Research Article

American Institutional Stereotypes: A Pilot Investigation of Factor Structure

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***Objective*: We probed the structure of citizens' perceived attributes (stereotypes) of American institutions, assuming this might replicate stereotyping of social groups ("warmth" versus "competence").**

***Methods*: We applied factor structure and configural invariance tests to two online studies asking Americans how "most Americans" would rate intentions and capacities on 65 and 20 attributes, respectively, of "government," "business," and "nonprofits" (Study 1), or of "government agencies," "corporations," and "nonprofit advocacy groups" (both studies).**

***Results*: Mostly two factors—beneficial and harmful attributes—appeared, with beneficial attributes (e.g., is warm and good natured, represents central values of society) invariant for both intentions and capacity across institutions. Other attributes varied across dimensions (e.g., pursues own self-interest), and/or across institutions (e.g., contributes to a better world).**

***Conclusion*: American institutional stereotypes exhibited an unexpectedly invariant structure based on beneficial versus harmful attributes, which can inform research on how people evaluate (e.g., trust) specific organizations within institutions.**

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Folk stereotypes of U.S. institutions include notions that government produces red tape, corporations are profit-focused, and nonprofits are good-hearted but incompetent (for latter, Aaker *et al.*, 2010, 2012). These stereotypes need not determine attitudes or behavior toward organizations within those institutions, yet people unfamiliar with an organization with which they are about to interact might use stereotypes as heuristic cues, particularly when no other information is available. For example, a stereotype might allow choice of whether to trust that organization when its representatives say "we're here to help you."

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Three hypotheses about the structure of institutional stereotypes seem plausible: no pattern; a positive-negative response; or a warmth-competence distinction from social judgment theory. The no-pattern hypothesis extrapolates from the "folklore" sampled above: stereotypes emphasize different attributes for each institution, rather than applying them across institutions. The positive-negative hypothesis deems the heuristic even simpler, summarizing an affective response (i.e., feeling good or bad) to the institution. "Fast" and "gist" notions of human cognition and information processing (Kahneman, 2011; Reyna, 2004) are consistent with this hypothesis.

By contrast, hundreds of social judgment studies have yielded a strong binary distinction, labeled "warmth" and "competence" in the stereotype content model (Fiske *et al.*, 2002). They are deemed ubiquitous "fundamental dimensions of social perception in general" (Cuddy *et al.*, 2009:24) informing "the regulation of social interactions" (Yzerbyt, Kervyn, & Judd, 2008, p. 1111). Warmth and competence mark self-categorizations, individual categorizations, comparisons of social groups (e.g., women, ethnic minorities, social classes, health status), and cultures (Cuddy et al., 2009). Researchers dispute whether warmth is more critical or diagnostic than competence (e.g., Cuddy *et al.*, 2007; Cuddy et al., 2008; Fiske *et al.*, 2002; Judd *et al.*, 2005; Ybarra *et al.*, 2008; Yzerbyt *et al.*, 2008). In most cases they exhibit a compensation effect (Cuddy *et al.*, 2009; Judd *et al.*, 2005; Kervyn *et al.*, 2008; Yzerbyt *et al.*, 2008): a social group deemed high on one dimension is rated low on the other. One model (Cuddy *et al.*, 2007) posits that seeing high (low) competitiveness between target group and in-group (i.e., the former might harm or benefit the latter) fosters stereotypes of low (high) warmth, while seeing high (low) social status fosters stereotypes of high (low) competence (e.g., ability to achieve group goals). Stereotypes are "culturally shared knowledge" possibly affecting and certainly known to individuals, even when they personally reject common stereotypes of social groups in their cultures (Cuddy *et al.*, 2007:644).

Surprisingly, there seems no systematic scholarly compendium of American institutional stereotypes on which to test these hypotheses, much less understand when and how stereotypes affect attitudes or behavior toward specific organizations. Tucker (1961) speculated that the high inter-correlations of several large national and local corporations on multiple semantic differential ratings implied a general business stereotype, without describing its content. Peters *et al.* (1997) identified, through multiple regression analyses, alleged negative stereotypes of government agencies (e.g., lack of commitment to valued goals, such as concern for health and safety), industry (similar unconcern), and environmental citizen groups (e.g., lack of specialized knowledge). Despite no direct

measurement of stereotypes, they suggested organizations can build trust by behavior contradicting their institutional stereotype. Earle and Cvetkovich (1998) criticized the Peters *et al.* (1997) methods and assumptions. Cvetkovich and Winter (2003:290) noted that "[b]eing asked to evaluate trust in a government agency in general may elicit representations with different salient value similarities [than] being asked to evaluate a government agency with regard to a particular forest management issue." Terwel *et al.* (2009) found Dutch citizens presumed industrial organizations pursue organization-serving motives and environmental groups public-serving motives. Finally, inspired by Kramer (1999) on role expectations, Johnson and White (2010) focused on differing criteria of trust, i.e., goals citizens might want achieved by trustees. For brownfields remediation English citizens "can trust developers and town councilors more if they take a risk-tolerant approach to action under uncertainty for fiscal matters, but less if they are deemed risk-tolerant about public health or environmental protection" (p. 1111). Johnson and White proposed a role for "very simple mental models of target motives or social roles" (p. 1111), perhaps including stereotypes.

This background prompted a more systematic assessment of Americans' stereotypes of major institutions, focusing on government, business, and nonprofits due to their major roles in issue networks engaged in policy-making. Limited aims of the analyses reported here were to explore whether:

- Potential stereotypical attributes formed an invariant factor structure across different institutions or methodological variants (e.g., how institutions are defined; attributes for motives versus abilities)
- The observed factor structure paralleled social group or other implied stereotyping structures

Measures of attributes (warmth, competence) and antecedents (competitiveness, status) from social judgment research (e.g., Cuddy *et al.*, 2007) were combined with perceived institutional motives (Terwel *et al.*, 1999), moral foundations (e.g., Graham *et al.*, 2009), factors in models of citizen trust in hazard-managing institutions (e.g., Earle & Siegrist, 2008; Johnson & White, 2010), and common stereotypes (e.g., government red tape; business self-interest) to probe citizen stereotypes. For example, bureaucracies may be expected to exhibit expertise, decisiveness, efficiency, fiscal integrity, accountability, equitable decisions, and responsiveness to those dependent on them (Hammond & Miller, 1985), but their stereotypes on these attributes may not match expectations. Attributes applicable even more to other institutions—e.g., create new knowledge (science), or tell the public whether other institutions are doing the right thing (media)—were included for completeness.

The three institutions selected for initial study are among the largest in American society: government, business, and nonprofits. Others would be of interest in future research—e.g., scientists and other professions; mass media—but these three were deemed important and familiar to respondents. Complementing this very general stereotype, a second focus was on federal government agencies, large national corporations, and nonprofit advocacy groups, for two reasons. First, each general institution includes many sub-institutions—e.g., executive, legislative and judicial branches, and federal, state and local levels, in government; "small business," consultancies, and others besides large corporations in business; churches, universities, charities, and others besides advocacy groups among nonprofits—and these variations may not feature the same stereotypes. Second, one research aim (not otherwise discussed here) concerned issue networks affecting policy, with agencies, corporations and nonprofit advocacy groups as major actors. Research on institutional stereotypes must eventually include other variants of these three and other institutions, but this two-level approach seemed sufficient for now.

Two studies used online panels to identify attributes of American stereotypes of these three institutions.

Study 1

Methods

For Study 1, a quota sample of 210, specifying American respondents with a minimum of 30% each being liberal or conservative (to minimize partisan bias in stereotype ratings), was randomly selected from the Survey Sampling International online panel. Respondents completing the instrument October 16-17, 2014 were 53% female and 80% white, with a mean age of 52 (SD = 17; median 56; range 19-84), and highly educated: 30% with bachelor's degrees, 20% graduate degrees. Some 45% reported high or extreme political interest (an indicator of political sophistication—e.g., Lodge & Hamill, 1986), with 36% strongly or leaning conservative, and 31% strongly or leaning liberal.

Table 1 shows the complete set of 65 potentially stereotypical attributes, categorized by literature source, plus short attribute labels used in subsequent tables. Each institution was rated twice on each attribute, for whether "most Americans" deemed it an intention or a capacity of the institution (1 = *not at all*, 5 = *extremely*), reflecting social judgment dimensions of warmth and competence, and social values and performance aspects of trust-in-organizations models (Earle & Siegrist, 2008; Siegrist *et*

al., 2003). As people might see institutions as intending but failing to achieve certain goals, or not intending but accomplishing others, assessing just one such dimension might not fully capture stereotype attributes.

Item number	Study 1 measures (Study 2 included items with *)	Label
	Social group stereotypes (competition, status, warmth, competence; Cuddy et al., 2007, 2009, Fiske et al., 2002)	
1	*Have resources it receives take away from resources of people like me	Take resources
2	Increase its own power while decreasing the power of people like me	Increase power
3–6	[Assist; fight with; cooperate with; hinder] people like me	Assist, Fight, Cooperate, Hinder
7	Have prestige	Prestige
8	Have legitimate authority in society	Legitimate
9	*Represent the central values of society	Central values
10–15	Be [tolerant, *warm, *good natured, sincere, friendly, well-intentioned]	Tolerant, Warm, Good natured, Sincere, Friendly, Well intentioned
16–23	Be [competent, confident, capable, efficient, *skillful, *independent, *competitive, intelligent]	Competent, Confident, Capable, Efficient, Skillful, Independent, Competitive, Intelligent
	Motives (Terwel et al., 2009)	
24	*Pursue its self-interest (Achieve its self-interest)	Self-interest
25	*Contribute to a better world	Better world
26	Put the interests of society above its own	Societal interests
	Role expectations (fiscal, economic, environment/health, decision-making, consultation; e.g., Kramer, 1999, Johnson & White, 2010, Terwel et al., 2009, Hibbing & Theiss-Morse, 1995, Campbell et al., 1960)	
27	Keep operating costs low	Low costs
28	Ensure expenses do not exceed revenues plus reasonable debt	Expenses

Item number	Study 1 measures (Study 2 included items with *)	Label
29	*Avoid wasting money	No waste
30	*Contribute to economic development	Development
31	Provide jobs	Jobs
32	Make more money available in the local economy	Local money
33	Contribute to a cleaner environment	Environment
34	Promote public health	Health
35	Conserve energy, water, and other natural resources	Conserve
36	*Need a lot of paperwork to get things done	Paperwork
37	*Make decisions swiftly	Swift decisions
38	Have internal agreement on action be difficult	Hard consensus
39	*Consult with the people affected by its decisions	Consult
40	Allow people to voice opinions about its actions	Voice
41	Have people like me have no say about what it does	No say
42	*Let the public know whether other institutions are doing the right thing	Right thing
43	Keep other institutions in line	In line
44	*Compromise with other organizations	Compromise
45	*Create new knowledge about the world	Knowledge
46	*Make decisions on the facts	Factual decisions
47	*Be ideological	Ideological
	Moral foundations (Graham et al., 2009)	
48	Harm people	Harm
49	Care for people who are weak or vulnerable	Care
50	Cause emotional suffering	Suffering
51	Treat some people differently than others	Discriminate

Item number	Study 1 measures (Study 2 included items with *)	Label
52	Deny people their rights	Deny rights
53	Be unfair	Unfair
54	Betray its friends	Betray
55	Show a lack of loyalty	Disloyal
56	*Benefit friends and relatives of its members	Corrupt
57	Disrespect legitimate authority	Disrespect
58	Respect traditions of society	Traditions
59	Fail to protect subordinates	Do not protect
60	Violate standards of purity and decency	Violate
61	Be virtuous or uplifting	Virtuous
62	Do unnatural or degrading things	Unnatural
	Risk tolerance (White & Eiser, 2007)	
63	Be proactive against possible danger	Proactive
64	Err on side of caution when a threat is uncertain	Cautious
65	Prefer to wait-and-see when the true risk is unclear	Wait-and-see

Table 1. Attributes Evaluated

A random half of the sample assessed "government," "business," and "the nonprofit sector" (General condition); the other half (Specific, n = 99), rated "government agencies," "large corporations," and "advocacy groups," defined as "nonprofits that try to influence policy decisions." Both rated intentions and capacity for each institution on each attribute (Figure 1). Intention and capacity ratings were randomly ordered, as were government, business, and nonprofit ratings within each dimension.

Study 1: 65 Attributes (n = 210)

General Condition (1)	Intention	Government (1)	Business (2)	Nonprofit (3)
	Capacity	Government (4)	Business (5)	Nonprofit (6)

Specific Condition (2)	Intention	Government (7)	Business (8)	Nonprofit (9)
	Capacity	Government (10)	Business (11)	Nonprofit (12)

Study 2: 20 Attributes (n = 600)

Specific Condition (2)	Intention	Government (13)	Business (14)	Nonprofit (15)
	Capacity	Government (16)	Business (17)	Nonprofit (18)

Figure 1. *Research design for institutional stereotyping, Studies 1 and 2.*

Analytic Strategy

All analyses used SEM in Mplus 7.31 (Muthén & Muthén, 2015). For Study 1, we used the Mplus default for EFA specifying Geomin rotation. Rotated solutions do not change model fit but yield a more interpretable factor pattern matrix; Geomin is an oblique, non-orthogonal rotation allowing inter-factor correlations while minimizing variable complexity and indeterminacy of solutions (Sass & Schmitt, 2010).

Models were estimated using full information maximum likelihood (FIML) which uses all available information from observed data in SEM analyses by maximizing the likelihood of a missing value based on observed data values. Compared to mean-imputation, list-wise, or pair-wise models, FIML provides more statistically reliable standard errors (Schafer & Graham, 2002). A missing-values analysis on means, variances, and covariances for the 65 Intention and 65 Capacity items in Study 1 found item missingness from 0 to 1%; data were missing completely at random [Little's $\chi^2(4867) = 2716.38$, $p > .05$].

The first step identified which of 65 attributes demonstrated factorial invariance, or equal measurement properties, across the randomized General and Specific institutional stimuli. Optimal number of factors and their item loadings were estimated using exploratory factor analysis (EFA) for the General condition. Criteria for this initial EFA included (a) eigenvalues > 2, (b) maximizing proportional distance among eigenvalues, and (c) items' factor assignments based on their strongest factor loading $\geq$ .50 (Thompson, 2004).

Equivalence of factor loadings, also termed metric invariance or configural invariance, focused on loading magnitudes and signs (Vandenberg & Lance, 2000). More restrictive tests of strict invariance (Meredith, 1993) focus on equivalence of loadings, variances, and means. Lacking theoretical rationale to expect equal variances and means, our focus was on configural invariance. Multiple group structural equation modeling (SEM) imposed equality constraints across the General and Specific conditions, followed by tests of equality constraints by institutional types across those conditions.

Results

Means and standard deviations for the 65 items for both intention and capacity by organization from Study 1 appear in Table 2. Intentions exhibited larger variances for Government than for Business and Nonprofit ratings, with Government standard deviations all above 1. All but three capacity standard deviations for Government were above 1 as well, but also were for most Business and Nonprofit ratings; no institution evoked consistently higher or lower capacity ratings across all attributes.

		Intentions						Capacities					
		Government		Business		Nonprofits		Government		Business		Nonprofits	
	Item	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
1	Take resources	3.38	1.16	3.02	1.13	2.69	1.20	3.48	1.07	3.42	1.15	3.08	1.18
2	Increase power	3.46	1.31	3.23	1.18	2.60	1.20	3.56	1.15	3.60	1.16	3.29	1.27
3	Assist	3.20	1.07	3.25	1.03	3.52	1.04	3.04	1.18	3.05	1.15	3.27	1.18
4	Fight	2.86	1.14	2.70	1.20	2.43	1.23	3.11	1.17	2.93	1.18	2.97	1.29
5	Cooperate	3.05	1.16	3.17	.99	3.61	.95	2.93	1.09	3.15	1.08	3.33	1.11
6	Hinder	2.84	1.21	2.72	1.25	2.32	1.24	3.20	1.17	2.92	1.20	2.89	1.22
7	Prestige	3.40	1.09	3.75	.87	3.55	1.06	3.39	1.07	3.91	.94	3.50	.97
8	Legitimate	3.75	1.06	3.44	.97	3.60	.88	3.39	1.07	3.91	.94	3.50	.97
9	Central values	3.33	1.03	3.24	.96	3.71	.94	3.04	1.12	3.17	1.08	3.29	1.19
10	Tolerant	3.20	1.09	3.32	.99	3.84	.93	3.10	1.17	3.11	1.04	3.26	1.23
11	Warm	2.97	1.19	3.23	.95	3.86	.92	2.87	1.19	3.08	1.13	3.36	1.12
12	Good natured	3.11	1.12	3.44	.95	3.88	.99	3.06	1.17	3.26	1.03	3.30	1.13
13	Sincere	3.10	1.22	3.37	.97	3.89	.98	3.02	1.23	3.24	1.10	3.42	1.21
14	Friendly	3.18	1.08	3.48	.96	3.91	.91	3.05	1.16	3.25	1.09	3.36	1.13
15	Well intentioned	3.43	1.03	3.51	1.01	4.00	.94	3.36	1.11	3.41	1.11	3.75	1.09
16	Competent	3.33	1.19	3.88	1.00	3.77	.94	3.13	1.30	3.78	1.02	3.56	1.12
17	Confident	3.58	1.03	3.86	.92	3.84	.95	3.56	1.00	4.07	.77	3.83	.83
18	Capable	3.35	1.16	3.81	.96	3.82	.88	3.21	1.19	3.87	.97	3.64	1.07
19	Efficient	3.01	1.29	3.77	1.06	3.62	1.06	2.91	1.27	3.90	.95	3.47	1.00
20	Skillful	3.41	1.08	3.83	.94	3.72	.95	3.31	1.09	3.93	.94	3.63	.91
21	Independent	3.40	1.06	3.81	.96	3.63	.96	3.27	1.10	3.92	.92	3.77	.95
22	Competitive	3.19	1.10	4.11	.88	3.25	.99	3.21	1.21	4.14	.91	3.64	1.00
23	Intelligent	3.42	1.16	3.81	1.01	3.85	.91	3.26	1.14	3.76	.94	3.53	1.11

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		Intentions						Capacities					
		Government		Business		Nonprofits		Government		Business		Nonprofits	
	Item	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
24	Self-interest	3.68	1.19	3.83	.98	3.27	1.24	3.70	1.02	4.11	.96	3.86	1.07
25	Better world	3.25	1.05	3.53	.95	3.96	.93	3.32	1.13	3.44	1.00	3.57	1.13
26	Societal interests	3.05	1.23	2.82	1.19	3.72	1.08	2.71	1.24	2.70	1.30	3.11	1.19
27	Low costs	2.74	1.39	3.79	.98	3.71	1.03	2.60	1.27	3.80	1.12	3.34	1.15
28	Expenses	2.76	1.35	3.85	1.08	3.62	1.04	2.76	1.30	3.90	1.05	3.36	1.12
29	No waste	2.71	1.35	3.70	1.10	3.69	1.05	2.50	1.25	3.70	1.16	3.30	1.20
30	Development	3.40	1.04	3.87	.91	3.61	1.04	3.35	1.07	3.88	.93	3.37	1.09
31	Jobs	3.50	1.06	3.94	.94	3.52	.91	3.24	1.13	4.05	.92	3.32	1.07
32	Local money	3.27	1.16	3.58	.98	3.35	1.12	3.15	1.08	3.47	1.18	3.19	1.13
33	Environment	3.34	1.04	3.19	1.00	3.77	.94	3.28	1.11	3.22	1.09	3.47	.96
34	Health	3.60	1.02	3.24	1.06	3.77	.96	3.54	1.08	3.21	1.06	3.55	1.11
35	Conserve	3.26	1.10	3.16	1.04	3.70	1.04	3.13	1.15	3.24	1.14	3.48	1.05
36	Paperwork	3.60	1.19	3.30	1.13	3.29	1.10	4.12	1.06	3.70	1.04	3.30	1.09
37	Swift decisions	3.02	1.29	3.58	.93	3.36	.99	2.79	1.32	3.49	.90	3.33	1.03
38	Hard consensus	3.09	1.15	3.09	.96	3.00	1.11	3.41	1.07	3.25	1.04	3.23	1.02
39	Consult	3.06	1.17	3.12	1.04	3.65	.89	2.94	1.22	2.96	1.22	3.26	1.24
40	Voice	3.43	1.08	3.40	1.07	3.67	.92	3.09	1.15	3.01	1.21	3.46	1.14
41	No say	3.14	1.22	3.32	1.08	2.69	1.22	3.39	1.16	3.40	1.26	3.14	1.28
42	Right thing	3.44	1.02	3.24	1.12	3.60	.90	3.20	1.14	3.03	1.07	3.59	1.02
43	In line	3.35	1.04	3.10	.96	3.20	.98	3.39	.97	3.36	1.01	3.61	1.03
44	Compromise	3.02	1.08	3.29	.98	3.44	.95	3.21	1.17	3.21	1.05	3.25	1.22
45	Knowledge	3.33	1.08	3.42	1.04	3.65	.94	3.20	.99	3.56	.92	3.58	1.04
46	Factual decisions	3.25	1.14	3.72	.97	3.71	.94	3.21	1.11	3.61	.97	3.41	1.17

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		Intentions						Capacities					
		Government		Business		Nonprofits		Government		Business		Nonprofits	
	Item	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
47	Ideological	3.34	1.01	3.30	1.03	3.85	.97	3.36	1.12	3.31	1.01	3.89	.89
48	Harm	2.57	1.21	2.59	1.18	2.05	1.28	2.93	1.29	2.82	1.26	2.83	1.23
49	Care	3.32	1.06	2.87	1.09	3.93	1.04	3.23	1.09	2.77	1.24	3.53	1.14
50	Suffering	2.75	1.24	2.57	1.17	2.22	1.31	3.09	1.29	2.86	1.32	2.89	1.24
51	Discriminate	3.37	1.33	3.24	1.20	2.86	1.28	3.67	1.07	3.55	1.24	3.34	1.18
52	Deny rights	2.91	1.24	2.66	1.22	2.21	1.22	3.04	1.32	2.89	1.25	2.99	1.35
53	Unfair	2.76	1.25	2.74	1.23	2.19	1.19	3.20	1.22	3.00	1.31	2.87	1.30
54	Betray	2.73	1.23	2.64	1.22	2.22	1.26	2.87	1.26	2.85	1.20	2.72	1.25
55	Disloyal	2.85	1.27	2.89	1.22	2.40	1.27	3.04	1.25	3.07	1.24	2.85	1.27
56	Corrupt	3.51	1.20	3.58	1.06	3.14	1.20	3.87	.98	3.99	.96	3.70	.98
57	Disrespect	2.80	1.32	2.63	1.18	2.35	1.21	3.03	1.15	2.92	1.21	3.08	1.25
58	Traditions	3.30	1.14	3.42	.98	3.64	.98	2.96	1.09	3.26	1.13	3.29	1.19
59	Do not protect	2.89	1.10	2.69	1.17	2.50	1.22	3.13	1.17	3.14	1.25	2.90	1.22
60	Violate	2.74	1.27	2.56	1.14	2.24	1.26	3.01	1.31	2.90	1.22	2.74	1.33
61	Virtuous	3.15	1.21	3.18	1.07	3.88	.97	2.92	1.14	3.10	1.12	3.40	1.11
62	Unnatural	2.62	1.13	2.59	1.25	2.10	1.26	2.93	1.25	2.64	1.25	2.75	1.28
63	Proactive	3.50	1.04	3.58	.96	3.67	.96	3.36	1.10	3.56	1.02	3.53	1.06
64	Cautious	3.28	1.11	3.43	.94	3.59	.89	3.39	1.16	3.56	1.03	3.27	1.11
65	Wait-and-see	3.32	1.03	3.37	.89	3.21	1.00	3.42	1.05	3.21	1.02	3.18	1.21

Table 2. Means and Standard Deviations for 65 Attributes by Institutional Type for Intention and Capacity, Study 1

n = 210

Intentions

Specifying up to a 6-factor solution (eigenvalues = 25.657, 11.608, 2.674, 1.948, 1.194, and .93), two basic factors emerged (Table 3, left columns; for clarity, factor loadings appear for the first three factors only), with 44 items assigned to Factor I and 20 to Factor II. One item, Competitive, mainly defined Factor III.

The next analysis tested equivalence of the General and Specific factor structures: do different factor structures occur when rating general institutions (e.g., "government") versus more specific ones (e.g., "agencies")? A multiple group SEM with factor loadings freely estimated across Conditions 1 and 2 for the same items imposed equality constraints for each respective item and its factor loading in turn, using chi-square difference tests for nested models to identify items statistically equal across conditions.

Some 39 of 44 Factor I items were statistically equivalent across randomized conditions. Change in chi-square for the final model with 39 items constrained to be equal could not be rejected, meaning assumptions of configural or metric invariance did not worsen model fit [$\Delta\chi^2(39) = 47.542$, $p = .163$]. Five items significantly increased chi-square when imposing equality constraints, so were statistically different across conditions: "confident" (Table 1, item 17), "efficient" (19), "skillful" (20), "independent" (21), and "expenses" (28). Standardized factor loadings from an SEM multiple group CFA appear in Table 4 (left side) for the 39 equal Factor I items. Unstandardized loadings constrained to be equal across conditions were identical; differences in standardized estimands reflect variation in factor variances within each condition. Testing the 20 Factor II items from the EFA, a model with all 20 items constrained to be equal across conditions (configural invariance) could not be rejected [$\Delta\chi^2(20) = 28.637$, $p = .10$; Table 5, left side].

The final assessment of Study 1 intentions ratings tested invariance across the General and Specific conditions by the three institutions (cells 1 versus 7, 2 versus 8, and 3 versus 9, Figure 1). There were no significant differences, except "ideological" (47) for Nonprofits. All 39 Factor I items were configurally invariant for Government [$\Delta\chi^2(39) = 29.986$, $p = .85$] and Business [$\Delta\chi^2(39) = 44.641$, $p = .25$], and 38 of 39 for Nonprofit [$\Delta\chi^2(38) = 48.34$, $p = .12$]. All 20 Factor II items were invariant across the two conditions for Business [$\Delta\chi^2(20) = 15.86$, $p = .76$] and Nonprofit [$\Delta\chi^2(20) = 5.48$, $p = .99$], and 18 of 20 for Government (excluding "corrupt" (56) and "paperwork" (36)) [$\Delta\chi^2(18) = 25.27$, $p = .12$].

Intention						Capacity				
	Item	**I**	**II**	**III**			**Item**	**I**	**II**	**III**
26	Societal interests	**.883***	.046	-.282*		5	Cooperate	**.883***	.023	-.055
49	Care	**.867***	-.017	-.343*		9	Traditions	**.871***	-.029	-.060
33	Environment	**.847***	.020	-.097		33	Environment	**.869***	.010	-.090
61	Virtuous	**.847***	-.077	-.098		10	Tolerant	**.860***	-.066	-.073
39	Consult	**.835***	.036	-.114		9	Central values	**.856***	-.066	-.089
10	Tolerant	**.832***	-.085	-.065		13	Sincere	**.855***	-.108	.048
9	Central values	**.827***	-.023	-.013		25	Better world	**.852***	-.074	-.064
5	Cooperate	**.818***	.003	-.011		34	Health	**.852***	.020	-.110
11	Warm	**.814***	-.072	-.040		35	Conserve	**.845***	.022	-.104
34	Health	**.813***	.007	-.079		12	Care	**.844***	-.023	-.306*
15	Well intentioned	**.812***	-.148	.013		39	Consult	**.843***	.059	-.099
25	Better world	**.812***	-.134	.048		15	Well intentioned	**.840***	-.096	-.003
58	Traditions	**.807***	.024	.016		12	Good natured	**.839***	-.070	.057
13	Sincere	**.806***	-.080	.004		11	Warm	**.829***	-.134*	-.006
40	Voice	**.798***	-.009	-.051		42	Right thing	**.819***	.107*	-.142*
42	Right thing	**.792***	.169*	-.068		3	Assist	**.812***	.033	-.026
35	Conserve	**.790***	-.001	.008		64	Virtuous	**.810***	-.083	.039
14	Friendly	**.785***	-.052	.023		14	Friendly	**.802***	-.072	.095
12	Good natured	**.779***	-.015	.030		26	Societal interests	**.796***	-.016	-.152
45	Knowledge	**.754***	.110*	.000		46	Factual decisions	**.794***	.015	.228
3	Assist	**.753***	.124*	.005		40	Voice	**.778***	.021	-.148
44	Compromise	**.704***	.199*	.003		18	Capable	**.774***	-.019	.298*
63	Proactive	**.697***	.008	.131		45	Knowledge	**.768***	.022	.083

Intention						Capacity				
	Item	**I**	**II**	**III**			**Item**	**I**	**II**	**III**
46	Factual decisions	**.663***	-.049	.285*		16	Competent	**.755***	-.082	.303*
64	Cautious	**.625***	.113*	.111		63	Proactive	**.748***	.091	.056
47	Ideological	**.614***	.081	-.043		20	Skillful	**.738***	-.011	.313*
32	Local money	**.607***	.144*	.245*		23	Intelligent	**.731***	-.041	.319*
29	No waste	**.599***	-.062	.308		44	Compromise	**.703***	.125	.030
8	Legitimate	**.597***	.117*	.207*		19	Efficient	**.692***	-.047	.390*
43	In line	**.584***	.256*	.042		30	Development	**.684***	.038	.252*
23	Intelligent	.579*	-.072	.446*		29	No waste	**.663***	-.029	.377*
16	Competent	.574*	-.020	.463*		17	Confident	**.659***	.065	.289*
19	Efficient	.573*	-.029	.454*		37	Legitimate	**.652***	.159*	.040
20	Skillful	.571*	-.004	.473*		47	Ideological	**.652***	.140	-.047
37	Swift decisions	**.564***	.132	.302*		64	Cautious	**.650***	.159*	-.001
18	Capable	.555*	-.062	.445*		32	Swift decisions	**.642***	.032	.362*
27	Low costs	**.498***	-.057	.374*		43	In line	**.622***	.237	-.002
21	Independent	.497*	.047	.438*		27	Low costs	.620*	-.027	.403*
17	Confident	.489*	.043	.467*		32	Local money	**.613***	.085	.181
28	Expenses	.487*	.007	.446*		21	Independent	**.608***	.093	.296
30	Development	.472*	-.010	.421*		31	Jobs	**.606***	.112*	.294
31	Jobs	.444*	.089*	.433*		28	Expenses	.599*	.008	.412
7	Prestige	**.418***	.102	.373*		7	Prestige	**.598***	.115*	.234*
65	Wait-and-see	**.407***	.327*	.169*		65	Wait-and-see	**.519***	.252*	-.047
54	Betray	-.013	**.852***	.022		22	Competitive	.479*	.164	.447*
52	Deny rights	-.026	**.849***	-.071		50	Suffering	-.013	**.873***	-.026
48	Harm	-.054	**.840***	-.026		48	Harm	-.053	**.855***	.049

Intention						Capacity				
	Item	**I**	**II**	**III**			**Item**	**I**	**II**	**III**
50	Suffering	.035	**.839***	-.017		4	Fight	-.017	**.843***	-.016
62	Unnatural	-.052	**.838***	-.038		53	Unfair	-.087	**.838***	.030
55	Disloyal	-.001	**.833***	-.012		54	Betray	.013	**.836***	-.004
6	Hinder	.048	**.825***	-.055		6	Hinder	-.006	**.825***	-.044
57	Disrespect	.031	**.794***	-.040		62	Unnatural	-.073	**.822***	.084
59	Do not protect	.023	**.793***	.001		52	Deny rights	-.004	**.818***	-.001
4	Fight	-.025	**.788***	-.089		57	Disrespect	-.033	**.818***	.015
53	Unfair	-.035	**.775***	-.004		2	Increase power	-.142*	**.807***	-.043
60	Violate	.040	**.765***	-.019		55	Disloyal	.083	**.804***	-.074
2	Increase power	-.190*	**.750***	.178*		60	Violate	.009	**.801***	.054
1	Take resources	-.058	**.712***	.011		59	Do not protect	.020	**.796***	.012
51	Discriminate	-.117*	**.694***	.041		1	Take resources	.028	**.768***	.037
41	No say	.025	**.640***	.203*		51	Discriminate	-.069	**.757***	-.021
38	Hard consensus	.222*	**.594***	.006		41	No say	.101	**.697***	.013
56	Corrupt	.030	**.567***	.167*		38	Hard consensus	.188*	**.571***	-.013
36	Paperwork	.072	**.551***	-.024		56	Corrupt	.067	**.558***	.068
24	Self-interest	-.134	**.503***	.345		36	Paperwork	.111	**.546***	-.144
22	Competitive	.224	.133	**.583***		24	Self-interest	.089	**.494***	.162
	Eigenvalues	25.657	11.608	2.674			Eigenvalues	27.435	12.456	2.005

Table 3. Exploratory Factor Analyses of 65 Intention and Capacity Attributes for the Randomized General Condition, Study 1

*Loadings are derived from Geomin rotation for optimal solution (n = 210). Items are sorted by dimension and magnitude of factor loading. *p <. 05*

		Intention			Capacity	
	Item	General	Specific		General	Specific
3	Assist	.764*	.781*		.821*	.835*
5	Cooperate	.813*	.822*		.861*	.851*
7	Prestige	.615*	.634*		.687*	.688*
8	Legitimate	.683*	.650*		.669*	.673*
9	Central values	.830*	.791*		.833*	.846*
10	Tolerant	.817*	.792*		.835*	.813*
11	Warm	.808*	.804*		.821*	.818*
12	Good natured	.807*	.829*		.857*	.833*
13	Sincere	.827*	.825*		.868*	.859*
14	Friendly	.813*	.790*		.827*	.829*
15	Well intentioned	.839*	.789*		.829*	.781*
16	Competent	.831*	.792*		.858*	.784*
18	Capable	.811*	.787*		.860*	.812*
19	Efficient				.818*	.798*
21	Independent				.700*	.636*
23	Intelligent	.827*	.794*		.838*	.805*
25	Better world	.857*	.823*		.826*	.845*
26	Societal interests	.700*	.670*		.736*	.702*
27	Low costs	.711*	.697*		.626*	.736*
28	Expenses				.730*	.723*
29	No waste	.763*	.709*		.781*	.722*
30	Development	.713*	.714*		.772*	.716*
31	Jobs	.680*	.642*		.701*	.647*
32	Local money	.724*	.730*		.690*	.699*

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		Intention			Capacity	
	Item	General	Specific		General	Specific
33	Environment	.783*	.774*		.828*	.810*
34	Health	.757*	.726*		.800*	.763*
35	Conserve	.784*	.760*		.806*	.796*
37	Swift decisions	.684*	.771*			
39	Consult	.783*	.755*		.823*	.832*
40	Voice	.784*	.760*		.746*	.713*
42	Right thing	.721*	.691*		.760*	.726*
43	In line	.547*	.557*			
44	Compromise	.691*	.669*		.721*	.744*
45	Knowledge	.722*	.753*		.794*	.791*
46	Factual decisions	.819*	.771*		.770*	.828*
47	Ideological	.536*	.509*			
49	Care	.685*	.680*		.739*	.738*
58	Traditions	.815*	.791*		.845*	.833*
61	Virtuous	.795*	.792*		.826*	.826*
63	Proactive	.752*	.684*		.771*	.761*
64	Cautious	.659*	.595*		.659*	.610*
65	Wait-and-see	.425*	.375*		.457*	.392*

Table 4. Multiple Group SEM Standardized Loadings for 39 Factor I Intention and Capacity Items Demonstrating Invariance Across Randomized Conditions, Study 1

*Intention: n = 210 *p < .001. Multiple group SEM $c^2(1886) = 6598.35$, p < .05. Comparative fit index (CFI) = .89; root mean square error of approximation (RMSEA) = .08. Capacity: n = 210; *p < .001. Multiple group*

SEM $\chi^2(1973) = 6784.894$, $p < .05$. Comparative fit index (CFI) = .83; root mean square error of approximation (RMSEA) = .08.

Table 5. Multiple Group SEM Standardized Loadings for 20 Factor II Intention and Capacity Items Demonstrating Invariance Across Randomized Conditions, Study 1

		Intention			Capacity	
	Item	**General**	**Specific**		**General**	**Specific**
1	Takes resources	.705*	.714*		.755*	.743*
2	Increase power	.737*	.732*		.780*	.756*
4	Fight	.794*	.750*		.826*	.796*
6	Hinder	.813*	.833*		.829*	.850*
24	Self-interest	.485*	.544*		.475*	.517*
36	Paperwork	.491*	.476*		.469*	.443*
38	Hard consensus	.535*	.541*		.541*	.557*
41	No say	.613*	.600*		.680*	.657*
48	Harm	.856*	.849*		.848*	.851*
50	Suffering	.842*	.854*		.860*	.848*
51	Discriminate	.681*	.698*		.718*	.742*
52	Deny rights	.864*	.836*		.807*	.829*
53	Unfair	.808*	.857*		.832*	.816*
54	Betray	.839*	.806*		.822*	.811*
55	Disloyal	.828*	.828*		.791*	.802*
56	Corrupt	.462*	.499*		.492*	.516*
57	Disrespect	.797*	.824*		.806*	.807*
59	Do not protect	.787*	.756*		.776*	.737*
60	Violate	.778*	.793*		.795*	.812*
62	Unnatural	.856*	.842*		.819*	.807*

*Intention: n = 210 *p <.001. Multiple group SEM $\chi^2(379) = 1105.039$, $p < .05$. Comparative fit index (CFI) = .923; root mean square error of approximation (RMSEA) = .078. Capacity: n = 210 *p <.001. Multiple group SEM $\chi^2(379) = 1045.188$, $p < .05$. Comparative fit index (CFI) = .929; root mean square error of approximation (RMSEA) = .075.*

Capacity

These Study 1 analyses were repeated for Capacity ratings. The EFA yielded three factors with eigenvalues > 2 with two substantive factors based on factor loadings and distance between factor values (eigenvalues for the six extracted factors were 27.435, 12.456, 2.005, 1.774, 1.025, and .951). The resulting factor structure was remarkably similar to that for intentions: the same 44 items plus "competitive" were assigned to Factor I, and the same 20 capacity items to Factor II (Table 3, right columns).

Configural invariance tests indicated that 39 of the 45 Factor I items were statistically equivalent across randomized General and Specific conditions [$\Delta\chi^2(38) = 52.938$, $p = .06$], while six significantly increased chi-square with equality constraints. One of the latter, "skillful" (20), also differed between conditions for intentions; remaining capacity items that differed were "confident" (17), "competitive" (22), "swift decisions" (37), "in line" (61), and "ideological" (65). Standardized factor loadings from an SEM multiple group CFA appear in Table 4 (right side) for the 39 equal items from Factor I. Replicating intention results, all 20 Factor II capacity items were configurally invariant across the two conditions [$\Delta\chi^2(20) = 21.315$, $p = .38$]. Final standardized factor loadings across conditions for Factor II appear in Table 5 (right side).

Finally, invariance tests by institution across General and Specific conditions showed all 39 Factor I items were invariant across conditions for Government [$\Delta\chi^2(39) = 39.805$, $p = .45$] and Business [$\Delta\chi^2(39) = 54.04$, $p = .06$], and 36 of 39 for Nonprofits [$\Delta\chi^2(36) = 47.98$, $p = .09$], excluding "ideological," "swift decisions," and "capable." All twenty Factor II capacity items were invariant for Government [$\Delta\chi^2(20) = 19.71$, $p = .48$], Business [$\Delta\chi^2(20) = 19.62$, $p = .47$], and Nonprofits [$\Delta\chi^2(20) = 25.13$, $p = .20$].

Study 2

Methods

A second study recruited a larger American sample (n = 600, Amazon Mechanical Turk, December 2014) to confirm this solution. Each rated federal agencies, corporations, and nonprofit advocacy groups (Specific condition) on 20 attributes (asterisks, Table 1) for both intentions and capacity. Respondents were 52.8% female and 73.5% non-Hispanic white, with a mean age of 36.6 (SD = 12.9; median = 34; 65+ = 1.7% of sample), again highly educated (50% $\geq$ bachelor's degree); 58% (n = 588) reported annual household income $\leq$ $35,000-$49,999; 11% reported $\geq$ $100,000. Some 31% reported high or extreme political interest, 46% strongly or leaning liberal, 22% strongly or leaning conservative.

Analytic Strategy

Study 2 tested replication of the obtained factor structure through confirmatory factor analysis (CFA) of the 20 items in both studies, followed by tests of factorial invariance across institutions by imposing equality constraints on factor loadings for Study 1 items showing equivalent measurement. For Study 2 missing items (0 to .2%) were missing completely at random [Little's $\chi^2(100) = 71.21$, $p > .05$].

Results

Replication across Study 1 and Study 2 using their 20 common attributes entailed comparisons for the Specific condition for Government (cells 7 versus 13, Figure 1), Business (8 versus 14), and Nonprofit (9 versus 15). Among 39 invariant Study 1-Factor I intention items, 12 were in Study 2.

Table 6 (left side) shows invariance for all twelve Factor I intentions items for Government [$\Delta\chi^2(12) = 8.96$, $p = .71$], seven of 12 for Business [$\Delta\chi^2(7) = 13.28$, $p = .07$], and 11 of 12 for Nonprofits [$\Delta\chi^2(11) = 11.98$, $p = .37$]. Of four attributes in Study 2 invariant in Study 1's Factor II, all were statistically equivalent for Government [$\Delta\chi^2(4) = 2.10$, $p = .72$], none for Business, and three of four for Nonprofits [$\Delta\chi^2(3) = .17$, $p = .98$].

		Intention							Capacity					
		Study 1			Study 2				Study 1			Study 2		
	Factor I Items	**Gov**	**Bus**	**NP**	**Gov**	**Bus**	**NP**		**Gov**	**Bus**	**NP**	**Gov**	**Bus**	**NP**
9	Central values	.810	.837	.858	.814	.803	.816		.840	.843	.848	.835	.796	.827
11	Warm	.764	.801	.835	.754	.779	.806		.791	.833	.827	.802	.772	.803
12	Good natured	.792	.831	.835	.796	.811	.826		.833	.876	.861	.841	.804	.816
25	Better world	.830	.544	.345	.830	.764	.818		.873	.486	.587	.814	.819	.800
30	Development	.777	.616	.701	.744	.408	.664		.794	.530	.737	.757	.508	.642
32	Local money	.808	.637	.685	.762	.351	.678		.755	.568	.718	.766	.503	.691
37	Swift decisions	.671	.658	.566	.673	.268	.525		.752	.715	.589	.721	.359	.539
39	Consult	.789	.761	.819	.765	.734	.788		.825	.835	.823	.802	.775	.790
42	Right thing	.739	.733	.752	.700	.688	.700		.784	.792	.695	.732	.703	.677
44	Compromise	.670	.651	.695	.650	.579	.655		.761	.713	.658	.725	.644	.610
45	Knowledge	.754	.739	.749	.721	.636	.703		.814	.729	.828	.768	.677	.748
46	Factual decisions	.807	.637	.837	.803	.544	.818		.874	.748	.863	.797	.547	.812
	Factor II Items													
1	Take resources	.700	.626	.789	.651	.191	.650		.578	.519	.765	.586	.503	.671
24	Self-interest	.703	.342	.449	.658	.984	.447		.711	.571	.693	.668	.668	.686
36	Paperwork	.585	.701	.566	.545	.046	.530		.468	.484	.555	.464	.421	.548
62	Corrupt	.644	.553	.552	.591	.207	.539		.623	.610	.578	.568	.546	.547

Table 6. Standardized Factor Loadings for Multiple Group SEM Study 1 and Study 2 Intention and Capacity Item Tests of Configural Invariance

*Unshaded items are invariant across conditions. Gov = government agencies, Bus = businesses, NP = nonprofits. *p < .001*

Capacity comparisons (Table 6, right side) show 11 of 12 Factor I attributes invariant for Government [$\Delta\chi^2(12) = 15.19$, $p = .17$], nine of 12 for Business [$\Delta\chi^2(9) = 16.27$, $p = .06$], and 11 of 12 for Nonprofits [$\Delta\chi^2(11) = 14.92$, $p = .19$]. Each institution exhibited configural invariance for the four capacity items across Studies 1 and 2: Government [$\Delta\chi^2(4) = 7.35$, $p = .12$], Business [$\Delta\chi^2(4) = 8.84$, $p = .07$], and Nonprofit [$\Delta\chi^2(4) = 7.18$, $p = .13$].

Discussion

Independent samples of Americans rating how "most Americans" would describe three major institutions converged on similar characteristics, whether evaluating institutional intentions (what they want to accomplish) or capacity (their ability to accomplish these ends), general or specific targets (e.g., government versus agency), or specific institutions (agency versus corporation versus advocacy group), using 65 or 20 attributes for these characterizations.

To initially demonstrate internal validity, configural invariance tests found almost all attributes invariant across multiple randomized conditions and both studies. Despite little distinction between intention and capacity structure, examination of standard deviations above and below 1.0 on the 5-point Likert scale showed respondents rated intentions more similarly than capacities for business and nonprofits. Beyond the current scope, tests of external validity and functional equivalence of intention and capacity domains will better determine their differences. Tests of whether the few variant items reflect truly idiosyncratic institution-specific stereotypes, or are statistical noise, also are warranted.

As to hypothesized factor structures, invariance analyses revealed neither no pattern (otherwise invariance would be absent) nor the warmth/competence distinction of social group stereotyping (both, and cognates, loaded on Factor 1). The mainly two-factor solution observed here distinguished beneficial and harmful attributes, without loading attributes on a single bipolar factor as expected by the affect hypothesis (i.e., institutions deemed good or bad overall). Because harmful attributes were not merely the inverse ("not") of positive phrases, this is likely not due to mirror phrasing, but current data preclude determining whether this structure is "true" or an artifact of item valence. The latter would be rejected if a study yields a single factor solution using Factor 1 invariant items for the three general institutions in which half the positive attributes exhibit the original positive phrasing and the other half negative phrasing (consistent with Factor 2 items). Future research must probe why institutional stereotypes lack the warmth-competence distinction of social group stereotypes,

compare mean ratings across institutions, and probe whether and how such stereotypes might affect trust and other attitudes towards specific organizations. Other findings by the first author suggest consistent differences in mean ratings do occur across institutions (advocacy groups high, agencies low) and trust in organizations managing hazards (e.g., nuclear power, food safety) is modestly affected by institutional stereotypes even controlling for other factors affecting trust (*references omitted*), but these findings need replication.

Study limitations include its opportunity samples, limiting generalization to the population. Despite varied definitions of institutions (general, specific), rating dimensions (intentions, capacity), and attributes with two different samples using nested attribute sets producing the same factor structure, further tests by independent researchers should confirm current findings. The focus on three institutions critical in political science and hazard management excluded other institutions that might exhibit a different factor structure.

Conclusions

Results from this pilot project suggest a consistent structure for stereotypes Americans hold about major institutions. Using items culled from the extant literatures on social group stereotyping and organizational attributes, replication of factor structure and tests of measurement invariance across general and specific conditions, across types of organization, and across two independent studies suggest evidence of internal validity for a two-dimensional, beneficial-harmful attribute, factor structure unique to institutional stereotyping. This work can provide a foundation for exploring the effect of such stereotyping on varied political and other organization-related behavior.

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