered 4, 7, and 8. In this example, we coded Trump's face as located in the center (location 5) as well as in the up-right (locations 2, 3, and 6).
Source: Brendan Smialowski, AFP/Getty Images.

frequently than nonconservative news outlets (16.41%). We tested our prediction quantitatively using MELR with random intercept and face location (up–right, down–left) nested within news source as the dependent variables and news source (conservative, nonconservative) as the predictor variable. President Trump's face was more likely to appear in the up–right (yellow) than in the down–left (blue) parts of the image  if the image was from a conservative rather than from a nonconservative news source, OR $= 1.69, p = .01$, 95% CI $= [1.13, 2.53]$.

## Study 7

We tested Predictions 1 and 2. Regarding Prediction 1, we predicted that people who rate President Trump as honorable will be more likely to perceive him as facing up and to the right. Regarding Prediction 2, we predicted that this effect would be stronger for people endorsed honor values more.

### Method

*Recruitment plan and participants.* We aimed for a minimum of 143 American participants to have at least three independent judgments for each news image (obtained $N = 167$).
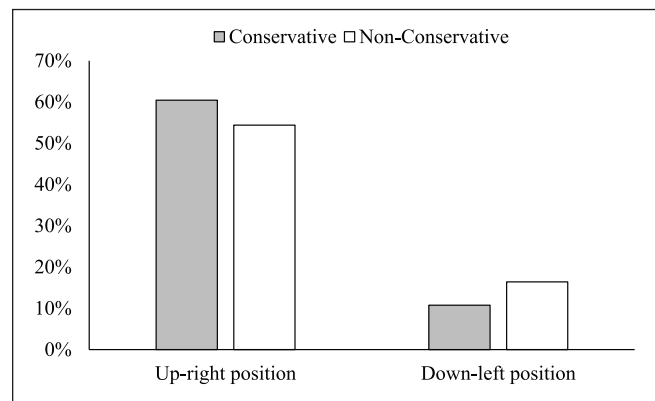


**Figure 6.** Spatializing honor as reflected in where news images place President Trump's face: Up-right dominates down-left and political orientation matters. Conservative news source images were more likely to position Trump's his face in up–right locations and less likely to position his face in down–left locations than nonconservative sources.
*Note.* Grey bars= Percentage of images in each position as a total of all Conservative news source images of President Trumps' face. White bars = Percentage of images in each position as a total of all nonconservative news source images of President Trump's face.
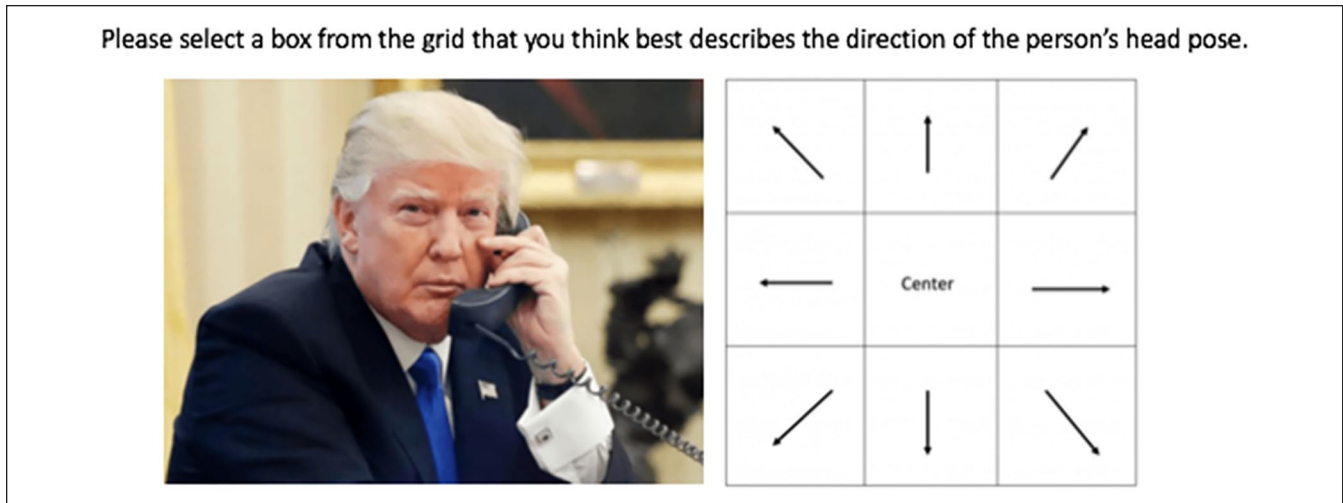
**Figure 7.** Screenshot of the head-pose judgment task in Study 7.
Source: Alex Brandon, AP Photo.

*Procedure.* We used the same pool of $n = 952$ images of President Trump as in Study 6. We pilot tested the task and determined that the task became burdensome after about 20 images, so we randomly selected 20 images for each participant to view. On average, each image was judged 3.51 times.

We told participants that they would be shown 20 images and that their task was to judge the direction the person in each image was facing from their own perspective by clicking on the arrow that best describes the direction of the person's head. Figure 7 presents an example of the task. To ensure understanding, participants completed two practice trials with corrective feedback. They had to correctly complete both practice trials before they could proceed.

After correctly completing the practice trials, each participant saw a set of 20 images randomly selected from the pool. Images were presented in randomized order. After the image task, participants filled out the Novin and Oyserman (2016) Honor Values Scale we used in Studies 2 to 5 ($\alpha = .88$), and three final questions: "Did you recognize the person in the images (no, yes). If yes, "Who is this person?" (open-ended). "How would you describe your political identity?" (1 = *very liberal* to 7 = *very conservative*). "Do you think President Trump is an honorable or a dishonorable person?" (1 = *very dishonorable* to 7 = *very honorable*).

Participants were asked to choose one direction to represent head-pose in each image. Following Frimer and Sinclair (2016), our analyses focused perceiving the President's head as facing up and to the right. Additional analyses of up or right choice (i.e., choices of straight-up, up-and-right, and level-and-right combined) showed similar results (see supplemental material).

### Results and Discussion

*People who perceive President Trump as honorable perceive him to be facing up-and-right.* Results support Prediction 1 as detailed next. Preliminary analyses showed there is individual variability to explain. These analyses, detailed in the supplemental material, show that news source does not affect perceived facial direction, but images and participant differences do, with 54% of the variance in perception explained by image differences, and 8% of variance in perception explained by participant differences. To quantify the direction of these individual effects, we conducted a random-intercept cross-classified mixed effects logistic model with choice (up-and-right, not up-and-right) at Level 1 nested within both person and image (Level 2) as the outcome and participants' belief that Trump is honorable as the Level 2 predictor. People who rated President Trump as honorable were more likely to perceive him to be facing up-and-right in a given image, as revealed by the significant effect of believing that President Trump is honorable, OR = 1.09, $p = .048$, 95% CI = [1.00, 1.18]. A 1-point increase in the belief that the President is honorable led to a 9% increase in the likelihood of perceiving him to be facing up-and-right in any given image.

*People who endorse honor values are more likely to spatialize honor.* Results support Prediction 2. A random-intercept cross-classified mixed effects logistic model with believing President Trump is honorable, endorsing honor values, and their interaction as predictors revealed a significant interaction effect, OR = 1.13, $p = .04$, 95% CI = [1.01, 1.26]. We decomposed this interaction to test the relationship between believing that President Trump is honorable and rating his face as facing up-and-right separately among people who scored below the median ($n = 78$) and people who scored above the median ($n = 89$) on the Honor Values Scale separately. The magnitude of the relationship between believing that the President is honorable and rating his face as facing up-and-right was about the same in both groups. However, people who scored lower on the Honor Values Scale were

more variable in their responses, yielding a nonsignificant effect, $OR = 1.13$, $p = .41$, 95% CI = [0.84, 1.54], whereas people who scored higher on the honor values were less variable in their responses, yielding a significant effect, $OR = 1.11$, $p = .025$, 95% CI = [1.01, 1.23].

*Discussion.* People are more likely to perceive honorable people as facing up and to the right. This tendency is stronger the more people endorse honor values, in part, because endorsing honor values seems to focus perception, yielding less variability in perception.

## General Discussion

### Overview

Honor is important—it signals whether someone is trustworthy, moral, and of good reputation, and hence, how one ought to engage with them. From a culture-as-situated cognition perspective, it is one of the cultural universals (Oyserman, 2017). But how is the abstract concept of honor represented in the mind? Using culture-as-situated cognition theory to integrate conceptual metaphor (Lakoff & Johnson, 1980) and relevant honor research, we tested and found support for two novel predictions across seven studies. First, we predicted and showed that people use space as a concretizing metaphor to make sense of honor, experiencing honor as up and to the right and dishonor as down and to the left, with consequences for choice and perception. Second, we predicted and showed that this spatial metaphor is more accessible for people who endorse honor values more.

Our first set of four studies revealed that people from China and the United States strongly associate honor with up and right and dishonor with down and left. We ruled out alternative explanations and documented that this spatial association exists generally and is stronger for people who endorse honor values. In Studies 1 and 2, American and Chinese participants overwhelmingly associated honor phrases such as "brings honor" with arrows pointing up or right and associated dishonor phrases such as "brings dishonor" with arrows pointing down or left. These results support our prediction that honor is located up and to the right and lay the foundation for our subsequent studies. In Studies 3 and 4, we measured implicit spatial associations using an IAT, allowing us to control for the effect of word valence. We found that people are much faster to associate honor with up–right and dishonor with down–left than the reverse controlling for valence. Hence, results are not an artifact of the positive valence of honor words and the negative valence of dishonor words. By using directional arrows as well as words, we ruled out another alternative explanation, which is that effects are an artifact of the semantic overlap between the word "honor" and the word "upright." By switching where words and arrows were located on the screen, we distinguished spatialization of honor from a right-side

advantage (people are faster when looking to the right side of the screen and in pressing keys with their dominant right hand). In Studies 2 to 4, we assessed honor values. Supporting Prediction 2, although everyone spatializes honor and dishonor, the more people endorse honor values (i.e., agreeing more with statements such as "I prefer to live with honor even if it means I will earn less money"), the more they do so.

Our second set of three studies revealed that metaphorical understanding of honor as space has real-world downstream consequences. In Studies 5 and 6, we used voting for President Trump (Study 5) and political ideology (Study 6) as proxies for experiencing President Trump as honorable. In Study 5, we found support for Prediction 2, people who reported that they had voted for then-candidate Trump and endorsed honor values preferred photographs in which the President was located in the up–right quadrant of the image to otherwise identical photographs in which he was located in the down–left quadrant. Results replicate when political ideology or party affiliation is substituted for vote. In Study 6, we found support for Prediction 1. Thus, conservative news outlets were more likely to position the President's face in the up or right quadrants of the photograph than were nonconservative ones. In Study 7, we obtained a direct measure of perceiving President Trump as honorable and found support for Predictions 1 and 2. People who rated President Trump as honorable perceived the President's head as facing up and to the right toward honor. This effect was stronger among people who endorsed honor values more strongly.

### Limitations

Like any set of studies, our studies have a number of limitations regarding our ability to generalize from our stimuli to all stimuli and from our samples to the population at large, limiting our ability to address our goal of understanding honor mindsets generally. That is, we did not start with a full enumeration of the population of possible societies, possible operationalizations of spatial representations of honor, or of the full set of content, goals, and mental procedures related to honor. Nor did we enumerate the full population of downstream consequences. Hence, though our results suggest that honor is metaphorically represented, we cannot say that our operationalizations are representative of the population. Not only are more studies needed, so is a fuller consideration of the populations to which we seek to generalize.

### Honor, Culture, and Conceptual Metaphor Theory

At the same time, our studies have a number of strengths. Our results support our prediction that honor is spatially represented. Culture-as-situated cognition theory suggests that honor mindsets provide a "good enough" working solution

to an evolutionarily common problem of structuring relations to minimize conflict, and hence should share some features across societies (Oyserman, 2017; Oyserman & Yan, 2019). Indeed, obtaining and maintaining respect by behaving in the "right" moral and reputation-preserving way, with loyalty or fealty to important familial, tribal, national, and religious social groups within a social hierarchy is central to honor (Cross et al., 2014; Oyserman, 2017). To the extent that morality and high social position are represented as up and to the right in space, people will, in general, perceive honor targets as located up and to the right in space. Such experiences may be the basis of metaphorically associating honor with "up" and "right" in different languages and would imply that effects are not simply linguistic in nature (Casasanto, 2009b). At the same time, it might be that our finding that honor is up–right, not only up, is culturally specific to languages in which trust, justness, and reliability are linked to up and right and disreputableness is linked to down and left.  However, the metaphorical association of honor with right may be more basic, it may be embodied in the link between trustworthiness and right-hand dominance—as reflected in Hebrew sayings in which an honorable person can be described as "my right-hand" (the one I can trust). Further tests using Hebrew or other right-to-left writing languages could disentangle this possibility.

## Seeing Is Believing: Importance, Real-World Consequence, and Future Directions

As a first step, our findings on metaphorical effects of honor are important for a number of reasons. First, our results show that people who live in societies that cultural psychologists do not think of as "honor" societies (China, non-Southern United States) have "honor mindsets"—mental representations of honor and that they use these mindsets automatically in their judgments. Second, our results show that mental representations of honor include space, linking cultural psychology with conceptual metaphor theory and providing evidence that conceptual metaphors influence choice and visual perception. Third, our results imply a feedback cycle in which the use of space to make sense of honor affects preference and perception.

This feedback cycle between beliefs and perception can have real-world effects at scale. We showed that people not only prefer to see honor-relevant targets in honor-relevant locations but also actually *see* honor-relevant targets differently. People's perceptual experiences do not feel mediated by desire or motivated by belief—they feel like what is actually out there in the world. Seeing is believing, the more people have perceptual experiences congruent with a prior belief, the stronger that belief should become. In the case of images of President Trump, our findings imply a growing divide. People focusing on conservative news outlets will see more images of the President in the up–right position, reinforcing a belief that he is honorable. If they believe that the President is honorable, they will be more likely to perceive photographs as portraying him as facing up–right in any case. In contrast, people focusing on nonconservative news sources will see fewer images of the President in the up–right position, providing less reinforcement of a belief that he is honorable. If they do not believe that the President is honorable, they will be less likely to perceive him as facing up–right in any case. Although our effects show a snapshot, the implication, at scale, is that over time, some Americans will feel more confident that the President is honorable, whereas others will not.

Our results support our predictions. First, honor and dishonor are metaphorically conceptualized as up–right and down–left separate from how much people endorse honor values. Second, the more people endorse honor values, the more accessible this metaphoric representation seems to be. When a target is considered through the lens of honor, what people see aligns with what they believe, and what they believe promotes certain spatial preferences. These results warrant further investigation in more societies. Moreover, though our studies do not address effects on action, culture-as-situated cognition theory (Oyserman, 2017) predicts that repeated exposure to an honor-relevant target should matter, yielding two predictions for future research. First, repeated exposure to an honor-relevant target should make honor mindsets more accessible. Second, an accessible honor mindset should increase accessibility of relevant content, goals, and mental procedures. This implies that people will be more likely to consider whether they are being treated with respect and dignity, will care more about maintaining their reputation, and will use ordering mental procedures (better, worse) in making sense of ambiguous situations. Each of these predictions, in our opinion, is relevant at scale in understanding how spatial metaphors of honor matter.

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### Supplemental Material

Supplemental material is available online with this article.

## Note

1. The other study involved rating consumer products for quality and attractiveness and completing Salomon and Cimpian's (2014) Inherence Heuristic Scale (e.g., "It seems natural to use red in a traffic light to mean 'stop'.").

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