

How Costly Is Public Virtue?

The Impact of Observability on Evaluations of Morality and Motives Across 20 Virtues

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Abstract

Public acts of virtue can invite skepticism about actors' motives and morality. We examined this "virtue discounting" phenomenon across 20 virtues and 800 U.S. adults quota-matched to the U.S. census. Participants evaluated the moral goodness and virtuousness of public and private acts, and how much actors were driven by moral motivation (doing the right thing), norm signaling (encouraging others to act similarly), and reputation signaling (improving their reputation). Public (versus private) actors were seen as more motivated by norm and reputation signaling, but both were seen as similarly and predominantly morally motivated. Observability had no overall impact on moral judgments, and, for a quarter of the virtues, observability improved perceptions of the actor. While these patterns are limited to the behaviors, virtues, and motives tested within American adults, we suggest the social costs of public virtue have been overgeneralized and overstated.

Keywords: Virtue, Observability, Prosocial Behavior, Moral Judgment, Person Perception

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In 2014, a viral trend chilled millions globally. The rules were simple. If challenged, participants could either dump a bucket of ice water on their head and donate \$10 to the Amyotrophic Lateral Sclerosis (ALS) Association, or donate \$100 to skip the shower (Allison, 2014). Those who chose the bucket then nominated others to take on the #IceBucketChallenge (Allison, 2014). What began as a challenge among friends quickly became a global phenomenon, as figures like Jeff Bezos, Oprah Winfrey, and George Bush shared videos of themselves having ice water dumped on their heads (Piper, 2019). The campaign was remarkably successful: it raised more than \$220 million for the ALS Association and transformed ALS from a disease invisible to most people into one recognized worldwide (Stern, n.d.; *The ALS Ice Bucket Challenge*, n.d.). Yet, as the trend grew, so did public skepticism about participants' motives. As some participants started neglecting to even mention the disease they were purportedly raising awareness of, many began to question whether people were simply seeking attention and admiration (Davidson, 2014).

This tension between the social benefits of public acts of virtue and uncertainty about actors' motives captures a paradox central to research on public virtue: while acting publicly amplifies a behavior's social impact (Silver & Small, 2024; Kraft-Todd et al., 2018), people sometimes strategically engage in public acts of virtue to improve their moral reputation or gain social status (Griskevicius et al., 2010). As a result, public acts are often seen as more self-serving (Berman et al., 2015; Kraft-Todd et al., 2023b) and, consequently, less virtuous (Kraft-Todd et al., 2023b). But how severe and pervasive is this penalty? We examine this question across 20 virtues, investigating whether people see public actors as primarily driven by self-

serving motives, and whether these inferences translate into harsher judgments of the behavior's virtuousness.

If public actors were judged solely on the prosocial impact of their behaviors, they would likely receive especially high praise. Posting about charitable donations, discussing energy-efficient home upgrades, or acting honestly in the workplace amplifies the impact of the virtuous behavior by motivating others to follow suit (Kraft-Todd et al., 2018; Mayer et al., 2009; Ried et al., 2023; Silver & Small, 2024). But observers frequently infer that public actors are driven by a desire to gain admiration or enhance their reputation (Cushman, 2015; Kraft-Todd et al., 2023b; Law et al., 2025; Trenfield et al., 2026). Consequently, public actors are evaluated as less morally good and virtuous than those who act similarly in private, which may discourage people from engaging in public acts of virtue (Kraft-Todd et al., 2023b; Law et al., 2025; Loustau et al., 2023; Newman & Cain, 2014; Raihani & Power, 2021; Trenfield et al., 2026).

But the social cost of public virtue may be less severe and generalizable than prior work suggests. Most research establishing these social consequences has focused on public acts of generosity, such as charitable giving (Kraft-Todd et al., 2023b), which may be especially susceptible to suspicion and discounting. Even in one-off interactions without observers or expectations of future contact, recipients of unexpected generosity question actors' motives (Hennig-Schmidt et al., 2008; Vonasch et al., 2025). Consistent with this possibility, public generosity incurs harsher social penalties than public fairness, even when observers evaluated identical behaviors framed as motivated by each virtue (Kraft-Todd et al., 2023b; Trenfield et al., 2026). Moreover, the social consequences of public generosity may themselves be overstated. Law et al. (2025) found that although observers attributed greater reputational motivations to public, compared to private, generosity, they still saw public generosity as primarily driven by

altruistic intentions. Together, these findings highlight the need to clarify the social consequences of public virtue.

Present Study

To assess the severity and generalizability of the social consequences of public virtue, we compared observers' evaluations of private and public versions of 40 behaviors spanning 20 virtues (see Table S1), enabling us to isolate the influence of observability. The virtues were selected through three pilot studies ($N = 800$) in which participants listed virtues they considered important in everyday life. Behavioral vignettes were developed from frequently generated example behaviors for the virtues across two additional pilot studies ($N = 330$), with the final pairs selected for their naturalism and ability to reflect the intended level of observability (see Supplemental Materials S15).

We assessed five primary outcomes. Two measured moral judgments: the extent to which participants saw the behavior as *morally good* and *virtuous*. Three measured motivational inferences: the extent to which participants perceived actors as motivated by a desire to do the right thing (*moral motivation*), to inspire others to engage in similar behavior (*norm signaling*), or to improve their reputation (*reputation signaling*). Notably, the latter two motives involve intentionally communicating information to others, either social norms or the actor's moral reputation.

Our first set of hypotheses examined whether the social costs identified in prior work emerge across virtues. We hypothesized that, on average, public, compared to private, acts of virtue would be perceived as more driven by reputation signaling (**H1a**) and norm signaling (**H1b**). Conversely, private acts would be perceived as more morally good (**H2a**) virtuous (**H2b**) than public acts, and driven by moral motivation (**H2c**) than private acts.

Our second set of hypotheses examined how inferred motives shape evaluations of virtuous actors, and the extent to which motive inferences are influenced by the observability of the action. We hypothesized that perceiving an actor as driven by reputation signaling would predict lower ratings of moral goodness and virtuousness (**H3a**), whereas perceiving an actor as driven by moral motivation and norm signaling would predict higher ratings of moral goodness and virtuousness (**H3b, H3c**). But, regardless of whether a behavior is public or private, participants would, on average, perceive virtuous actors as more driven by moral motivation than reputation signaling (**H4**), reflecting an inference that actors are primarily driven by a genuine desire to do the right thing.

Research Transparency Statement

General disclosures

Conflicts of interest: All authors declare they have no conflicts of interest. **Funding:** John Templeton Foundation Grant 62221 The funders did not have any role in study design, implementation, analysis, reporting or interpretation. **Artificial intelligence:** ChatGPT 5.5/5.6 and Claude Sonnet 4.6 were used to refine R script for statistical analyses and edit author-written text to improve readability and organization. All AI output was reviewed and revised by the authors to ensure accuracy and clarity of meaning. No other artificial intelligence-assisted technologies were used in this research or the creation of this article. **Ethics:** This research received ethics approval from the Boston College Institutional Review Board.

Study 1 disclosures

Preregistration: The aims/hypotheses and methods were preregistered, and the analyses were partly preregistered (<https://aspredicted.org/2x22-rjvk.pdf>) prior to data collection. There were no deviations from the preregistration. **Materials:** All study materials are publicly available (https://osf.io/esxcz/overview?view_only=d262918ccb0144d5b873f50ef4b93451). **Data:** All primary data are publicly available (https://osf.io/esxcz/overview?view_only=d262918ccb0144d5b873f50ef4b93451). **Analysis scripts:** All analysis scripts are publicly available (https://osf.io/esxcz/overview?view_only=d262918ccb0144d5b873f50ef4b93451).

Methods

Participants

Participants were recruited from Prolific using the platform's nationally representative sampling feature to approximate the demographic composition of the U.S. population, with quotas for age, gender, race/ethnicity, and political affiliation. Eight hundred participants ($N_{\text{male}} = 390$, $N_{\text{female}} = 392$, $M_{\text{age}} = 45.96$, $SD_{\text{age}} = 16.14$) completed the study. See Table S2 in the Supplementary Materials for detailed demographic information. This sample size was determined using an a priori power analysis in G*Power (Faul et al., 2007), which indicated that a sample size of 800 provided 80% power to detect effects as small as $d = .20$ at $\alpha = .05$ using two-tailed pairwise comparison. All participants passed a self-report attention check by responding above the exclusion threshold (> 2 on a 7-point scale) to the item, "Overall, how much did you pay attention to this study while you were taking it?". Four vignette evaluations from the private condition were missing (one from courage, one from curiosity, two from integrity). Only the missing observations were excluded; all remaining data from those

participants were retained. This study was approved by the Boston College Institutional Review Board.

Measures

The study included five outcome measures, each a single item measured on a 7-point scale, where 1 = Strongly Disagree and 7 = Strongly Agree. The measures assessed were: moral goodness, virtuousness, reputation signaling, norm signaling, and moral motivation (see Table 1 for full measure text and source).

Table 1

Measures

Measure	Item	Reference
Moral goodness	Do you think the behavior is morally good?	Kraft-Todd et al. (2023b)
Virtuousness	Do you think this behavior is virtuous?	Generated by research team
Reputation signaling	Do you believe this person engaged in this behavior because they wanted to enhance their reputation?	Kraft-Todd et al. (2023b); Law et al. (2025)
Norm signaling	Do you believe this person engaged in this behavior because they wanted to signal to others it is the right thing to do?	Kraft-Todd et al. (2023b)
Moral motivation	Do you believe this person engaged in this behavior because they believe it is the right thing to do?	Kraft-Todd et al. (2023a)

Materials and Procedure

Participants completed an online survey developed in Qualtrics. To prevent automated responses, participants completed a CAPTCHA before beginning the study. We did not implement additional AI-specific screening because the primary study responses consisted of closed-ended ratings of researcher-provided vignettes rather than open-ended responses that

could be generated by an LLM. Participants were randomly assigned to evaluate either private ($n = 401$) or public ($n = 399$) versions of 40 virtuous behaviors spanning 20 virtues (2 behaviors per virtue; see Table S1 for full vignette text). The order of the vignettes was randomized for each participant (See Table S1 for the complete set of vignette pairs, clustered by virtue). After each vignette, participants rated the moral goodness of the behavior, the virtuousness of the behavior, and then the three motives (reputational signaling, norm signaling, and moral motivation) in random order. Following the full set of vignettes, participants shared their age, gender, and race. They then completed the attention check question and were invited to share whether they knew of someone who personally experienced these behaviors, anything about the study they found confusing, and any feedback.

Results

Unless otherwise noted, all analyses reported below were preregistered. All analyses were performed using R Statistical Software (v4.6.0; R Core Team 2026)

Overall Effect of Observability on Social Evaluations

To examine the effect of observability across virtues, we used the R package lme4 (Version 2.0-6; Bates et al., 2015) to fit preregistered three-level linear mixed-effects models (responses nested within virtues nested within participants) predicting each of the five outcome measures from observability. Intraclass correlation coefficients and model comparisons supported using the three-level specification over a model with behavior nested only within participants, or a regular regression (see Table S3). Descriptive statistics and correlations among the primary study variables are reported in Table S4.

The model revealed that, compared to private acts of virtue, public acts of virtue were perceived, on average, as significantly more motivated by reputation signaling ($b = -0.52$, 95%

CI [-0.67, -0.37], $SE = 0.08$, $t(798) = -6.85$, $p < .001$) and norm signaling ($b = -0.73$, [-0.88, -0.58], $SE = 0.08$, $t(798) = -9.39$, $p < .001$), supporting **H1a & H1b**. However, contrary to our predictions in **H2a–H2c**, and to existing research (Kraft-Todd et al., 2023b; Loustau et al., 2023), observability did not significantly affect ratings of moral goodness ($b = 0.03$, [-0.06, 0.11], $SE = 0.04$, $t(798.00) = 0.60$, $p = .550$), virtuousness ($b = 0.01$, [-0.09, 0.10], $SE = 0.05$, $t(798.07) = 0.13$, $p = .894$), or moral motivations ($b = 0.04$, [-0.04, 0.13], $SE = 0.04$, $t(797.98) = 1.01$, $p = .312$).

To assess how well these results generalize across participants, we repeated these analyses controlling for participant age and gender, finding that our pattern of results replicated (see Table S5). These results suggest that, on average, while observability increases attributions that the actor is driven by signaling motives, it does not impact perceptions that the actor is motivated by this moral motivation, nor does it impact perception of the behavior's moral goodness or virtuousness.

Do Observers Primarily Infer Moral or Reputational Motives?

To assess whether participants tend to ascribe more moral motivation than reputation signaling motivation to the actor across virtues, we conducted a preregistered analysis regressing the difference score between moral motivation and reputation signaling on condition, using a three-level linear mixed-effects model (responses nested within virtues nested within participants). The difference between ascriptions of moral motivation and reputation signaling was significantly larger on average in the public condition than in the private condition ($b = 0.57$, [0.39, 0.75], $SE = 0.09$, $t(798) = 6.20$, $p < .001$). But participants in both conditions tended to judge actors as more driven by moral motivation than reputation signaling, supporting **H4**

(public: $b = 1.84$, $[1.71, 1.97]$, $SE = 0.06$, $t(798) = 28.45$, $p < .001$; private: $b = 2.41$, $[2.28, 2.53]$, $SE = 0.06$, $t(798) = 37.29$, $p < .001$).

We also tested whether participants tended to ascribe more moral motivation than reputation signaling for each virtue by splitting the data into private and public conditions and running paired-sample t-tests at both virtue and behavior levels within each condition. For all 20 virtues, participants, on average, ascribed greater moral motivation than reputation signaling, regardless of whether the behavior was public or private. See Table S6 for the results of the virtue-level paired sample t-tests, and Table S7 shows the behavior-level results.

The Effect of Inferred Motives on Judgments of Moral Goodness and Virtuousness

To examine how each motive drove judgments of moral goodness and virtuousness, we fit an exploratory three-level linear mixed-effects model (responses nested within virtues nested within participants) predicting moral goodness and virtuousness from the three motives (moral motivation, reputation signaling, norm signaling). Supporting **H3a**, moral motivation significantly predicted both moral goodness ($b = 0.56$, $[0.55, 0.57]$, $SE = 0.00$, $t(31770) = 118.73$, $p < .001$) and virtuousness ($b = 0.56$, $[0.55, 0.57]$, $SE = 0.00$, $t(31850) = 108.91$, $p < .001$). Similarly, supporting **H3b**, norm signaling significantly predicted moral goodness ($b = 0.10$, $[0.10, 0.11]$, $SE = 0.00$, $t(30930) = 26.54$, $p < .001$) and virtuousness ($b = 0.12$, $[0.11, 0.13]$, $SE = 0.00$, $t(31720) = 26.90$, $p < .001$). Finally, supporting **H3c**, reputation signaling negatively predicted both moral goodness ($b = -0.05$, $[-0.06, -0.05]$, $SE = 0.00$, $t(31030) = -13.60$, $p < .001$) and virtuousness ($b = -0.04$, $[-0.05, -0.03]$, $SE = 0.00$, $t(31460) = -9.73$, $p < .001$).

To assess the relative explanatory power of moral and reputational motives, we conducted an exploratory analysis estimating the partial R-squared for each predictor in the

model, using the `r2glmm` package (v0.1.3; Jaeger, 2016). Moral motivation accounted for 31.8% [31%, 32.6%] of the unique variance in judgments of moral goodness and 27.1% [26.3%, 27.9%] in judgments of virtuousness. Norm signaling accounted for 2.4% [2.1%, 2.8%] of the unique variance in judgments of moral goodness and 2.4% [2.1%, 2.7%] in judgments of virtuousness. Finally, reputation signaling explained .6% [.5%, .8%] of the unique variance in judgments of moral goodness, and .3% [.2%, .4%] of the variation in judgments of virtuousness.

To explore variation in the effect across virtues, we conducted exploratory linear-mixed effects models predicting the effect of the three motives on judgments of moral goodness and virtuousness with a random intercept for participants across each virtue. We found that for all 20 virtues, moral motivation had a greater effect on judgments of moral goodness and virtuousness than reputation signaling. In fact, across 8 of the 20 virtues (Courage, Curiosity, Forgiveness, Gratitude, Honesty, Humility, Patience, Perseverance), reputation signaling did not significantly predict judgments of moral goodness. See Table S8 for the full model results for each virtue. To further assess what motivations were most strongly associated with judgments of moral goodness and virtuousness, we additionally examined exploratory bivariate correlations between each of the three motives (moral motivation, reputation signaling, and norm signaling) and judgments of both moral goodness and virtuousness, across virtues, for each virtue, and for each behavior. See Table S10 and Table S11 for these results.

Do Motives Mediate The Effect of Observability on Judgments of Moral Goodness and Virtuousness?

To test for potential indirect effects of observability on judgments of moral goodness and virtuousness through changes in perceptions of the actor's motives, we conducted preregistered Bayesian multilevel mediation analyses using the `brms` package (Bürkner, 2017). We tested

whether reputation signaling, norm signaling, and moral motivation mediated the effects of observability on moral goodness and virtuousness ratings. Models were estimated using 4 Markov chain Monte Carlo (MCMC) with 4,000 iterations each (1,000 warm-up iterations) and the cmdstanr backend. Consistent with the models examining the main effects of observability, the mediation models accounted for the nested structure of the data by including random intercepts for virtue types nested within participants.

Overall, mediation effects were either small or not present. Reputation signaling mediated a small credible indirect effect of observability on both moral goodness ($b = 0.02$, 95% CrI [0.01, 0.02]) and virtuousness ($b = 0.01$, 95% CrI [0.002, 0.01]), such that public actors were perceived as more motivated by reputation signaling, which was associated with slightly lower evaluations. Norm signaling also showed credible indirect effects, although they differed across outcomes. Public actors were perceived as more motivated by norm signaling, which was associated with slightly higher judgments of moral goodness ($b = -0.15$, 95% CrI [-0.19, -0.12]) but had only a very small indirect effect on virtuousness ($b = 0.01$, 95% CrI [0.002, 0.01]). Finally, moral motivation did not credibly mediate the effect of observability on moral goodness ($b = 0.03$, 95% CrI [-0.02, 0.08]) or virtuousness ($b = 0.03$, 95% CrI [-0.03, 0.08]). For the full mediation analysis results, see Supplemental Materials S12.

Variations in the Effect of Observability Across Virtues

Finally, to explore variation in the effect of observability across virtues, we conducted exploratory independent samples t-tests for each outcome at both the virtue (Table S13) and behavior levels (Table S14). T-tests were used for these analyses as each comparison involved only two observations per participant (one per behavior within a virtue). Results were largely consistent with the virtue-level outcomes at the level of behavior.

Across virtues, public acts were consistently seen as more driven by signaling motives (reputation and norm) than private acts. Public acts of virtue were perceived as significantly more motivated by norm signaling than private acts for 19 of the 20 virtues (all except curiosity), and significantly more motivated by reputation signaling for 15 of the 20 virtues (all except curiosity, empathy, forgiveness, gratitude, and love).

By contrast, the effect of observability on moral motivation, moral goodness, and virtuousness showed substantially more variability. For seven virtues (Citizenship, Compassion, Curiosity, Empathy, Gratitude, Kindness, Patience), observability had no significant effect on moral motivation, moral goodness, or virtuousness. For a second set of virtues, participants judged public acts as either less (charity, perseverance) or more (care, forgiveness) driven by moral motivation than private acts, but rated both behaviors similarly on judgments of moral goodness and virtuousness.

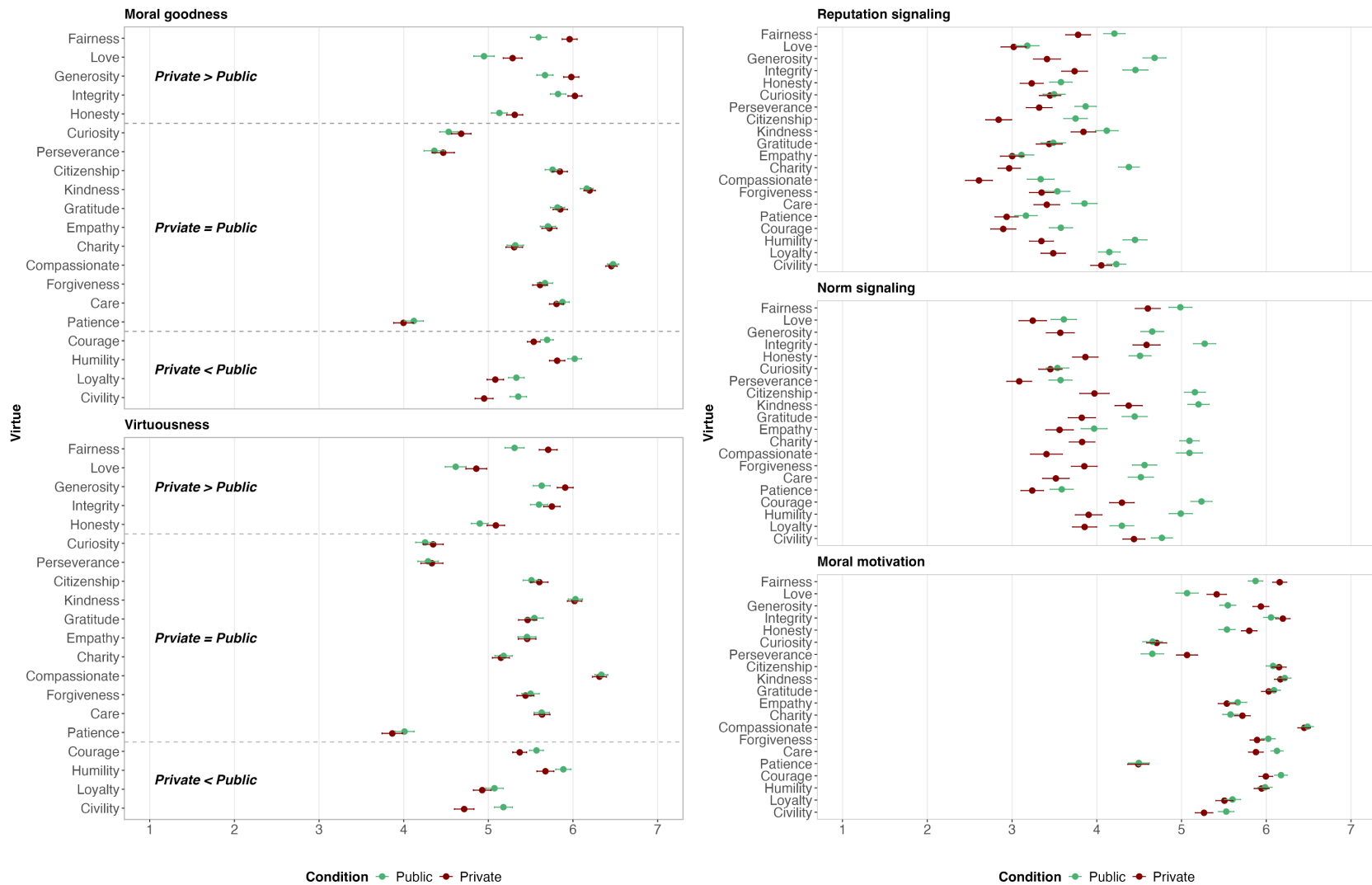
The final two sets reflect virtues where observability impacted judgments of moral goodness and virtuousness (See Table 2 for a summary of the virtue-level effects of observability on moral goodness and virtuousness judgments). Across five virtues (generosity, fairness, honesty, integrity, and love), public acts of virtue were judged significantly lower on moral goodness and virtuousness than private acts. For four of these virtues (generosity, fairness, honesty, and integrity), public acts were also seen as more reputationally motivated, mirroring the pattern observed in prior work (Kraft-Todd et al., 2023b; Trenfield et al., 2026). However, public and private acts of love were seen as similarly reputationally motivated, though public acts were seen as less driven by moral motivation.

Conversely, four virtues (civility, courage, humility, loyalty) demonstrated the opposite pattern, where public acts were judged as more morally good and virtuous than private acts

(though the effect for loyalty on virtue was marginal, at $p = .054$). Together, these results suggest that while observability consistently increases attributions of signaling motives to public acts of virtue, its impact on perceptions of the actor's moral motivation and the moral goodness and virtuousness of the act depends on the virtue being expressed.

Figure 1

Public Virtue is Seen as Predominantly Seen as Morally Motivated and Rarely Morally Judged



Note. This figure shows mean scores of each outcome variable by condition (private vs. public) and virtue type (along the y-axis). Points represent raw condition means; error bars represent 95% confidence intervals. Virtues are arranged in a descending order based on the difference in moral goodness between the private and public conditions, from largest (fairness) to smallest (civility). The same ordering is applied across all five dependent variables (i.e., five panels). Plots were generated using the ggplot2 package in R (Wickham, 2016).

Table 2

Virtue-Level Effect of Observability on Moral Goodness and Virtuousness Judgments

Effect	Definition	Virtues
No Effect (Public = Private)	No significant effect of observability on either outcome.	Charity, Care, Citizenship, Compassion, Curiosity, Empathy, Forgiveness, Gratitude, Kindness, Patience, Perseverance
Virtue Discounting (Public < Private)	Public acts receive significantly lower ratings than private acts on both outcomes.	Fairness, Generosity, Honesty, Integrity, Love
Virtue Augmentation (Public > Private)	Public acts receive significantly higher ratings than private acts on both outcomes.	Civility, Courage, Humility, Loyalty*

Note. * The effect of observability on virtue judgments for loyalty was marginal, at $p = .054$

General Discussion

Across 20 virtues and 40 behaviors, observability influenced inferences about why people engage in virtuous behavior, but did not, on average, diminish evaluations of the behavior's moral goodness or virtuousness. Public actors were perceived as more motivated by a desire to improve their reputation (*reputation signaling*) and inspire others to engage in similar behavior (*norm signaling*) than private actors, but as similarly driven by a desire to do the right thing (*moral motivation*). Underlying these overall effects was substantial heterogeneity across virtues, ranging from observers' discounting public acts to judging them as especially praiseworthy. Yet across virtues and levels of observability, moral motivation was consistently inferred as the primary driver of virtuous behavior and was the strongest predictor of moral judgments. Together, these findings reveal that the social consequences for public acts of virtue are more diverse and less severe than previously recognized.

The Four Responses to Public Virtue

Four distinct responses to public virtue emerged. Five virtues (fairness, generosity, honesty, integrity, and love) reflected the *virtue discounting effect*: public acts were judged as less morally good and virtuous than private acts. Notably, fairness and generosity are the two virtues in which prior work demonstrated this effect (Kraft-Todd et al., 2023b; Trenfield et al., 2026). Conversely, four virtues (civility, courage, humility, loyalty) demonstrated a *virtue augmentation effect*: public acts were judged as *more* morally good and virtuous than private acts.

Ten other virtues (care, charity, citizenship, compassion, empathy, forgiveness, gratitude, kindness, patience, and perseverance) reflected a *motive dissociation effect*, in which

observability influenced motivational inferences, but not judgments of moral goodness or virtuousness. Finally, observability did not impact motivational or moral judgments of curiosity.

One possible explanation for variations in moral judgments across virtues is the function public expression plays in enacting the virtue. Some virtues, like generosity and fairness, can often fulfill their moral function through private expression. Consequently, observers may see public expression as primarily serving to improve the actor's reputation, undermining beliefs that the actor is motivated by moral concern, thereby producing discounting. In contrast, virtues such as patience and compassion often occur in public settings. Therefore, while observers may infer additional signaling motives, public expression does not undermine beliefs that the actor is also acting for moral reasons. Finally, for some virtues, such as loyalty and humility, public performance may enhance the perceived authenticity of the virtue and earn additional praise. Future research can examine whether differences in the function and normativity of public expression help explain how observers respond to public virtue.

How Motivational Inferences Shape Judgments of Public Virtue

The nearly universal ascription of signaling motives to public actors highlights an important distinction between everyday conceptions of virtue and philosophical and empirical accounts. Consistent with prior research (Kraft-Todd et al., 2023b; Raihani & Power, 2021; Trenfield et al., 2026), observers saw public actors as more motivated by reputation signaling for 15 of the 20 virtues studied. Even more pervasive was norm signaling, a motive often neglected in prior work; public acts were seen as more motivated by norm signaling for 19 of the 20 virtues. Empirical research (Kraft-Todd et al., 2023b) and virtue ethics (Hursthouse & Pettigrove, 2026) suggest these inferred signaling motivations reduce the virtuousness of these public acts. But only 5 of the 20 virtues showed this discounting, and the common feature across

them was not greater perceived signaling motives among public actors, but that public actors were less driven by moral motivation than private actors.

Additional findings further suggest that people prioritize actors' desire to do the right thing over motivational purity when judging whether behaviors are virtuous. Moral motivation was the strongest motivational predictor of both moral judgments across virtues, explaining approximately one-third of the overall variance in these judgments. Conversely, reputation signaling explained less than 1% of the variance. However, two virtues (charity and perseverance) showed decreased ascriptions of moral motivation to public virtue, but no discounting of moral judgments, suggesting that decreases in perceived moral motivation alone are not always sufficient to produce virtue discounting. Future work should investigate when decreases in perceived moral motivation lead to discounting, and what additional factors determine whether public virtue is discounted.

Practical Implications

The present findings may help alleviate apprehension about engaging in public virtue. Our findings suggest that the social backlash to public virtue described in public discourse and research (Kraft-Todd et al., 2023b; Newman & Cain, 2014; Raihani & Power, 2021; Reynolds, 2024; Shrimsley, 2019) is overstated. Reputation signaling explained less than 1% of the variation in moral judgments. Moreover, for a quarter of the virtues studied, observers did not even see public actors as more reputationally motivated than private actors. Even when they did, observers still saw public actors as primarily driven by moral motivation, and were nearly as likely to esteem public acts as they were to discount them. Raising awareness that public virtue is not typically met with severe social penalties, and may even confer unique social rewards, can empower people to engage in public virtue and catalyze broader social change.

Limitations

In line with prior work on virtue discounting (Kraft-Todd et al., 2023b; Trenfield et al., 2026), we assessed judgments using vignettes about hypothetical actors engaging in two representative behaviors per virtue. But these behaviors do not capture the full range of how these virtues can be expressed. Future work should investigate whether our results generalize to a wider variety of behaviors for each virtue, and identify whether any behavior-level features shape responses to public virtue. Additionally, while we examined three theoretically grounded motives for virtue (moral motivation, norm signaling, and reputation signaling), people likely infer a richer set of motivations (Bae et al., 2026; Loustau et al., 2026). Future work can identify these additional motives and examine how they shape observers' responses. Finally, although our sample was representative of the U.S. across numerous dimensions, virtues are expressed and perceived differently across cultures (e.g., fairness; Blake et al., 2015). Future work should examine how responses to public and private acts vary across cultures.

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Supplementary Materials

Table S1

Behavioral Vignettes Clustered By Virtue

Virtue	Behavior	Private Text	Public Text
Care	Care B1	Imagine someone bought their friend a gift and gave it to them privately after their birthday party.	Imagine you witness someone buy their friend a gift and give it to them during their birthday party.
	Care B2	Imagine someone cooked soup for a sick colleague and gave it to them after work.	Imagine you see your coworker give your sick colleague homemade soup.
Charity	Charity B1	Imagine someone takes another person aside to privately ask them to donate to a local charity.	Imagine you see someone outside a busy store asking for donations to a local charity.
	Charity B2	Imagine someone makes a private donation on GoFundMe, choosing not to list their name.	Imagine you go on GoFundMe, and see that someone made a public donation, listing their name.
Citizenship	Citizenship B1	Imagine someone witnesses a theft and anonymously reports information about the crime to the police.	Imagine you see a theft occur, and you see another witness share information about the crime while the police are investigating the scene afterwards.
	Citizenship B2	Imagine someone signs an anonymous petition in support of climate change awareness.	Imagine you see someone sign their name on a publicly posted petition in support of climate change awareness.
Civility	Civility B1	Imagine two strangers are having an intense argument in an anonymous online chat	Imagine you see someone defuse a fight between two strangers who are intensely

		room, and someone defuses their argument.	arguing in public.
	Civility B2	Imagine someone dislikes a colleague but still compliments them during their one-on-one conversations.	Imagine someone dislikes a colleague, but they still compliment them at a work meeting in front of you and their coworkers.
Compassion	Compassion B1	Imagine someone helps an elderly person cross the street early in the morning when no one is present.	Imagine you see someone help an elderly person cross a busy street.
	Compassion B2	Imagine someone sees a stray dog stuck in a trap with no one around and rescues the dog.	Imagine a stray dog is stuck in a trap and you witness someone rescue it in front of a large crowd.
Courage	Courage B1	Imagine someone submits an anonymous statement opposing a popular recent city policy at your town hall meeting.	Imagine you are at a crowded town hall meeting, and one of the attendees stands up to speak out against a popular recent city policy.
	Courage B2	Imagine someone comes across two strangers intensely bullying a kid in a secluded area, and they step in to defend him.	Imagine two strangers are intensely bullying a kid in public and you witness someone step in to defend him.
Curiosity	Curiosity B1	Imagine someone reading in a quiet corner of an empty cafe.	Imagine you see someone reading at a busy cafe.
	Curiosity B2	Imagine that someone has a one-on-one conversation with their coworker to ask about their hobbies.	Imagine you witness someone ask their coworker about their hobbies at a work social.
Empathy	Empathy B1	Imagine someone visits a friend in the hospital who was recently	Imagine a friend recently suffered a severe injury, and while

		severely injured and expresses their empathy for their friend's pain.	visiting them with a larger group, one of your other friends expresses their empathy for the injured friend's pain.
	Empathy B2	Imagine someone cries while privately grieving with a friend about the friend's recently deceased family member.	Imagine you see someone cry with their friend in a packed subway station as they grieve their friend's recently deceased family member.
Fairness	Fairness B1	Imagine someone is a referee at a recreational basketball game and has a personal commitment to making the most fair calls in each game.	Imagine you are at a recreational basketball game, and before the game, the referee announces to the audience that they are committed to making the most fair calls.
	Fairness B2	Imagine someone has a job preparing lunches for students alone in the back kitchen at a local school. As they work, they make sure each student gets the same amount of food.	Imagine someone has a job preparing and serving lunches to students at a local school's cafeteria. As they serve each student, they make sure to portion the same amount of food for everyone.
Forgiveness	Forgiveness B1	Imagine someone forgives a person who just tried to steal their bag on an empty train car.	Imagine you are in a crowded park and see someone forgive a person who tried to steal their bag.
	Forgiveness B2	Imagine someone privately apologizes for being late to a friend's birthday dinner.	Imagine you are at a birthday dinner and you see the host's friend apologize for being late to the dinner.
Generosity	Generosity B1	Imagine someone quietly pulls a waiter aside and asks to pay for the meal for the	Imagine you see someone walk over to the table next to them at a restaurant and tell the

		family sitting one table over.	waiter and family dining there that they want to pay for their meal.
	Generosity B2	Imagine someone leaves a 40% tip after everyone they went to dinner with leaves the table.	Imagine you are leaving a meal with friends, and one of your friends leaves a 40% tip.
Gratitude	Gratitude B1	Imagine someone writes a thank you card for a friend.	Imagine you are with a group of friends and notice one of them writing a thank you card for a mutual friend.
	Gratitude B2	Imagine someone thanks the cashier at the end of their purchase at an empty store.	Imagine you are at a store and notice a customer at the front of a busy line thanking the cashier at the end of their purchase.
Honesty	Honesty B1	Imagine someone gives an anonymous testimony in a court case.	Imagine you are a spectator at a court case with a large audience of people and see someone testify.
	Honesty B2	Imagine someone's boss asks them for feedback on a project they've been assigned. In a one-on-one meeting, they honestly tell their boss that they believe the project is not the right direction for the company.	Imagine you are in a work meeting, and your boss asks your coworker to share their feedback about the project they've been assigned. Your coworker then honestly shares that they think the project is not the right direction for the company.
Humility	Humility B1	Imagine someone receives a promotion. When their office-mate congratulates them in a one-on-one conversation, the promoted worker	Imagine someone has just received a promotion. When their co-workers congratulate them, the promoted worker expresses how they could not have

		expresses that they couldn't have achieved the promotion without their office-mate's help.	been promoted without their office-mate's help.
	Humility B2	Imagine someone in a class receives a perfect score on a test that most students failed. However, they do not mention it to any of their classmates, and they quietly leave anonymous notes with tips on how to improve for the next test.	Imagine you are in a class that is receiving back a test that most students failed. However, one student did receive a perfect score and offers to help tutor other students in the class.
Integrity	Integrity B1	Imagine someone is watching a football game with a friend and makes a large bet on the game with their friend. When they lose the bet, they immediately follow through and pay their friend the full amount.	Imagine you are watching a football game with a group of people. One person places a large bet on the game with their friend in front of everyone. When they lose the bet, they immediately follow through and pay their friend the full amount in front of the group.
	Integrity B2	Imagine someone is about to give testimony at a trial. The defendant bribes them to lie, but they reject the bribe and discreetly report it to the judge before proceeding to give an honest testimony.	Imagine you are at a trial, and a witness is about to testify. Before testifying, they reveal in front of the court that the defendant tried to bribe them to lie, but they rejected the bribe and are committed to giving an honest testimony.
Kindness	Kindness B1	Imagine a boss who starts each day with a team meeting. Afterward, they take the time to compliment each employee privately.	Imagine a boss who starts each day with a team meeting, and they take the time to compliment every employee in front of the group.

	Kindness B2	Imagine someone helps an elderly stranger carry their groceries across an empty parking lot to their car.	Imagine you are leaving a grocery store and see someone helping an elderly stranger carry their groceries across a busy parking lot to their car.
Love	Love B1	Imagine someone kisses their long-term partner while they are sitting on a bench in an empty park.	Imagine you see someone kiss their long-term partner at a crowded party.
	Love B2	Imagine someone hugs their long-term partner at home.	Imagine you see someone hug their long-term partner at a busy concert.
Loyalty	Loyalty B1	Imagine someone makes a move on another person while they're hanging out alone, but the recipient immediately stops them and lets them know that they are in a relationship.	Imagine you are at a party and see someone make a move on one of the partygoers. However, the recipient immediately stops the person, and lets them know that they are in a relationship.
	Loyalty B2	Imagine someone has been approached by multiple recruiters, but is committed to staying at their current company.	Imagine you overhear your coworker talking with your boss and hear them express their commitment to staying at the company despite having been approached by multiple recruiters.
Patience	Patience B1	Imagine someone waits 3 hours at a quiet ticket office to buy pre-sale tickets for a concert.	Imagine you pass by a long line of people waiting at the ticket desk at a concert venue, and the person at the front mentions they have been waiting for 3 hours.
	Patience B2	Imagine someone is at a restaurant alone and patiently waiting for	Imagine you are at dinner with a group of friends, and one friend

		their meal for over an hour after ordering. Other diners who ordered after them have received their meal first.	has been patiently waiting for their meal even though it's been an hour since they ordered and everyone else has received their food.
Perseverance	Perseverance B1	Imagine someone goes for a four-mile run on their treadmill at home.	Imagine you run into your friend while they are doing a four-mile run.
	Perseverance B2	Imagine someone is at their home gym. They are struggling with a lift but eventually succeed, setting a new personal record.	Imagine you are at a crowded gym. You see someone struggling with a lift but eventually succeed, setting a new personal record.

Table S2*Demographic Characteristics of Participants (N = 800)*

Characteristic	N	%
Gender		
Woman	392	49.0
Man	390	48.8
Nonbinary Person	12	1.5
Prefer not to disclose	2	0.3
Race/Ethnicity		
Black or African American	117	13.1
East Asian	32	3.6
Hispanic or Latina/o/x/e	78	8.7
Indigenous American, American Indian, or Alaska Native	22	2.5

Middle Eastern or North African	12	1.3
Native Hawaiian or other Pacific Islander	4	0.5
South Asian	14	1.6
Southeast Asian	23	2.6
White	579	64.8
Other	9	1.0
Prefer not to disclose	3	0.3

Note. Four participants did not report their gender. Participants could select multiple race/ethnicity categories; therefore, the total number of responses may exceed $N = 800$.

Table S3*Results of Model Comparisons*

Outcome	2-level model						3-level model								
	ICC_participant	2-level variance	Residual variance	AIC	BIC	-2LL	ICC_virtue	ICC_participant	2-level variance	3-level variance	Residual variance	AIC	BIC	-2LL	-2LL Comparison
Moral goodness	0.190	0.343	1.465	104891	104916	104885	0.215	0.184	0.389	0.333	1.085	103762	103795	103754	$p < .001$
Norm signaling	0.365	1.283	2.235	119073	119099	119067	0.119	0.362	0.419	1.273	1.826	118521	118554	118513	$p < .001$
Moral motivation	0.181	0.319	1.444	104386	104411	104380	0.202	0.176	0.355	0.31	1.098	103423	103456	103415	$p < .001$
Reputation signaling	0.355	1.184	2.146	117752	117777	117746	0.021	0.355	0.071	1.182	2.077	117737	117770	117729	$p < .001$
Virtuousness	0.222	0.459	1.612	108100	108125	108094	0.192	0.217	0.397	0.449	1.226	107137	107170	107129	$p < .001$

Table S4-1*Descriptive Statistics for Outcome Variables*

Condition	N	Moral goodness	Norm signaling	Moral motivation	Reputation signaling	Virtuousness
Private	401	5.5 (1.4)	3.8 (1.9)	5.7 (1.3)	3.3 (1.8)	5.3 (1.5)
Public	399	5.5 (1.3)	4.6 (1.8)	5.7 (1.3)	3.8 (1.8)	5.3 (1.4)

Note. Mean values for each outcome variable are reported, with standard deviations in parentheses.

Table S4-2*Correlations among Outcome Variables*

	Moral goodness	Norm signaling	Moral motivation	Reputation signaling	Virtuousness
Moral goodness	–	0.28***	0.63***	0.01	0.82***
Norm signaling	–	–	0.25***	0.51***	0.29***
Moral motivation	–	–	–	-0.04***	0.58***
Reputation signaling	–	–	–	–	0.05***

Note. *** $p < .001$

S5. Mixed-effects models estimating demographic variables as covariates

We estimated three-level mixed-effects models with demographic variables (i.e., age and gender) included as covariates. Race/ethnicity and political orientation were not included as covariates in these models. Race/ethnicity comprised more than 10 categories, which would have introduced a large number of additional parameters relative to the other covariates, while participants' political orientation data could not be exported for analysis. These variables were therefore omitted despite Prolific's representative sampling across these demographic dimensions.

Table S5

Regression Models with Demographic Variables (Age, Gender) as Covariates

Term	<i>b</i>	<i>SE</i>	<i>t</i>(790)	95% CI	<i>p</i>
Moral goodness					
(Intercept)	5.45	0.07	75.23	[5.31, 5.59]	< .001
Condition	0.04	0.04	0.82	[-0.05, 0.12]	.416
Age	0.00	0.00	-0.24	[0.00, 0.00]	.808
Gender (Woman)	0.07	0.04	1.69	[-0.01, 0.16]	.092
Gender (Nonbinary)	-0.33	0.18	-1.82	[-0.68, 0.02]	.069
Gender (Prefer not to disclose)	0.06	0.44	0.14	[-0.79, 0.91]	.886
Virtuousness					
(Intercept)	5.23	0.08	62.87	[5.07, 5.40]	< .001
Condition	0.01	0.05	0.25	[-0.09, 0.11]	.804
Age	0.00	0.00	0.49	[0.00, 0.00]	.625
Gender (Woman)	0.02	0.05	0.48	[-0.07, 0.12]	.630

Gender (Nonbinary)	-0.31	0.21	-1.51	[-0.72, 0.09]	.132
Gender (Prefer not to disclose)	-0.09	0.50	-0.19	[-1.07, 0.88]	.851
Norm signaling					
(Intercept)	4.78	0.13	36.96	[4.53, 5.03]	< .001
Condition	-0.73	0.08	-9.40	[-0.88, -0.58]	< .001
Age	-0.01	0.00	-2.58	[-0.01, 0.00]	.010
Gender (Woman)	0.14	0.08	1.75	[-0.02, 0.29]	.081
Gender (Nonbinary)	-0.45	0.32	-1.40	[-1.08, 0.18]	.163
Gender (Prefer not to disclose)	-0.21	0.78	-0.27	[-1.73, 1.31]	.787
Reputation signaling					
(Intercept)	4.30	0.13	33.96	[4.05, 4.55]	< .001
Condition	-0.53	0.08	-7.01	[-0.68, -0.38]	< .001
Age	-0.01	0.00	-3.95	[-0.01, 0.00]	< .001
Gender (Woman)	-0.06	0.08	-0.84	[-0.21, 0.09]	.403
Gender (Nonbinary)	-0.50	0.32	-1.59	[-1.12, 0.12]	.113
Gender (Prefer not to disclose)	0.15	0.76	0.20	[-1.33, 1.64]	.839
Moral motivation					
(Intercept)	5.43	0.07	77.95	[5.29, 5.56]	< .001
Condition	0.05	0.04	1.14	[-0.03, 0.13]	.256
Age	0.00	0.00	2.70	[0.00, 0.01]	.007

Gender (Woman)	0.17	0.04	4.07	[0.09, 0.25]	< .001
Gender (Nonbinary)	-0.08	0.17	-0.46	[-0.42, 0.26]	.648
Gender (Prefer not to disclose)	0.24	0.42	0.58	[-0.57, 1.06]	.559

Note. *b* is an unstandardized coefficient. 95% CI represents 95% confidence interval.

Table S6

Pairwise Comparisons between Moral Motivation and Reputation Signaling and between Norm Signaling and Reputation Signaling for Each Virtue

Virtue	Private		Public	
	Moral vs Reputation	Norm vs Reputation	Moral vs Reputation	Norm vs Reputation
Care	$t(400) = 26.15, p < .001$ $d = 1.99 [1.74, 2.25]$	$t(400) = 1.56, p = .119$ $d = 0.07, [-0.02, 0.15]$	$t(398) = 26.04, p < .001$ $d = 1.93 [1.68, 2.17]$	$t(398) = 8.97, p < .001$ $d = 0.44 [0.34, 0.54]$
Charity	$t(400) = 32.08, p < .001$ $d = 2.39 [2.10, 2.68]$	$t(400) = 12.80, p < .001$ $d = 0.60 [0.50, 0.70]$	$t(398) = 15.54, p < .001$ $d = 1.09 [0.92, 1.26]$	$t(398) = 11.25, p < .001$ $d = 0.59 [0.48, 0.70]$
Citizenship	$t(400) = 33.80, p < .001$ $d = 2.67 [2.34, 3.00]$	$t(400) = 15.30, p < .001$ $d = 0.68 [0.58, 0.77]$	$t(398) = 26.01, p < .001$ $d = 2.04 [1.77, 2.31]$	$t(398) = 18.74, p < .001$ $d = 1.05 [0.91, 1.19]$
Civility	$t(400) = 14.34, p < .001$ $d = 1.04 [0.87, 1.22]$	$t(400) = 5.59, p < .001$ $d = 0.30 [0.19, 0.41]$	$t(398) = 16.63, p < .001$ $d = 1.25 [1.06, 1.45]$	$t(398) = 7.60, p < .001$ $d = 0.45 [0.33, 0.57]$
Compassion	$t(400) = 38.90, p < .001$ $d = 3.11 [2.73, 3.49]$	$t(400) = 10.73, p < .001$ $d = 0.44 [0.36, 0.53]$	$t(398) = 33.04, p < .001$ $d = 2.61 [2.29, 2.94]$	$t(398) = 19.83, p < .001$ $d = 1.11 [0.97, 1.25]$
Courage	$t(400) = 32.67, p < .001$ $d = 2.59 [2.27, 2.92]$	$t(400) = 18.85, p < .001$ $d = 0.94 [0.82, 1.05]$	$t(398) = 30.19, p < .001$ $d = 2.31 [2.02, 2.60]$	$t(398) = 23.27, p < .001$ $d = 1.23 [1.09, 1.37]$
Curiosity	$t(400) = 16.50, p < .001$ $d = 1.01 [0.86, 1.16]$	$t(400) = 0.08, p = .936$ $d = 0.00 [-0.06, 0.07]$	$t(398) = 14.96, p < .001$ $d = 0.93 [0.78, 1.07]$	$t(398) = 0.85, p = .395$ $d = 0.03 [-0.04, 0.10]$
Empathy	$t(400) = 29.94, p < .001$ $d = 2.03 [1.80, 2.27]$	$t(400) = 8.67, p < .001$ $d = 0.36 [0.27, 0.44]$	$t(398) = 27.84, p < .001$ $d = 1.97 [1.73, 2.20]$	$t(398) = 12.82, p < .001$ $d = 0.56 [0.47, 0.66]$

	$t(400) = 27.55, p < .001$ $d = 1.97 [1.73, 2.21]$	$t(400) = 12.51, p < .001$ $d = 0.55 [0.46, 0.64]$	$t(398) = 20.81, p < .001$ $d = 1.52 [1.31, 1.74]$	$t(398) = 11.17, p < .001$ $d = 0.59 [0.47, 0.70]$
Fairness				
	$t(400) = 27.88, p < .001$ $d = 2.16 [1.89, 2.44]$	$t(400) = 7.13, p < .001$ $d = 0.33 [0.24, 0.43]$	$t(398) = 27.06, p < .001$ $d = 2.09 [1.82, 2.36]$	$t(398) = 13.37, p < .001$ $d = 0.70 [0.58, 0.81]$
Forgiveness				
	$t(400) = 24.36, p < .001$ $d = 1.92 [1.66, 2.18]$	$t(400) = 2.44, p = .015$ $d = 0.09 [0.02, 0.17]$	$t(398) = 10.04, p < .001$ $d = 0.73 [0.57, 0.89]$	$t(398) = -0.39, p = .700$ $d = -0.02 [-0.12, 0.08]$
Generosity				
	$t(400) = 26.79, p < .001$ $d = 2.09 [1.81, 2.36]$	$t(400) = 5.62, p < .001$ $d = 0.24 [0.16, 0.33]$	$t(398) = 28.78, p < .001$ $d = 2.26 [1.97, 2.55]$	$t(398) = 12.68, p < .001$ $d = 0.64 [0.53, 0.75]$
Gratitude				
	$t(400) = 28.22, p < .001$ $d = 2.20 [1.91, 2.48]$	$t(400) = 9.38, p < .001$ $d = 0.43 [0.34, 0.53]$	$t(398) = 23.80, p < .001$ $d = 1.67 [1.45, 1.88]$	$t(398) = 13.65, p < .001$ $d = 0.70 [0.59, 0.81]$
Honesty				
	$t(400) = 28.76, p < .001$ $d = 2.19 [1.91, 2.46]$	$t(400) = 7.69, p < .001$ $d = 0.37 [0.27, 0.46]$	$t(398) = 17.90, p < .001$ $d = 1.31 [1.12, 1.51]$	$t(398) = 6.72, p < .001$ $d = 0.38 [0.27, 0.50]$
Humility				
	$t(400) = 26.77, p < .001$ $d = 1.97 [1.72, 2.22]$	$t(400) = 11.56, p < .001$ $d = 0.53 [0.44, 0.63]$	$t(398) = 18.54, p < .001$ $d = 1.30 [1.12, 1.49]$	$t(398) = 11.21, p < .001$ $d = 0.57 [0.47, 0.68]$
Integrity				
	$t(400) = 27.19, p < .001$ $d = 2.03 [1.77, 2.28]$	$t(400) = 7.36, p < .001$ $d = 0.34 [0.25, 0.43]$	$t(398) = 26.36, p < .001$ $d = 1.92 [1.68, 2.16]$	$t(398) = 15.49, p < .001$ $d = 0.82 [0.70, 0.94]$
Kindness				
	$t(400) = 25.73, p < .001$ $d = 1.76 [1.55, 1.98]$	$t(400) = 4.04, p < .001$ $d = 0.14 [0.07, 0.21]$	$t(398) = 20.93, p < .001$ $d = 1.37 [1.19, 1.55]$	$t(398) = 7.79, p < .001$ $d = 0.29 [0.22, 0.37]$
Love				
	$t(400) = 23.13, p < .001$ $d = 1.59 [1.39, 1.79]$	$t(400) = 5.88, p < .001$ $d = 0.25 [0.17, 0.34]$	$t(398) = 17.64, p < .001$ $d = 1.27 [1.08, 1.46]$	$t(398) = 2.11, p = .036$ $d = 0.11 [0.01, 0.21]$
Loyalty				
	$t(400) = 18.73, p < .001$ $d = 1.17 [1.01, 1.33]$	$t(400) = 5.82, p < .001$ $d = 0.22 [0.14, 0.30]$	$t(398) = 17.37, p < .001$ $d = 1.02 [0.88, 1.16]$	$t(398) = 7.42, p < .001$ $d = 0.31 [0.23, 0.39]$
Patience				
	$t(400) = 18.64, p < .001$ $d = 1.24 [1.06, 1.41]$	$t(400) = -4.84, p < .001$ $d = -0.16 [-0.22, -0.09]$	$t(398) = 10.04, p < .001$ $d = 0.60 [0.47, 0.73]$	$t(398) = -5.42, p < .001$ $d = -0.22 [-0.30, -0.14]$
Perseverance				
	$t(16035) = 133.75, p < .001$ $d = 1.53 [1.49, 1.56]$	$t(16035) = 37.16, p < .001$ $d = 0.28 [0.26, 0.29]$	$t(15959) = 102.08, p < .001$ $d = 1.16 [1.13, 1.19]$	$t(15959) = 48.01, p < .001$ $d = 0.41 [0.39, 0.42]$
Across All Virtues				

Table S7

Pairwise Comparisons between Moral Motivation and Reputation Signaling and between Norm Signaling and Reputation Signaling for Each Behavior

Behavior	Private		Public	
	Moral vs Reputation	Norm vs Reputation	Moral vs Reputation	Norm vs Reputation
Care B1	$t(400) = 21.88, p < .001$ $d = 1.60 [1.38, 1.81]$	$t(400) = -1.32, p = .188$ $d = -0.06 [-0.15, 0.03]$	$t(398) = 21.22, p < .001$ $d = 1.53 [1.32, 1.74]$	$t(398) = 6.43, p < .001$ $d = 0.33 [0.23, 0.43]$
Care B2	$t(400) = 24.25, p < .001$ $d = 1.86 [1.61, 2.11]$	$t(400) = 3.91, p < .001$ $d = 0.18 [0.09, 0.27]$	$t(398) = 24.73, p < .001$ $d = 1.85 [1.61, 2.09]$	$t(398) = 8.98, p < .001$ $d = 0.45 [0.35, 0.55]$
Charity B1	$t(400) = 16.52, p < .001$ $d = 1.15 [0.98, 1.33]$	$t(400) = 5.87, p < .001$ $d = 0.28 [0.19, 0.38]$	$t(398) = 19.69, p < .001$ $d = 1.48 [1.26, 1.69]$	$t(398) = 14.90, p < .001$ $d = 0.90 [0.76, 1.05]$
Charity B2	$t(400) = 34.80, p < .001$ $d = 2.83 [2.48, 3.19]$	$t(400) = 13.07, p < .001$ $d = 0.68 [0.57, 0.79]$	$t(398) = 2.80, p < .01$ $d = 0.19 [0.06, 0.33]$	$t(398) = -0.32, p = .748$ $d = -0.02 [-0.12, 0.09]$
Citizenship B1	$t(400) = 34.64, p < .001$ $d = 2.73 [2.40, 3.07]$	$t(400) = 12.49, p < .001$ $d = 0.61 [0.51, 0.72]$	$t(398) = 25.72, p < .001$ $d = 2.02 [1.75, 2.28]$	$t(398) = 15.01, p < .001$ $d = 0.85 [0.72, 0.98]$
Citizenship B2	$t(400) = 25.91, p < .001$ $d = 1.96 [1.70, 2.21]$	$t(400) = 12.04, p < .001$ $d = 0.57 [0.47, 0.66]$	$t(398) = 17.29, p < .001$ $d = 1.32 [1.12, 1.53]$	$t(398) = 14.85, p < .001$ $d = 0.89 [0.75, 1.02]$
Civility B1	$t(400) = 22.81, p < .001$ $d = 1.64 [1.42, 1.85]$	$t(400) = 15.29, p < .001$ $d = 0.83 [0.70, 0.95]$	$t(398) = 29.96, p < .001$ $d = 2.31 [2.02, 2.60]$	$t(398) = 18.21, p < .001$ $d = 1.05 [0.91, 1.19]$
Civility B2	$t(400) = 0.92, p = .361$ $d = 0.07 [-0.08, 0.22]$	$t(400) = -5.63, p < .001$ $d = -0.34 [-0.47, -0.22]$	$t(398) = -4.06, p < .001$ $d = -0.32 [-0.48, -0.16]$	$t(398) = -6.65, p < .001$ $d = -0.46 [-0.60, -0.32]$
Compassion B1	$t(400) = 35.43, p < .001$ $d = 2.81 [2.46, 3.15]$	$t(400) = 8.47, p < .001$ $d = 0.35 [0.27, 0.44]$	$t(398) = 31.39, p < .001$ $d = 2.40 [2.11, 2.70]$	$t(398) = 18.22, p < .001$ $d = 1.03 [0.89, 1.16]$
Compassion B2	$t(400) = 34.88, p < .001$ $d = 2.74 [2.40, 3.07]$	$t(400) = 9.77, p < .001$ $d = 0.45 [0.36, 0.55]$	$t(398) = 28.67, p < .001$ $d = 2.26 [1.97, 2.56]$	$t(398) = 16.65, p < .001$ $d = 0.95 [0.82, 1.09]$
Courage B1	$t(400) = 24.48, p < .001$ $d = 1.89 [1.64, 2.15]$	$t(400) = 11.67, p < .001$ $d = 0.58 [0.47, 0.69]$	$t(398) = 18.29, p < .001$ $d = 1.33 [1.13, 1.52]$	$t(398) = 13.18, p < .001$ $d = 0.70 [0.58, 0.81]$

	$t(400) = 32.40, p < .001$ $d = 2.51 [2.20, 2.81]$	$t(400) = 17.41, p < .001$ $d = 0.96 [0.83, 1.10]$	$t(398) = 32.38, p < .001$ $d = 2.49 [2.18, 2.79]$	$t(398) = 22.16, p < .001$ $d = 1.32 [1.16, 1.48]$
Courage B2				
	$t(400) = 15.23, p < .001$ $d = 0.97 [0.82, 1.13]$	$t(400) = 3.86, p < .001$ $d = 0.14 [0.07, 0.21]$	$t(398) = 12.34, p < .001$ $d = 0.77 [0.63, 0.91]$	$t(398) = 1.11, p = .268$ $d = 0.04 [-0.03, 0.11]$
Curiosity B1				
	$t(400) = 11.60, p < .001$ $d = 0.70 [0.57, 0.83]$	$t(400) = -3.06, p = .002$ $d = -0.14 [-0.22, -0.05]$	$t(398) = 11.82, p < .001$ $d = 0.78 [0.63, 0.92]$	$t(398) = 0.29, p = .773$ $d = 0.01 [-0.08, 0.10]$
Curiosity B2				
	$t(400) = 28.91, p < .001$ $d = 2.14 [1.89, 2.40]$	$t(400) = 6.99, p < .001$ $d = 0.32 [0.23, 0.41]$	$t(398) = 24.02, p < .001$ $d = 1.81 [1.57, 2.05]$	$t(398) = 12.06, p < .001$ $d = 0.62 [0.51, 0.73]$
Empathy B1				
	$t(400) = 20.50, p < .001$ $d = 1.31 [1.14, 1.48]$	$t(400) = 7.52, p < .001$ $d = 0.31 [0.23, 0.39]$	$t(398) = 23.44, p < .001$ $d = 1.57 [1.38, 1.77]$	$t(398) = 8.05, p < .001$ $d = 0.36 [0.27, 0.45]$
Empathy B2				
	$t(400) = 17.84, p < .001$ $d = 1.20 [1.03, 1.38]$	$t(400) = 8.25, p < .001$ $d = 0.42 [0.31, 0.52]$	$t(398) = 4.20, p < .001$ $d = 0.31 [0.16, 0.46]$	$t(398) = 1.59, p = .114$ $d = 0.09 [-0.02, 0.20]$
Fairness B1				
	$t(400) = 28.95, p < .001$ $d = 2.15 [1.89, 2.42]$	$t(400) = 11.18, p < .001$ $d = 0.51 [0.41, 0.60]$	$t(398) = 27.06, p < .001$ $d = 2.08 [1.81, 2.35]$	$t(398) = 14.73, p < .001$ $d = 0.79 [0.67, 0.90]$
Fairness B2				
	$t(400) = 23.95, p < .001$ $d = 1.84 [1.59, 2.09]$	$t(400) = 11.38, p < .001$ $d = 0.60 [0.49, 0.71]$	$t(398) = 23.67, p < .001$ $d = 1.80 [1.56, 2.04]$	$t(398) = 13.66, p < .001$ $d = 0.77 [0.64, 0.89]$
Forgiveness B1				
	$t(400) = 23.89, p < .001$ $d = 1.77 [1.53, 2.00]$	$t(400) = -0.24, p = .807$ $d = -0.01 [-0.11, 0.08]$	$t(398) = 23.23, p < .001$ $d = 1.70 [1.48, 1.93]$	$t(398) = 8.01, p < .001$ $d = 0.43 [0.32, 0.54]$
Forgiveness B2				
	$t(400) = 20.67, p < .001$ $d = 1.60 [1.37, 1.83]$	$t(400) = 2.62, p = .009$ $d = 0.12 [0.03, 0.20]$	$t(398) = 9.52, p < .001$ $d = 0.71 [0.55, 0.88]$	$t(398) = 0.08, p = .938$ $d = 0.00 [-0.10, 0.11]$
Generosity B1				
	$t(400) = 21.30, p < .001$ $d = 1.67 [1.43, 1.91]$	$t(400) = 1.30, p = .195$ $d = 0.05 [-0.02, 0.12]$	$t(398) = 6.04, p < .001$ $d = 0.46 [0.30, 0.61]$	$t(398) = -0.73, p = .466$ $d = -0.04 [-0.15, 0.07]$
Generosity B2				
	$t(400) = 22.35, p < .001$ $d = 1.68 [1.45, 1.91]$	$t(400) = 2.08, p = .039$ $d = 0.10 [0.01, 0.19]$	$t(398) = 22.92, p < .001$ $d = 1.72 [1.49, 1.95]$	$t(398) = 5.93, p < .001$ $d = 0.30 [0.20, 0.40]$
Gratitude B1				
	$t(400) = 24.90, p < .001$ $d = 1.93 [1.67, 2.19]$	$t(400) = 6.69, p < .001$ $d = 0.31 [0.22, 0.40]$	$t(398) = 27.96, p < .001$ $d = 2.21 [1.92, 2.50]$	$t(398) = 15.08, p < .001$ $d = 0.83 [0.70, 0.95]$
Gratitude B2				
	$t(400) = 26.76, p < .001$ $d = 2.06 [1.79, 2.33]$	$t(400) = 12.73, p < .001$ $d = 0.65 [0.54, 0.76]$	$t(398) = 16.45, p < .001$ $d = 1.14 [0.97, 1.32]$	$t(398) = 9.17, p < .001$ $d = 0.49 [0.38, 0.60]$
Honesty B1				

	$t(400) = 21.35, p < .001$ $d = 1.57 [1.36, 1.79]$	$t(400) = 1.40, p = .162$ $d = 0.07 [-0.03, 0.17]$	$t(398) = 21.75, p < .001$ $d = 1.60 [1.38, 1.82]$	$t(398) = 11.66, p < .001$ $d = 0.69 [0.56, 0.81]$
Honesty B2				
	$t(400) = 18.74, p < .001$ $d = 1.32 [1.13, 1.51]$	$t(400) = 2.40, p = .017$ $d = 0.12 [0.02, 0.21]$	$t(398) = 15.96, p < .001$ $d = 1.19 [1.00, 1.38]$	$t(398) = 7.51, p < .001$ $d = 0.44 [0.32, 0.56]$
Humility B1				
	$t(400) = 28.24, p < .001$ $d = 2.27 [1.97, 2.57]$	$t(400) = 9.10, p < .001$ $d = 0.49 [0.38, 0.60]$	$t(398) = 13.44, p < .001$ $d = 1.02 [0.83, 1.20]$	$t(398) = 3.60, p < .001$ $d = 0.22 [0.10, 0.34]$
Humility B2				
	$t(400) = 19.16, p < .001$ $d = 1.37 [1.18, 1.57]$	$t(400) = 7.29, p < .001$ $d = 0.35 [0.25, 0.44]$	$t(398) = 15.89, p < .001$ $d = 1.12 [0.95, 1.30]$	$t(398) = 8.11, p < .001$ $d = 0.39 [0.30, 0.49]$
Integrity B1				
	$t(400) = 26.69, p < .001$ $d = 1.93 [1.69, 2.17]$	$t(400) = 10.80, p < .001$ $d = 0.55 [0.45, 0.66]$	$t(398) = 14.72, p < .001$ $d = 1.04 [0.87, 1.21]$	$t(398) = 9.94, p < .001$ $d = 0.57 [0.45, 0.69]$
Integrity B2				
	$t(400) = 14.55, p < .001$ $d = 1.03 [0.86, 1.21]$	$t(400) = 0.34, p = .733$ $d = 0.02 [-0.08, 0.12]$	$t(398) = 9.89, p < .001$ $d = 0.71 [0.55, 0.86]$	$t(398) = 5.98, p < .001$ $d = 0.35 [0.23, 0.47]$
Kindness B1				
	$t(400) = 30.91, p < .001$ $d = 2.39 [2.09, 2.69]$	$t(400) = 11.57, p < .001$ $d = 0.53 [0.44, 0.63]$	$t(398) = 32.48, p < .001$ $d = 2.47 [2.17, 2.78]$	$t(398) = 17.21, p < .001$ $d = 0.95 [0.82, 1.08]$
Kindness B2				
	$t(400) = 19.59, p < .001$ $d = 1.35 [1.16, 1.53]$	$t(400) = 3.17, p = .002$ $d = 0.12 [0.05, 0.20]$	$t(398) = 14.84, p < .001$ $d = 0.97 [0.81, 1.12]$	$t(398) = 4.41, p < .001$ $d = 0.19 [0.10, 0.28]$
Love B1				
	$t(400) = 25.61, p < .001$ $d = 1.73 [1.52, 1.94]$	$t(400) = 3.28, p = .001$ $d = 0.13 [0.05, 0.20]$	$t(398) = 22.29, p < .001$ $d = 1.49 [1.30, 1.68]$	$t(398) = 8.71, p < .001$ $d = 0.33 [0.26, 0.41]$
Love B2				
	$t(400) = 22.09, p < .001$ $d = 1.56 [1.36, 1.77]$	$t(400) = 8.34, p < .001$ $d = 0.44 [0.33, 0.55]$	$t(398) = 24.80, p < .001$ $d = 1.93 [1.67, 2.19]$	$t(398) = 12.45, p < .001$ $d = 0.67 [0.56, 0.79]$
Loyalty B1				
	$t(400) = 15.72, p < .001$ $d = 1.04 [0.87, 1.20]$	$t(400) = -0.90, p = .369$ $d = -0.04 [-0.12, 0.05]$	$t(398) = 0.80, p = .424$ $d = 0.06 [-0.09, 0.21]$	$t(398) = -9.06, p < .001$ $d = -0.54 [-0.67, -0.42]$
Loyalty B2				
	$t(400) = 14.53, p < .001$ $d = 0.93 [0.78, 1.09]$	$t(400) = 2.13, p = .033$ $d = 0.08 [0.01, 0.15]$	$t(398) = 10.89, p < .001$ $d = 0.62 [0.50, 0.75]$	$t(398) = 3.52, p < .001$ $d = 0.17 [0.07, 0.26]$
Patience B1				
	$t(400) = 16.77, p < .001$ $d = 1.02 [0.87, 1.17]$	$t(400) = 6.69, p < .001$ $d = 0.30 [0.21, 0.39]$	$t(398) = 16.57, p < .001$ $d = 1.03 [0.88, 1.18]$	$t(398) = 7.85, p < .001$ $d = 0.35 [0.26, 0.44]$
Patience B2				
	$t(400) = 19.57, p < .001$ $d = 1.36 [1.17, 1.55]$	$t(400) = -1.91, p = .057$ $d = -0.07 [-0.14, 0.00]$	$t(398) = 14.08, p < .001$ $d = 0.82 [0.69, 0.96]$	$t(398) = 1.39, p = .165$ $d = 0.05 [-0.02, 0.13]$
Perseverance B1				

	$t(400) = 12.81, p <$	$t(400) = -5.08, p <$	$t(398) = 2.66, p =$	$t(398) = -7.99, p <$
	.001	.001	.008	.001
Perseverance	$d = 0.81 [0.67, 0.96]$	$d = -0.20 [-0.28, -$	$d = 0.17 [0.04, 0.29]$	$d = -0.40 [-0.51, -$
B2		0.12]		0.30]

Table S8-1*Estimated Regression Model (DV: Moral Goodness) for Each Virtue*

Term	<i>b</i>	SE	<i>t</i> (df)	95% CI	<i>p</i>
Care					
(Intercept)	2.29	0.15	15.80(1552)	[2.01, 2.58]	<.001
Norm signaling	0.10	0.01	7.01(1391)	[0.08, 0.13]	<.001
Moral motivation	0.54	0.02	24.05(1543)	[0.50, 0.59]	<.001
Reputation signaling	-0.03	0.02	-2.19(1391)	[-0.07, 0.00]	.029
Charity					
(Intercept)	1.81	0.15	12.15(1501)	[1.52, 2.10]	<.001
Norm signaling	0.03	0.02	1.79(1593)	[0.00, 0.07]	.074
Moral motivation	0.63	0.02	26.99(1577)	[0.58, 0.68]	<.001
Reputation signaling	-0.05	0.02	-3.10(1586)	[-0.08, -0.02]	.002
Citizenship					
(Intercept)	2.09	0.16	12.73(1541)	[1.77, 2.42]	<.001
Norm signaling	0.07	0.01	4.57(1548)	[0.04, 0.10]	<.001
Moral motivation	0.60	0.02	24.33(1562)	[0.55, 0.65]	<.001
Reputation signaling	-0.08	0.02	-5.05(1566)	[-0.11, -0.05]	<.001
Civility					
(Intercept)	1.91	0.14	13.23(1576)	[1.63, 2.19]	<.001

Norm signaling	0.17	0.02	9.02(1596)	[0.13, 0.21]	<.001
Moral motivation	0.52	0.02	23.65(1589)	[0.48, 0.57]	<.001
Reputation signaling	-0.09	0.02	-5.45(1531)	[-0.12, -0.06]	<.001
Compassion					
(Intercept)	3.17	0.03	24.00(1557)	[2.91, 3.43]	<.001
Norm signaling	0.03	0.01	3.19(1458)	[0.01, 0.05]	.001
Moral motivation	0.50	0.02	26.25(1567)	[0.47, 0.54]	<.001
Reputation signaling	-0.03	0.01	-2.75(1506)	[-0.05, -0.01]	.006
Courage					
(Intercept)	1.01	0.17	6.00(1595)	[0.68, 1.33]	<.001
Norm signaling	0.15	0.02	8.82(1595)	[0.12, 0.19]	<.001
Moral motivation	0.66	0.03	25.06(1595)	[0.60, 0.71]	<.001
Reputation signaling	-0.03	0.02	-1.89(1595)	[-0.07, 0.00]	.059
Curiosity					
(Intercept)	2.39	0.10	23.90(1593)	[2.20, 2.59]	<.001
Norm signaling	0.15	0.02	6.49(1540)	[0.10, 0.19]	<.001
Moral motivation	0.35	0.02	17.91(1573)	[0.31, 0.39]	<.001
Reputation signaling	0.02	0.02	0.84(1382)	[-0.02, 0.06]	.401
Empathy					

(Intercept)	3.45	0.10	35.80(1574)	[3.26, 3.64]	<.001
Norm signaling	0.08	0.02	4.75(1590)	[0.04, 0.11]	<.001
Moral motivation	0.39	0.02	24.16(1534)	[0.36, 0.42]	<.001
Reputation signaling	-0.07	0.02	-3.78(1589)	[-0.10, -0.03]	<.001
Fairness					
(Intercept)	1.86	0.15	12.40(1553)	[1.57, 2.16]	<.001
Norm signaling	0.14	0.01	9.31(1585)	[0.11, 0.17]	<.001
Moral motivation	0.57	0.02	25.22(1585)	[0.52, 0.61]	<.001
Reputation signaling	-0.04	0.01	-2.74(1477)	[-0.06, -0.01]	.006
Forgiveness					
(Intercept)	2.12	0.16	13.61(1581)	[1.82, 2.43]	<.001
Norm signaling	0.08	0.01	5.67(1567)	[0.06, 0.11]	<.001
Moral motivation	0.54	0.02	22.87(1587)	[0.49, 0.58]	<.001
Reputation signaling	-0.01	0.02	-0.62(1565)	[-0.04, 0.02]	.539
Generosity					
(Intercept)	2.87	0.14	20.29(1568)	[2.59, 3.15]	<.001
Norm signaling	0.06	0.02	3.60(1588)	[0.03, 0.09]	<.001
Moral motivation	0.50	0.02	22.32(1584)	[0.45, 0.54]	<.001
Reputation signaling	-0.03	0.02	-2.04(1596)	[-0.06, 0.00]	.042

Gratitude					
(Intercept)	2.64	0.15	17.38(1594)	[2.35, 2.94]	<.001
Norm signaling	0.03	0.01	2.06(1590)	[0.05, 0.05]	.039
Moral motivation	0.50	0.02	22.29(1596)	[0.46, 0.55]	<.001
Reputation signaling	0.01	0.01	0.56(1595)	[-0.02, 0.04]	.579
Honesty					
(Intercept)	1.89	0.13	14.92(1593)	[1.64, 2.14]	<.001
Norm signaling	0.13	0.02	8.07(1593)	[0.10, 0.16]	<.001
Moral motivation	0.49	0.02	23.96(1595)	[0.45, 0.53]	<.001
Reputation signaling	0.01	0.02	0.41(1577)	[-0.02, 0.04]	.680
Humility					
(Intercept)	2.17	0.13	16.25(1518)	[1.91, 2.43]	<.001
Norm signaling	0.08	0.01	5.71(1538)	[0.05, 0.10]	<.001
Moral motivation	0.58	0.03	28.31(1572)	[0.54, 0.62]	<.001
Reputation signaling	-0.01	0.01	-0.77(1585)	[-0.04, 0.02]	.440
Integrity					
(Intercept)	1.67	0.15	11.45(1484)	[1.39, 1.96]	<.001
Norm signaling	0.11	0.02	6.96(1475)	[0.08, 0.14]	<.001
Moral motivation	0.64	0.02	28.44(1498)	[0.60, 0.69]	<.001

Reputation signaling	-0.05	0.01	-3.47(1512)	[-0.08, -0.02]	.001
Kindness					
(Intercept)	2.75	0.14	19.45(1522)	[2.47, 3.03]	<.001
Norm signaling	0.05	0.01	3.98(1577)	[0.02, 0.07]	<.001
Moral motivation	0.56	0.02	27.14(1584)	[0.52, 0.60]	<.001
Reputation signaling	-0.07	0.01	-5.94(1579)	[-0.09, -0.04]	<.001
Love					
(Intercept)	2.61	0.11	2.69(1555)	[2.38, 2.83]	<.001
Norm signaling	0.12	0.02	5.49(1583)	[0.08, 0.16]	<.001
Moral motivation	0.43	0.02	22.18(1596)	[0.39, 0.47]	<.001
Reputation signaling	-0.05	0.02	-2.15(1556)	[-0.09, 0.00]	.031
Loyalty					
(Intercept)	1.72	0.13	13.12(1488)	[1.46, 1.97]	<.001
Norm signaling	0.18	0.02	10.61(1572)	[0.15, 0.21]	<.001
Moral motivation	0.55	0.02	26.07(1562)	[0.50, 0.59]	<.001
Reputation signaling	-0.07	0.02	-4.62(1595)	[-0.10, -0.04]	<.001
Patience					
(Intercept)	1.46	0.10	15.12(1534)	[1.27, 1.65]	<.001
Norm signaling	0.23	0.03	9.27(1596)	[0.18, 0.28]	<.001

Moral motivation	0.40	0.02	19.58(1596)	[0.36, 0.44]	<.001
Reputation signaling	0.00	0.02	0.10(1585)	[-0.04, 0.05]	.919
Perseverance					
(Intercept)	2.17	0.11	18.89(1587)	[1.94, 2.39]	<.001
Norm signaling	0.23	0.02	9.93(1519)	[0.19, 0.28]	<.001
Moral motivation	0.32	0.02	15.30(1594)	[0.27, 0.36]	<.001
Reputation signaling	-0.02	0.02	-0.81(1356)	[-0.06, 0.02]	.417

Note. *b* is an unstandardized coefficient. 95% CI represents 95% confidence interval.

Table S8-2

Estimated Regression Model (DV: Virtue) for Each Virtue

Term	<i>b</i>	<i>SE</i>	<i>t</i> (<i>df</i>)	95% CI	<i>p</i>
Care					
(Intercept)	1.76	0.17	10.30(1574)	[1.43, 2.10]	< .001
Norm signaling	0.11	0.02	6.32(1433)	[0.08, 0.15]	< .001
Moral motivation	0.57	0.03	21.55(1567)	[0.52, 0.63]	< .001
Reputation signaling	-0.01	0.02	-0.28(1433)	[-0.04, 0.03]	.780
Charity					
(Intercept)	1.64	0.16	10.32(1497)	[1.33, 1.95]	< .001

Norm signaling	0.04	0.02	2.25(1592)	[0.01, 0.08]	.025
Moral motivation	0.62	0.02	24.75(1576)	[0.57, 0.66]	< .001
Reputation signaling	-0.04	0.02	-2.07(1587)	[-0.07, 0.00]	.038
Citizenship					
(Intercept)	1.74	0.19	9.23(1589)	[1.37, 2.11]	< .001
Norm signaling	0.09	0.02	5.22(1592)	[0.06, 0.12]	< .001
Moral motivation	0.59	0.03	21.11(1596)	[0.54, 0.65]	< .001
Reputation signaling	-0.07	0.02	-3.78(1596)	[-0.10, -0.03]	< .001
Civility					
(Intercept)	1.48	0.16	9.20(1579)	[1.17, 1.80]	< .001
Norm signaling	0.17	0.02	8.26(1596)	[0.13, 0.21]	< .001
Moral motivation	0.56	0.02	22.48(1586)	[0.51, 0.61]	< .001
Reputation signaling	-0.08	0.02	-4.49(1526)	[-0.12, -0.05]	< .001
Compassion					
(Intercept)	3.39	0.16	20.68(1595)	[3.07, 3.71]	< .001
Norm signaling	0.03	0.01	2.66(1571)	[0.01, 0.05]	.008
Moral motivation	0.45	0.02	18.80(1591)	[0.40, 0.49]	< .001

Reputation signaling	-0.03	0.01	-1.99(1591)	[-0.05, 0.00]	.046
Courage					
(Intercept)	0.69	0.18	3.83(1595)	[0.34, 1.04]	< .001
Norm signaling	0.14	0.02	7.41(1595)	[0.10, 0.17]	< .001
Moral motivation	0.67	0.03	23.99(1595)	[0.62, 0.73]	< .001
Reputation signaling	0.01	0.02	0.39(1595)	[-0.03, 0.04]	.698
Curiosity					
(Intercept)	2.23	0.10	21.58(1595)	[2.03, 2.43]	< .001
Norm signaling	0.17	0.02	7.35(1522)	[0.13, 0.22]	< .001
Moral motivation	0.31	0.02	15.52(1559)	[0.27, 0.35]	< .001
Reputation signaling	0.00	0.02	0.17(1354)	[-0.04, 0.05]	.868
Empathy					
(Intercept)	2.98	0.11	26.45(1548)	[2.76, 3.20]	< .001
Norm signaling	0.05	0.02	2.66(1595)	[0.01, 0.09]	.008
Moral motivation	0.41	0.02	21.73(1484)	[0.37, 0.45]	< .001
Reputation signaling	0.00	0.02	-0.04(1596)	[-0.04, 0.04]	.970
Fairness					

(Intercept)	1.57	0.18	8.71(1594)	[1.22, 1.93]	< .001
Norm signaling	0.15	0.02	8.76(1523)	[0.12, 0.19]	< .001
Moral motivation	0.54	0.03	20.03(1591)	[0.48, 0.59]	< .001
Reputation signaling	-0.01	0.02	-0.40(1367)	[-0.04, 0.02]	.688
Forgiveness					
(Intercept)	2.00	0.18	10.83(1590)	[1.64, 2.36]	< .001
Norm signaling	0.12	0.02	7.05(1580)	[0.09, 0.16]	< .001
Moral motivation	0.50	0.03	18.13(1594)	[0.45, 0.56]	< .001
Reputation signaling	-0.01	0.02	-0.77(1578)	[-0.05, 0.02]	.441
Generosity					
(Intercept)	2.84	0.15	18.80(1585)	[2.54, 3.13]	< .001
Norm signaling	0.05	0.02	2.93(1595)	[0.02, 0.08]	.003
Moral motivation	0.49	0.02	21.58(1594)	[0.44, 0.53]	< .001
Reputation signaling	-0.02	0.02	-1.17(1591)	[-0.05, 0.01]	.240
Gratitude					
(Intercept)	1.96	0.20	10.06(1594)	[1.58, 2.35]	< .001
Norm signaling	0.05	0.02	2.93(1567)	[0.02, 0.08]	.003

Moral motivation	0.52	0.03	17.86(1588)	[0.46, 0.57]	< .001
Reputation signaling	0.06	0.02	3.26(1579)	[0.02, 0.09]	.001
Honesty					
(Intercept)	1.67	0.14	11.99(1588)	[1.39, 1.94]	< .001
Norm signaling	0.12	0.02	6.92(1596)	[0.09, 0.16]	< .001
Moral motivation	0.48	0.02	21.63(1590)	[0.44, 0.53]	< .001
Reputation signaling	0.02	0.02	1.29(1565)	[-0.01, 0.06]	.196
Humility					
(Intercept)	1.93	0.15	12.61(1547)	[1.63, 2.23]	< .001
Norm signaling	0.07	0.02	4.74(1564)	[0.04, 0.10]	< .001
Moral motivation	0.59	0.02	25.18(1588)	[0.54, 0.63]	< .001
Reputation signaling	0.00	0.01	0.30(1595)	[-0.02, 0.03]	.763
Integrity					
(Intercept)	1.24	0.18	6.99(1509)	[0.89, 1.59]	< .001
Norm signaling	0.13	0.02	6.79(1502)	[0.09, 0.16]	< .001
Moral motivation	0.63	0.03	23.16(1522)	[0.58, 0.69]	< .001
Reputation signaling	-0.02	0.02	-1.03(1535)	[-0.05, 0.02]	.303

Kindness

(Intercept)	2.21	0.17	12.91(1547)	[1.87, 2.55]	< .001
Norm signaling	0.06	0.01	4.13(1589)	[0.03, 0.09]	< .001
Moral motivation	0.61	0.02	24.47(1593)	[0.56, 0.66]	< .001
Reputation signaling	-0.06	0.01	-4.50(1561)	[-0.09, -0.03]	< .001

Love

(Intercept)	2.12	0.12	17.06(1546)	[1.87, 2.36]	< .001
Norm signaling	0.16	0.02	6.83(1588)	[0.11, 0.20]	< .001
Moral motivation	0.40	0.02	19.17(1594)	[0.36, 0.44]	< .001
Reputation signaling	-0.01	0.02	-0.45(1565)	[-0.06, 0.04]	.654

Loyalty

(Intercept)	1.36	0.14	9.67(1532)	[1.09, 1.64]	< .001
Norm signaling	0.20	0.02	10.78(1590)	[0.16, 0.23]	< .001
Moral motivation	0.54	0.02	24.02(1586)	[0.50, 0.58]	< .001
Reputation signaling	-0.04	0.02	-2.52(1583)	[-0.08, -0.01]	.012

Patience

(Intercept)	1.30	0.10	12.86(1532)	[1.10, 1.49]	< .001
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Norm signaling	0.23	0.03	8.94(1595)	[0.18, 0.29]	< .001
Moral motivation	0.40	0.02	18.70(1596)	[0.36, 0.44]	< .001
Reputation signaling	0.02	0.02	0.66(1584)	[-0.03, 0.07]	.512
Perseverance					
(Intercept)	2.04	0.11	17.74(1587)	[1.81, 2.26]	< .001
Norm signaling	0.18	0.02	7.51(1517)	[0.13, 0.22]	< .001
Moral motivation	0.32	0.02	15.37(1594)	[0.28, 0.36]	< .001
Reputation signaling	0.04	0.02	1.79(1353)	[0.00, 0.08]	.074

Note. *b* is an unstandardized coefficient. 95% CI represents 95% confidence interval.

Table S9*Bivariate Correlations between Two Behaviors within Each Virtue*

	<i>r</i>
Care	
Moral goodness	0.40***
Norm signaling	0.55***
Moral motivation	0.36***
Reputation signaling	0.56***
Virtuousness	0.36***
Charity	
Moral goodness	0.17***
Norm signaling	0.38***
Moral motivation	0.21***
Reputation signaling	0.20***
Virtuousness	0.16***
Citizenship	
Moral goodness	0.24***
Norm signaling	0.49***
Moral motivation	0.36***
Reputation signaling	0.49***
Virtuousness	0.31***
Civility	
Moral goodness	0.24***
Norm signaling	0.26***
Moral motivation	0.15***
Reputation signaling	0.12**
Virtuousness	0.24***
Compassion	
Moral goodness	0.54***
Norm signaling	0.67***

Moral motivation	0.49***
Reputation signaling	0.65***
Virtuousness	0.59***
Courage	
Moral goodness	0.13***
Norm signaling	0.35***
Moral motivation	0.26***
Reputation signaling	0.45***
Virtuousness	0.18***
Curiosity	
Moral goodness	0.56***
Norm signaling	0.52***
Moral motivation	0.38***
Reputation signaling	0.39***
Virtuousness	0.57***
Empathy	
Moral goodness	0.44***
Norm signaling	0.52***
Moral motivation	0.27***
Reputation signaling	0.50***
Virtuousness	0.45***
Fairness	
Moral goodness	0.45***
Norm signaling	0.42***
Moral motivation	0.42***
Reputation signaling	0.32***
Virtuousness	0.51***
Forgiveness	
Moral goodness	0.27***
Norm signaling	0.42***
Moral motivation	0.29***

Reputation signaling	0.47***
Virtuousness	0.27***
Generosity	
Moral goodness	0.43***
Norm signaling	0.49***
Moral motivation	0.38***
Reputation signaling	0.45***
Virtuousness	0.43***
Gratitude	
Moral goodness	0.50***
Norm signaling	0.46***
Moral motivation	0.43***
Reputation signaling	0.55***
Virtuousness	0.52***
Honesty	
Moral goodness	0.32***
Norm signaling	0.43***
Moral motivation	0.28***
Reputation signaling	0.39***
Virtuousness	0.33***
Humility	
Moral goodness	0.34***
Norm signaling	0.50***
Moral motivation	0.32***
Reputation signaling	0.39***
Virtuousness	0.36***
Integrity	
Moral goodness	0.19***
Norm signaling	0.44***
Moral motivation	0.32***
Reputation signaling	0.41***

Virtuousness	0.22***
Kindness	
Moral goodness	0.43***
Norm signaling	0.45***
Moral motivation	0.40***
Reputation signaling	0.40***
Virtuousness	0.44***
Love	
Moral goodness	0.64***
Norm signaling	0.62***
Moral motivation	0.55***
Reputation signaling	0.57***
Virtuousness	0.62***
Loyalty	
Moral goodness	0.12**
Norm signaling	0.34***
Moral motivation	0.18***
Reputation signaling	0.32***
Virtuousness	0.18***
Patience	
Moral goodness	0.25***
Norm signaling	0.42***
Moral motivation	0.23***
Reputation signaling	0.46***
Virtuousness	0.25***
Perseverance	
Moral goodness	0.57***
Norm signaling	0.51***
Moral motivation	0.45***
Reputation signaling	0.43***
Virtuousness	0.57***

Note. *** $p < .001$, ** $p < .01$

S10. Exploratory Analysis: Bivariate correlations between judgments of morality and virtue and three motivational variables

Overall, we found that moral motivation exhibited the strongest, and positive, correlation with moral goodness ($r = .63, p < .001$) and virtue ($r = .58, p < .001$), followed by norm signaling (moral goodness: $r = .28, p < .001$, virtue: $r = .29, p < .001$). Reputation signaling showed the weakest or even negative correlation with moral goodness ($r = .01, p > .05$) and virtue ($r = .05, p < .001$). See Table S10 and S11 for the results of correlation analyses at the virtue and behavior levels, respectively.

Table S10

Bivariate Correlations between Motivational Variables and Moral Goodness and Virtuousness for Each Virtue

Virtue	Moral goodness of Action			Virtuousness of Action		
	r-Moral	r-Reputation	r-Norm	r-Moral	r-Reputation	r-Norm
Care	0.54 ***	0.02	0.21 ***	0.49 ***	0.06 *	0.22 ***
Charity	0.60 ***	-0.14 ***	0.10 ***	0.56 ***	-0.10 ***	0.12 ***
Citizenship	0.56 ***	-0.17 ***	0.11 ***	0.49 ***	-0.11 ***	0.14 ***
Civility	0.64 ***	-0.24 ***	0.38 ***	0.62 ***	-0.22 ***	0.37 ***
Compassion	0.61 ***	-0.16 ***	0.06 ***	0.50 ***	-0.13 ***	0.05 ***
Courage	0.58 ***	-0.04	0.31 ***	0.56 ***	0.00	0.30 ***
Curiosity	0.51 ***	0.24 ***	0.36 ***	0.46 ***	0.26 ***	0.38 ***
Empathy	0.55 ***	0.02	0.21 ***	0.50 ***	0.10 ***	0.21 ***
Fairness	0.59 ***	-0.02	0.25 ***	0.50 ***	0.06 *	0.27 ***
Forgiveness	0.51 ***	-0.01	0.16 ***	0.43 ***	0.03	0.18 ***
Generosity	0.56 ***	-0.11 ***	0.09 **	0.53 ***	-0.08 ***	0.08 **
Gratitude	0.53 ***	-0.04	0.09 ***	0.42 ***	0.08 **	0.16 ***
Honesty	0.55 ***	0.08 **	0.30 ***	0.51 ***	0.09 ***	0.27 ***
Humility	0.62 ***	-0.03	0.24 ***	0.57 ***	0.00	0.23 ***

Integrity	0.62 ***	-0.02	0.25 ***	0.54 ***	0.04	0.27 ***
Kindness	0.61 ***	-0.18 ***	0.09 ***	0.57 ***	-0.13 ***	0.12 ***
Love	0.55 ***	0.12 ***	0.25 ***	0.51 ***	0.19 ***	0.32 ***
Loyalty	0.61 ***	-0.06 *	0.34 ***	0.58 ***	-0.01	0.36 ***
Patience	0.56 ***	0.27 ***	0.46 ***	0.54 ***	0.29 ***	0.46 ***
Perseverance	0.45 ***	0.22 ***	0.38 ***	0.45 ***	0.25 ***	0.37 ***
Across all virtues	0.63 ***	0.01	0.28 ***	0.58 ***	0.05 ***	0.29 ***

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

Table S11

Bivariate Correlations between Motivational Variables and Moral Goodness and Virtuousness for Each Behavior

Behavior	Moral goodness of Action			Virtuousness of Action		
	r-Moral	r-Reputation	r-Norm	r-Moral	r-Reputation	r-Norm
Care B1	0.49 ***	0.03	0.20 ***	0.44 ***	0.10 *	0.25 ***
Care B2	0.54 ***	-0.06	0.11 **	0.46 ***	-0.05	0.08
Charity B1	0.60 ***	-0.04	0.22 ***	0.58 ***	0.00	0.22 ***
Charity B2	0.59 ***	-0.24 ***	0.02	0.54 ***	-0.20 ***	0.06
Citizenship B1	0.62 ***	-0.17 ***	0.14 ***	0.51 ***	-0.10 ***	0.15 ***
Citizenship B2	0.50 ***	-0.12 **	0.15 ***	0.47 ***	-0.08 *	0.19 ***
Civility B1	0.62 ***	-0.03	0.28 ***	0.59 ***	0.03	0.28 ***
Civility B2	0.56 ***	-0.11 **	0.42 ***	0.54 ***	-0.14 ***	0.40 ***
Compassion B1	0.64 ***	-0.17 ***	0.04	0.52 ***	-0.13 ***	0.03
Compassion B2	0.59 ***	-0.15 ***	0.08	0.49 ***	-0.12 **	0.06
Courage B1	0.39 ***	0.18 ***	0.32 ***	0.36 ***	0.26 ***	0.34 ***
Courage B2	0.68 ***	-0.13 ***	0.20 ***	0.61 ***	-0.09 *	0.14 ***
Curiosity B1	0.47 ***	0.25 ***	0.36 ***	0.44 ***	0.31 ***	0.39 ***
Curiosity B2	0.52 ***	0.16 ***	0.31 ***	0.48 ***	0.17 ***	0.36 ***
Empathy B1	0.50 ***	-0.04	0.15 ***	0.41 ***	0.04	0.13 ***

Empathy B2	0.50 ***	-0.03 ***	0.16	0.49 ***	0.06	0.19 ***
Fairness B1	0.63 ***	-0.05	0.29 ***	0.56 ***	0.01	0.32 ***
Fairness B2	0.54 ***	0.05	0.26 ***	0.43 ***	0.12 **	0.26 ***
Forgiveness B1	0.51 ***	-0.09 *	0.21 ***	0.52 ***	-0.06	0.22 ***
Forgiveness B2	0.48 ***	0.05	0.14 ***	0.36 ***	0.12 **	0.14 ***
Generosity B1	0.58 ***	-0.11 *	0.08 *	0.58 ***	-0.09 *	0.08 *
Generosity B2	0.56 ***	-0.10 *	0.11 *	0.49 ***	-0.06	0.10 *
Gratitude B1	0.53 ***	-0.05	0.07	0.47 ***	0.07	0.15 ***
Gratitude B2	0.52 ***	-0.05	0.11 ***	0.38 ***	0.07	0.17 ***
Honesty B1	0.6 ***	0.04	0.33 ***	0.56 ***	0.05	0.32 ***
Honesty B2	0.47 ***	0.05	0.25 ***	0.43 ***	0.09 *	0.21 ***
Humility B1	0.64 ***	-0.01	0.29 ***	0.57 ***	0.05	0.30 ***
Humility B2	0.60 ***	-0.04	0.19 ***	0.58 ***	-0.04	0.17 ***
Integrity B1	0.54 ***	0.08 ***	0.27 ***	0.45 ***	0.16 ***	0.29 ***
Integrity B2	0.70 ***	-0.09 *	0.23 ***	0.64 ***	-0.03	0.24 ***
Kindness B1	0.55 ***	0.00	0.20 ***	0.53 ***	0.00	0.24 ***
Kindness B2	0.61 ***	-0.13 **	0.08	0.53 ***	-0.03	0.09 *
Love B1	0.53 ***	0.13 ***	0.30 ***	0.48 ***	0.21 ***	0.38 ***
Love B2	0.55 ***	0.13 ***	0.23 ***	0.51 ***	0.19 ***	0.28 ***
Loyalty B1	0.66 ***	-0.03	0.31 ***	0.60 ***	0.02	0.33 ***
Loyalty B2	0.51 ***	0.11 **	0.37 ***	0.52 ***	0.13 ***	0.39 ***
Patience B1	0.47 ***	0.32 ***	0.47 ***	0.45 ***	0.33 ***	0.48 ***
Patience B2	0.62 ***	0.24 ***	0.43 ***	0.60 ***	0.26 ***	0.43 ***
Perseverance B1	0.44 ***	0.26 ***	0.36 ***	0.43 ***	0.28 ***	0.33 ***
Perseverance B2	0.47 ***	0.16 ***	0.40 ***	0.47 ***	0.21 ***	0.40 ***

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

S12. Full Bayesian Multilevel Mediation Results

Private behaviors were perceived as credibly lower in reputation signaling than public behaviors (Path a: $b = -0.52$, 95% CrI [-0.67, -0.38]), and higher ratings of reputation signaling credibly predicted lower moral goodness (Path b: $b = -0.03$, 95% CrI [-0.04, -0.02]). The indirect effect of observability on moral goodness via reputation signaling was credible ($b = 0.02$, 95% CrI [0.01, 0.02]), and the direct effect of the private condition on moral goodness was not credible (Path c': $b = 0.01$, 95% CrI [-0.08, 0.10]). The result indicates that observability had no direct effect on moral goodness beyond its indirect effect through reputation signaling.

Similarly, private behaviors were perceived as credibly lower in reputation signaling than public behaviors (Path a: $b = -0.52$, 95% CrI [-0.66, -0.38]), and higher levels of reputation signaling credibly predicted lower ratings of virtuousness (Path b: $b = -0.01$, 95% CrI [-0.02, -0.004]). The indirect effect of observability on virtuousness via reputation signaling was positive and credible ($b = 0.01$, 95% CrI [0.002, 0.01]), and the direct effect of the private condition on virtuousness was not credible (Path c': $b = 0.00$, 95% CrI [-0.10, 0.10]). This indicates that observability did not directly impact virtuousness outside of its effect on reputation signaling.

Private behaviors were perceived as credibly lower in norm signaling than public behaviors (Path a: $b = -0.73$, 95% CrI [-0.89, -0.58]), and higher ratings of norm signaling credibly predicted higher moral goodness (Path b: $b = 0.21$, 95% CrI [0.20, 0.22]). The indirect effect of observability on moral goodness via norm signaling was credible ($b = -0.15$, 95% CrI [-0.19, -0.12]), and the direct effect of the private condition on moral goodness was also credible (Path c': $b = 0.18$, 95% CrI [0.10, 0.27]). The result indicates a pattern of partial mediation, in that the private behaviors reduce levels of norm signaling, while the private behaviors still have a separate, direct positive impact on moral goodness.

Similarly, private behaviors were perceived as credibly lower in norm signaling than public behaviors (Path a: $b = -0.52$, 95% CrI $[-0.66, -0.38]$), and higher ratings of norm signaling credibly predicted lower virtuousness (Path b: $b = -0.01$, 95% CrI $[-0.02, -0.005]$). The indirect effect of observability on virtuousness via norm signaling was credible ($b = 0.01$, 95% CrI $[0.002, 0.01]$), and the direct effect of the private condition on virtuousness was not credible (Path c': $b = 0.003$, 95% CrI $[-0.10, 0.10]$). The result suggests that observability did not directly affect virtuousness but instead impacted through its effect on norm signaling.

Private behaviors were perceived as higher in moral motivation, but not credibly, than public behaviors (Path a: $b = 0.04$, 95% CrI $[-0.04, 0.13]$), and higher ratings of moral motivation credibly predicted higher moral goodness (Path b: $b = 0.60$, 95% CrI $[0.59, 0.61]$). The indirect effect of observability on moral goodness via moral motivation was not credible ($b = 0.03$, 95% CrI $[-0.02, 0.08]$), and the direct effect of the private condition on moral goodness was also not credible (Path c': $b = 0.00$, 95% CrI $[-0.06, 0.06]$).

Similarly, private behaviors were perceived as higher in moral motivation, but not credibly, than public behaviors (Path a: $b = 0.04$, 95% CrI $[-0.04, 0.13]$), and higher ratings of moral motivation credibly predicted higher virtuousness (Path b: $b = 0.60$, 95% CrI $[0.59, 0.61]$). The indirect effect of observability on virtuousness via moral motivation was not credible ($b = 0.03$, 95% CrI $[-0.03, 0.08]$), and the direct effect of the private condition on virtuousness was also not credible (Path c': $b = -0.02$, 95% CrI $[-0.10, 0.06]$).

Table S13*Pairwise Comparison Results at Virtue Level*

	Private		Public		<i>t</i> -test	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Care	(<i>n</i> = 401)		(<i>n</i> = 399)			
Moral goodness	5.8	0.9	5.9	0.8	$t(798) = -1.20, p = .231$	-0.08 [-0.22, 0.05]
Norm signaling	3.5	1.6	4.5	1.5	$t(798) = -9.13, p < .001$	-0.65 [-0.80, -0.50]
Moral motivation	5.9	0.9	6.1	0.7	$t(798) = -4.37, p < .001$	-0.31 [-0.44, -0.18]
Reputation signaling	3.4	1.5	3.9	1.5	$t(798) = -4.12, p < .001$	-0.29 [-0.43, -0.15]
Virtuousness	5.6	1.0	5.6	0.9	$t(798) = 0.07, p = .948$	0.00 [-0.14, 0.16]
Charity	(<i>n</i> = 401)		(<i>n</i> = 399)			
Moral goodness	5.3	1.0	5.3	1.0	$t(798) = -0.18, p = .855$	-0.01 [-0.15, 0.13]
Norm signaling	3.8	1.5	5.1	1.2	$t(798) = -13.17, p < .001$	-0.93 [-1.09, -0.78]
Moral motivation	5.7	1.0	5.6	0.9	$t(798) = 2.12, p = .035$	0.15 [0.01, 0.30]
Reputation signaling	3.0	1.3	4.4	1.2	$t(798) = -15.50, p < .001$	-1.10 [-1.27, -0.94]
Virtuousness	5.2	1.0	5.2	1.0	$t(798) = -0.44, p = .660$	-0.03 [-0.18, 0.11]
Citizenship	(<i>n</i> = 401)		(<i>n</i> = 399)			
Moral goodness	5.9	0.9	5.8	0.9	$t(798) = 1.37, p = .172$	0.10 [-0.04, 0.23]
Norm signaling	4.0	1.8	5.2	1.3	$t(798) = -10.95, p < .001$	-0.77 [-0.93, -0.64]
Moral motivation	6.2	0.9	6.1	0.8	$t(798) = -1.19, p = .235$	0.08 [-0.05, 0.21]
Reputation signaling	2.9	1.6	3.8	1.4	$t(798) = -8.62, p < .001$	-0.61 [-0.76, -0.46]
Virtuousness	5.6	1.0	5.5	1.0	$t(798) = 1.30, p = .193$	0.09 [-0.05, 0.23]
Civility	(<i>n</i> = 401)		(<i>n</i> = 399)			

Moral goodness	5.0	1.1	5.4	1.0	$t(798) = -5.53, p < .001$	-0.39 [-0.53, -0.26]
Norm signaling	4.4	1.3	4.8	1.3	$t(798) = -3.61, p < .001$	-0.25 [-0.41, -0.11]
Moral motivation	5.3	1.1	5.5	0.9	$t(798) = -3.73, p < .001$	-0.26 [-0.40, -0.12]
Reputation signaling	4.1	1.3	4.2	1.1	$t(798) = -2.08, p = .037$	-0.15 [-0.29, -0.01]
Virtuousness	4.7	1.2	5.2	1.1	$t(798) = -5.80, p < .001$	-0.41 [-0.56, -0.28]
Compassion	(<i>n</i> = 401)		(<i>n</i> = 399)			
Moral goodness	6.5	0.7	6.5	0.7	$t(798) = -0.41, p = .680$	-0.03 [-0.17, 0.11]
Norm signaling	3.4	1.9	5.1	1.6	$t(798) = -13.65, p < .001$	-0.97 [-1.14, -0.82]
Moral motivation	6.5	0.8	6.5	0.7	$t(798) = -0.77, p = .441$	-0.05 [-0.19, 0.08]
Reputation signaling	2.6	1.6	3.3	1.6	$t(798) = -6.39, p < .001$	-0.45 [-0.60, -0.31]
Virtuousness	6.3	0.8	6.3	0.8	$t(798) = -0.40, p = .690$	-0.03 [-0.17, 0.12]
Courage	(<i>n</i> = 401)		(<i>n</i> = 399)			
Moral goodness	5.5	0.8	5.7	0.8	$t(798) = -2.93, p = .004$	-0.21 [-0.35, -0.07]
Norm signaling	4.3	1.5	5.2	1.3	$t(798) = -9.59, p < .001$	-0.68 [-0.83, -0.54]
Moral motivation	6.0	0.8	6.2	0.8	$t(798) = -3.17, p = .002$	-0.22 [-0.38, -0.08]
Reputation signaling	2.9	1.5	3.6	1.4	$t(798) = -6.59, p < .001$	-0.47 [-0.62, -0.32]
Virtuousness	5.4	0.8	5.6	0.8	$t(798) = -3.38, p < .001$	-0.24 [-0.38, -0.10]
Curiosity	(<i>n</i> = 401)		(<i>n</i> = 399)			
Moral goodness	4.7	1.2	4.5	1.1	$t(798) = 1.86, p = .063$	0.13 [0.00, 0.28]
Norm signaling	3.5	1.4	3.5	1.4	$t(798) = -0.86, p = .391$	-0.06 [-0.20, 0.07]
Moral motivation	4.7	1.2	4.7	1.2	$t(798) = 0.57, p = .570$	0.04 [-0.09, 0.17]
Reputation signaling	3.5	1.3	3.5	1.3	$t(798) = -0.51, p = .608$	-0.04 [-0.17, 0.11]

Virtuousness	4.4	1.2	4.3	1.1	$t(798) = 1.15, p = .250$	0.08 [-0.06, 0.22]
Empathy	(n = 401)		(n = 399)			
Moral goodness	5.7	0.9	5.7	0.9	$t(798) = 0.27, p = .784$	0.02 [-0.11, 0.17]
Norm signaling	3.6	1.7	4.0	1.6	$t(798) = -3.59, p < .001$	-0.25 [-0.39, -0.11]
Moral motivation	5.5	1.0	5.7	1.1	$t(798) = -1.70, p = .089$	-0.12 [-0.26, 0.02]
Reputation signaling	3.0	1.4	3.1	1.5	$t(798) = -1.06, p = .287$	-0.08 [-0.22, 0.06]
Virtuousness	5.5	1.1	5.5	1.1	$t(798) = 0.04, p = .971$	0.00 [-0.13, 0.15]
Fairness	(n = 401)		(n = 399)			
Moral goodness	6.0	0.9	5.6	1.0	$t(798) = 5.49, p < .001$	0.39 [0.24, 0.53]
Norm signaling	4.60	1.5	5.0	1.4	$t(798) = -3.78, p < .001$	-0.27 [-0.42, -0.13]
Moral motivation	6.2	0.9	5.9	0.9	$t(798) = 4.69, p < .001$	0.33 [0.19, 0.49]
Reputation signaling	3.8	1.5	4.2	1.3	$t(798) = -4.37, p < .001$	-0.31 [-0.46, -0.17]
Virtuousness	5.7	1.1	5.3	1.2	$t(798) = 5.06, p < .001$	0.36 [0.22, 0.49]
Forgiveness	(n = 401)		(n = 399)			
Moral goodness	5.6	1.0	5.7	0.9	$t(798) = -0.91, p = .361$	-0.06 [-0.21, 0.07]
Norm signaling	3.9	1.6	4.6	1.5	$t(798) = -6.69, p < .001$	-0.47 [-0.61, -0.33]
Moral motivation	5.9	0.8	6.0	0.84	$t(798) = -2.25, p = .025$	-0.16 [-0.31, -0.03]
Reputation signaling	3.4	1.5	3.5	1.5	$t(798) = -1.78, p = .075$	-0.13 [-0.27, 0.02]
Virtuousness	5.4	1.0	5.5	1.0	$t(798) = -0.82, p = .414$	-0.06 [-0.19, 0.08]
Generosity	(n = 401)		(n = 399)			
Moral goodness	6.0	0.9	5.7	1.0	$t(798) = 4.67, p < .001$	0.33 [0.19, 0.46]
Norm signaling	3.6	1.7	4.7	1.4	$t(798) = -10.03, p < .001$	-0.71 [-0.85, -0.57]

Moral motivation	5.9	1.0	5.6	1.0	$t(798) = 5.79, p < .001$	0.41 [0.27, 0.56]
Reputation signaling	3.4	1.62	4.7	1.4	$t(798) = -11.91, p < .001$	-0.84 [-0.99, -0.68]
Virtuousness	5.9	0.96	5.6	1.0	$t(798) = 3.98, p < .001$	0.28 [0.14, 0.42]
Gratitude	(n = 401)		(n = 399)			
Moral goodness	5.9	0.9	5.8	0.9	$t(798) = 0.55, p = .585$	0.04 [-0.10, 0.18]
Norm signaling	3.8	1.6	4.5	1.5	$t(798) = -5.61, p < .001$	-0.40 [-0.55, -0.26]
Moral motivation	6.0	0.9	6.1	0.8	$t(798) = -1.09, p = .275$	-0.08 [-0.22, 0.06]
Reputation signaling	3.4	1.6	3.5	1.5	$t(798) = -0.45, p = .651$	-0.03 [-0.17, 0.10]
Virtuousness	5.5	1.1	5.5	1.1	$t(798) = -1.05, p = .296$	-0.07 [-0.20, 0.05]
Honesty	(n = 401)		(n = 399)			
Moral goodness	5.3	1.0	5.1	1.0	$t(798) = 2.68, p = .007$	0.19 [0.03, 0.34]
Norm signaling	3.9	1.5	4.5	1.3	$t(798) = -6.37, p < .001$	-0.45 [-0.59, -0.31]
Moral motivation	5.8	0.9	5.5	1.0	$t(798) = 3.90, p < .001$	0.28 [0.13, 0.42]
Reputation signaling	3.2	1.4	3.6	1.3	$t(798) = -3.59, p < .001$	-0.25 [-0.39, -0.12]
Virtuousness	5.1	1.0	4.9	1.0	$t(798) = 2.61, p = .009$	0.18 [0.05, 0.33]
Humility	(n = 401)		(n = 399)			
Moral goodness	5.8	0.9	6.0	0.8	$t(798) = -3.37, p < .001$	-0.24 [-0.38, -0.11]
Norm signaling	3.9	1.6	5.0	1.4	$t(798) = -10.28, p < .001$	-0.73 [-0.87, -0.58]
Moral motivation	6.0	0.9	6.0	0.9	$t(798) = -0.67, p = .505$	-0.05 [-0.19, 0.09]
Reputation signaling	3.4	1.4	4.5	1.4	$t(798) = -10.91, p < .001$	-0.77 [-0.94, -0.61]
Virtuousness	5.7	1.0	5.9	0.9	$t(798) = -3.10, p = .002$	-0.22 [-0.35, -0.07]
Integrity	(n = 401)		(n = 399)			

Moral goodness	6.0	0.9	5.8	0.9	$t(798) = 3.17, p = .002$	0.22 [0.09, 0.37]
Norm signaling	5.0	1.6	5.3	1.3	$t(798) = -6.52, p < .001$	-0.46 [-0.60, -0.32]
Moral motivation	6.2	0.9	6.1	0.9	$t(798) = 2.26, p = .024$	0.16 [0.02, 0.31]
Reputation signaling	3.7	1.6	4.5	1.5	$t(798) = -6.67, p < .001$	-0.47 [-0.62, -0.33]
Virtuousness	5.8	1.0	5.6	1.0	$t(798) = 2.12, p = .034$	0.15 [0.01, 0.29]
Kindness	(n = 401)		(n = 399)			
Moral goodness	6.2	0.7	6.2	0.8	$t(798) = 0.66, p = .509$	0.05 [-0.09, 0.19]
Norm signaling	4.4	1.6	5.2	1.3	$t(798) = -7.93, p < .001$	-0.56 [-0.72, -0.41]
Moral motivation	6.2	0.7	6.2	0.8	$t(798) = -0.93, p = .327$	-0.07 [-0.21, 0.07]
Reputation signaling	3.8	1.5	4.1	1.4	$t(798) = -2.74, p = .006$	-0.19 [-0.33, -0.05]
Virtuousness	6.0	0.9	6.0	0.9	$t(798) = -0.17, p = .868$	-0.01 [-0.15, 0.13]
Love	(n = 401)		(n = 399)			
Moral goodness	5.3	1.2	5.0	1.2	$t(798) = 4.06, p < .001$	0.29 [0.16, 0.43]
Norm signaling	3.2	1.6	3.6	1.5	$t(798) = -3.27, p = .001$	-0.23 [-0.38, -0.10]
Moral motivation	5.4	1.2	5.1	1.3	$t(798) = 3.94, p < .001$	0.28 [0.13, 0.43]
Reputation signaling	3.0	1.5	3.2	1.4	$t(798) = -1.55, p = .121$	-0.11 [-0.24, 0.02]
Virtuousness	4.9	1.3	4.6	1.3	$t(798) = 2.75, p = .006$	0.19 [0.05, 0.33]
Loyalty	(n = 401)		(n = 399)			
Moral goodness	5.1	1.0	5.3	0.9	$t(798) = -3.66, p < .001$	-0.26 [-0.40, -0.11]
Norm signaling	3.9	1.5	4.3	1.4	$t(798) = -4.31, p < .001$	-0.30 [-0.44, -0.17]
Moral motivation	5.5	1.1	5.6	1.0	$t(798) = -1.34, p = .180$	-0.09 [-0.24, 0.04]
Reputation signaling	3.5	1.5	4.2	1.3	$t(798) = -6.76, p < .001$	-0.48 [-0.63, -0.34]

Virtuousness	4.9	1.1	5.1	1.1	$t(798) = -1.93, p = .054$	-0.14 [-0.28, -0.01]
Patience	(<i>n</i> = 401)		(<i>n</i> = 399)			
Moral goodness	4.0	1.2	4.1	1.1	$t(798) = -1.50, p = .135$	-0.11 [-0.25, 0.03]
Norm signaling	3.2	1.4	3.6	1.4	$t(798) = -3.60, p < .001$	-0.25 [-0.40, -0.12]
Moral motivation	4.5	1.3	4.5	1.3	$t(798) = -0.07, p = .945$	0.00 [-0.14, 0.13]
Reputation signaling	2.9	1.4	3.2	1.4	$t(798) = -2.36, p = .019$	-0.17 [-0.30, -0.03]
Virtuousness	3.9	1.2	4.0	1.1	$t(798) = -1.72, p = .086$	-0.12 [-0.26, 0.02]
Perseverance	(<i>n</i> = 401)		(<i>n</i> = 399)			
Moral goodness	4.5	1.3	4.4	1.2	$t(798) = 1.16, p = .248$	0.08 [-0.06, 0.21]
Norm signaling	3.1	1.5	3.6	1.4	$t(798) = -4.79, p < .001$	-0.34 [-0.49, -0.21]
Moral motivation	5.0	1.3	4.7	1.3	$t(798) = 4.44, p < .001$	0.31 [0.17, 0.46]
Reputation signaling	3.3	1.5	3.9	1.3	$t(798) = -5.47, p < .001$	-0.39 [-0.53, -0.24]
Virtuousness	4.3	1.3	4.3	1.2	$t(798) = 0.49, p = .624$	0.03 [-0.11, 0.17]

S14. Exploratory Analysis: Variability in Patterns of Results by Behavior

We examined the condition effects at the behavior level by conducting comparisons between the public and private condition within each behavior. For charity B2, empathy B1, fairness B1, generosity B1, generosity B2, honesty B1, integrity B2, love B1, love B2, patience B1, participants tended to ascribe norm and reputation signaling to public behaviors, while private behaviors were more ascribed to moral goodness, virtue, and moral motivations. Loyalty B2 and perseverance B1 also generally followed the pattern, significant among three motivational variables. Care B1, charity B1, civility B1, courage B1, humility B2, kindness B2, loyalty B1, and patience B2 all scored significantly higher in public condition, suggesting participants tended to consider these behaviors as altruistically motivated even in public situations. Norm and reputation signaling were the only two significant variables for civility B2, compassion B1 and B2, humility B1, integrity B1, kindness B1, perseverance B2, scoring higher in public condition. Participants ascribed courage B2, gratitude B1 and B2, honesty B2, and kindness B2 in public condition only to norm signaling. Similar to the virtue level results, people may value these behaviors as highly socially desirable. Table S14 describes the results at the level of behavior.

Table S14*Pairwise Comparison Results for Each Behavior*

	Private		Public			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i> -test	Cohen's d
Care B1						
Moral goodness	5.4	1.2	5.5	1.1	<i>t</i> (798) = -2.32, <i>p</i> = .021	-0.16 [-0.30, -0.03]
Norm signaling	3.0	1.8	4.5	1.7	<i>t</i> (798) = -12.18, <i>p</i> < .001	-0.86 [-1.02, -.070]

Moral goodness	6.1	0.9	6.0	1.1	$t(798) = 2.46, p = .014$	0.17 [0.04, 0.31]
Norm signaling	3.8	2.1	4.8	1.7	$t(798) = -7.35, p < .001$	-0.52 [-0.67, -0.38]
Moral motivation	6.3	0.9	6.2	1.0	$t(798) = 1.81, p = .071$	0.13 [-0.02, 0.27]
Reputation signaling	2.7	1.7	3.4	1.7	$t(798) = -5.68, p < .001$	-0.40 [-0.56, -0.26]
Virtuousness	5.9	1.1	5.7	1.2	$t(798) = 1.20, p = .011$	0.18 [0.04, 0.33]
Citizenship B2						
Moral goodness	5.6	1.3	5.6	1.3	$t(798) = 0.02, p = .980$	0.00 [-0.14, 0.14]
Norm signaling	4.1	2.0	5.5	1.3	$t(798) = -11.43, p < .001$	-0.81 [-0.96, -0.66]
Moral motivation	6.0	1.1	6.0	1.0	$t(798) = 0.23, p = .817$	0.02 [-0.11, 0.16]
Reputation signaling	3.0	1.9	4.2	1.7	$t(798) = -8.97, p < .001$	-0.63 [-0.78, -0.49]
Virtuousness	5.3	1.4	5.3	1.3	$t(798) = -0.20, p = .842$	-0.01 [-0.15, 0.13]
Civility B1						
Moral goodness	5.4	1.2	6.0	1.0	$t(798) = -8.40, p < .001$	-0.59 [-0.75, -0.45]
Norm signaling	4.8	1.6	4.9	1.7	$t(798) = -1.53, p = .127$	-0.11 [-0.26, 0.03]
Moral motivation	5.7	1.2	6.2	0.9	$t(798) = -7.01, p < .001$	-0.50 [-0.63, -0.35]
Reputation signaling	3.4	1.6	3.2	1.7	$t(798) = 2.09, p = .037$	0.15 [0.01, 0.28]
Virtuousness	5.1	1.3	5.9	1.1	$t(798) = -8.95, p < .001$	-0.63 [-0.79, -0.49]
Civility B2						
Moral goodness	4.5	1.48	4.7	1.6	$t(798) = -1.49, p = .135$	-0.11 [-0.25, 0.04]
Norm signaling	4.1	1.67	4.6	1.6	$t(798) = -4.18, p < .001$	-0.30 [-0.44, -0.16]
Moral motivation	4.8	1.52	4.8	1.6	$t(798) = -0.13, p = .898$	-0.01 [-0.16, 0.12]
Reputation signaling	4.7	1.65	5.3	1.4	$t(798) = -5.56, p < .001$	-0.39 [-0.53, -0.24]

Virtuousness	4.3	1.64	4.5	1.7	$t(798) = -1.37, p = .170$	-0.10 [-0.24, 0.05]
Compassion B1						
Moral goodness	6.5	0.7	6.5	0.7	$t(798) = -0.85, p = .397$	-0.06 [-0.20, 0.08]
Norm signaling	3.4	2.1	5.1	1.7	$t(798) = -12.64, p < .001$	-0.89 [-1.05, -0.73]
Moral motivation	6.4	0.8	6.5	0.7	$t(798) = -1.19, p = .236$	-0.08 [-0.21, 0.07]
Reputation signaling	2.7	1.8	3.3	1.8	$t(798) = -4.76, p < .001$	-0.34 [-0.48, -0.21]
Virtuousness	6.3	0.9	6.4	0.8	$t(798) = -1.44, p = .152$	-0.10 [-0.23, 0.04]
Compassion B2						
Moral goodness	6.5	0.9	6.4	0.8	$t(798) = 0.05, p = .963$	0.00 [-0.13, 0.15]
Norm signaling	3.5	2.1	5.1	1.8	$t(798) = -11.82, p < .001$	-0.84 [-0.99, -0.68]
Moral motivation	6.5	1.0	6.5	0.8	$t(798) = -0.23, p = .820$	-0.02 [-0.16, 0.12]
Reputation signaling	2.6	1.8	3.4	1.8	$t(798) = -6.81, p < .001$	-0.48 [-0.63, -0.33]
Virtuousness	6.3	1.0	6.3	0.9	$t(798) = 0.65, p = .513$	0.05 [-0.10, 0.19]
Courage B1						
Moral goodness	4.6	1.2	4.9	1.2	$t(798) = -4.08, p < .001$	-0.29 [-0.42, -0.14]
Norm signaling	3.8	1.7	5.1	1.4	$t(798) = -12.41, p < .001$	-0.88 [-1.03, -0.74]
Moral motivation	5.5	1.2	5.9	1.0	$t(798) = -4.63, p < .001$	-0.33 [-0.45, -0.20]
Reputation signaling	2.8	1.6	4.1	1.6	$t(798) = -11.69, p < .001$	-0.83 [-0.98, -0.68]
Virtuousness	4.4	1.3	4.8	1.2	$t(798) = -4.94, p < .001$	-0.35 [-0.49, -0.21]
Courage B2						
Moral goodness	6.5	0.8	6.5	0.9	$t(798) = 0.40, p = .692$	0.03 [-0.11, 0.16]
Norm signaling	4.8	2.0	5.3	1.7	$t(798) = -3.95, p = .000$	-0.28 [-0.42, -0.14]

Moral goodness	5.3	1.2	5.5	1.2	$t(798) = -2.04, p = .042$	-0.14 [-0.29, -0.01]
Norm signaling	3.3	1.8	3.3	1.9	$t(798) = -0.36, p = .722$	-0.03 [-0.16, 0.11]
Moral motivation	4.9	1.7	5.3	1.7	$t(798) = -3.52, p < .001$	-0.25 [-0.39, -0.11]
Reputation signaling	2.7	1.6	2.7	1.6	$t(798) = 0.52, p = .605$	0.04 [-0.11, 0.18]
Virtuousness	5.0	1.4	5.3	1.4	$t(798) = -2.52, p = .012$	-0.18 [-0.31, -0.04]
Fairness B1						
Moral goodness	6.0	1.0	5.4	1.2	$t(798) = 7.58, p < .001$	0.54 [0.40, 0.69]
Norm signaling	5.1	1.6	5.3	1.5	$t(798) = -1.95, p = .051$	-0.14 [-0.28, 0.00]
Moral motivation	6.1	1.0	5.6	1.2	$t(798) = 6.48, p < .001$	0.46 [0.32, 0.61]
Reputation signaling	4.4	1.7	5.2	1.6	$t(798) = -6.56, p < .001$	-0.46 [-0.60, -0.32]
Virtuousness	5.8	1.2	5.2	1.4	$t(798) = 6.21, p < .001$	0.44 [0.29, 0.59]
Fairness B2						
Moral goodness	5.9	1.1	5.8	1.1	$t(798) = 1.72, p = .087$	0.12 [-0.02, 0.25]
Norm signaling	4.1	2.0	4.6	1.8	$t(798) = -4.15, p < .001$	-0.29 [-0.45, -0.16]
Moral motivation	6.2	1.0	6.1	0.9	$t(798) = 1.07, p = .285$	0.08 [-0.06, 0.22]
Reputation signaling	3.1	1.8	3.2	1.8	$t(798) = -0.82, p = .413$	-0.06 [-0.19, 0.08]
Virtuousness	5.6	1.2	5.4	1.3	$t(798) = 2.55, p = .011$	0.18 [0.03, 0.32]
Forgiveness B1						
Moral goodness	5.4	1.2	5.6	1.3	$t(798) = -2.42, p = .002$	-0.17 [-0.32, -0.03]
Norm signaling	4.2	1.8	4.6	1.7	$t(798) = -3.27, p = .001$	-0.23 [-0.36, -0.09]
Moral motivation	5.7	1.2	5.9	1.2	$t(798) = -1.76, p = .078$	-0.12 [-0.26, 0.02]
Reputation signaling	3.1	1.6	3.3	1.7	$t(798) = -1.13, p = .257$	-0.08 [-0.22, 0.06]

Virtuousness	5.4	1.3	5.6	1.3	$t(798) = -2.56, p = .011$	-0.18 [-0.33, -0.04]
Forgiveness B2						
Moral goodness	5.8	1.0	5.7	1.0	$t(798) = 1.40, p = .161$	0.10 [-0.04, 0.24]
Norm signaling	3.5	2.0	4.6	1.7	$t(798) = -7.84, p < .001$	-0.55 [-0.70, -0.40]
Moral motivation	6.1	0.9	6.2	0.9	$t(798) = -1.88, p = .061$	-0.13 [-0.28, 0.00]
Reputation signaling	3.6	1.8	3.8	1.8	$t(798) = -1.89, p = .059$	-0.13 [-0.28, 0.01]
Virtuousness	5.5	1.3	5.4	1.3	$t(798) = 1.30, p = .194$	0.09 [-0.05, 0.23]
Generosity B1						
Moral goodness	6.1	1.0	5.7	1.2	$t(798) = 5.02, p < .001$	0.35 [0.23, 0.48]
Norm signaling	3.6	1.9	4.4	1.7	$t(798) = -6.38, p < .001$	-0.45 [-0.60, -0.32]
Moral motivation	5.9	1.2	5.5	1.3	$t(798) = 3.86, p < .001$	0.27 [0.13, 0.41]
Reputation signaling	3.4	1.8	4.4	1.8	$t(798) = -8.04, p < .001$	-0.57 [-0.72, -0.42]
Virtuousness	6.1	1.0	5.7	1.3	$t(798) = 4.41, p < .001$	0.31 [0.16, 0.45]
Generosity B2						
Moral goodness	5.8	1.1	5.6	1.2	$t(798) = 2.90, p = .004$	0.21 [0.07, 0.36]
Norm signaling	3.5	2.0	4.9	1.5	$t(798) = -10.78, p < .001$	-0.76 [-0.92, -0.61]
Moral motivation	6.0	1.0	5.6	1.1	$t(798) = 5.87, p < .001$	0.42 [0.27, 0.57]
Reputation signaling	3.4	2.0	4.9	1.7	$t(798) = -11.76, p < .001$	-0.83 [-1.00, -0.68]
Virtuousness	5.8	1.2	5.6	1.2	$t(798) = 2.36, p = .002$	0.17 [0.03, 0.30]
Gratitude B1						
Moral goodness	5.9	1.0	5.9	1.0	$t(798) = 0.78, p = .437$	0.06 [-0.09, 0.19]
Norm signaling	3.9	1.9	4.3	1.8	$t(798) = -3.21, p = .001$	-0.23 [-0.36, -0.09]

Moral goodness	5.9	1.1	5.9	1.1	$t(798) = -0.33, p = .744$	-0.02 [-0.16, 0.12]
Norm signaling	4.2	1.8	5.0	1.6	$t(798) = -6.46, p < .001$	-0.46 [-0.61, -0.32]
Moral motivation	5.9	1.1	5.9	1.1	$t(798) = -0.39, p = .698$	-0.03 [-0.16, 0.13]
Reputation signaling	4.0	1.8	4.3	1.7	$t(798) = -2.11, p = .035$	-0.15 [-0.29, 0.00]
Virtuousness	5.7	1.2	5.8	1.2	$t(798) = -0.37, p = .709$	-0.03 [-0.17, 0.11]
Humility B2						
Moral goodness	5.7	1.2	6.1	0.9	$t(798) = -5.18, p < .001$	-0.37 [-0.50, -0.24]
Norm signaling	3.6	2.0	5.0	1.6	$t(798) = -11.00, p < .001$	-0.78 [-0.94, -0.63]
Moral motivation	6.0	1.1	6.0	1.0	$t(798) = -0.70, p = .487$	-0.05 [-0.18, 0.09]
Reputation signaling	2.7	1.7	4.7	1.7	$t(798) = -16.40, p < .001$	-1.16 [-1.35, -0.99]
Virtuousness	5.6	1.3	6.0	1.0	$t(798) = -4.80, p < .001$	-0.34 [-0.47, -0.21]
Integrity B1						
Moral goodness	5.8	1.2	5.6	1.3	$t(798) = 1.39, p = .164$	0.10 [-0.04, 0.23]
Norm signaling	4.7	1.8	5.1	1.7	$t(798) = -2.71, p = .007$	-0.19 [-0.33, -0.04]
Moral motivation	6.1	1.1	6.0	1.1	$t(798) = 1.31, p = .190$	0.09 [-0.05, 0.23]
Reputation signaling	4.1	1.8	4.4	1.8	$t(798) = -2.16, p = .031$	-0.15 [-0.29, -0.01]
Virtuousness	5.4	1.35	5.31	1.4	$t(798) = 0.80, p = .422$	0.06 [-0.09, 0.20]
Integrity B2						
Moral goodness	6.3	1.0	6.0	1.1	$t(798) = 3.84, p < .001$	0.27 [0.13, 0.41]
Norm signaling	4.5	2.0	5.5	1.5	$t(798) = -8.15, p < .001$	-0.58 [-0.73, -0.44]
Moral motivation	6.3	1.0	6.1	1.1	$t(798) = 2.65, p = .008$	0.19 [0.05, 0.33]
Reputation signaling	3.4	1.9	4.5	1.8	$t(798) = -8.82, p < .001$	-0.62 [-0.78, -0.48]

Virtuousness	6.1	1.2	5.9	1.2	$t(798) = 2.75, p = .006$	0.19 [0.06, 0.34]
Kindness B1						
Moral goodness	5.9	1.0	5.9	1.1	$t(798) = 1.05, p = .293$	0.07 [-0.07, 0.21]
Norm signaling	4.6	1.8	5.5	1.3	$t(798) = -8.65, p < .001$	-0.61 [-0.76, -0.47]
Moral motivation	5.9	1.0	6.0	1.0	$t(798) = -0.78, p = .436$	-0.06 [-0.20, 0.08]
Reputation signaling	4.5	1.6	5.0	1.6	$t(798) = -4.26, p < .001$	-0.30 [-0.44, -0.16]
Virtuousness	5.7	1.2	5.7	1.1	$t(798) = -0.07, p = .941$	-0.01 [-0.14, 0.13]
Kindness B2						
Moral goodness	6.5	0.7	6.5	0.7	$t(798) = -0.15, p = .882$	-0.01 [-0.15, 0.13]
Norm signaling	4.2	2.0	4.9	1.7	$t(798) = -5.07, p < .001$	-0.36 [-0.49, -0.22]
Moral motivation	6.4	0.8	6.5	0.8	$t(798) = -0.88, p = .380$	-0.06 [-0.19, 0.07]
Reputation signaling	3.2	1.8	3.2	1.7	$t(798) = -0.52, p = .602$	-0.04 [-0.17, 0.10]
Virtuousness	6.3	0.9	6.3	0.9	$t(798) = -0.23, p = .819$	-0.02 [-0.16, 0.12]
Love B1						
Moral goodness	5.0	1.3	4.8	1.3	$t(798) = 2.61, p = .009$	0.18 [0.06, 0.32]
Norm signaling	3.2	1.8	3.7	1.6	$t(798) = -3.58, p < .001$	-0.25 [-0.39, -0.12]
Moral motivation	5.1	1.4	4.9	1.5	$t(798) = 2.31, p = .021$	0.16 [0.02, 0.30]
Reputation signaling	3.0	1.7	3.4	1.6	$t(798) = -2.88, p = .004$	-0.20 [-0.34, -0.07]
Virtuousness	4.6	1.4	4.4	1.4	$t(798) = 2.29, p = .022$	0.16 [0.02, 0.30]
Love B2						
Moral goodness	5.6	1.3	5.2	1.3	$t(798) = 4.73, p < .001$	0.33 [0.20, 0.48]
Norm signaling	3.3	2.0	3.6	1.7	$t(798) = -2.35, p = .019$	-0.17 [-0.31, -0.02]

Moral goodness	4.0	1.6	4.5	1.5	$t(798) = -4.28, p < .001$	-0.30 [-0.44, -0.17]
Norm signaling	3.4	1.7	3.8	1.7	$t(798) = -3.69, p < .001$	-0.26 [-0.41, -0.13]
Moral motivation	4.5	1.6	4.9	1.6	$t(798) = -3.20, p = .001$	-0.23 [-0.36, -0.09]
Reputation signaling	2.9	1.6	3.2	1.7	$t(798) = -2.98, p = .003$	-0.21 [-0.35, -0.06]
Virtuousness	3.9	1.6	4.4	1.6	$t(798) = -4.51, p < .001$	-0.32 [-0.47, -0.18]
Perseverance B1						
Moral goodness	4.4	1.5	4.2	1.4	$t(798) = 1.86, p = .063$	0.13 [-0.01, 0.27]
Norm signaling	3.0	1.7	3.4	1.6	$t(798) = -3.45, p < .001$	-0.24 [-0.40, -0.11]
Moral motivation	5.2	1.4	4.6	1.7	$t(798) = 5.62, p < .001$	0.40 [0.26, 0.54]
Reputation signaling	3.1	1.7	3.3	1.5	$t(798) = -1.77, p = .078$	-0.12 [-0.26, 0.01]
Virtuousness	4.3	1.4	4.2	1.4	$t(798) = 1.16, p = .247$	0.08 [-0.05, 0.23]
Perseverance B2						
Moral goodness	4.5	1.5	4.5	1.4	$t(798) = 0.19, p = .847$	0.01 [-0.12, 0.16]
Norm signaling	3.2	1.7	3.8	1.7	$t(798) = -4.83, p < .001$	-0.34 [-0.49, -0.21]
Moral motivation	4.9	1.5	4.7	1.5	$t(798) = 1.90, p = .058$	0.13 [0.00, 0.27]
Reputation signaling	3.6	1.8	4.5	1.7	$t(798) = -7.20, p < .001$	-0.51 [-0.67, -0.37]
Virtuousness	4.4	1.5	4.4	1.5	$t(798) = -0.26, p = .797$	-0.02 [-0.17, 0.12]

S15. Pilot Study: Norming generated scenarios.

After generating relevant scenarios of an individual engaging in each virtue, publicly or privately, a pilot study was conducted to assess whether participants perceived these scenarios as condition-accurate (public for public scenarios and private for private), and how well these paired virtue scenarios aligned on their perceived normality.

Methods***Participants***

A convenience sample of 60 Prolific workers were recruited ($N_{\text{male}} = 31$, $N_{\text{female}} = 28$, $M_{\text{age}} = 36.7$, $SD_{\text{age}} = 11.4$) and included in the analysis, as all of them passed an attention check, scoring above a 2 on the self-report item, “Overall, how much did you pay attention to this study while you were taking it?”

Materials and Procedure

Participants read 72 scenarios of virtuous behaviors (see Table S15 for full text of all scenarios). They were randomly assigned to either read about these behaviors occurring in private ($N = 30$) or in public ($N = 30$). After each vignette, participants were asked “How private or public do you think the above person’s behavior was?”, and “How strange or normal do you find the situation described above?”, both on a 7-point bipolar Likert scale.

Table S15

Pilot study behaviors clustered by virtue used in the vignette

Virtue	Behavior	Private Text	Public Text
Care	Care B1	Imagine learning that someone bought their friend a gift and gave it to them privately after	Imagine that you witness someone buy their friend a gift and give it to them during

		their birthday party.	their birthday party.
	Care B2	Imagine someone cooked soup for one of their colleagues who is sick and gave it to them after work privately.	Imagine that you see your coworker give your sick colleague homemade soup.
	Care B3	Imagine you are at an empty park and see a kid fall and get a deep cut on their knee. You then see a stranger come up to the kid and their parent, and offer to treat the wound.	Imagine you are at a crowded park and see a kid fall and get a deep cut on their knee. You then see a stranger come up to the kid and their parent, and offer to treat the wound.
Charity	Charity B1	Imagine you see someone get pulled aside and privately asked for donations to a local charity.	Imagine that you see someone outside a busy store asking for donations to a local charity.
	Charity B2	Imagine someone donated to an artist on GoFundMe and did not list their name.	Imagine you go on GoFundMe, and see that someone made a public donation, listing their name.
	Charity B3	Imagine someone volunteered at a local soup kitchen preparing meals for homeless individuals in the back of the kitchen.	Imagine that you saw someone volunteer at a local soup kitchen serving meals to homeless individuals.
Citizenship	Citizenship B1	Imagine someone saw a theft occur, and anonymously reported information about the crime to the police.	Imagine that you see a theft occur, and when the police are investigating the scene afterwards you see another witness share information about the crime.
	Citizenship B2	Imagine someone signs an anonymous petition in support of climate change awareness.	Imagine that you see someone sign their name on a publicly posted petition in support of climate

		change awareness.	
Civility	Citizenship B3	Imagine someone chooses to shop only at local businesses so they can reinvest in their community.	Imagine while waiting in a shopping line, you overhear the customer ahead of you tell the cashier that they only shop at local businesses so they can reinvest in their community.
	Civility B1	Imagine someone see two strangers having an intense argument in an anonymous online chat room and defuses their argument.	Imagine two strangers are intensely arguing in public and you see someone defuse their fight.
	Civility B2	Imagine someone dislikes a colleague, but still compliments them during their one-on-one chats.	Imagine someone dislikes a colleague, but still compliments them at a work meeting in front of their coworkers including you.
Compassion	Civility B3	Imagine someone held the door open for another person.	Imagine that someone holds the door open for another person in a crowded lobby.
	Compassion B1	Imagine that someone helped an elderly person cross the street early in the morning, when no one is present.	Imagine that you see someone help an elderly person cross a busy street.
	Compassion B2	Imagine someone sees a stray dog stuck in a trap with no one around and rescues the dog.	Imagine a stray dog is stuck in a trap and you witness someone rescue it in front of a large crowd.
Courage	Compassion B3	Imagine that someone sees another person crying by themselves in a room and hugs them.	Imagine that you see someone hug someone crying in public.
	Courage B1	Imagine someone submits an anonymous statement against a	Imagine you are at a packed town hall meeting and one of the

		popular recent city policy at your town hall meeting.	attendees chooses to speak against a popular recent city policy.
	Courage B2	Imagine someone comes across two strangers who are intensely bullying a kid with no one around, and they defend the kid.	Imagine two strangers are intensely bullying a kid in public and you witness someone defend the kid.
	Courage B3	Imagine someone reading at home.	Imagine you see a car about to hit a person on a busy street, but another individual pushes them out of the way.
Curiosity	Curiosity B1	Imagine that someone has a one-on-one conversation with their coworker to ask about their hobbies.	Imagine you see someone reading at a busy cafe.
	Curiosity B2	Imagine someone visits a friend in the hospital who was recently severely injured, and expresses their empathy for their friend's pain.	Imagine that at a work social, you witness someone ask their coworker about their hobbies.
Empathy	Empathy B1	Imagine someone visits a friend in the hospital who was recently severely injured, and expresses their empathy for their friend's pain.	Imagine a friend recently got severely injured, and while visiting them with a larger group, one of your other friends express how they empathize with your injured friend's pain.
	Empathy B2	Imagine someone cries while privately grieving with a friend about the friend's recently deceased family member.	Imagine you see someone cry with their friend about their friend's recently deceased family member.
	Empathy B3	Imagine someone hugs their friend because their friend is sad about	Imagine you see someone hugging their friend because their

		a recent breakup.	friend is sad about a recent breakup.
Fairness	Fairness B1	Imagine someone is a referee at an NBA game and has a personal commitment to make the most fair calls in each game.	Imagine you are at an NBA game and before the game the referee shares to the audience that they are committed to making the most fair calls.
	Fairness B2	Imagine someone preps meals for lunch at a local school, and makes sure each student gets same amount of food.	Imagine you see the lunch server at your local school deliberately making sure he gives each student the same amount of food.
	Fairness B3	Imagine someone is the head coach of a youth sports team and plans to ensure each player plays at least 10 minutes a match.	Imagine the head coach of a youth sports team tells parents that they will ensure each player plays at least 10 minutes a match.
Forgiveness	Forgiveness B1	Imagine someone forgave a person who tried to steal their bag on an empty train.	Imagine you are in a crowded park and see someone forgive a person who tried to steal their bag.
	Forgiveness B2	Imagine someone privately apologizes for being late to a friend's birthday dinner.	Imagine you are at a birthday dinner and you see the host's friend apologize for being late to the dinner.
	Forgiveness B3	Imagine someone's coworker makes a costly mistake that loses them a client, but they forgive the coworker.	Imagine you are at a work meeting. When your coworker is informing the team that a costly mistake lost a client, they forgive the colleague who made the mistake.
Generosity	Generosity B1	Imagine someone leaves a 40% tip after everyone they went to dinner with leaves the	Imagine you are leaving a meal with friends, and one of your friends leaves a 40% tip.

table.

	Generosity B2	Imagine someone meets up with a struggling classmate to tutor them for free.	Imagine you see someone tutoring a struggling classmate at lunch for free.
	Generosity B3	Imagine someone gives some of their money to an homeless individual via an anonymous GoFundme.	Imagine you are walking alone in a local city, and see someone give money to an homeless individual as several pedestrians are walking by.
	Generosity B4	Imagine someone staying late to help a struggling coworker when the office is empty.	Imagine as you leave work you notice one of your coworkers staying late to help a struggling colleague.
Gratitude	Gratitude B1	Imagine someone writes a thank you card for a friend.	Imagine you are with a group of friends and notice one of them writing a thank you card for a mutual friend.
	Gratitude B2	Imagine someone thanks the cashier at the end of their purchase at an empty store.	Imagine you are at a store and notice a customer thanking the cashier at the end of their purchase.
	Gratitude B3	Imagine someone is dining alone at a restaurant and thanks the waiter at the end of their meal.	Imagine you are at a restaurant with a group of people, and one of them thanks the waiter at the end of the meal.
Honesty	Honesty B1	Imagine someone gives an anonymous testimony in a court case.	Imagine you are a spectator at a court case in front of a large audience of people and see someone testify.
	Honesty B2	Imagine someone's boss asks them to give feedback on a project they have been assigned	Imagine that you're at a work meeting where your boss asks your coworker about the

		to. They then honestly share with their boss that they think the project is not the right direction for the company.	project they have been assigned to. Your coworker then honestly shares that they think the project is not the right direction for the company.
	Honesty B3	Imagine someone is supervising a project at work and initially blames a colleague for a major error in a conversation with their boss. However, at their next meeting, they admit they were responsible.	Imagine someone is supervising a project at work and initially blames a colleague for a major error in a team meeting. However, at the next meeting, they admit they were responsible.
Humility	Humility B1	Imagine someone just received a promotion. When their office-mate congratulates them in a one-on-one conversation, the promoted worker expresses how they could not have been promoted without their office-mate's help.	Imagine someone has just received a promotion. When their co-workers congratulate them, the promoted worker expresses how they could not have been promoted without their office-mate's help.
	Humility B2	Imagine someone in a class receives a perfect score on a test that most students failed. However, they do not mention it to any of their classmates.	Imagine you are in a class that is receiving back a test that most students failed. However, one student did receive a perfect score, and offers to help tutor other students in the class.
	Humility B3	Imagine someone trips while walking alone, but instead of being flustered they laughed about it.	Imagine you're walking with a group of friends and one trips in public, but instead of being flustered jokes and laughs about it.
Integrity	Integrity B1	Imagine someone is watching a football	Imagine you are watching a football

		game with a friend and makes a large bet on the game with their friend. When the person lost the bet, they followed through and paid their friend the full amount.	game with a group of people and one person makes a large bet on the game with their friend in front of everyone. When they lost the bet, they followed through and paid their friend the full amount.
	Integrity B2	Imagine someone is about to give a testimony at a trial. The defendant bribes them to lie, but the person rejects the bribe.	Imagine you are at a trial, and a witness is about to testify. Before testifying, they reveal that the defendant tried to bribe them to lie, but they rejected the bribe and are committed to giving an honest testimony.
	Integrity B3	Imagine someone is at a concert and they find a wallet on the ground. They step away from the concert to drop the wallet off to the lost and found desk.	Imagine you are at a concert with your friends and one of them finds a wallet on the ground. They decide to work with the venue staff to find and return the wallet to its owner, so they let you know they have to step away from the concert to do this.
Kindness	Kindness B1	Imagine someone decides to help an elderly stranger carry their groceries across an empty parking lot to their car.	Imagine you are leaving a grocery store, and see someone helping an elderly stranger carry their groceries across the parking lot to their car.
	Kindness B2	Imagine a teacher plans to privately compliment each of their students everyday.	Imagine a teacher tells their class they plan to give each student at least one compliment every day.
	Kindness B3	Imagine someone greets their office mate with a	Imagine one of your coworkers greets each

		smile each day.	of their colleagues at your workplace with a smile each day.
Love	Love B1	Imagine someone kisses their long term partner.	Imagine you see someone kiss their long term partner at a crowded party.
	Love B2	Imagine someone taking their partner on a private romantic dinner date.	Imagine you are talking with your friend, and they tell you how they took their partner out to a romantic dinner.
	Love B3	Imagine someone writing a thoughtful love letter to their partner.	Imagine you are sitting at a cafe and notice the person next to you writing a thoughtful love letter to their partner.
Loyalty	Loyalty B1	Imagine another person makes a move on someone, but they immediately stop the person and let them know they are in a relationship.	Imagine you're at a party and see someone make a move on one of the partygoers. However, the recipient immediately stops the person and lets them know that they are in a relationship.
	Loyalty B2	Imagine someone has been approached by multiple recruiters in secret, but is committed to staying at their current workplace.	Imagine you overhear your coworker talking with your boss, and hear them express their commitment to staying at the workplace despite having been approached by multiple recruiters.
	Loyalty B3	Imagine someone orders their "regular" at a empty small business.	Imagine you are waiting in line at a local small business, and the customer in front of you orders their "regular."
Patience	Patience B1	Imagine someone waits three hours online to buy tickets to a concert.	Imagine you pass by a line of people waiting outside a concert venue, and the person at the

		front lets you know they have been waiting for 3 hours.	
Perseverance	Patience B2	Imagine someone is at a restaurant alone, and they have not received their meal for over an hour after ordering.	Imagine you are at dinner with a group of friends, and one friend has not received their meal even though its been 30 minutes since everyone else got their order.
	Patience B3	Imagine someone waiting 30 minutes for their uber to the airport.	Imagine you hear that your friend has been waiting 30 minutes for their uber to the airport.
	Perseverance B1	Imagine someone goes for a four mile run on their treadmill at home.	Imagine you run into your friend while they are doing a four mile run.
	Perseverance B2	Imagine someone has been studying consistently for their graduate school exam.	Imagine you regularly go to the library. Each time you have gone, you have seen the same student consistently studying for their graduate school exam.
	Perseverance B3	Imagine someone is at their home gym. They are struggling with a lift but eventually succeed, setting a new personal record.	Imagine you are at a crowded gym. You see someone struggling with a lift but eventually succeed, setting a new personal record.
	Purpose B1	Imagine someone joins a virtual church sermon.	Imagine you are with friends and tell them you are going to church.
Purpose		Purpose B2	Imagine you see someone publicly protesting a social issue.
		Imagine someone makes an anonymous post on social media protesting a social issue.	

	Purpose B3	Imagine someone is going to college to become a doctor to save lives.	Imagine you are at college and see one of your classmates tell others they want to become a doctor to save lives.
Respect	Respect B1	Imagine someone is waiting in line at a empty store. The shopper in front of them says they are still concerned about Covid-19 and want to maintain social distancing, so the person waiting in line moves a few steps back.	Imagine you are shopping at a crowded store and see someone waiting in line. The shopper in front of them says they are still concerned about Covid-19 and want to maintain social distancing, and the other shopper moves a few steps back.
	Respect B2	Imagine a person is in a conversation with someone and giving them their full attention.	Imagine you are in a group where someone is talking and you notice your friend paying full attention to them.
Responsibility	Responsibility B1	Imagine someone is doing chores as their friends are about to arrive but finish before they get there.	Imagine your partner is doing chores as their friends arrive, so other people saw them do this.
	Responsibility B2	Imagine someone is at an empty park and they pick up their dog's poop.	(Intercept)
	Responsibility B3	Imagine someone pays their bills.	Norm signaling
Self-control	Self-control B1	Imagine someone is in an argument and the person challenges them to a fight, but they decide not to fight	Moral motivation
Trustworthiness	Trustworthiness B1	Imagine someone is at an almost empty train station, and asks the other person there to watch their bag while	Reputation signaling

	they use the bathroom.	
Trustworthiness B2	Imagine after practice, the captain meets with one of the other players, and places them in charge of coordinating future team practices.	Imagine at a team meeting, the captain places one of the other players in charge of coordinating future team practices.

Results

87% of our participants agreed that they, or someone they knew, had personally experienced at least one of these scenarios, suggesting our generated scenarios reflected participants' real-world experiences. On average, public virtuous behaviors were seen as significantly less anonymous than private virtuous behaviors, $b = 1.33$ [0.97, 1.69], $SE = 0.18$, $t(58) = 7.26$, $p < .001$, $d = 0.68$. They were also seen as more strange, $b = -0.47$ [-0.74, -0.20], $SE = 0.14$, $t(58) = -3.42$, $p = .001$, $d = -0.27$.

Discussion

The present pilot revealed that our scenarios reflected everyday experiences of virtue and corresponded to their intended level of anonymity. However, we noted a few unintended features of the stimuli. In addition to public scenarios being perceived as more strange, participants reported difficulty comprehending certain scenarios. In response, scenarios were updated to read more naturally, and, where needed, updated to depict versions of the action that were more believable. To avoid differentially weighting virtues in our overall analyses, we standardized the number of scenarios per virtue to two. Final scenarios were selected based on their readability, how normal they appeared across both their private and public versions, how much the private and public versions differed in their perceived normality, and how well the public and private

version of the scenario reflected its intended condition, both in terms of where it fell relative to the scale midpoint and the magnitude of the difference between conditions.

Table S16*Pairwise Comparison Results for Each Behavior*

	Private		Public	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Overall				
Care B1				
Anonymity	1.9	1.1	5.7	1.4
Strangeness	5.8	1.7	6.8	0.4
Care B2				
Anonymity	2.1	1.4	3.9	1.7
Strangeness	5.5	1.4	5.1	1.6
Care B3				
Anonymity	6.1	1.2	5.5	1.5
Strangeness	4.6	2.0	4.2	1.6
Charity B1				
Anonymity	3.0	1.7	6.3	1.3
Strangeness	4.3	1.9	5.6	1.5
Charity B2				
Anonymity	1.9	1.3	6.1	1.4
Strangeness	5.7	1.6	5.7	1.5
Charity B3				
Anonymity	4.5	1.9	5.6	1.3
Strangeness	6.4	0.8	6.2	1.2
Citizenship B1				
Anonymity	3.5	1.9	5.1	1.6
Strangeness	5.9	1.4	5.2	2.0
Citizenship B2				
Anonymity	3.4	2.0	6.4	0.7

Strangeness	5.9	1.1	6.1	1.0
Citizenship B3				
Anonymity	5.1	1.7	5.2	1.7
Strangeness	5.9	1.2	4.9	1.6
Civility B1				
Anonymity	4.6	1.9	5.9	1.7
Strangeness	4.6	1.5	3.6	1.7
Civility B2				
Anonymity	4.1	2.1	5.4	1.4
Strangeness	4.5	2.1	4.0	1.7
Civility B3				
Anonymity	6.0	1.4	5.8	1.5
Strangeness	6.8	0.6	6.6	0.7
Compassion B1				
Anonymity	4.1	2.0	5.9	1.4
Strangeness	6.4	0.7	6.1	0.9
Compassion B2				
Anonymity	3.4	2.0	4.8	2.2
Strangeness	5.1	1.8	5.3	1.4
Compassion B3				
Anonymity	3.0	1.9	6.7	0.6
Strangeness	5.8	1.4	4.9	2.1
Courage B1				
Anonymity	5.8	1.4	6.1	1.5
Strangeness	5.0	1.9	3.5	1.9
Courage B2				
Anonymity	3.3	2.3	6.5	1.2
Strangeness	5.5	1.4	5.4	1.4
Courage B3				
Anonymity	5.2	1.7	5.8	1.5

Strangeness	5.5	1.5	4.7	1.7
Curiosity B1				
Anonymity	1.7	1.1	5.1	1.9
Strangeness	6.9	0.6	6.4	1.2
Curiosity B2				
Anonymity	3.6	1.9	5.1	1.5
Strangeness	6.4	1.0	6.4	0.9
Empathy B1				
Anonymity	4.3	2.0	4.8	1.8
Strangeness	6.8	0.4	5.8	1.2
Empathy B2				
Anonymity	3.7	1.8	3.4	1.9
Strangeness	6.6	0.6	6.4	0.9
Empathy B3				
Anonymity	1.9	1.3	3.1	2.1
Strangeness	6.3	1.2	6.0	1.2
Fairness B1				
Anonymity	5.9	2.0	6.7	0.8
Strangeness	6.0	1.5	4.6	2.0
Fairness B2				
Anonymity	5.6	1.5	5.4	1.8
Strangeness	6.2	1.3	5.7	1.6
Fairness B3				
Anonymity	5.3	1.8	5.6	1.2
Strangeness	5.9	1.2	5.7	1.4
Forgiveness B1				
Anonymity	4.7	2.1	5.1	1.9
Strangeness	3.2	1.8	2.1	1.5
Forgiveness B2				
Anonymity	2.7	1.8	4.8	1.6
Strangeness	6.4	0.9	6.1	1.0

Forgiveness B3				
Anonymity	4.8	1.7	5.0	2.0
Strangeness	5.5	1.0	4.2	1.8
Generosity B1				
Anonymity	2.0	1.6	5.4	1.2
Strangeness	5.8	1.5	5.7	1.4
Generosity B2				
Anonymity	3.0	1.6	3.6	1.7
Strangeness	5.7	1.4	5.2	1.7
Generosity B3				
Anonymity	2.8	2.0	4.6	1.7
Strangeness	4.3	1.7	3.5	1.5
Generosity B4				
Anonymity	3.3	1.7	4.7	1.9
Strangeness	5.7	1.3	5.5	1.3
Gratitude B1				
Anonymity	3.1	1.8	4.6	1.7
Strangeness	6.3	1.3	5.4	1.6
Gratitude B2				
Anonymity	5.3	1.5	5.6	1.3
Strangeness	6.6	0.9	6.7	0.7
Gratitude B3				
Anonymity	4.6	1.7	5.8	1.2
Strangeness	6.7	0.5	6.4	1.1
Honesty B1				
Anonymity	2.5	1.8	5.4	1.6
Strangeness	5.5	1.7	5.2	1.8
Honesty B2				
Anonymity	5.8	1.6	5.0	1.9
Strangeness	4.9	1.8	3.4	1.6
Honesty B3				

Anonymity	4.3	1.8	4.9	1.8
Strangeness	5.0	1.4	4.5	1.7
Humility B1				
Anonymity	3.5	1.8	5.4	1.5
Strangeness	5.9	1.3	5.3	1.5
Humility B2				
Anonymity	2.4	1.8	5.6	1.4
Strangeness	5.6	1.5	4.4	1.9
Humility B3				
Anonymity	4.1	1.9	6.0	1.1
Strangeness	5.8	1.3	6.0	1.0
Integrity B1				
Anonymity	4.1	1.8	5.9	1.4
Strangeness	6.1	1.4	5.6	1.5
Integrity B2				
Anonymity	4.6	1.9	4.6	1.9
Strangeness	5.9	1.1	5.2	1.4
Integrity B3				
Anonymity	3.8	2.1	5.1	2.3
Strangeness	3.4	2.1	3.1	1.9
Kindness B1				
Anonymity	6.0	1.2	5.7	1.1
Strangeness	6.6	0.9	6.5	0.9
Kindness B2				
Anonymity	3.0	1.9	5.4	1.8
Strangeness	4.4	1.9	4.5	1.9
Kindness B3				
Anonymity	5.0	1.8	5.5	1.6
Strangeness	6.4	0.8	5.8	1.2
Love B1				
Anonymity	1.5	1.3	2.9	2.0

Strangeness	6.3	1.3	4.9	1.8
Love B2				
Anonymity	3.4	1.8	5.7	1.7
Strangeness	6.4	1.1	6.4	1.1
Love B3				
Anonymity	3.0	2.0	4.1	2.1
Strangeness	6.3	1.2	6.4	1.1
Loyalty B1				
Anonymity	4.0	1.9	5.0	1.7
Strangeness	5.9	1.3	5.3	1.4
Loyalty B2				
Anonymity	2.5	1.6	3.2	2.0
Strangeness	5.6	1.3	4.4	1.6
Loyalty B3				
Anonymity	4.7	1.8	5.2	1.4
Strangeness	6.4	0.9	6.0	1.3
Patience B1				
Anonymity	4.9	1.7	4.2	1.7
Strangeness	5.3	1.6	5.3	1.6
Patience B2				
Anonymity	3.1	2.0	5.7	1.5
Strangeness	5.3	1.8	5.0	1.7
Patience B3				
Anonymity	4.8	1.9	5.5	1.5
Strangeness	3.3	1.9	2.8	1.9
Perseverance B1				
Anonymity	1.3	0.5	5.1	1.8
Strangeness	6.2	1.4	4.8	1.6
Perseverance B2				
Anonymity	3.2	1.7	4.5	1.9
Strangeness	6.7	1.0	6.5	0.7

Perseverance B3

Anonymity	1.6	1.2	5.3	1.5
Strangeness	6.2	1.0	5.8	1.5

Purpose B1

Anonymity	4.7	1.9	4.9	1.7
Strangeness	5.5	1.6	5.3	1.7

Purpose B2

Anonymity	4.2	2.4	6.7	0.9
Strangeness	5.9	1.0	5.7	1.3

Purpose B3

Anonymity	6.0	1.3	5.7	1.4
Strangeness	6.5	0.8	5.8	1.5

Respect B1

Anonymity	5.5	1.6	5.7	1.3
Strangeness	5.2	1.7	5.2	1.6

Respect B2

Anonymity	4.4	2.1	5.1	1.6
Strangeness	6.6	0.6	6.0	1.5

Responsibility B1

Anonymity	2.3	1.5	4.2	1.6
Strangeness	6.6	0.7	5.6	1.6

Responsibility B2

Anonymity	4.3	2.0	5.1	1.7
Strangeness	6.3	1.0	6.1	1.4

Responsibility B3

Anonymity	2.7	1.6	3.4	1.6
Strangeness	6.9	0.6	5.4	1.7

Self-Control B1

Anonymity	5.0	2.0	6.1	1.5
Strangeness	4.8	2.1	2.9	1.7

**Trustworthiness
B1**

Anonymity	4.9	1.8	4.7	2.0
Strangeness	3.7	2.1	3.9	1.9
Trustworthiness				
B2				
Anonymity	4.3	1.8	5.7	1.2
Strangeness	5.1	1.6	5.4	1.7