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Impression Formation Stimuli: A Corpus of Behavior Statements Rated on Morality, Competence, Informativeness, and Believability --Manuscript Draft--

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Abstract:	To investigate impression formation, researchers tend to rely on statements that describe a person's behavior (e.g., "Alex ridicules people behind their backs"). These statements are presented to participants who then rate their impressions of the person. However, a corpus of behavior statements is costly to generate, and pre-existing corpora may be outdated and might not measure the dimension(s) of interest. The present study makes available a normed corpus of 160 contemporary behavior statements that were rated on 4 dimensions relevant to impression formation: morality, competence, informativeness, and believability. In addition, we show that the different dimensions are non-independent, exhibiting a range of linear and non-linear relationships, which may present a problem for past research. However, researchers interested in impression formation can control for these relationships (e.g., statistically) using the present corpus of behavior statements.
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17 May 2022

The Editor, *PLOS ONE*

Dear Colleague,

Please find enclosed our revised manuscript entitled, 'Impression Formation Stimuli: A Corpus of Behavior Statements Rated on Morality, Competence, Informativeness, and Believability' by Mickelberg et al. The paper makes available a normed corpus of 160 contemporary behavior statements that were rated on 4 dimensions relevant to impression formation: morality, competence, informativeness and believability. In addition, we show that the different dimensions are non-independent, exhibiting a range of linear and non-linear relationships, which may present a problem for past research. Researchers interested in impression formation can control for these relationships (e.g., statistically) using the present corpus of behavior statements.

This paper is not under consideration with any other journal.

Best regards

16 Abstract

17 To investigate impression formation, researchers tend to rely on statements that describe a
18 person's behavior (e.g., "Alex ridicules people behind their backs"). These statements are
19 presented to participants who then rate their impressions of the person. However, a corpus of
20 behavior statements is costly to generate, and pre-existing corpora may be outdated and might
21 not measure the dimension(s) of interest. The present study makes available a normed corpus
22 of 160 contemporary behavior statements that were rated on 4 dimensions relevant to
23 impression formation: morality, competence, informativeness, and believability. In addition,
24 we show that the different dimensions are non-independent, exhibiting a range of linear and
25 non-linear relationships, which may present a problem for past research. However,
26 researchers interested in impression formation can control for these relationships (e.g.,
27 statistically) using the present corpus of behavior statements.

28 **Introduction**

29 Without direct access to the inner thoughts and feelings of others, we often rely on
30 behavioral information to form impressions of people. Some behaviors may elicit a positive
31 impression (e.g., saving a drowning friend), whereas others may elicit a negative impression
32 (e.g., having an extramarital affair). Each behavior serves as a building block in the
33 impression formation process, and the impressions we form guide our social interactions with
34 friends, colleagues, romantic partners, and casual acquaintances (e.g., 1,2).

35 To investigate impression formation under controlled laboratory conditions,
36 researchers often present participants with statements that describe a person's behavior (e.g.,
37 "Alex ridicules people behind their backs"), and then participants rate their impressions of
38 that person (e.g., 3–5). Researchers have primarily focused on dimensions that capture
39 important facets of a person's character: (i) morality (also called communion, see 6),
40 encompassing honesty, loyalty, and cooperativeness, and (ii) competence (also called agency,
41 see 6), encompassing intelligence, efficiency, and capability (7,8)¹. Moral behaviors (e.g.,
42 "she kept a friend's secret", "he lied to his parents") indicate whether a person's intentions
43 are good or bad, while competence behaviors (e.g., "they achieved a challenging goal", "she
44 did not get good marks at university") indicate their ability to successfully execute a task
45 (11,16). Although both dimensions guide impression formation, moral behaviors are found to
46 be more influential than competence behaviors (13,14,17, see also 15). While morality and
47 competence are the major dimensions investigated to date, other dimensions also play a role.

¹ It should be noted that some researchers use the label 'warmth' interchangeably with morality (e.g., 9,7,10,11) while others argue that warmth is an overarching factor encompassing morality and sociability (12,13, see also 6). We follow Brambilla et al. (14,15) with morality being core to impression formation.

48 Another dimension that guides impression formation is informativeness. Behavior
49 statements that are high in informativeness are diagnostic of a person's true character,
50 resulting in greater impression change (18,19). Research has shown that the informativeness
51 dimension is related to other dimensions: behavior statements that are morally negative are
52 rated as more informative than morally positive statements (e.g., 20,21) and morally extreme
53 behavior statements are rated as more informative than morally moderate statements (22–24,
54 see 25 for a review). It has recently been established that the believability of behavioral
55 information is also important to impression formation; person impressions are updated only
56 when the information is considered to be believable, regardless of how informative or
57 extreme the information is (5). Thus, believability may moderate the effect of the other
58 dimensions known to guide impression formation (see also 26).

59 To examine how these dimensions inform person impressions, researchers require a
60 corpus of behavior statements that vary on the relevant dimensions (27–30). To avoid the cost
61 associated with generating a corpus of statements, it is common to use behavior statements
62 that were generated in prior studies (e.g., 5,17,19,31,32). However, doing so can be
63 problematic. First, if the behavior statements were rated by a small sample of judges, they
64 may measure the dimensions of interest imprecisely. Second, behavior statements can
65 become outdated, which can make them difficult for participants to evaluate (e.g., whether
66 “replaced the ribbon on his typewriter” indicates competence; see 28) and may limit their
67 contemporary real-world applicability (e.g., whether someone “had difficulty balancing a
68 checkbook” is unlikely to come up in the present day; see 28). Third, researchers may be
69 interested in dimensions that were not assessed in past studies—for instance, the statements
70 generated by Chadwick et al. (27) and Fuhrman et al. (28) were not rated on informativeness
71 or believability.

72 To address these issues, we generated a comprehensive and contemporary list of 160
73 behavior statements that were rated by a large sample of judges ($N = 400$). The statements
74 were rated on four dimensions: morality, competence, informativeness, and believability. In
75 the present study, the behavior statements were designed to vary across the morality
76 dimension (from extreme positive, e.g., “Person X sold their house to fund a local program
77 for the needy”, to extreme negative, e.g., “Person X kicked their pet dog hard in the head
78 because it didn’t come when called”) and the competence dimension (from extreme positive,
79 e.g., “Person X did all the repair work on their car”, to extreme negative, e.g., “Person X
80 failed their driver’s license test for the fourth time”). This included statements that were
81 designed to be neutral on both dimensions (e.g., “Person X buys a loaf of bread every day, as
82 they love the smell of freshly baked bread in the morning”). We anticipated that the behavior
83 statements would naturally vary on the informativeness and believability dimensions.

84 We first present the statements and their ratings across the four dimensions of interest.
85 We then examine the relationships between the four dimensions. Any relationships would
86 highlight potential confounds that should be taken into account by researchers. The corpus
87 provides a normed set of contemporary behavior statements that enables researchers to test
88 new research questions in impression formation.

89 **Method**

90 The study was conducted in accordance with the National Statement on Ethical
91 Conduct in Human Research (33). It was approved by the University of Western Australia’s
92 Human Research Ethics Office. Participants viewed an approved information sheet before
93 giving informed consent to take part.

94

95 **Participants**

96 A convenience sample of participants were recruited from the United States via the
97 online crowd-sourcing platform Prolific. The sample comprised $N = 400$ participants
98 (female: 205; male: 189; other: 5; prefer not to say: 1) with an age range of 18–73 years
99 ($M = 33.66$, $SD = 11.66$). Each participant received the equivalent of £1.50 (approximately
100 US\$2) upon completion of the study.

101 **Behavior Statements**

102 The study used a pool of $N = 160$ behavior statements. These included behaviors
103 generated by the authors ($n = 94$), with the remainder ($n = 66$) adapted from prior studies
104 (14,26,27,33). The behavior statements took the form of “Person X...”, describing a behavior
105 in which Person X is the agent. The behaviors were designed to vary in morality (positive,
106 negative) and competence (positive, negative), including behaviors that tended toward neutral
107 on both dimensions. Moral behaviors were generated with reference to three of the five
108 psychological foundations of morality: harm/care, fairness/reciprocity, and ingroup/loyalty
109 (34, note however that other conceptualisations of morality also exist, e.g., 35,36).

110 To help ensure sufficient variation across each dimension, the authors brainstormed
111 statements from five categories: positive morality (48 statements; e.g., “Person X sold their
112 house to fund a local program for the needy”), negative morality (48 statements; e.g., “Person
113 X set fire to the community hall in the middle of the night”), positive competence (20
114 statements; e.g., “Person X solved a crossword puzzle in the newspaper”), negative
115 competence (20 statements; e.g., “Person X forgot to turn off the bathwater, flooding the
116 house”), and neutral (24 statements; e.g., “Person X went to a friend’s house to play a card
117 game”). Statements in the positive and negative competence categories were designed to be

118 neutral on the morality dimension. Although not intentionally designed to vary on
119 informativeness or believability, it was anticipated that the behavior statements would vary
120 on these dimensions.

121 Each participant was presented with 40 statements selected randomly subject to the
122 following constraints: 12 from each of the positive and negative morality categories, 5 from
123 each of the positive and negative competence categories, and 6 from the neutral category.
124 Pre-testing indicated that participants could become fatigued if they rated more than 40
125 statements. Behavior statements were sampled such that each statement was rated by 100
126 participants.

127 **Procedure**

128 The study was performed online using an internet-enabled device, and took
129 approximately 15 minutes to complete. After participants provided informed consent, they
130 supplied their age and gender, and read over the instructions. The instructions explained that
131 they would rate 40 behavior statements on various dimensions, with each statement
132 describing a different person (e.g., Person 1, Person 2; this reduced the possibility of
133 statements interacting with each other). The behavior statements were then presented in a
134 random order. Participants rated each statement on its *morality* (“How morally bad or good is
135 the behavior described in the statement?”), from -4 (*very morally bad*) to 4 (*very morally*
136 *good*), with 0 indicating *neutral*; its *competence* (“How would you rate the person’s
137 competence from the behavior described in the statement?”), from -4 (*very incompetent*) to 4
138 (*very competent*), with 0 indicating *neutral*; its *informativeness* (“How informative is the
139 statement? How valuable is it when forming an impression of the person?”), from 0 (*not*
140 *informative*) to 8 (*very informative*); and its *believability* (“How believable is the statement?”)

141 To what extent could it happen in real life?”), from 0 (*not believable*) to 8 (*very believable*).
142 Ratings were entered using horizontally aligned radio buttons. Participants were then
143 debriefed.

144 **Results**

145 All analyses were performed and all figures created in R (37). Data visualizations
146 were created using *ggplot2* (38), the *raincloud plot* package (39), and *corrplot* (40). The data
147 and R Script are available on the Open Science Framework: <https://osf.io/qnv95/>.

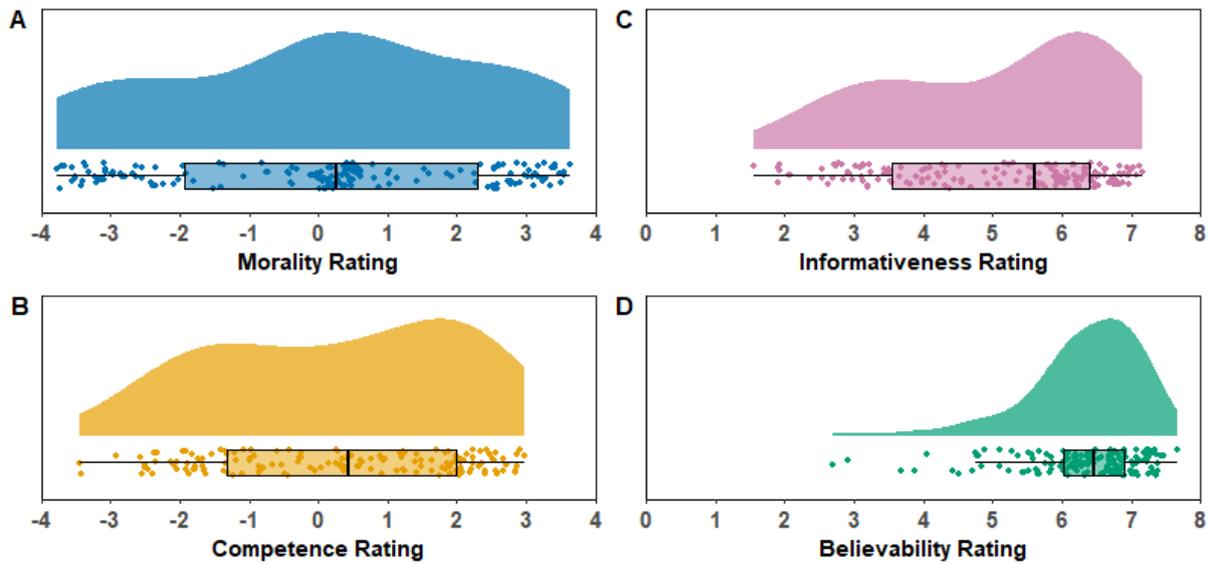
148 **Preliminary Analysis**

149 To identify uniform responding, we calculated each participant’s standard deviation
150 across all measures (morality, competence, informativeness, and believability). No outliers
151 were identified using the interquartile rule with a 2.2 multiplier (i.e., cutoff = $SD < Q1 - 2.2$
152 $\times IQR$; see 41). In addition, each measure was approximately normally distributed ($|skew| < 2$
153 and $|kurtosis| < 9$).

154 **Behavior Statement Ratings**

155 The distributions of the mean morality, competence, informativeness, and
156 believability ratings for each behavior statement are shown in Fig 1. The ratings ranged
157 across the entire morality dimension (Fig 1A) and most of the competence dimension (Fig
158 1B). Informativeness ratings varied substantially (Fig 1C). Believability ratings varied
159 considerably (Fig 1D), but most statements were rated as believable (i.e., in the upper part of
160 the scale). Ratings for the full corpus of behavior statements are given in Table 1, and an
161 interactive version of Table 1 is available on the Open Science Framework:
162 <https://osf.io/jv7fk>.

163



164

165 **Fig 1. Mean morality (A), competence (B), informativeness (C), and believability (D)**

166 **ratings for each behavior statement.** The “cloud” shows the density distribution for the

167 given ratings. Each dot point shows the mean rating for a single behavior statement; points

168 are jittered vertically to avoid overplotting. Boxplots show the first to third quartiles, the

169 bolded vertical line denotes the median, and the whiskers denote 1.5 times the interquartile

170 range.

171 **Table 1. Mean and Standard Deviations of Morality, Competence, Informativeness, and Believability Ratings by Behavior Statement**

Behavior Statement	Morality <i>M (SD)</i>	Competence <i>M (SD)</i>	Informativen. <i>M (SD)</i>	Believability <i>M (SD)</i>
Person X pushed an amputee in front of a train because the amputee made them feel uncomfortable.	-3.78 (0.82)	-2.51 (1.95)	6.85 (1.78)	2.69 (2.44)
Person X worked in a factory and put broken glass in packets of children's cereal.	-3.72 (1.10)	-2.56 (1.99)	6.83 (1.79)	2.92 (2.36)
Person X set up a cat trap because they love to catch and torture animals.	-3.70 (0.77)	-1.86 (2.18)	6.95 (1.60)	4.77 (2.31)
Person X set fire to the community hall in the middle of the night.	-3.67 (0.68)	-1.77 (2.14)	6.83 (1.65)	5.11 (2.15)
Person X left their children alone in the car for two hours while they went to have a drink on a hot day.	-3.56 (1.31)	-3.45 (1.09)	7.11 (1.52)	5.79 (2.08)
Person X shook a crying baby so hard while babysitting that it suffered brain damage and nearly died.	-3.55 (1.35)	-3.42 (1.22)	7.17 (1.30)	6.02 (2.19)
Person X spat in a customer's meal before serving it to him, because the customer had a stutter.	-3.51 (1.31)	-2.54 (1.82)	6.88 (1.47)	4.42 (2.53)
Person X failed a student because they were African American.	-3.50 (1.28)	-2.92 (1.55)	7.08 (1.48)	5.23 (2.20)
Person X punched a woman for wearing a hijab because Person X thinks they should not be allowed in this country.	-3.42 (1.30)	-2.38 (1.83)	6.96 (1.62)	5.45 (2.17)
Person X had an affair with their best friend's wife.	-3.40 (0.89)	-1.68 (1.87)	6.54 (1.44)	6.84 (1.52)
Person X stole the collection tin of a blind beggar on the street.	-3.38 (1.28)	-1.95 (1.98)	6.52 (1.83)	5.37 (2.02)
Person X embezzled money from a charity to feed their gambling habit.	-3.36 (1.38)	-2.04 (2.24)	6.68 (1.64)	5.84 (1.81)
Person X kicked their pet dog hard in the head because it didn't come when called.	-3.31 (1.43)	-2.50 (1.68)	6.77 (1.57)	5.82 (2.07)
Person X released intimate photos of their ex-partner to their friends and then posted them to the internet.	-3.23 (1.25)	-1.65 (1.92)	6.72 (1.51)	6.46 (1.64)
Person X could have saved the life of a man stabbed in a dark alley but couldn't be bothered calling an ambulance.	-3.20 (1.29)	-2.35 (1.81)	6.34 (1.86)	4.79 (2.31)
Person X loosened the wheel nuts of their neighbor's car, because the neighbor always played loud music.	-3.16 (1.45)	-1.10 (2.05)	6.39 (1.60)	4.52 (2.24)

Behavior Statement	Morality <i>M (SD)</i>	Competence <i>M (SD)</i>	Informativen. <i>M (SD)</i>	Believability <i>M (SD)</i>
Person X joined the military because they wanted to see what it was like to kill people.	-3.14 (1.33)	-1.63 (1.77)	6.48 (1.95)	4.89 (2.27)
Person X regularly cheats on their girlfriend when she is traveling for work.	-3.09 (1.57)	-1.54 (2.11)	6.79 (1.44)	7.02 (1.41)
Person X started a false rumor that their office colleague Mary used to be a sex worker.	-3.09 (1.25)	-2.12 (1.68)	6.34 (1.86)	5.57 (1.96)
Person X was in a car accident but drove off before they could see if anyone was injured.	-3.07 (1.62)	-2.45 (1.63)	6.62 (1.50)	6.31 (1.72)
Person X ignored a new person in the office because they thought the new person was Jewish.	-3.07 (1.34)	-1.91 (1.72)	6.61 (1.65)	5.63 (1.94)
Person X called a waitress 'dummy' and did not leave a tip, because they didn't like her name.	-2.98 (1.15)	-2.34 (1.46)	6.72 (1.59)	5.11 (2.37)
Person X started a vicious rumor about their ex-partner, saying that they had neglected their children when they were still married.	-2.97 (1.28)	-1.65 (1.77)	6.51 (1.53)	6.57 (1.49)
Person X promised to look after their elderly mother's dog but then secretly sold it as soon as their mother moved into the nursing home.	-2.96 (1.35)	-1.31 (1.95)	6.30 (1.94)	5.59 (2.16)
Person X presented their colleague's idea as their own in order to get a promotion.	-2.86 (1.60)	-1.79 (2.25)	6.18 (2.07)	6.28 (1.76)
Person X heckled a stranger and made cruel remarks just because the stranger was overweight.	-2.83 (1.64)	-1.88 (1.78)	6.47 (1.72)	6.34 (1.78)
Person X told a coworker that Person X's brother was HIV-positive, a secret that their brother had told them in confidence.	-2.78 (1.24)	-1.67 (1.51)	6.06 (1.65)	6.03 (1.98)
Person X said it was their friend who had driven into the neighbor's letterbox even though they did it themselves.	-2.67 (1.22)	-1.73 (1.70)	5.92 (1.66)	6.00 (1.71)
Person X took performance-enhancing drugs in order to win a race.	-2.64 (1.26)	-1.40 (2.02)	5.67 (1.90)	6.68 (1.54)
Person X yelled at an elderly person for walking too slowly and being in the way.	-2.64 (1.24)	-1.80 (1.59)	6.19 (1.56)	5.85 (1.94)
Person X smeared dog poo on their colleague's chair and laughed uncontrollably when their colleague sat on it.	-2.54 (1.50)	-2.05 (1.67)	6.41 (1.57)	3.67 (2.26)
Person X tears out the last pages of library books to annoy future borrowers.	-2.54 (1.23)	-1.91 (1.70)	6.25 (1.61)	4.83 (2.17)
Person X scratched their neighbor's expensive car with a key, as he always parked it at the front of Person X's house.	-2.41 (1.44)	-1.00 (1.98)	5.84 (1.83)	6.19 (1.76)

Behavior Statement	Morality <i>M (SD)</i>	Competence <i>M (SD)</i>	Informativen. <i>M (SD)</i>	Believability <i>M (SD)</i>
Person X left the family business to set up their own business, taking most of the clients with them and causing the family business to go bankrupt.	-2.39 (1.64)	0.34 (2.38)	6.24 (1.83)	5.75 (1.78)
Person X found a wallet with \$50 in it, took the money out and left the wallet on the floor.	-2.35 (1.88)	-0.67 (1.68)	6.02 (1.75)	6.81 (1.54)
Person X broke a friend's expensive vase and refused to pay to replace it.	-2.34 (1.29)	-1.71 (1.46)	5.92 (1.60)	6.04 (1.68)
Person X was on a crowded bus and would not give up their seat to a pregnant woman when asked to.	-2.23 (1.38)	-1.34 (1.52)	5.94 (1.79)	6.16 (1.61)
Person X closed the elevator door before an elderly neighbor could get in.	-2.08 (1.64)	-0.80 (1.61)	5.53 (1.81)	6.06 (1.77)
Person X regularly steals office supplies from their job because they feel they deserve it.	-2.01 (1.46)	-0.86 (1.79)	5.10 (2.01)	6.68 (1.41)
Person X got a friend to fix their gutters and promised guitar lessons in return, but never honored the promise.	-1.96 (1.36)	-1.00 (1.61)	5.64 (1.65)	6.12 (1.55)
Person X cheated in a card game while playing with a group of their friends.	-1.91 (1.32)	-0.82 (1.73)	5.16 (1.93)	6.71 (1.60)
Person X pushed in front of another patron in the line at a theater.	-1.80 (1.36)	-1.35 (1.55)	5.66 (1.76)	6.09 (2.04)
Person X bribed a landlord to be the first to get their apartment repainted.	-1.51 (1.59)	0.32 (1.72)	5.29 (1.63)	5.67 (1.81)
Person X pretended to be seriously fouled by an opposing player during a soccer game.	-1.43 (1.44)	-0.54 (1.73)	5.05 (2.33)	6.84 (1.38)
Person X did not attend their coworker's funeral because they'd had a disagreement before the coworker died.	-1.40 (1.34)	-0.60 (1.43)	4.92 (1.97)	5.51 (2.03)
Person X burned their country's flag because they don't like their country.	-1.37 (1.70)	-0.92 (1.61)	5.04 (2.12)	6.28 (1.90)
Person X drove their car the wrong way down a one-way street.	-1.07 (1.35)	-2.39 (1.44)	4.22 (2.16)	6.19 (2.01)
Person X left their long-term band as soon as an opportunity came up to play with a more successful band.	-0.81 (1.48)	0.59 (1.43)	4.88 (2.03)	6.49 (1.56)
Person X forgot it was their wedding anniversary and did not have a gift for their spouse.	-0.76 (1.14)	-1.24 (1.42)	4.09 (2.07)	6.73 (1.48)
Person X walked into the street without checking for oncoming traffic.	-0.72 (1.15)	-2.32 (1.38)	4.15 (2.16)	6.53 (1.57)
Person X forgot they had to attend their niece's dance concert that evening.	-0.44 (0.84)	-1.21 (1.21)	3.43 (1.92)	6.75 (1.31)

Behavior Statement	Morality <i>M (SD)</i>	Competence <i>M (SD)</i>	Informativen. <i>M (SD)</i>	Believability <i>M (SD)</i>
Person X forgot to turn off the bath water, flooding the house.	-0.41 (1.26)	-2.09 (1.60)	3.89 (1.79)	5.44 (1.93)
Person X was forced to pay multiple bank fees for not paying their credit card repayment on time.	-0.40 (0.89)	-1.19 (1.39)	4.03 (2.01)	7.08 (1.32)
Person X broke off all communication with their family for a while because they had a heated argument with each other.	-0.38 (1.01)	-0.04 (1.08)	4.44 (1.87)	6.76 (1.36)
Person X forgot to put the alarm on when they were the last one to leave the office.	-0.37 (0.91)	-1.36 (1.18)	3.54 (1.86)	6.58 (1.45)
Person X forgot to turn the stove off before leaving the house.	-0.31 (0.99)	-1.82 (1.50)	3.53 (1.83)	6.37 (1.87)
Person X sneezed loudly in an important meeting.	-0.11 (0.51)	-0.12 (0.66)	1.56 (1.96)	7.10 (1.34)
Person X failed their driver's license test for the fourth time.	-0.07 (0.50)	-2.09 (1.33)	3.98 (2.17)	6.27 (1.53)
Person X ate their lunch and went back to work with food stuck in their teeth.	-0.02 (0.74)	-0.25 (0.98)	1.92 (2.01)	7.28 (1.14)
Person X never learned how to ride a bicycle.	-0.01 (0.75)	-0.42 (1.18)	2.37 (2.20)	6.36 (1.78)
Person X forgot to water their front garden causing the grass to turn brown.	0.02 (0.65)	-0.99 (1.06)	2.91 (2.00)	6.91 (1.63)
Person X disappointed their boss when they were unable to attract any new customers.	0.02 (0.79)	-0.97 (1.33)	3.52 (2.23)	6.67 (1.48)
Person X went to the supermarket but couldn't remember what they needed to buy.	0.03 (0.48)	-1.08 (1.27)	2.93 (2.03)	6.70 (1.51)
Person X went to a fancy restaurant but couldn't pronounce the items on the menu.	0.06 (0.66)	-0.45 (1.08)	2.53 (2.15)	6.75 (1.56)
Person X did not meet their sales targets for the month at work.	0.06 (0.85)	-0.86 (1.09)	3.12 (2.06)	7.08 (1.33)
Person X arrived at the airport only to discover they had left their passport at home.	0.06 (0.81)	-1.33 (1.22)	3.20 (2.04)	7.03 (1.18)
Person X brought in the groceries from the car and dropped one of the bags, which caused the eggs to break.	0.07 (0.78)	-0.26 (1.12)	2.06 (2.29)	7.22 (1.15)
Person X can walk on their hands down a flight of stairs.	0.08 (0.39)	1.20 (1.66)	2.62 (2.16)	4.71 (2.24)
Person X ordered a take-away coffee but spilled it when they tried to take a sip.	0.08 (0.75)	-0.29 (1.19)	1.90 (2.14)	7.33 (1.24)
Person X solved a crossword puzzle in the newspaper.	0.11 (0.53)	1.24 (1.38)	3.20 (2.24)	7.26 (1.30)

Behavior Statement	Morality <i>M (SD)</i>	Competence <i>M (SD)</i>	Informativen. <i>M (SD)</i>	Believability <i>M (SD)</i>
Person X once spent a whole weekend watching furniture restoration videos on the Internet.	0.15 (0.76)	0.31 (1.15)	3.35 (1.98)	6.00 (2.03)
Person X ran out of paint when painting their home and had to go the hardware store.	0.15 (0.67)	0.26 (1.40)	2.54 (2.32)	7.31 (1.22)
Person X went to the nearby airport, as they like to watch the planes.	0.15 (0.52)	0.33 (1.12)	3.22 (2.22)	6.04 (1.75)
Person X always wins at Trivial Pursuit.	0.16 (0.68)	2.08 (1.47)	3.50 (2.12)	6.18 (1.89)
Person X was the fastest runner when they were in high school.	0.16 (0.60)	1.23 (1.42)	2.79 (2.20)	6.83 (1.45)
Person X locked their keys in the house and had to call a locksmith.	0.19 (1.04)	-0.48 (1.52)	3.13 (2.39)	7.23 (1.20)
Person X buys a loaf of bread every day, as they love the smell of freshly baked bread in the morning.	0.20 (0.97)	0.28 (1.12)	2.84 (1.94)	5.64 (2.27)
Person X went to purchase a new pair of shoes but couldn't find any that were comfortable.	0.21 (0.86)	0.36 (1.08)	2.08 (2.40)	7.07 (1.35)
Person X ordered their favorite dish from a Chinese restaurant.	0.22 (0.86)	0.47 (1.00)	1.90 (2.42)	7.66 (0.99)
Person X hailed a bus and asked the bus driver which stop was the closest stop to get to the city.	0.23 (0.87)	0.37 (1.61)	3.09 (2.28)	6.28 (1.91)
Person X has memorized three of Shakespeare's plays.	0.28 (0.78)	2.11 (1.43)	3.98 (2.13)	5.28 (2.15)
Person X likes to go to their local café and sip coffee while reading the newspaper.	0.29 (0.87)	0.44 (0.96)	2.82 (2.42)	7.43 (1.10)
Person X played chess with their friend, winning the game.	0.30 (0.85)	1.91 (1.21)	3.10 (2.21)	7.37 (1.11)
Person X tried to patch a puncture in the wheel of their bike but couldn't, so they purchased a new tube instead.	0.34 (1.14)	0.77 (1.80)	3.25 (2.37)	7.18 (1.30)
Person X prepared a roast chicken and made the stuffing from scratch.	0.35 (0.99)	2.01 (1.30)	3.77 (2.26)	7.31 (1.17)
Person X often sings along to the songs that they are listening to.	0.36 (1.21)	0.41 (1.10)	2.73 (2.47)	7.25 (1.51)
Person X was unable to fix the dripping faucet so they had to call the plumber.	0.38 (0.87)	0.03 (1.35)	2.85 (2.32)	7.29 (1.27)
Person X was running late so they drove to work rather than taking the bus.	0.40 (1.11)	0.97 (1.60)	3.11 (2.42)	7.07 (1.22)

Behavior Statement	Morality <i>M (SD)</i>	Competence <i>M (SD)</i>	Informativen. <i>M (SD)</i>	Believability <i>M (SD)</i>
Person X did really well at the quiz night.	0.41 (1.01)	2.07 (1.39)	3.66 (2.05)	7.27 (1.14)
Person X won a weightlifting contest at their gym, after placing second for the last three years.	0.41 (1.04)	2.24 (1.36)	4.32 (2.34)	6.64 (1.53)
Person X won the door prize at the town's community fair.	0.44 (1.15)	0.41 (1.09)	1.92 (2.29)	6.74 (1.51)
Person X went to a friend's house to play a card game.	0.44 (1.21)	0.64 (1.30)	2.70 (2.46)	7.46 (1.27)
Person X won an award for 'Best Newcomer' at a local karaoke event.	0.45 (1.03)	1.23 (1.46)	3.12 (2.31)	6.70 (1.45)
Person X put on a suit and wore their lucky socks in preparation for a job interview.	0.47 (1.08)	0.57 (1.34)	3.43 (2.32)	6.75 (1.60)
Person X learned a secret prize-winning pie recipe from their grandmother before she died.	0.48 (0.96)	0.89 (1.17)	2.97 (2.50)	6.65 (1.65)
Person X was singing loudly to their favorite song in the car.	0.49 (1.18)	0.25 (0.93)	2.91 (2.19)	7.38 (1.12)
Person X accidentally knocked a glass off the table, but managed to catch it before it could smash on the floor.	0.50 (1.14)	1.43 (1.44)	2.72 (2.20)	6.72 (1.55)
Person X learned how to play the piano when they were a child.	0.51 (1.14)	1.90 (1.39)	3.81 (2.29)	7.38 (1.08)
Person X always wrote things down as they would always forget things.	0.51 (1.08)	0.93 (1.83)	4.38 (1.98)	6.87 (1.45)
Person X was able to convince their boss that they were ready for a promotion at work.	0.52 (0.98)	2.41 (1.38)	4.51 (1.90)	6.57 (1.39)
Person X told the children to be quiet in the library.	0.57 (1.12)	0.91 (1.22)	3.49 (2.35)	7.08 (1.37)
Person X is learning French as they always wanted to learn another language.	0.57 (1.09)	1.92 (1.28)	3.99 (2.01)	7.22 (1.23)
Person X did all the repair work on their car.	0.60 (1.13)	2.90 (1.16)	4.56 (1.87)	6.90 (1.46)
Person X ordered pizza while at their friend's farewell party.	0.61 (1.19)	0.60 (1.09)	3.01 (2.20)	6.41 (1.74)
Person X arrived at the art exhibition early so they could view the collection before it got too busy.	0.62 (1.16)	1.85 (1.37)	4.20 (2.20)	7.13 (1.09)
Person X successfully remembered their coworkers' overly complicated coffee orders without writing them down.	0.79 (1.12)	2.85 (1.25)	4.69 (2.04)	6.38 (1.63)

Behavior Statement	Morality <i>M (SD)</i>	Competence <i>M (SD)</i>	Informativen. <i>M (SD)</i>	Believability <i>M (SD)</i>
Person X walks to work through the park each day, as they enjoy listening to the birds.	0.81 (1.30)	0.91 (1.28)	4.08 (2.30)	6.98 (1.32)
Person X laughed at a friend's joke even though it wasn't funny.	0.87 (1.26)	0.77 (1.24)	4.31 (2.00)	6.93 (1.39)
Person X cleaned the bookshelf and picked up some items that had dropped onto the floor.	1.00 (1.21)	1.23 (1.32)	3.67 (2.20)	7.00 (1.39)
Person X forgave their partner even though they had been cheating on Person X for two years.	1.02 (1.95)	-0.24 (1.94)	5.78 (1.66)	5.98 (1.88)
Person X learned an impressive dance routine in preparation for a friend's wedding.	1.02 (1.29)	2.15 (1.37)	4.32 (2.10)	6.68 (1.36)
Person X received the employee of the month award at their work.	1.13 (1.48)	2.67 (1.30)	5.17 (1.91)	7.25 (1.23)
Person X taught their nephew how to drive at the local shopping center car park, after the shops had shut.	1.43 (1.38)	1.63 (1.46)	4.56 (2.27)	7.01 (1.26)
Person X went skydiving despite their intense fear of heights because it was their sister's wish to do it together.	1.52 (1.34)	1.18 (1.42)	5.23 (1.86)	5.84 (1.72)
Person X took their nephew to the fair and bought some cotton candy.	1.59 (1.28)	1.13 (1.37)	4.28 (2.22)	7.35 (1.16)
Person X always pays off their debts first before buying things for themselves.	1.85 (1.47)	2.87 (1.50)	5.72 (1.86)	6.70 (1.49)
Person X regularly volunteers in a town that was exposed to radiation, despite the doctor warning them that their own health would be at risk.	1.93 (1.51)	0.15 (2.24)	5.56 (1.89)	4.75 (2.12)
Person X invited an unpopular coworker to have lunch with them at a new café that had just opened.	2.06 (1.35)	1.40 (1.54)	5.53 (1.85)	6.15 (1.64)
Person X regularly sings at a prison in order to entertain the inmates.	2.26 (1.32)	1.71 (1.40)	5.38 (1.84)	5.67 (2.05)
Person X declined a high-paying job with a weapons manufacturing company because they didn't believe in what the company stood for.	2.27 (1.76)	1.49 (1.93)	5.77 (1.99)	6.02 (1.79)
Person X helped a neighbor move a piano into his second floor apartment.	2.35 (1.30)	2.06 (1.43)	5.34 (1.77)	6.40 (1.62)
Person X shaved their head when they found out their partner had cancer and required radiation therapy.	2.46 (1.49)	1.83 (1.63)	6.29 (1.70)	7.23 (1.23)
Person X put money in the expired parking meter of a stranger.	2.52 (1.24)	1.63 (1.57)	5.90 (1.68)	6.18 (1.96)

Behavior Statement	Morality <i>M (SD)</i>	Competence <i>M (SD)</i>	Informativen. <i>M (SD)</i>	Believability <i>M (SD)</i>
Person X circulated a petition in support of civil rights for people in juvenile detention.	2.54 (1.36)	2.23 (1.34)	5.91 (1.63)	6.46 (1.55)
Person X translated the menu items for a foreigner in a restaurant.	2.54 (1.36)	2.87 (1.24)	5.91 (1.73)	6.78 (1.28)
Person X didn't go to a concert they had been looking forward to because their mother was ill.	2.54 (1.33)	1.84 (1.44)	5.80 (1.97)	6.89 (1.33)
Person X took public transport so their sister could use their car to get to work safely.	2.58 (1.31)	2.03 (1.46)	6.03 (1.37)	6.71 (1.37)
Person X called the bank to tell them about money deposited into Person X's bank account by accident.	2.59 (1.60)	1.98 (1.70)	5.85 (1.86)	5.86 (2.00)
Person X stayed back to help a colleague jumpstart their car, even though they then missed the start of a music concert.	2.61 (1.44)	2.01 (1.55)	6.08 (1.79)	6.70 (1.41)
Person X saw someone across the road drop a stack of papers, so they crossed the road to help.	2.61 (1.14)	1.80 (1.42)	5.55 (1.87)	6.09 (1.70)
Person X volunteers at a dog refuge, walking the dogs and cleaning their kennels once a week.	2.67 (1.14)	2.06 (1.38)	5.93 (1.71)	7.04 (1.21)
Person X volunteers to teach English to newly arrived immigrants.	2.73 (1.25)	2.72 (1.33)	6.17 (1.62)	6.87 (1.28)
Person X quit their high-paying job so they could volunteer full time at a nursing home.	2.78 (1.49)	1.48 (1.99)	6.05 (1.73)	4.05 (2.41)
Person X helped paint their neighbor's house even though it was Person X's birthday.	2.78 (1.21)	2.20 (1.47)	6.33 (1.76)	6.05 (1.90)
Person X donates blood once a month even though they have a strong fear of needles.	2.78 (1.27)	1.89 (1.59)	5.99 (1.87)	6.19 (1.64)
Person X put up posters and handed out fliers to help find their neighbor's missing dog.	2.85 (1.18)	2.23 (1.38)	5.97 (1.55)	7.24 (1.10)
Person X offered to let their evicted sister and brother-in-law stay with them for free and sleep in Person X's room while Person X slept on the couch.	2.86 (1.54)	1.42 (1.70)	6.24 (1.59)	6.25 (1.65)
Person X found an expensive briefcase and tried to locate the owner.	2.92 (1.17)	1.97 (1.52)	6.00 (1.50)	6.23 (1.59)
Person X saw a child lost in a supermarket, so they helped find the parents by alerting the staff.	2.97 (1.30)	2.57 (1.37)	6.22 (1.62)	7.18 (1.24)

Behavior Statement	Morality <i>M (SD)</i>	Competence <i>M (SD)</i>	Informativen. <i>M (SD)</i>	Believability <i>M (SD)</i>
Person X repaid a loan of \$100 that their friend had lent them, even though the friend did not remember it.	2.98 (1.16)	2.41 (1.45)	6.39 (1.60)	6.91 (1.41)
Person X sold their house to fund a local program for the needy.	3.01 (1.42)	1.75 (1.86)	6.15 (1.91)	3.87 (2.53)
Person X drove across the country just to see a friend who had recently lost his wife.	3.04 (1.10)	2.00 (1.57)	6.54 (1.40)	6.62 (1.44)
Person X drove an hour out of their way to pick up a friend and drive him to work because his car had broken down.	3.08 (1.17)	2.34 (1.60)	6.34 (1.63)	6.79 (1.49)
Person X helped their brother renovate his house every night for six months after it had been damaged by fire.	3.10 (1.20)	2.68 (1.51)	6.63 (1.48)	6.38 (1.59)
Person X jumped in to help a friend who was being bitten by a vicious dog, resulting in Person X being seriously mauled.	3.13 (1.10)	1.24 (2.07)	6.42 (1.51)	6.08 (1.74)
Person X pulled over on a busy highway on a rainy day to help a stranger change his flat tire.	3.17 (1.00)	2.57 (1.40)	6.46 (1.49)	6.42 (1.75)
Person X stepped in when a friend at a pub was getting assaulted for being dark skinned.	3.18 (1.49)	2.42 (1.65)	6.74 (1.39)	6.81 (1.49)
Person X used their body to protect their partner from falling debris during an earthquake.	3.22 (1.19)	2.18 (1.67)	6.48 (1.64)	6.37 (1.47)
Person X hosted a fundraising dinner to raise money for a local homeless shelter.	3.24 (0.93)	2.37 (1.36)	6.47 (1.42)	6.82 (1.53)
Person X worked on a campaign to release wrongfully convicted prisoners.	3.27 (1.07)	2.58 (1.48)	6.45 (1.52)	6.87 (1.59)
Person X risked their life rescuing an animal that was trapped inside a burning house.	3.28 (1.06)	2.05 (1.72)	6.42 (1.51)	6.33 (1.56)
Person X cared for and housed their five nieces and nephews for a year because Person X's sister was very unwell.	3.36 (1.11)	2.85 (1.33)	6.99 (1.15)	6.65 (1.34)
Person X saved a man who was about to be hit by a car by jumping in front of the car and pushing him out of the way.	3.38 (1.25)	2.52 (1.81)	6.75 (1.46)	5.53 (1.97)
Person X offered to pay off the debts of their friend, who had been struggling to pay the bills since their partner died.	3.41 (1.03)	2.58 (1.53)	6.67 (1.47)	5.66 (2.09)
Person X commutes four hours on a bus every week to the local children's hospital, so they can dress as a clown and entertain the children in the cancer ward.	3.42 (1.03)	2.31 (1.66)	6.97 (1.35)	6.21 (1.72)

Behavior Statement	Morality M (SD)	Competence M (SD)	Informativen. M (SD)	Believability M (SD)
Person X saw a homeless person in the rain, so they gave the person their jacket and umbrella, plus \$20 for a hot meal.	3.47 (1.03)	1.99 (1.71)	6.83 (1.39)	6.02 (1.90)
Person X donated a kidney to a work colleague who would die without it, as they were a perfect match.	3.51 (1.27)	2.00 (1.82)	6.90 (1.47)	6.16 (1.67)
Person X found a wallet containing \$1000 and returned it to its rightful owner.	3.55 (0.86)	2.54 (1.45)	6.80 (1.38)	6.19 (1.70)
Person X jumped off a boat to save a drowning friend even though this put Person X's own life at risk.	3.55 (1.01)	2.47 (1.58)	6.95 (1.38)	6.79 (1.53)
Person X turned their home into a shelter for flood victims, making meals and providing clothing to those who needed it.	3.63 (0.86)	2.97 (1.23)	7.03 (1.20)	6.08 (1.90)

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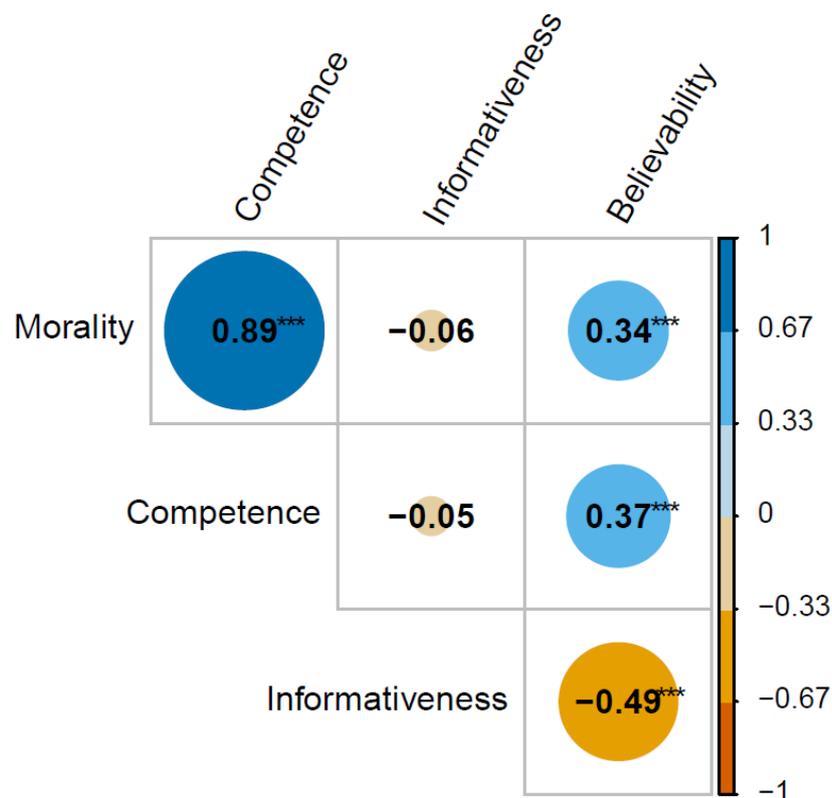
176

Note. Informativen. = informativeness. Morality ratings varied from -4 (*very morally bad*) to 4 (*very morally good*), competence ratings varied from -4 (*very incompetent*) to 4 (*very competent*), informativeness ratings varied from 0 (*not informative*) to 8 (*very informative*), and believability ratings varied from 0 (*not believable*) to 8 (*very believable*). Means and standard deviations (in parentheses) for each behavior statement are based on 100 ratings. An interactive version of the table is available on the Open Science Framework: <https://osf.io/jv7fk>.

177 **Relationships between the Dimensions**

178 There were moderate-to-strong Pearson correlations between the morality and
 179 competence ratings, the morality and believability ratings, the competence and believability
 180 ratings, and the informativeness and believability ratings (see Fig 2).

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184 **Fig 2. Correlations between the morality, competence, informativeness, and**
 185 **believability ratings.** The color shows the direction of the relationship, with positive in blue
 186 and negative in orange. Circle size shows the strength of the relationship, with a larger circle
 187 indicating a stronger relationship. Note * $p < .050$, ** $p < .010$, *** $p < .001$.

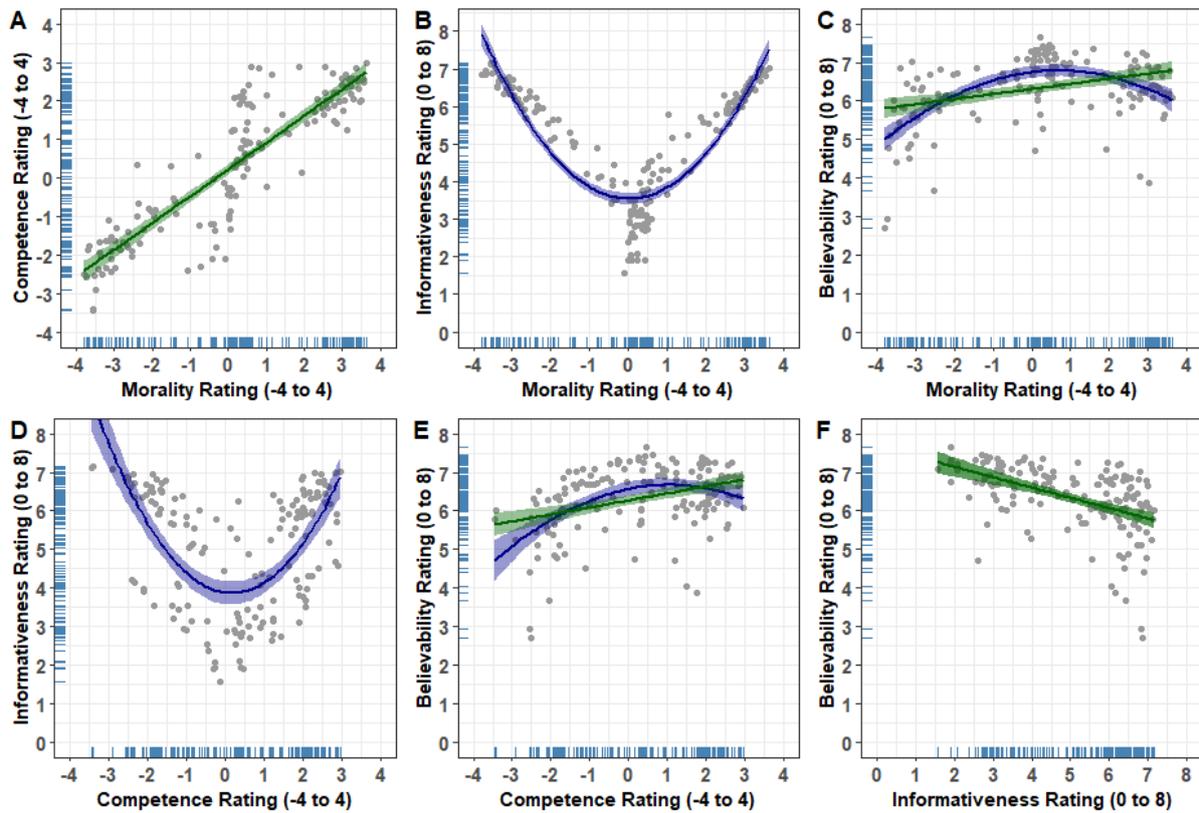
188 The relationships between each of the dimensions are visualized in Fig 3. Inspection
 189 of the figure indicated linear and non-linear relationships between several pairs of
 190 dimensions. We therefore tested for linear and quadratic relationships using orthogonal

191 polynomial regression (see Table 2 for statistical output). The morality and competence
192 ratings showed a strong positive linear relationship, indicating that behavior statements rated
193 as more positive in morality were rated as more competent (see Fig 3A). The morality and
194 informativeness ratings showed a strong quadratic effect, indicating that behavior statements
195 rated as more extreme in morality (negative or positive) were rated as more informative (see
196 Fig 3B). The morality and believability ratings showed both a moderate positive linear
197 relationship and a quadratic relationship (see Fig 3C). The linear effect indicates that
198 behavior statements rated as more positive in morality were rated as more believable, while
199 the quadratic effect indicates that behavior statements rated as more extreme in morality
200 (negative or positive) were rated as less believable.

201 The competence and informativeness ratings showed a strong quadratic effect (see Fig
202 3D), indicating that behavior statements rated as more extreme in competence (negative or
203 positive) were rated as more informative. The competence and believability ratings showed a
204 moderate positive linear relationship and a quadratic relationship (see Fig 3E). The linear
205 effect indicates that behavior statements rated as more positive in competence were rated as
206 more believable, while the quadratic effect indicates that behavior statements rated as more
207 extreme in competence (negative or positive) were rated as less believable. The
208 informativeness and believability ratings showed a strong negative linear relationship,
209 indicating that behavior statements rated as more informative were rated as less believable
210 (see Fig 3F).

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214 **Fig 3. Scatter plots depicting the association between (A) morality and competence, (B)**

215 **morality and informativeness, (C) morality and believability, (D) competence and**

216 **informativeness, (E) competence and believability, and (F) informativeness and**

217 **believability.** Dot points represent the mean ratings for each behavior statement. The green

218 lines show the linear trends and the blue lines show the quadratic trends. The shaded areas

219 show the 95% confidence intervals. Rugs (i.e., the blue lines along the x - and y -axes) show

220 distribution density.

221

222 **Table 2. Orthogonal Polynomial Regression (Linear and Quadratic) Results for**
 223 **Morality, Competence, Informativeness, and Believability Dimensions**

	Outcome	Predictor	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>
(A)	Competence	Morality	19.51	0.81	0.89	23.98	< .001
		Morality ²	-0.92	0.81	-0.04	-1.13	.262
<i>F</i> (2, 157) = 288.10, <i>p</i> < .001, <i>R</i> ² = .79							
(B)	Informativeness	Morality	-1.09	0.67	-0.06	-1.63	.105
		Morality ²	17.77	0.67	0.90	26.65	< .001
<i>F</i> (2, 157) = 356.40, <i>p</i> < .001, <i>R</i> ² = .82							
(C)	Believability	Morality	3.72	0.70	0.34	5.33	< .001
		Morality ²	-5.20	0.70	-0.48	-7.46	< .001
<i>F</i> (2, 157) = 42.06, <i>p</i> < .001, <i>R</i> ² = .35							
(D)	Informativeness	Competence	-1.00	1.22	-0.05	-0.82	.412
		Competence ²	12.31	1.22	0.63	10.07	< .001
<i>F</i> (2, 157) = 51.05, <i>p</i> < .001, <i>R</i> ² = .39							
(E)	Believability	Competence	3.99	0.76	0.37	5.23	< .001
		Competence ²	-3.10	0.76	-0.29	-4.05	< .001
<i>F</i> (2, 157) = 21.87, <i>p</i> < .001, <i>R</i> ² = .22							
(F)	Believability	Informativeness	-5.29	0.75	1.53	-7.05	< .001
		Informativeness ²	-0.96	0.75	-2.03	-1.28	.204
<i>F</i> (2, 157) = 25.66, <i>p</i> < .001, <i>R</i> ² = .25							

224 *Note.* *N* = 160 behavior statements; *B* = unstandardized beta weights; *SE B* = standard errors of
 225 unstandardized beta weights; β = standardized beta weights.

226

227 **Discussion**

228 The present study provides a normed corpus of 160 contemporary behavior
229 statements. Each behavior statement was rated on the dimensions of morality (11),
230 competence (10), informativeness (23), and believability (5), which are known to affect
231 impression formation. The behavior statement ratings varied widely on the morality,
232 competence, and informativeness dimensions, providing researchers with substantial scope to
233 investigate the effects of these dimensions on impression formation. There was less variation
234 on the believability dimension, with most behavior statements rated as being at least
235 moderately believable. Given that behavior statements need to be believable to affect person
236 impressions (5), the general believability of the behavior statements should be advantageous
237 to researchers using the corpus.

238 Researchers interested in the influence of specific dimensions on impression
239 formation may need to control for the contribution of related dimensions. Our results indicate
240 a range of linear and quadratic relationships between the morality, competence,
241 informativeness, and believability dimensions. The morality and competence dimensions
242 showed a positive linear relationship, indicating that more morally positive behavior
243 statements were rated as more competent. This replicates prior research (29,42,43), and
244 suggests a halo effect (10,44) whereby favorable judgments on the morality dimension
245 positively influence judgements on the competence dimension (or vice versa). The
246 informativeness dimension showed a quadratic relationship to the morality and competence
247 dimensions: behavior statements rated as more extreme in morality or competence (i.e.,
248 extreme positive or extreme negative) were associated with an increase in informativeness.

249 These findings are consistent with an extremity bias, whereby more morally extreme
250 information is given greater weight in impression formation (24,45,46).

251 The believability dimension showed positive linear relationships and quadratic
252 relationships with the morality and competence dimensions. Behavior statements rated as
253 more positive in morality/competence were generally rated as more believable (than more
254 negative statements), and more extreme (positive/negative) behaviors were associated with a
255 decrease in believability. These relationships may be explained by people's expectations, in
256 so far as people expect others to behave in positive and non-extreme ways (e.g., person
257 positivity bias, see 47) so find such behaviors more believable. Our final test showed a strong
258 negative linear relationship between informativeness and believability, indicating that more
259 informative behavior statements were also rated as less believable. Together, these findings
260 make intuitive sense, suggesting that more unexpected and surprising behaviors, which are
261 less believable, are considered to be more informative (19, see also "frequency-weight"
262 theories, 22). The negative relationship between informativeness and believability is also
263 consistent with recent research on misinformation (e.g., fake news and conspiracy theories).
264 Even if low in believability, misinformation can be perceived to be 'informative if true', and
265 therefore has the potential to strongly sway opinion (48,49) and be widely shared online (50,
266 see also 51).

267 To conclude, the present study provides a normed corpus of 160 contemporary
268 behavior statements. The statements were rated by a large sample of judges ($N = 400$, with
269 each behavior statement rated by 100 judges) on four dimensions relevant to impression
270 formation: morality, competence, informativeness, and believability. Importantly, the
271 different dimensions were non-independent; a range of linear and non-linear relationships
272 between the dimensions were identified. Accounting for these relationships (e.g., statistically)

273 can help researchers avoid drawing unwarranted conclusions. For example, researchers
274 investigating the effect of competence on impression formation may find their results are
275 better explained by morality (e.g., see 52) or that the effect of a specific dimension is
276 moderated by statement informativeness or believability. Given these considerations, we
277 believe the corpus of behavior statements generated in the present study will be valuable to
278 researchers interested in impression formation.

279 **Acknowledgements**

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281 for their valuable feedback on early drafts of the manuscript.

282

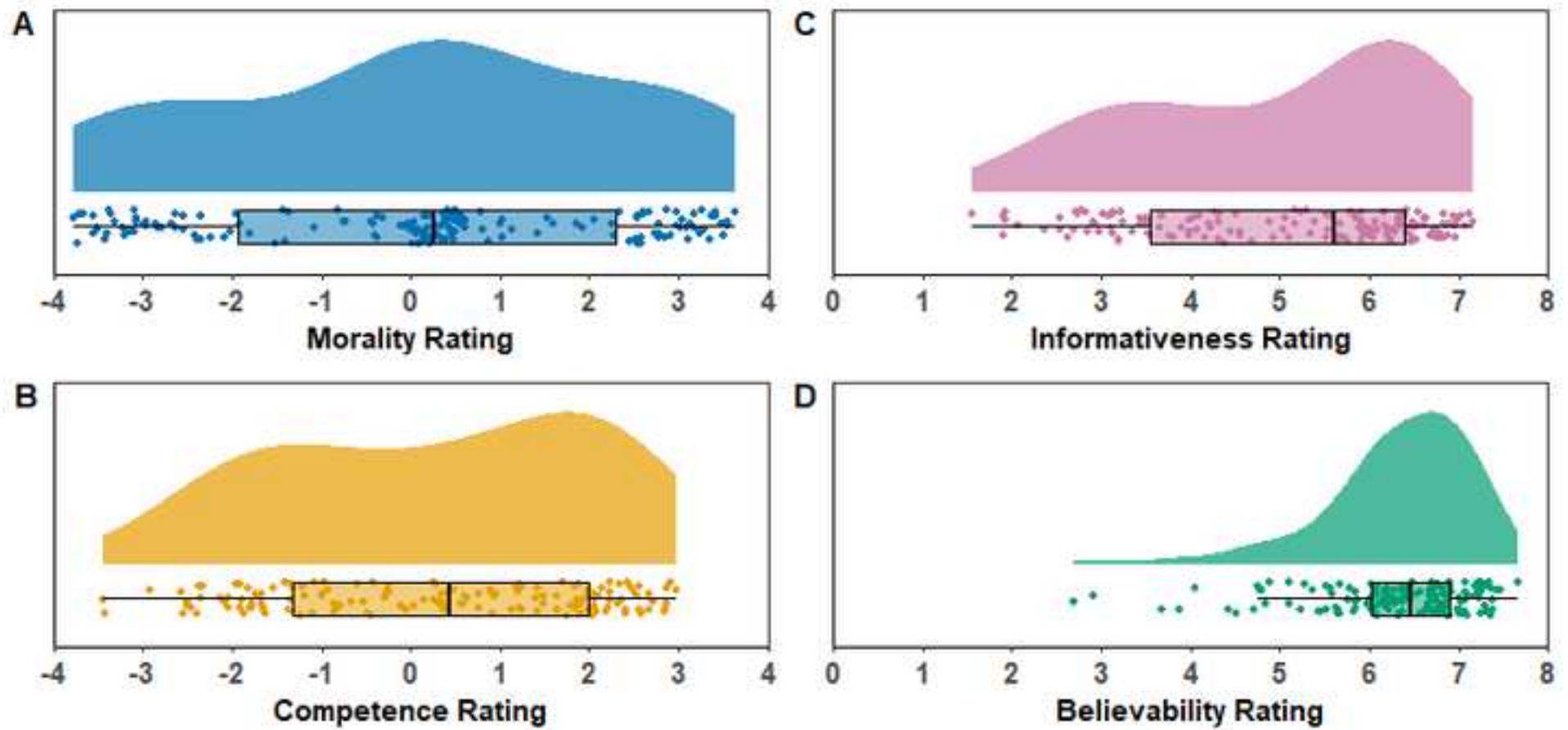
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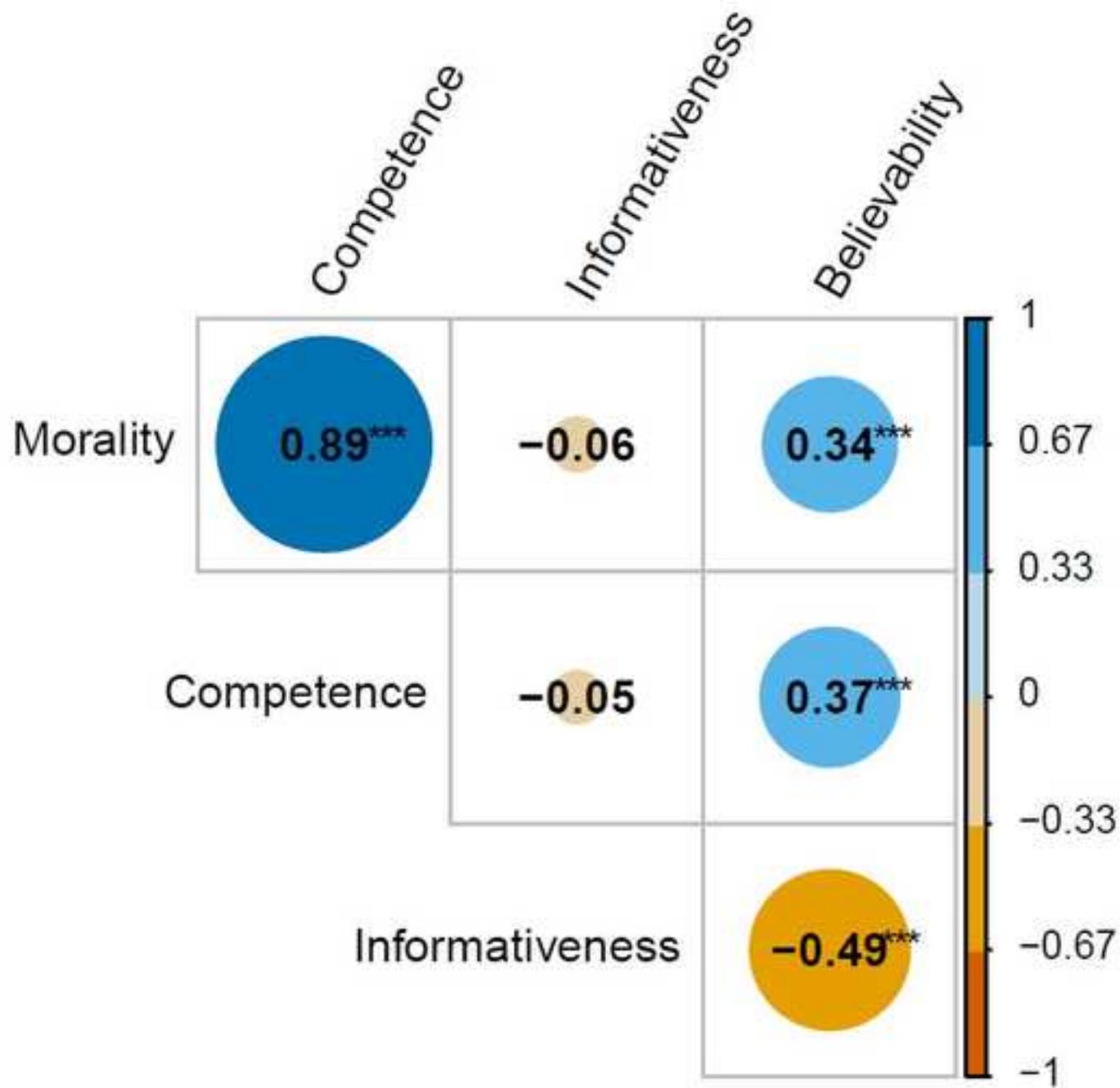
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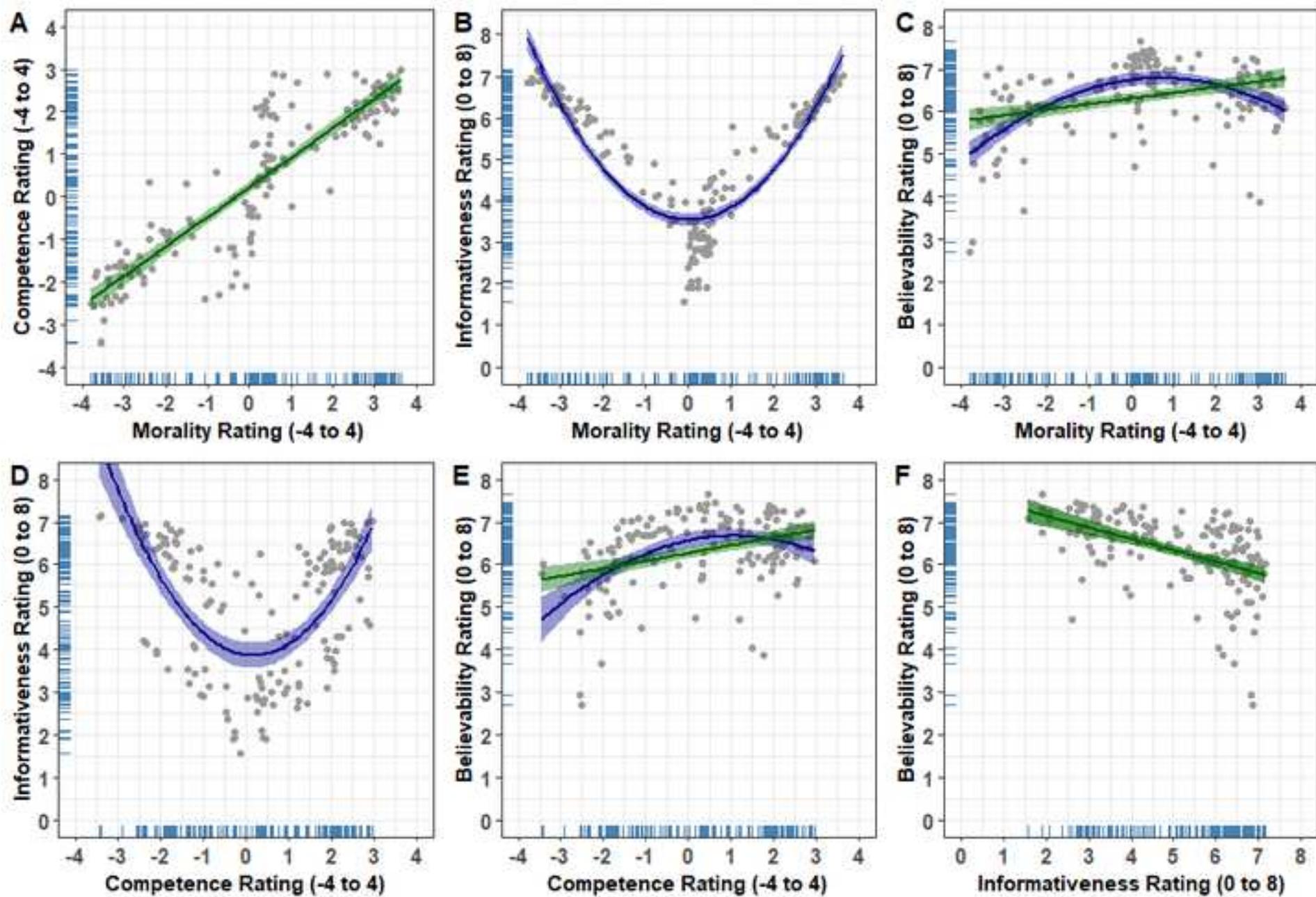
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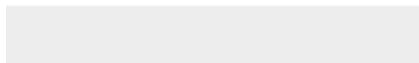




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~~Impression Formation-stimuli~~ stimuli: A ~~c~~Corpus of ~~b~~Behavior ~~s~~Statements
~~r~~Rated on ~~m~~Morality, ~~c~~Competence, ~~i~~Informativeness, and ~~b~~Believability

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~~Running Head: Impression Formation Stimuli~~

~~Keywords: Impression Formation, Impression Formation Stimuli, Behavior Statements,
Morality, Competence, Informativeness, Believability~~

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21 Abstract

22 To investigate impression formation, researchers tend to rely on statements that describe a
23 person's behavior (e.g., "Alex ridicules people behind their backs"). These statements are
24 presented to participants who then rate their impressions of the person. However, a corpus of
25 behavior statements is costly to generate, and pre-existing corpora may be outdated and might
26 not measure the dimension(s) of interest. The present study makes available a normed corpus
27 of 160 contemporary behavior statements that were rated on 4 dimensions relevant to
28 impression formation: morality, competence, informativeness, and believability. In addition,
29 we show that the different dimensions are non-independent, exhibiting a range of linear and
30 non-linear relationships, which may present a problem for past research. However,
31 researchers interested in impression formation can control for these relationships (e.g.,
32 statistically) using the present corpus of behavior statements.

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33 ~~Impression Formation Stimuli: A Corpus of Behavior Statements Rated on Morality,~~
34 ~~Competence, Informativeness, and Believability~~ **Introduction**

35 Without direct access to the inner thoughts and feelings of others, we often rely on
36 behavioral information to form impressions of people. Some behaviors may elicit a positive
37 impression (e.g., saving a drowning friend), whereas others may elicit a negative impression
38 (e.g., having an extramarital affair). Each behavior serves as a building block in the
39 impression formation process, and the impressions we form guide our social interactions with
40 friends, colleagues, romantic partners, and casual acquaintances (e.g., 1,2).

41 To investigate impression formation under controlled laboratory conditions,
42 researchers often present participants with statements that describe a person's behavior (e.g.,
43 "Alex ridicules people behind their backs"), and then participants rate their impressions of
44 that person (e.g., 3–5). Researchers have primarily focused on dimensions that capture
45 important facets of a person's character: (i) morality (also called communion, see 6),
46 encompassing honesty, loyalty, and cooperativeness, and (ii) competence (also called agency,
47 see 6), encompassing intelligence, efficiency, and capability (7,8)¹. Moral behaviors (e.g.,
48 "she kept a friend's secret", "he lied to his parents") indicate whether a person's intentions
49 are good or bad, while competence behaviors (e.g., "they achieved a challenging goal", "she
50 did not get good marks at university") indicate their ability to successfully execute a task
51 (11,16). Although both dimensions guide impression formation, moral behaviors are found to

¹ It should be noted that some researchers use the label 'warmth' interchangeably with morality (e.g., 9,7,10,11) while others argue that warmth is an overarching factor encompassing morality and sociability (12,13, see also 6). We follow Brambilla et al. (14,15) with morality being core to impression formation.

52 be more influential than competence behaviors (13,14,17, see also 15). While morality and
53 competence are the major dimensions investigated to date, other dimensions also play a role.

54 Another dimension that guides impression formation is informativeness. Behavior
55 statements that are high in informativeness are diagnostic of a person's true character,
56 resulting in greater impression change (18,19). Research has shown that the informativeness
57 dimension is related to other dimensions: behavior statements that are morally negative are
58 rated as more informative than morally positive statements (e.g., 20,21) and morally extreme
59 behavior statements are rated as more informative than morally moderate statements (22–24,
60 see 25 for a review). It has recently been established that the believability of behavioral
61 information is also important to impression formation; person impressions are updated only
62 when the information is considered to be believable, regardless of how informative or
63 extreme the information is (5). Thus, believability may moderate the effect of the other
64 dimensions known to guide impression formation (see also 26).

65 To examine how these dimensions inform person impressions, researchers require a
66 corpus of behavior statements that vary on the relevant dimensions (27–30). To avoid the cost
67 associated with generating a corpus of statements, it is common to use behavior statements
68 that were generated in prior studies (e.g., 5,17,19,31,32). However, doing so can be
69 problematic. First, if the behavior statements were rated by a small sample of judges, they
70 may measure the dimensions of interest imprecisely. Second, behavior statements can
71 become outdated, which can make them difficult for participants to evaluate (e.g., whether
72 “replaced the ribbon on his typewriter” indicates competence; see 28) and may limit their
73 contemporary real-world applicability (e.g., whether someone “had difficulty balancing a
74 checkbook” is unlikely to come up in the present day; see 28). Third, researchers may be
75 interested in dimensions that were not assessed in past studies—for instance, the statements

76 generated by Chadwick et al. (27) and Fuhrman et al. (28) were not rated on informativeness
77 or believability.

78 To address these issues, we generated a comprehensive and contemporary list of 160
79 behavior statements that were rated by a large sample of judges ($N = 400$). The statements
80 were rated on four dimensions: morality, competence, informativeness, and believability. In
81 the present study, the behavior statements were designed to vary across the morality
82 dimension (from extreme positive, e.g., “Person X sold their house to fund a local program
83 for the needy”, to extreme negative, e.g., “Person X kicked their pet dog hard in the head
84 because it didn’t come when called”) and the competence dimension (from extreme positive,
85 e.g., “Person X did all the repair work on their car”, to extreme negative, e.g., “Person X
86 failed their driver’s license test for the fourth time”). This included statements that were
87 designed to be neutral on both dimensions (e.g., “Person X buys a loaf of bread every day, as
88 they love the smell of freshly baked bread in the morning”). We anticipated that the behavior
89 statements would naturally vary on the informativeness and believability dimensions.

90 We first present the statements and their ratings across the four dimensions of interest.
91 We then examine the relationships between the four dimensions. Any relationships would
92 highlight potential confounds that should be taken into account by researchers. The corpus
93 provides a normed set of contemporary behavior statements that enables researchers to test
94 new research questions in impression formation.

95 **Method**

96 The study was conducted in accordance with the National Statement on Ethical
97 Conduct in Human Research (33). It was approved by the University of Western Australia’s

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98 Human Research Ethics Office. Participants viewed an approved information sheet before
99 giving informed consent to take part.

100

101 **Participants**

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102 A convenience sample of pParticipants were recruited from the United States ~~v~~via the
103 online crowd-sourcing platform Prolific. The sample comprised $N = 400$ participants
104 (female: 205; male: 189; other: 5; prefer not to say: 1) with an age range of 18–73 years
105 ($M = 33.66$, $SD = 11.66$). Each participant received the equivalent of £1.50 (approximately
106 US\$2) upon completion of the study.

107 **Behavior Statements**

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108 The study used a pool of $N = 160$ behavior statements. These included behaviors
109 generated by the authors ($n = 94$), with the remainder ($n = 66$) adapted from prior studies
110 (14,26,27,33). The behavior statements took the form of “Person X...”, describing a behavior
111 in which Person X is the agent. The behaviors were designed to vary in morality (positive,
112 negative) and competence (positive, negative), including behaviors that tended toward neutral
113 on both dimensions. Moral behaviors were generated with reference to three of the five
114 psychological foundations of morality: harm/care, fairness/reciprocity, and ingroup/loyalty
115 (34, note however that other conceptualisations of morality also exist, e.g., 35,36).

116 To help ensure sufficient variation across each dimension, the authors brainstormed
117 statements from five categories: positive morality (48 statements; e.g., “Person X sold their
118 house to fund a local program for the needy”), negative morality (48 statements; e.g., “Person
119 X set fire to the community hall in the middle of the night”), positive competence (20
120 statements; e.g., “Person X solved a crossword puzzle in the newspaper”), negative

121 competence (20 statements; e.g., “Person X forgot to turn off the bathwater, flooding the
122 house”), and neutral (24 statements; e.g., “Person X went to a friend’s house to play a card
123 game”). Statements in the positive and negative competence categories were designed to be
124 neutral on the morality dimension. Although not intentionally designed to vary on
125 informativeness or believability, it was anticipated that the behavior statements would vary
126 on these dimensions.

127 Each participant was presented with 40 statements selected randomly subject to the
128 following constraints: 12 from each of the positive and negative morality categories, 5 from
129 each of the positive and negative competence categories, and 6 from the neutral category.

130 Pre-testing indicated that participants could become fatigued if they rated more than 40
131 statements. Behavior statements were sampled such that each statement was rated by 100
132 participants.

133 **Procedure**

134 The study was performed online using an internet-enabled device, and took
135 approximately 15 minutes to complete. After participants provided informed consent, they
136 supplied their age and gender, and read over the instructions. The instructions explained that
137 they would rate 40 behavior statements on various dimensions, with each statement
138 describing a different person (e.g., Person 1, Person 2; this reduced the possibility of
139 statements interacting with each other). The behavior statements were then presented in a
140 random order. Participants rated each statement on its *morality* (“How morally bad or good is
141 the behavior described in the statement?”), from -4 (*very morally bad*) to 4 (*very morally*
142 *good*), with 0 indicating neutral; its *competence* (“How would you rate the person’s
143 competence from the behavior described in the statement?”), from -4 (*very incompetent*) to 4

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144 (very competent), with 0 indicating neutral; its *informativeness* (“How informative is the
145 statement? How valuable is it when forming an impression of the person?”), from 0 (*not*
146 *informative*) to 8 (*very informative*); and its *believability* (“How believable is the statement?
147 To what extent could it happen in real life?”), from 0 (*not believable*) to 8 (*very believable*).
148 Ratings were entered using horizontally aligned radio buttons. Participants were then
149 debriefed.

150 **Results**

151 All analyses were performed and all figures created in R (37). Data visualizations
152 were created using *ggplot2* (38), the *raincloud plot* package (39), and *corrplot* (40). The data
153 and R Script are available on the Open Science Framework:

154 <https://osf.io/qnv95/>~~https://osf.io/qnv95/?view_only=c303ed6138b140d9ae986a6d1ae3861b~~.

155 **Preliminary Analysis**

156 To identify uniform responding, we calculated each participant’s standard deviation
157 across all measures (morality, competence, informativeness, and believability). No outliers
158 were identified using the interquartile rule with a 2.2 multiplier (i.e., cutoff = $SD < Q1 - 2.2$
159 $\times IQR$; see 41). In addition, each measure was approximately normally distributed ($|skew| < 2$
160 and $|kurtosis| < 9$).

161 **Behavior Statement Ratings**

162 The distributions of the mean morality, competence, informativeness, and
163 believability ratings for each behavior statement are shown in Fig 1. The ratings ranged
164 across the entire morality dimension (Fig 1A) and most of the competence dimension (Fig
165 1B). Informativeness ratings varied substantially (Fig 1C). Believability ratings varied
166 considerably (Fig 1D), but most statements were rated as believable (i.e., in the upper part of
167 the scale). Ratings for the full corpus of behavior statements are given in Table 1, and an

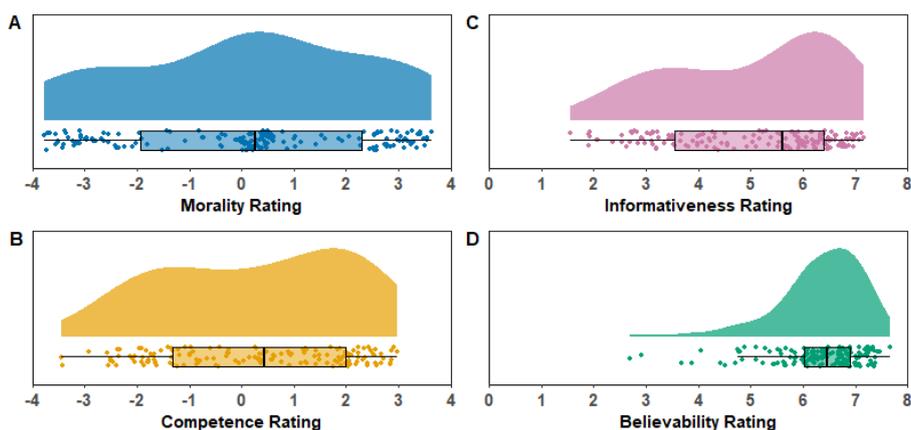
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168 interactive version of Table 1 is available on the Open Science Framework:
 169 (<https://osf.io/jv7fk>~~https://osf.io/jv7fk/?view_only=e303ed6138b140d9ac986a6d1ac3861b~~).
 170



171
 172 **Fig 1. Mean morality (A), competence (B), informativeness (C), and believability (D)**
 173 **ratings for each behavior statement.** The “cloud” shows the density distribution for the
 174 given ratings. Each dot point shows the mean rating for a single behavior statement; points
 175 are jittered vertically to avoid overplotting. Boxplots show the first to third quartiles, the
 176 bolded vertical line denotes the median, and the whiskers denote 1.5 times the interquartile
 177 range.

178 **Table 1. Mean and Standard Deviations of Morality, Competence, Informativeness, and Believability Ratings by Behavior Statement**

Behavior Statement	Morality <i>M (SD)</i>	Competence <i>M (SD)</i>	Informativen. <i>M (SD)</i>	Believability <i>M (SD)</i>
Person X pushed an amputee in front of a train because the amputee made them feel uncomfortable.	-3.78 (0.82)	-2.51 (1.95)	6.85 (1.78)	2.69 (2.44)
Person X worked in a factory and put broken glass in packets of children's cereal.	-3.72 (1.10)	-2.56 (1.99)	6.83 (1.79)	2.92 (2.36)
Person X set up a cat trap because they love to catch and torture animals.	-3.70 (0.77)	-1.86 (2.18)	6.95 (1.60)	4.77 (2.31)
Person X set fire to the community hall in the middle of the night.	-3.67 (0.68)	-1.77 (2.14)	6.83 (1.65)	5.11 (2.15)
Person X left their children alone in the car for two hours while they went to have a drink on a hot day.	-3.56 (1.31)	-3.45 (1.09)	7.11 (1.52)	5.79 (2.08)
Person X shook a crying baby so hard while babysitting that it suffered brain damage and nearly died.	-3.55 (1.35)	-3.42 (1.22)	7.17 (1.30)	6.02 (2.19)
Person X spat in a customer's meal before serving it to him, because the customer had a stutter.	-3.51 (1.31)	-2.54 (1.82)	6.88 (1.47)	4.42 (2.53)
Person X failed a student because they were African American.	-3.50 (1.28)	-2.92 (1.55)	7.08 (1.48)	5.23 (2.20)
Person X punched a woman for wearing a hijab because Person X thinks they should not be allowed in this country.	-3.42 (1.30)	-2.38 (1.83)	6.96 (1.62)	5.45 (2.17)
Person X had an affair with their best friend's wife.	-3.40 (0.89)	-1.68 (1.87)	6.54 (1.44)	6.84 (1.52)
Person X stole the collection tin of a blind beggar on the street.	-3.38 (1.28)	-1.95 (1.98)	6.52 (1.83)	5.37 (2.02)
Person X embezzled money from a charity to feed their gambling habit.	-3.36 (1.38)	-2.04 (2.24)	6.68 (1.64)	5.84 (1.81)
Person X kicked their pet dog hard in the head because it didn't come when called.	-3.31 (1.43)	-2.50 (1.68)	6.77 (1.57)	5.82 (2.07)
Person X released intimate photos of their ex-partner to their friends and then posted them to the internet.	-3.23 (1.25)	-1.65 (1.92)	6.72 (1.51)	6.46 (1.64)
Person X could have saved the life of a man stabbed in a dark alley but couldn't be bothered calling an ambulance.	-3.20 (1.29)	-2.35 (1.81)	6.34 (1.86)	4.79 (2.31)
Person X loosened the wheel nuts of their neighbor's car, because the neighbor always played loud music.	-3.16 (1.45)	-1.10 (2.05)	6.39 (1.60)	4.52 (2.24)

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Behavior Statement	Morality <i>M (SD)</i>	Competence <i>M (SD)</i>	Informativen. <i>M (SD)</i>	Believability <i>M (SD)</i>
Person X joined the military because they wanted to see what it was like to kill people.	-3.14 (1.33)	-1.63 (1.77)	6.48 (1.95)	4.89 (2.27)
Person X regularly cheats on their girlfriend when she is traveling for work.	-3.09 (1.57)	-1.54 (2.11)	6.79 (1.44)	7.02 (1.41)
Person X started a false rumor that their office colleague Mary used to be a sex worker.	-3.09 (1.25)	-2.12 (1.68)	6.34 (1.86)	5.57 (1.96)
Person X was in a car accident but drove off before they could see if anyone was injured.	-3.07 (1.62)	-2.45 (1.63)	6.62 (1.50)	6.31 (1.72)
Person X ignored a new person in the office because they thought the new person was Jewish.	-3.07 (1.34)	-1.91 (1.72)	6.61 (1.65)	5.63 (1.94)
Person X called a waitress 'dummy' and did not leave a tip, because they didn't like her name.	-2.98 (1.15)	-2.34 (1.46)	6.72 (1.59)	5.11 (2.37)
Person X started a vicious rumor about their ex-partner, saying that they had neglected their children when they were still married.	-2.97 (1.28)	-1.65 (1.77)	6.51 (1.53)	6.57 (1.49)
Person X promised to look after their elderly mother's dog but then secretly sold it as soon as their mother moved into the nursing home.	-2.96 (1.35)	-1.31 (1.95)	6.30 (1.94)	5.59 (2.16)
Person X presented their colleague's idea as their own in order to get a promotion.	-2.86 (1.60)	-1.79 (2.25)	6.18 (2.07)	6.28 (1.76)
Person X heckled a stranger and made cruel remarks just because the stranger was overweight.	-2.83 (1.64)	-1.88 (1.78)	6.47 (1.72)	6.34 (1.78)
Person X told a coworker that Person X's brother was HIV-positive, a secret that their brother had told them in confidence.	-2.78 (1.24)	-1.67 (1.51)	6.06 (1.65)	6.03 (1.98)
Person X said it was their friend who had driven into the neighbor's letterbox even though they did it themselves.	-2.67 (1.22)	-1.73 (1.70)	5.92 (1.66)	6.00 (1.71)
Person X took performance-enhancing drugs in order to win a race.	-2.64 (1.26)	-1.40 (2.02)	5.67 (1.90)	6.68 (1.54)
Person X yelled at an elderly person for walking too slowly and being in the way.	-2.64 (1.24)	-1.80 (1.59)	6.19 (1.56)	5.85 (1.94)
Person X smeared dog poo on their colleague's chair and laughed uncontrollably when their colleague sat on it.	-2.54 (1.50)	-2.05 (1.67)	6.41 (1.57)	3.67 (2.26)
Person X tears out the last pages of library books to annoy future borrowers.	-2.54 (1.23)	-1.91 (1.70)	6.25 (1.61)	4.83 (2.17)
Person X scratched their neighbor's expensive car with a key, as he always parked it at the front of Person X's house.	-2.41 (1.44)	-1.00 (1.98)	5.84 (1.83)	6.19 (1.76)

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Behavior Statement	Morality <i>M (SD)</i>	Competence <i>M (SD)</i>	Informativen. <i>M (SD)</i>	Believability <i>M (SD)</i>
Person X left the family business to set up their own business, taking most of the clients with them and causing the family business to go bankrupt.	-2.39 (1.64)	0.34 (2.38)	6.24 (1.83)	5.75 (1.78)
Person X found a wallet with \$50 in it, took the money out and left the wallet on the floor.	-2.35 (1.88)	-0.67 (1.68)	6.02 (1.75)	6.81 (1.54)
Person X broke a friend's expensive vase and refused to pay to replace it.	-2.34 (1.29)	-1.71 (1.46)	5.92 (1.60)	6.04 (1.68)
Person X was on a crowded bus and would not give up their seat to a pregnant woman when asked to.	-2.23 (1.38)	-1.34 (1.52)	5.94 (1.79)	6.16 (1.61)
Person X closed the elevator door before an elderly neighbor could get in.	-2.08 (1.64)	-0.80 (1.61)	5.53 (1.81)	6.06 (1.77)
Person X regularly steals office supplies from their job because they feel they deserve it.	-2.01 (1.46)	-0.86 (1.79)	5.10 (2.01)	6.68 (1.41)
Person X got a friend to fix their gutters and promised guitar lessons in return, but never honored the promise.	-1.96 (1.36)	-1.00 (1.61)	5.64 (1.65)	6.12 (1.55)
Person X cheated in a card game while playing with a group of their friends.	-1.91 (1.32)	-0.82 (1.73)	5.16 (1.93)	6.71 (1.60)
Person X pushed in front of another patron in the line at a theater.	-1.80 (1.36)	-1.35 (1.55)	5.66 (1.76)	6.09 (2.04)
Person X bribed a landlord to be the first to get their apartment repainted.	-1.51 (1.59)	0.32 (1.72)	5.29 (1.63)	5.67 (1.81)
Person X pretended to be seriously fouled by an opposing player during a soccer game.	-1.43 (1.44)	-0.54 (1.73)	5.05 (2.33)	6.84 (1.38)
Person X did not attend their coworker's funeral because they'd had a disagreement before the coworker died.	-1.40 (1.34)	-0.60 (1.43)	4.92 (1.97)	5.51 (2.03)
Person X burned their country's flag because they don't like their country.	-1.37 (1.70)	-0.92 (1.61)	5.04 (2.12)	6.28 (1.90)
Person X drove their car the wrong way down a one-way street.	-1.07 (1.35)	-2.39 (1.44)	4.22 (2.16)	6.19 (2.01)
Person X left their long-term band as soon as an opportunity came up to play with a more successful band.	-0.81 (1.48)	0.59 (1.43)	4.88 (2.03)	6.49 (1.56)
Person X forgot it was their wedding anniversary and did not have a gift for their spouse.	-0.76 (1.14)	-1.24 (1.42)	4.09 (2.07)	6.73 (1.48)
Person X walked into the street without checking for oncoming traffic.	-0.72 (1.15)	-2.32 (1.38)	4.15 (2.16)	6.53 (1.57)
Person X forgot they had to attend their niece's dance concert that evening.	-0.44 (0.84)	-1.21 (1.21)	3.43 (1.92)	6.75 (1.31)

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Behavior Statement	Morality <i>M (SD)</i>	Competence <i>M (SD)</i>	Informativen. <i>M (SD)</i>	Believability <i>M (SD)</i>
Person X forgot to turn off the bath water, flooding the house.	-0.41 (1.26)	-2.09 (1.60)	3.89 (1.79)	5.44 (1.93)
Person X was forced to pay multiple bank fees for not paying their credit card repayment on time.	-0.40 (0.89)	-1.19 (1.39)	4.03 (2.01)	7.08 (1.32)
Person X broke off all communication with their family for a while because they had a heated argument with each other.	-0.38 (1.01)	-0.04 (1.08)	4.44 (1.87)	6.76 (1.36)
Person X forgot to put the alarm on when they were the last one to leave the office.	-0.37 (0.91)	-1.36 (1.18)	3.54 (1.86)	6.58 (1.45)
Person X forgot to turn the stove off before leaving the house.	-0.31 (0.99)	-1.82 (1.50)	3.53 (1.83)	6.37 (1.87)
Person X sneezed loudly in an important meeting.	-0.11 (0.51)	-0.12 (0.66)	1.56 (1.96)	7.10 (1.34)
Person X failed their driver's license test for the fourth time.	-0.07 (0.50)	-2.09 (1.33)	3.98 (2.17)	6.27 (1.53)
Person X ate their lunch and went back to work with food stuck in their teeth.	-0.02 (0.74)	-0.25 (0.98)	1.92 (2.01)	7.28 (1.14)
Person X never learned how to ride a bicycle.	-0.01 (0.75)	-0.42 (1.18)	2.37 (2.20)	6.36 (1.78)
Person X forgot to water their front garden causing the grass to turn brown.	0.02 (0.65)	-0.99 (1.06)	2.91 (2.00)	6.91 (1.63)
Person X disappointed their boss when they were unable to attract any new customers.	0.02 (0.79)	-0.97 (1.33)	3.52 (2.23)	6.67 (1.48)
Person X went to the supermarket but couldn't remember what they needed to buy.	0.03 (0.48)	-1.08 (1.27)	2.93 (2.03)	6.70 (1.51)
Person X went to a fancy restaurant but couldn't pronounce the items on the menu.	0.06 (0.66)	-0.45 (1.08)	2.53 (2.15)	6.75 (1.56)
Person X did not meet their sales targets for the month at work.	0.06 (0.85)	-0.86 (1.09)	3.12 (2.06)	7.08 (1.33)
Person X arrived at the airport only to discover they had left their passport at home.	0.06 (0.81)	-1.33 (1.22)	3.20 (2.04)	7.03 (1.18)
Person X brought in the groceries from the car and dropped one of the bags, which caused the eggs to break.	0.07 (0.78)	-0.26 (1.12)	2.06 (2.29)	7.22 (1.15)
Person X can walk on their hands down a flight of stairs.	0.08 (0.39)	1.20 (1.66)	2.62 (2.16)	4.71 (2.24)
Person X ordered a take-away coffee but spilled it when they tried to take a sip.	0.08 (0.75)	-0.29 (1.19)	1.90 (2.14)	7.33 (1.24)
Person X solved a crossword puzzle in the newspaper.	0.11 (0.53)	1.24 (1.38)	3.20 (2.24)	7.26 (1.30)

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Behavior Statement	Morality <i>M (SD)</i>	Competence <i>M (SD)</i>	Informativen. <i>M (SD)</i>	Believability <i>M (SD)</i>
Person X once spent a whole weekend watching furniture restoration videos on the Internet.	0.15 (0.76)	0.31 (1.15)	3.35 (1.98)	6.00 (2.03)
Person X ran out of paint when painting their home and had to go the hardware store.	0.15 (0.67)	0.26 (1.40)	2.54 (2.32)	7.31 (1.22)
Person X went to the nearby airport, as they like to watch the planes.	0.15 (0.52)	0.33 (1.12)	3.22 (2.22)	6.04 (1.75)
Person X always wins at Trivial Pursuit.	0.16 (0.68)	2.08 (1.47)	3.50 (2.12)	6.18 (1.89)
Person X was the fastest runner when they were in high school.	0.16 (0.60)	1.23 (1.42)	2.79 (2.20)	6.83 (1.45)
Person X locked their keys in the house and had to call a locksmith.	0.19 (1.04)	-0.48 (1.52)	3.13 (2.39)	7.23 (1.20)
Person X buys a loaf of bread every day, as they love the smell of freshly baked bread in the morning.	0.20 (0.97)	0.28 (1.12)	2.84 (1.94)	5.64 (2.27)
Person X went to purchase a new pair of shoes but couldn't find any that were comfortable.	0.21 (0.86)	0.36 (1.08)	2.08 (2.40)	7.07 (1.35)
Person X ordered their favorite dish from a Chinese restaurant.	0.22 (0.86)	0.47 (1.00)	1.90 (2.42)	7.66 (0.99)
Person X hailed a bus and asked the bus driver which stop was the closest stop to get to the city.	0.23 (0.87)	0.37 (1.61)	3.09 (2.28)	6.28 (1.91)
Person X has memorized three of Shakespeare's plays.	0.28 (0.78)	2.11 (1.43)	3.98 (2.13)	5.28 (2.15)
Person X likes to go to their local café and sip coffee while reading the newspaper.	0.29 (0.87)	0.44 (0.96)	2.82 (2.42)	7.43 (1.10)
Person X played chess with their friend, winning the game.	0.30 (0.85)	1.91 (1.21)	3.10 (2.21)	7.37 (1.11)
Person X tried to patch a puncture in the wheel of their bike but couldn't, so they purchased a new tube instead.	0.34 (1.14)	0.77 (1.80)	3.25 (2.37)	7.18 (1.30)
Person X prepared a roast chicken and made the stuffing from scratch.	0.35 (0.99)	2.01 (1.30)	3.77 (2.26)	7.31 (1.17)
Person X often sings along to the songs that they are listening to.	0.36 (1.21)	0.41 (1.10)	2.73 (2.47)	7.25 (1.51)
Person X was unable to fix the dripping faucet so they had to call the plumber.	0.38 (0.87)	0.03 (1.35)	2.85 (2.32)	7.29 (1.27)
Person X was running late so they drove to work rather than taking the bus.	0.40 (1.11)	0.97 (1.60)	3.11 (2.42)	7.07 (1.22)

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Behavior Statement	Morality <i>M (SD)</i>	Competence <i>M (SD)</i>	Informativen. <i>M (SD)</i>	Believability <i>M (SD)</i>
Person X did really well at the quiz night.	0.41 (1.01)	2.07 (1.39)	3.66 (2.05)	7.27 (1.14)
Person X won a weightlifting contest at their gym, after placing second for the last three years.	0.41 (1.04)	2.24 (1.36)	4.32 (2.34)	6.64 (1.53)
Person X won the door prize at the town's community fair.	0.44 (1.15)	0.41 (1.09)	1.92 (2.29)	6.74 (1.51)
Person X went to a friend's house to play a card game.	0.44 (1.21)	0.64 (1.30)	2.70 (2.46)	7.46 (1.27)
Person X won an award for 'Best Newcomer' at a local karaoke event.	0.45 (1.03)	1.23 (1.46)	3.12 (2.31)	6.70 (1.45)
Person X put on a suit and wore their lucky socks in preparation for a job interview.	0.47 (1.08)	0.57 (1.34)	3.43 (2.32)	6.75 (1.60)
Person X learned a secret prize-winning pie recipe from their grandmother before she died.	0.48 (0.96)	0.89 (1.17)	2.97 (2.50)	6.65 (1.65)
Person X was singing loudly to their favorite song in the car.	0.49 (1.18)	0.25 (0.93)	2.91 (2.19)	7.38 (1.12)
Person X accidentally knocked a glass off the table, but managed to catch it before it could smash on the floor.	0.50 (1.14)	1.43 (1.44)	2.72 (2.20)	6.72 (1.55)
Person X learned how to play the piano when they were a child.	0.51 (1.14)	1.90 (1.39)	3.81 (2.29)	7.38 (1.08)
Person X always wrote things down as they would always forget things.	0.51 (1.08)	0.93 (1.83)	4.38 (1.98)	6.87 (1.45)
Person X was able to convince their boss that they were ready for a promotion at work.	0.52 (0.98)	2.41 (1.38)	4.51 (1.90)	6.57 (1.39)
Person X told the children to be quiet in the library.	0.57 (1.12)	0.91 (1.22)	3.49 (2.35)	7.08 (1.37)
Person X is learning French as they always wanted to learn another language.	0.57 (1.09)	1.92 (1.28)	3.99 (2.01)	7.22 (1.23)
Person X did all the repair work on their car.	0.60 (1.13)	2.90 (1.16)	4.56 (1.87)	6.90 (1.46)
Person X ordered pizza while at their friend's farewell party.	0.61 (1.19)	0.60 (1.09)	3.01 (2.20)	6.41 (1.74)
Person X arrived at the art exhibition early so they could view the collection before it got too busy.	0.62 (1.16)	1.85 (1.37)	4.20 (2.20)	7.13 (1.09)
Person X successfully remembered their coworkers' overly complicated coffee orders without writing them down.	0.79 (1.12)	2.85 (1.25)	4.69 (2.04)	6.38 (1.63)

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Behavior Statement	Morality <i>M (SD)</i>	Competence <i>M (SD)</i>	Informativen. <i>M (SD)</i>	Believability <i>M (SD)</i>
Person X walks to work through the park each day, as they enjoy listening to the birds.	0.81 (1.30)	0.91 (1.28)	4.08 (2.30)	6.98 (1.32)
Person X laughed at a friend's joke even though it wasn't funny.	0.87 (1.26)	0.77 (1.24)	4.31 (2.00)	6.93 (1.39)
Person X cleaned the bookshelf and picked up some items that had dropped onto the floor.	1.00 (1.21)	1.23 (1.32)	3.67 (2.20)	7.00 (1.39)
Person X forgave their partner even though they had been cheating on Person X for two years.	1.02 (1.95)	-0.24 (1.94)	5.78 (1.66)	5.98 (1.88)
Person X learned an impressive dance routine in preparation for a friend's wedding.	1.02 (1.29)	2.15 (1.37)	4.32 (2.10)	6.68 (1.36)
Person X received the employee of the month award at their work.	1.13 (1.48)	2.67 (1.30)	5.17 (1.91)	7.25 (1.23)
Person X taught their nephew how to drive at the local shopping center car park, after the shops had shut.	1.43 (1.38)	1.63 (1.46)	4.56 (2.27)	7.01 (1.26)
Person X went skydiving despite their intense fear of heights because it was their sister's wish to do it together.	1.52 (1.34)	1.18 (1.42)	5.23 (1.86)	5.84 (1.72)
Person X took their nephew to the fair and bought some cotton candy.	1.59 (1.28)	1.13 (1.37)	4.28 (2.22)	7.35 (1.16)
Person X always pays off their debts first before buying things for themselves.	1.85 (1.47)	2.87 (1.50)	5.72 (1.86)	6.70 (1.49)
Person X regularly volunteers in a town that was exposed to radiation, despite the doctor warning them that their own health would be at risk.	1.93 (1.51)	0.15 (2.24)	5.56 (1.89)	4.75 (2.12)
Person X invited an unpopular coworker to have lunch with them at a new café that had just opened.	2.06 (1.35)	1.40 (1.54)	5.53 (1.85)	6.15 (1.64)
Person X regularly sings at a prison in order to entertain the inmates.	2.26 (1.32)	1.71 (1.40)	5.38 (1.84)	5.67 (2.05)
Person X declined a high-paying job with a weapons manufacturing company because they didn't believe in what the company stood for.	2.27 (1.76)	1.49 (1.93)	5.77 (1.99)	6.02 (1.79)
Person X helped a neighbor move a piano into his second floor apartment.	2.35 (1.30)	2.06 (1.43)	5.34 (1.77)	6.40 (1.62)
Person X shaved their head when they found out their partner had cancer and required radiation therapy.	2.46 (1.49)	1.83 (1.63)	6.29 (1.70)	7.23 (1.23)
Person X put money in the expired parking meter of a stranger.	2.52 (1.24)	1.63 (1.57)	5.90 (1.68)	6.18 (1.96)

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Behavior Statement	Morality <i>M (SD)</i>	Competence <i>M (SD)</i>	Informativen. <i>M (SD)</i>	Believability <i>M (SD)</i>
Person X circulated a petition in support of civil rights for people in juvenile detention.	2.54 (1.36)	2.23 (1.34)	5.91 (1.63)	6.46 (1.55)
Person X translated the menu items for a foreigner in a restaurant.	2.54 (1.36)	2.87 (1.24)	5.91 (1.73)	6.78 (1.28)
Person X didn't go to a concert they had been looking forward to because their mother was ill.	2.54 (1.33)	1.84 (1.44)	5.80 (1.97)	6.89 (1.33)
Person X took public transport so their sister could use their car to get to work safely.	2.58 (1.31)	2.03 (1.46)	6.03 (1.37)	6.71 (1.37)
Person X called the bank to tell them about money deposited into Person X's bank account by accident.	2.59 (1.60)	1.98 (1.70)	5.85 (1.86)	5.86 (2.00)
Person X stayed back to help a colleague jumpstart their car, even though they then missed the start of a music concert.	2.61 (1.44)	2.01 (1.55)	6.08 (1.79)	6.70 (1.41)
Person X saw someone across the road drop a stack of papers, so they crossed the road to help.	2.61 (1.14)	1.80 (1.42)	5.55 (1.87)	6.09 (1.70)
Person X volunteers at a dog refuge, walking the dogs and cleaning their kennels once a week.	2.67 (1.14)	2.06 (1.38)	5.93 (1.71)	7.04 (1.21)
Person X volunteers to teach English to newly arrived immigrants.	2.73 (1.25)	2.72 (1.33)	6.17 (1.62)	6.87 (1.28)
Person X quit their high-paying job so they could volunteer full time at a nursing home.	2.78 (1.49)	1.48 (1.99)	6.05 (1.73)	4.05 (2.41)
Person X helped paint their neighbor's house even though it was Person X's birthday.	2.78 (1.21)	2.20 (1.47)	6.33 (1.76)	6.05 (1.90)
Person X donates blood once a month even though they have a strong fear of needles.	2.78 (1.27)	1.89 (1.59)	5.99 (1.87)	6.19 (1.64)
Person X put up posters and handed out fliers to help find their neighbor's missing dog.	2.85 (1.18)	2.23 (1.38)	5.97 (1.55)	7.24 (1.10)
Person X offered to let their evicted sister and brother-in-law stay with them for free and sleep in Person X's room while Person X slept on the couch.	2.86 (1.54)	1.42 (1.70)	6.24 (1.59)	6.25 (1.65)
Person X found an expensive briefcase and tried to locate the owner.	2.92 (1.17)	1.97 (1.52)	6.00 (1.50)	6.23 (1.59)
Person X saw a child lost in a supermarket, so they helped find the parents by alerting the staff.	2.97 (1.30)	2.57 (1.37)	6.22 (1.62)	7.18 (1.24)

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Behavior Statement	Morality <i>M (SD)</i>	Competence <i>M (SD)</i>	Informativen. <i>M (SD)</i>	Believability <i>M (SD)</i>
Person X repaid a loan of \$100 that their friend had lent them, even though the friend did not remember it.	2.98 (1.16)	2.41 (1.45)	6.39 (1.60)	6.91 (1.41)
Person X sold their house to fund a local program for the needy.	3.01 (1.42)	1.75 (1.86)	6.15 (1.91)	3.87 (2.53)
Person X drove across the country just to see a friend who had recently lost his wife.	3.04 (1.10)	2.00 (1.57)	6.54 (1.40)	6.62 (1.44)
Person X drove an hour out of their way to pick up a friend and drive him to work because his car had broken down.	3.08 (1.17)	2.34 (1.60)	6.34 (1.63)	6.79 (1.49)
Person X helped their brother renovate his house every night for six months after it had been damaged by fire.	3.10 (1.20)	2.68 (1.51)	6.63 (1.48)	6.38 (1.59)
Person X jumped in to help a friend who was being bitten by a vicious dog, resulting in Person X being seriously mauled.	3.13 (1.10)	1.24 (2.07)	6.42 (1.51)	6.08 (1.74)
Person X pulled over on a busy highway on a rainy day to help a stranger change his flat tire.	3.17 (1.00)	2.57 (1.40)	6.46 (1.49)	6.42 (1.75)
Person X stepped in when a friend at a pub was getting assaulted for being dark skinned.	3.18 (1.49)	2.42 (1.65)	6.74 (1.39)	6.81 (1.49)
Person X used their body to protect their partner from falling debris during an earthquake.	3.22 (1.19)	2.18 (1.67)	6.48 (1.64)	6.37 (1.47)
Person X hosted a fundraising dinner to raise money for a local homeless shelter.	3.24 (0.93)	2.37 (1.36)	6.47 (1.42)	6.82 (1.53)
Person X worked on a campaign to release wrongfully convicted prisoners.	3.27 (1.07)	2.58 (1.48)	6.45 (1.52)	6.87 (1.59)
Person X risked their life rescuing an animal that was trapped inside a burning house.	3.28 (1.06)	2.05 (1.72)	6.42 (1.51)	6.33 (1.56)
Person X cared for and housed their five nieces and nephews for a year because Person X's sister was very unwell.	3.36 (1.11)	2.85 (1.33)	6.99 (1.15)	6.65 (1.34)
Person X saved a man who was about to be hit by a car by jumping in front of the car and pushing him out of the way.	3.38 (1.25)	2.52 (1.81)	6.75 (1.46)	5.53 (1.97)
Person X offered to pay off the debts of their friend, who had been struggling to pay the bills since their partner died.	3.41 (1.03)	2.58 (1.53)	6.67 (1.47)	5.66 (2.09)
Person X commutes four hours on a bus every week to the local children's hospital, so they can dress as a clown and entertain the children in the cancer ward.	3.42 (1.03)	2.31 (1.66)	6.97 (1.35)	6.21 (1.72)

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Behavior Statement	Morality <i>M (SD)</i>	Competence <i>M (SD)</i>	Informativen. <i>M (SD)</i>	Believability <i>M (SD)</i>
Person X saw a homeless person in the rain, so they gave the person their jacket and umbrella, plus \$20 for a hot meal.	3.47 (1.03)	1.99 (1.71)	6.83 (1.39)	6.02 (1.90)
Person X donated a kidney to a work colleague who would die without it, as they were a perfect match.	3.51 (1.27)	2.00 (1.82)	6.90 (1.47)	6.16 (1.67)
Person X found a wallet containing \$1000 and returned it to its rightful owner.	3.55 (0.86)	2.54 (1.45)	6.80 (1.38)	6.19 (1.70)
Person X jumped off a boat to save a drowning friend even though this put Person X's own life at risk.	3.55 (1.01)	2.47 (1.58)	6.95 (1.38)	6.79 (1.53)
Person X turned their home into a shelter for flood victims, making meals and providing clothing to those who needed it.	3.63 (0.86)	2.97 (1.23)	7.03 (1.20)	6.08 (1.90)

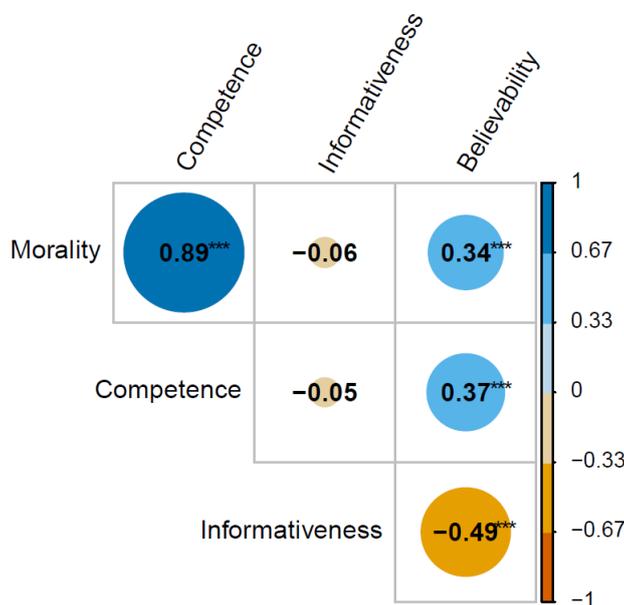
179
180 *Note.* Informativen. = informativeness. Morality ratings varied from -4 (*very morally bad*) to 4 (*very morally good*), competence ratings varied from -4 (*very*
181 *incompetent*) to 4 (*very competent*), informativeness ratings varied from 0 (*not informative*) to 8 (*very informative*), and believability ratings varied from 0 (*not*
182 *believable*) to 8 (*very believable*). Means and standard deviations (in parentheses) for each behavior statement are based on 100 ratings. An interactive version of
183 the table is available on the Open Science Framework: <https://osf.io/jv7fk>~~https://osf.io/jv7fk/?view_only=c303cd6138b140d9ac986a6d1ae3861b.~~

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Relationships between the Dimensions

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184
 185 There were moderate-to-strong Pearson correlations between the morality and
 186 competence ratings, the morality and believability ratings, the competence and believability
 187 ratings, and the informativeness and believability ratings (see Fig 2).
 188



189
 190
 191 **Fig 2. Correlations between plots thefor morality, competence, informativeness, and**
 192 **believability ratings.** The color shows the direction of the relationship, with positive in blue
 193 and negative in orange. Circle size shows the strength of the relationship, with a larger circle
 194 indicating a stronger relationship. Note * $p < .050$, ** $p < .010$, *** $p < .001$.

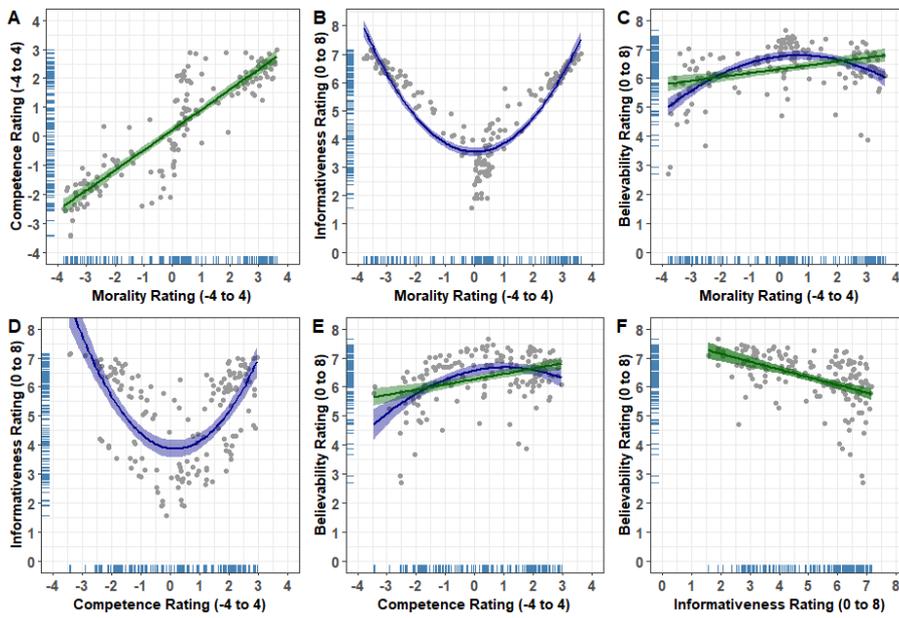
195 The relationships between each of the dimensions are visualized in Fig 3. Inspection
 196 of the figure indicated linear and non-linear relationships between several pairs of
 197 dimensions. We therefore tested for linear and quadratic relationships using orthogonal

198 polynomial regression (see Table 2 for statistical output). The morality and competence
199 ratings showed a strong positive linear relationship, indicating that behavior statements rated
200 as more positive in morality were rated as more competent (see Fig 3A). The morality and
201 informativeness ratings showed a strong quadratic effect, indicating that behavior statements
202 rated as more extreme in morality (negative or positive) were rated as more informative (see
203 Fig 3B). The morality and believability ratings showed both a moderate positive linear
204 relationship and a quadratic relationship (see Fig 3C). The linear effect indicates that
205 behavior statements rated as more positive in morality were rated as more believable, while
206 the quadratic effect indicates that behavior statements rated as more extreme in morality
207 (negative or positive) were rated as less believable.

208 The competence and informativeness ratings showed a strong quadratic effect (see Fig
209 3D), indicating that behavior statements rated as more extreme in competence (negative or
210 positive) were rated as more informative. The competence and believability ratings showed a
211 moderate positive linear relationship and a quadratic relationship (see Fig 3E). The linear
212 effect indicates that behavior statements rated as more positive in competence were rated as
213 more believable, while the quadratic effect indicates that behavior statements rated as more
214 extreme in competence (negative or positive) were rated as less believable. The
215 informativeness and believability ratings showed a strong negative linear relationship,
216 indicating that behavior statements rated as more informative were rated as less believable
217 (see Fig 3F).

218

219



220

221 **Fig 3. Scatter plots depicting the association between (A) morality and competence, (B)**
 222 **morality and informativeness, (C) morality and believability, (D) competence and**
 223 **informativeness, (E) competence and believability, and (F) informativeness and**
 224 **believability.** Dot points represent the mean ratings for each behavior statement. The green
 225 lines show the linear trends and the blue lines show the quadratic trends. The shaded areas
 226 show the 95% confidence intervals. Rugs (i.e., the blue lines along the *x*- and *y*-axes) show
 227 distribution density.

228

229 **Table 2. Orthogonal Polynomial Regression (Linear and Quadratic) Results for**
 230 **Morality, Competence, Informativeness, and Believability Dimensions**

	Outcome	Predictor	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>
(A)	Competence	Morality	19.51	0.81	0.89	23.98	< .001
		Morality ²	-0.92	0.81	-0.04	-1.13	.262
<i>F</i> (2, 157) = 288.10, <i>p</i> < .001, <i>R</i> ² = .79							
(B)	Informativeness	Morality	-1.09	0.67	-0.06	-1.63	.105
		Morality ²	17.77	0.67	0.90	26.65	< .001
<i>F</i> (2, 157) = 356.40, <i>p</i> < .001, <i>R</i> ² = .82							
(C)	Believability	Morality	3.72	0.70	0.34	5.33	< .001
		Morality ²	-5.20	0.70	-0.48	-7.46	< .001
<i>F</i> (2, 157) = 42.06, <i>p</i> < .001, <i>R</i> ² = .35							
(D)	Informativeness	Competence	-1.00	1.22	-0.05	-0.82	.412
		Competence ²	12.31	1.22	0.63	10.07	< .001
<i>F</i> (2, 157) = 51.05, <i>p</i> < .001, <i>R</i> ² = .39							
(E)	Believability	Competence	3.99	0.76	0.37	5.23	< .001
		Competence ²	-3.10	0.76	-0.29	-4.05	< .001
<i>F</i> (2, 157) = 21.87, <i>p</i> < .001, <i>R</i> ² = .22							
(F)	Believability	Informativeness	-5.29	0.75	1.53	-7.05	< .001
		Informativeness ²	-0.96	0.75	-2.03	-1.28	.204
<i>F</i> (2, 157) = 25.66, <i>p</i> < .001, <i>R</i> ² = .25							

231 *Note.* *N* = 160 behavior statements; *B* = unstandardized beta weights; *SE B* = standard errors of
 232 unstandardized beta weights; β = standardized beta weights.

233

234 **Discussion**

235 The present study provides a normed corpus of 160 contemporary behavior
236 statements. Each behavior statement was rated on the dimensions of morality (11),
237 competence (10), informativeness (23), and believability (5), which are known to affect
238 impression formation. The behavior statement ratings varied widely on the morality,
239 competence, and informativeness dimensions, providing researchers with substantial scope to
240 investigate the effects of these dimensions on impression formation. There was less variation
241 on the believability dimension, with most behavior statements rated as being at least
242 moderately believable. Given that behavior statements need to be believable to affect person
243 impressions (5), the general believability of the behavior statements should be advantageous
244 to researchers using the corpus.

245 Researchers interested in the influence of specific dimensions on impression
246 formation may need to control for the contribution of related dimensions. Our results indicate
247 a range of linear and quadratic relationships between the morality, competence,
248 informativeness, and believability dimensions. The morality and competence dimensions
249 showed a positive linear relationship, indicating that more morally positive behavior
250 statements were rated as more competent. This replicates prior research (29,42,43), and
251 suggests a halo effect (10,44) whereby favorable judgments on the morality dimension
252 positively influence judgements on the competence dimension (or vice versa). The
253 informativeness dimension showed a quadratic relationship to the morality and competence
254 dimensions: behavior statements rated as more extreme in morality or competence (i.e.,
255 extreme positive or extreme negative) were associated with an increase in informativeness.

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256 These findings are consistent with an extremity bias, whereby more morally extreme
257 information is given greater weight in impression formation (24,45,46).

258 The believability dimension showed positive linear relationships and quadratic
259 relationships with the morality and competence dimensions. Behavior statements rated as
260 more positive in morality/competence were generally rated as more believable (than more
261 negative statements), and more extreme (positive/negative) behaviors were associated with a
262 decrease in believability. These relationships may be explained by people's expectations, in
263 so far as people expect others to behave in positive and non-extreme ways (e.g., person
264 positivity bias, see 47) so find such behaviors more believable. Our final test showed a strong
265 negative linear relationship between informativeness and believability, indicating that more
266 informative behavior statements were also rated as less believable. Together, these findings
267 make intuitive sense, suggesting that more unexpected and surprising behaviors, which are
268 less believable, are considered to be more informative (19, see also "frequency-weight"
269 theories, 22). The negative relationship between informativeness and believability is also
270 consistent with recent research on misinformation (e.g., fake news and conspiracy theories).
271 Even if low in believability, misinformation can be perceived to be 'informative if true', and
272 therefore has the potential to strongly sway opinion (48,49) and be widely shared online (50,
273 see also 51).

274 To conclude, the present study provides a normed corpus of 160 contemporary
275 behavior statements. The statements were rated by a large sample of judges ($N = 400$, with
276 each behavior statement rated by 100 judges) on four dimensions relevant to impression
277 formation: morality, competence, informativeness, and believability. Importantly, the
278 different dimensions were non-independent; a range of linear and non-linear relationships
279 between the dimensions were identified. Accounting for these relationships (e.g., statistically)

280 can help researchers avoid drawing unwarranted conclusions. For example, researchers
281 investigating the effect of competence on impression formation may find their results are
282 better explained by morality (e.g., see 52) or that the effect of a specific dimension is
283 moderated by statement informativeness or believability. Given these considerations, we
284 believe the corpus of behavior statements generated in the present study will be valuable to
285 researchers interested in impression formation.

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292

293 **Author Contribution**

294 ~~A.M., B.W., U.K.H.E and N.F. conceived the study. A.M. designed the materials and B.W.~~
295 ~~programmed the study. A.M., B.W., U.K.H.E and N.F. wrote the study and P.H. and A.P.~~
296 ~~provided feedback on the materials and the manuscript.~~

297

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302 ~~supported by an Australian Research Council grant FT190100708.~~

303

304 **Conflict of Interest**

305 ~~The authors declare no conflict of interest.~~

306

307 **Ethics Approval**

308 ~~The study was conducted in accordance with the National Statement on Ethical Conduct in~~
309 ~~Human Research (33). It was approved by the University of Western Australia's Human~~

310 ~~Research Ethics Office (2021/ET0006422021/ET000642). Participants viewed an approved~~
311 ~~information sheet before giving informed consent to take part.~~

312

313 ~~Consent to Participate~~

314 ~~Participants viewed an information sheet approved by the Human Research Ethics Office~~
315 ~~(UWA) before giving informed consent to take part.~~

316

317 ~~Consent for Publication~~

318 ~~Participants provided consent for their data to be used for publication.~~

319

320 ~~Availability of Data & Materials~~

321 ~~The data and materials are available on the Open Science Framework:~~

322 ~~https://osf.io/qnv95/?view_only=c303ed6138b140d9ae986a6d1ae3861b~~

323

324 ~~Code Availability~~

325 ~~The R code used to analyse the data is available on the Open Science Framework:~~

326 ~~https://osf.io/qnv95/?view_only=c303ed6138b140d9ae986a6d1ae3861b~~

327

328 ~~Open Practises Statements~~

329 ~~The data and materials and code are available on the Open Science Framework:~~

330 ~~https://osf.io/qnv95/?view_only=c303ed6138b140d9ae986a6d1ae3861b~~

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The Academic Editor, *PLOS ONE*

Dear Professor Galak,

Thank you for overseeing the review of our manuscript. We are delighted by the positive assessment it received from the reviewers, and welcome their feedback. The manuscript has been revised in light of the reviewer comments. We are grateful to the reviewers for their valuable feedback.

1. **R1** wondered whom the Corpus was constructed for, and why the research was conducted in the US.

The Corpus is likely to be best suited to English speakers from WEIRD (Western, educated, industrialized, rich, democratic) countries, who (for better or worse) are the focus of most psychology research. The Corpus could be used in studies focusing on other populations, but its suitability would need to be tested in a replication/extension of the present study. A US sample was chosen for convenience, and this has been clarified in the manuscript (line 96, p6).

2. **R1** asked whether there were any socio-demographic questions apart from gender and age, and whether gender and age were controlled for in the analyses.

We recorded additional socio-demographic information from Prolific, namely country of birth and first language, but it was not informative as nearly all the participants were born in the US and had English as a first language. We did not control for gender or age in our analyses, as this was outside of the focus of the study. However, the data is available on the OSF, so interested readers can examine the impact of these factors.

3. **R1** asked why we used three of the five morality dimensions.

The number of morality dimensions varies in previous research, ranging from three to five moral content domains (Rozin et al., 1999; Haidt & Joseph, 2004, Graham et al., 2011). While we selected three of Graham et al.'s (2011) five morality dimensions, it was not our aim to have sharp moral content boundaries, as this was beyond the scope of our study; instead we examined moral extremity and its influence on impression formation.

4. **R1** quoted "we generated five categories of statements" and asked who is we, authors? How did you generate these statements, please explain the process in more detail.

The manuscript has been updated to clarify: "To help ensure sufficient variation across each dimension, the authors brainstormed statements from across five categories:..." (line 110-111, p6).

5. **R1** wondered why the number of morality statements (48x2) and competence statements (20x2) we generated were unequal.

Our primary dimension of interest was morality due to its greater influence on impression formation. This is reflected in the greater number of morality statements compared to competence statements. However, it is worth noting that these categories were only used to help us generate the statements (as noted in the manuscript), and it was not the case that each statement was relevant to a single dimension. For instance, participants' ratings show that the "morality" statements also varied in competence.

6. **R1** asked why a 9-point Likert scale was used (as opposed to a scale with fewer points).

The use of a 9-point Likert scale allows for higher resolution responses than a standard 5-point scale. Pre-testing indicated that participants had no difficulty using this scale.

7. **R2** suggested the literature review could have highlighted how the four dimensions are similar to other concepts from the trustworthiness/person perception literature.

These dimensions are often synonymous to other concepts from the broader person perception literature (see Abele et al., 2021 for a review). This is not to say that there is not occasional nuance, but this nuance is beyond the scope of the current study.

8. **R2** noted that the behavior statements are quite general, whereas most trustworthiness studies are context-specific (e.g., may only use statements about behaviors that occurred in a workplace).

Prior studies use context-general statements like ours. For instance, a proportion of the behavior statements used were drawn from previous studies ($n = 66$) with the remaining behavior statements generated by the authors to be consistent with previous studies. Despite this, the behavior statements do generate a wide range of responses in terms of morality, competence, believability, and informativeness, which was the main goal of the current study. In keeping it non-specific, it is the authors' view that it has broader use.

9. **R2** requested more information on why each participant rated 40 behavior statements and each behavior statement was rated by 100 participants.

Each behavior statement was rated by 100 people (as opposed to fewer) to ensure a precise measure for every behavior statement on each dimension. Participants were asked to rate no more than 40 behavior statements to minimise fatigue (which could lead to unreliable responding). The manuscript has been updated to say 'Pre-testing indicated that participants could become fatigued if they rated more statements than this.' (line 124-125, p7).

10. **R2** asked if there was a 0 option in the -4 to 4 Likert scale, and wondered why we used a -4 to 4 scale for morality and competence but a 0 to 8 scale for believability and informativeness.

There was a 0 option in the -4 to 4 scale, and we have now made this explicit in the manuscript (line 134-138, p7). We used the two different scales because this was clearer to participants in pretesting, given that, conceptually, morality and competence ranged from negative to positive while believability and informativeness ranged from zero to a lot. The -4 to 4 Likert scale is also similar to other scales used to determine valence judgements (e.g., see Cone et al., 2019).

11. **R2** requested that we order table 1 by something (e.g., the first column).

This has been done, with the table now ordered by the morality (i.e., first numeric) column. Our hope, if it is possible, is that the interactive version of the table can be incorporated into the online PLOS ONE publication. The code for the interactive table is included in the revision documents.

We thank the reviewers for their time and very valuable feedback on our manuscript - we believe the suggestions have improved the manuscript. We hope these changes to the manuscript are sufficient to warrant publication in *PLOS ONE*.

Best regards