

# Ambivalent stereotypes link to peace, conflict, and inequality across 38 nations

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**A cross-national study, 49 samples in 38 nations ( $n = 4,344$ ), investigates whether national peace and conflict reflect ambivalent warmth and competence stereotypes: High-conflict societies (Pakistan) may need clearcut, unambivalent group images distinguishing friends from foes. Highly peaceful countries (Denmark) also may need less ambivalence because most groups occupy the shared national identity, with only a few outcasts. Finally, nations with intermediate conflict (United States) may need ambivalence to justify more complex intergroup-system stability. Using the Global Peace Index to measure conflict, a curvilinear (quadratic) relationship between ambivalence and conflict highlights how both extremely peaceful and extremely conflictual countries display lower stereotype ambivalence, whereas countries intermediate on peace-conflict present higher ambivalence. These data also replicated a linear inequality-ambivalence relationship.**

stereotypes | peace | conflict | inequality | ambivalence

Objective and social environmental factors affect individual psychology (e.g., ref. 1). Geography and climate, as well as economic, political, and religious systems, influence thinking and action (2, 3). For instance, income inequality worsens social cohesion (e.g., refs. 4, 5), quality of governance supports well-being (6), and natural environments improve self-regulation (7). Here, conflict within and between societies can predict group stereotypes.

According to the stereotype content model (SCM) (8), stereotypes are not just negative; many societal stereotypes are instead ambivalent, combining positive and negative descriptions of a group. Stereotypes array along two fundamental dimensions of social perception, namely, warmth (sociability, sincerity) and competence (capability, skill); ambivalent stereotypes portray groups as either warm but not competent (disabled people) or as cold but competent (rich people). Groups penalized on one dimension are compensated on the other (9). The positive description may mask the negative description, making ambivalent stereotypes acceptable even to targets (e.g., ref. 10). Mixed combinations rationalize the system.

Warmth and competence map group stereotypes across societies (11, 12), and many societies' stereotypes are ambivalent (13). However, societies vary in use of ambivalent stereotypes, and such variations link to income inequality: More unequal societies display more ambivalent stereotypes (11). If ambivalence helps maintain societal hierarchies, more equal societies may stereotype fewer groups ambivalently, because most groups deserve inclusion in the social safety net. Relatively unequal societies, instead, may need more ambivalence to mask income disparities, rationalizing unfair conditions, namely, by mixed

stereotypes (e.g., deserving and undeserving poor). In support (14), poor people appear less competent (but warmer) and rich people appear colder (but more competent) in relatively unequal vs. equal countries: Given high inequality, the status quo may be reinforced by undermining poor people on the status-relevant dimension (i.e., competence) and rich people on the status-irrelevant dimension, thus justifying the groups' respective positions in the hierarchy. These data link a distal factor, inequality, with group stereotypes.

However, inequality may also increase the odds of conflict (15–17). Intergroup conflict abets negative stereotypes of the “enemy” (18): Negative traits ascribed to all category members justify social actions, dividing “us” vs. “them” (19). Conflicting parties hold mutually negative images (20–22), reinforcing the conflict. Thus, countries' conflict may perpetuate us-them stereotypes.

This cross-national study investigates how a country's peace/conflict predicts more mixed ascriptions of warmth and competence to its groups. Low-conflict countries are, by definition, unified: Identity is uncontested, perhaps ethnically homogeneous.

## Significance

**Stereotypes reflect a society's inequality and conflict, providing a diagnostic map of intergroup relations. This stereotype map's fundamental dimensions depict each group's warmth (friendly, sincere) and competence (capable, skilled). Some societies cluster groups as high on both (positive “us”) vs. low on both (negative “them”). Other societies, including the United States, have us-them clusters but add ambivalent ones (high on one dimension, low on the other). This cross-national study shows peace-conflict predicts ambivalence. Extremely peaceful and conflictual nations both display unambivalent us-them patterns, whereas intermediate peace-conflict predicts high ambivalence. Replicating previous work, higher inequality predicts more ambivalent stereotype clusters. Inequality and intermediate peace-conflict each use ambivalent stereotypes, explaining complicated intergroup relations and maintaining social system stability.**

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Switzerland and the Scandinavian countries may be prototypes of peaceful collectives, with harmonious shared identities. National identity is a more unitary whole; thus, various citizen subgroups should receive positive evaluations on both competence and warmth, and in Western settings, favoring the in-groups (12). Noncitizen intruders (refugees, nomads, and undocumented migrants) are simply excluded (negatively evaluated on both dimensions) in our previous data.

More contested, perhaps multiethnic, identity needs more subgroups. Friction likely rises, but conflict is moderate, given a stable system. The Americas, a mix of indigenous peoples as well as histories and continuing flows of immigrants, are prototypes. National subgroups' distinct fates (deserving vs. undeserving immigrants) may require explanation, namely, ambivalent stereotypes.

If open internal conflict breaks out, civil war might create stark us-them identities, simplifying the map (less ambivalence). Divisions are sharpened. Similarly, if the open conflict is external [the Global Peace Index (GPI) used here combines both internal and external types], citizens may also create stark us-them identities, including all citizens as a united front against external enemies (consider the United States just after "9/11" or during World War II).

To summarize, very peaceful countries may need less ambivalence because most groups fit in the shared national identity, with few outcasts [as earlier data (11) on highly equal societies suggest]; high-conflict societies may also need less ambivalent images of groups to simplify the world, making a clear-cut distinction between friends and foes (19–21); and, finally, nations with intermediate conflict may need ambivalence for system stability due to ambiguous intergroup relations, neither fully equal and peaceful nor fully conflictual. As a secondary aim, this work seeks to corroborate the inequality–ambivalence relationship (11).

### Overview of Present Research

The GPI measures peace-conflict, and the Gini index measures income inequality. The GPI is produced by the Institute for Economics and Peace, first in 2007, with updates annually. The GPI comprises 22–24 qualitative and quantitative indicators from various sources (e.g., Economist Intelligence Unit, United Nations Office on Drugs and Crime) on three societal themes: safety and security, domestic or international conflict, and militarization. A higher GPI means lower peace, and more conflict. GPI coefficients consistently correlate with other measures of peace (23). This study relates a nation's GPI to its stereotypes. The Gini index measures inequality in societal distribution of income. As the American Central Intelligence Agency reports, it plots cumulative family income against cumulative number of families, from poorest to richest. Gini coefficients range from 0 (complete equality) to 100 (complete inequality).

Cross-national analyses used 49 samples in 38 nations (*Materials and Methods*; demographics are provided in [Tables S1 and S2](#)). Each nation's societal groups were rated on the two fundamental dimensions of warmth and competence (*Materials and Methods*). High warmth-competence (W-C) correlations reflect lower ambivalence, and low ones reflect more ambivalence. To generate cultural maps and to maintain comparability with earlier efforts, new stereotype content data were collected following earlier precedents (8, 11, 12). The new data collection focused on high-conflict countries and on extremely equal countries so as to test the hypotheses regarding peace-conflict and ambivalence. The new data also tested the robustness of earlier results on inequality and ambivalence.

### Results

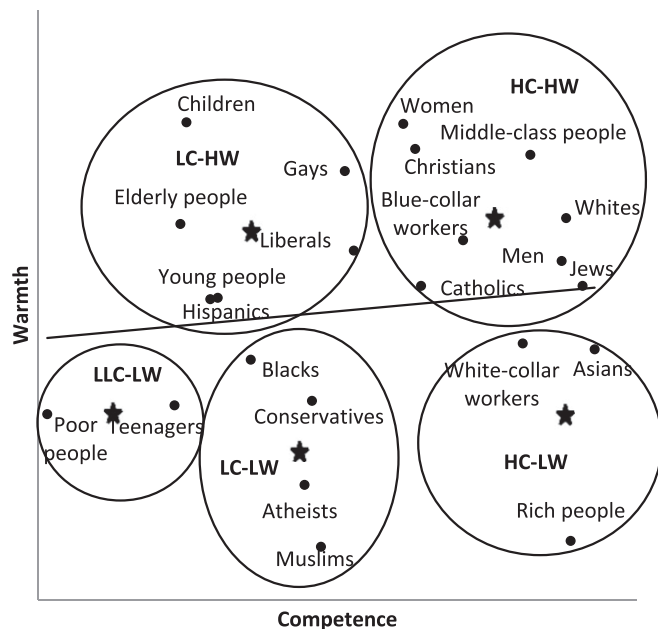
**Preliminary Analyses.** Competence and warmth items related to each societal group were averaged across participants in each sample. Subsequently, cluster analyses explored the distribution of means in the W × C 2D Euclidian space, using agglomerative

hierarchical cluster analysis (24) to determine the number of clusters and *k*-means cluster analysis (centroids method) to establish the societal groups in each cluster. Five clusters fit for eight of 16 new samples, and four clusters fit for the other eight. In each sample, competence and warmth were compared within clusters (paired *t* test) and between clusters (one-way ANOVAs, post hoc Bonferroni's correction).

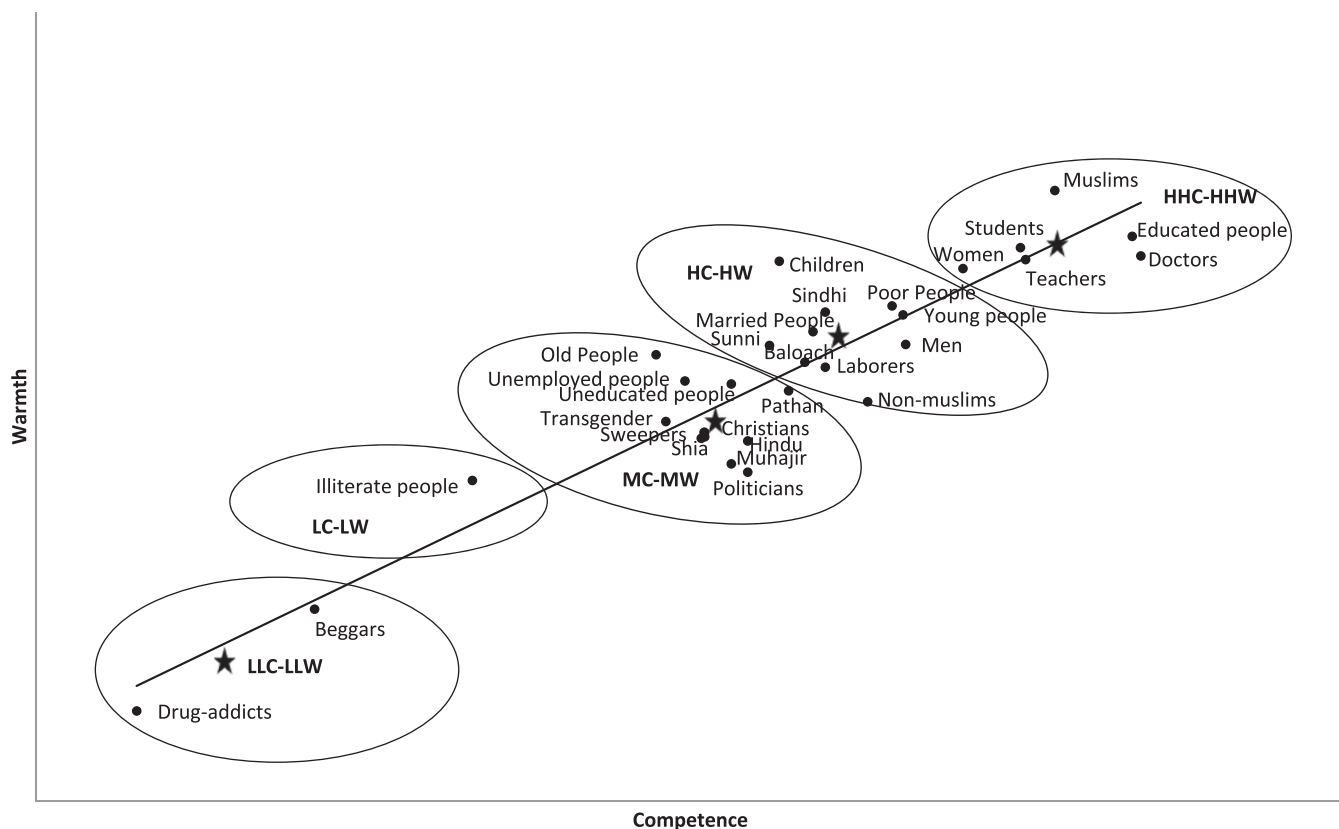
We count the ambivalent groups following these criteria: (i) Only within-cluster warmth and competence comparisons, as well as between-cluster, within-dimension (high-low) comparisons, that result in  $P \leq 0.05$  are considered ambivalent. (ii) A few cases of ambivalent-looking "clusters" have just one group, so neither between- nor within-cluster comparisons are applicable. Looking at the means, however, if we have little doubt that those groups are evaluated ambivalently (i.e., the warmth and competence means differ by a full scale point), we include those groups as well. (iii) The new US ambivalence clusters fit the within-cluster comparisons at  $P < 0.05$ , but one of the between-cluster comparisons is  $P < 0.08$ , although it fits the one-scale-point rule, and also fits several previous US studies (8, 25). Cluster maps for all these samples are available at [www.fiskelab.org/publications](http://www.fiskelab.org/publications), where the study by Durante et al. (11) is cited ("To see cross-cultural warmth and competence maps, click here"). Of course, the descriptive visual maps complement the quantitative correlational analysis.

In Afghan, Finnish, German, Iranian, Jordanian, Norwegian, and Turkish samples, most groups (from 60 to 90.5%) landed in ambivalent clusters. Iraqi, Kenyan (students), Lebanese, and Swedish groups were distributed almost equally into ambivalent and univalent clusters. Danish, Egyptian, Kenyan (nonstudents), Pakistani, and US groups had more groups in univalent than ambivalent clusters.

As previously reported (11), groups' distribution in the W × C space presented different patterns, some as a circular cloud of points, implying groups dispersed in the four quadrants of the space (both ambivalent and univalent), as Fig. 1 shows. This kind of distribution results in an approximately zero overall W-C



**Fig. 1.** US cluster analysis. Stars indicate cluster centroids. C, competence; H, high; L, low; W, warmth. A regression line is plotted. The United States has an intermediate (peace-conflict) GPI score of 2.056 and shows stereotype ambivalence ( $W-C r = 0.11$ ).



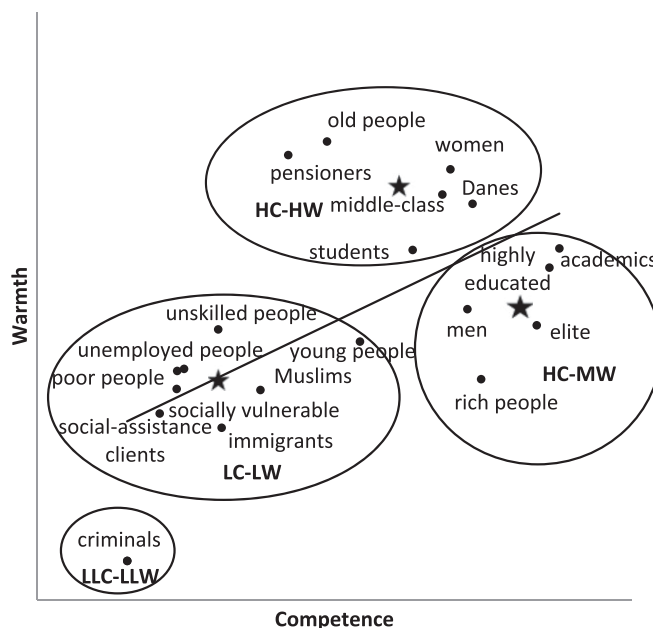
**Fig. 2.** Pakistan cluster analysis. Stars indicate cluster centroids. M, medium. A regression line is plotted. Pakistan has a high-conflict GPI score of 3.106 and shows low stereotype ambivalence ( $W-C r = 0.92$ ).

correlation, calculated at the societal level within each sample. Other distributions were in the shape of a linear vector (Figs. 2 and 3, from the bottom left to the top right), with most groups evaluated univalently as high or low on both dimensions, resulting in a positive W-C correlation. In one case, a vector ran from the bottom right to the top left (i.e., Jordan), indicating a negative W-C correlation (all ambivalence). Lower W-C correlations implied more ambivalence, whereas higher and positive W-C correlations indicated less ambivalence at a societal level. In other words, the overall W-C correlation indexed ambivalence. The 16 new samples' W-C correlations ranged from  $-0.37$  ( $P = 0.07$ ) to  $0.92$  ( $P < 0.001$ ), with an average  $r = 0.27$  (Table S3).

**Cross-National Analyses.** The database (49 samples) adds 16 new W-C correlations to previous data. The combined data (Table S4) show 26 significantly positive correlations (i.e., a univalent vector) and 22 nonsignificant correlations (i.e., a cloud that includes ambivalent quadrants). GPI coefficients range from 1.193 [lowest conflict (Denmark)] to 3.416 [highest conflict (Afghanistan)], with a median of 1.724. Gini coefficients range from 24.80 [low inequality (Denmark)] to 63.10 [high inequality (South Africa)], with a median of 36.20. Peaceful and equal countries are more represented, but the database includes extremes of both inequality and conflict.

Having data across continents and through many years, and indexing ambivalence as a correlation (i.e., an effect size), meta-analysis techniques appear appropriate. The Hedges–Olkin–Vevea method (26, 27) was applied to the random-effect model for unconditional inferences, allowing the overall sample to comprise samples from different underlying populations (*Supporting Information*). Meta-regression modeled the relationship between the SCM index of societal ambivalence and the GPI and

Gini national indexes. Regression weighted each sample as the inverse of sampling variance, plus a constant representing variability across population effects (28). The MetaReg SPSS macro



**Fig. 3.** Denmark cluster analysis. Stars indicate cluster centroids. A regression line is plotted. Denmark has a low-conflict GPI score of 1.193 and shows low stereotype ambivalence ( $W-C r = 0.58$ ).

**Table 1. Inverse variance-weighted regression results: Moderating role of GPI and Gini on ambivalence**

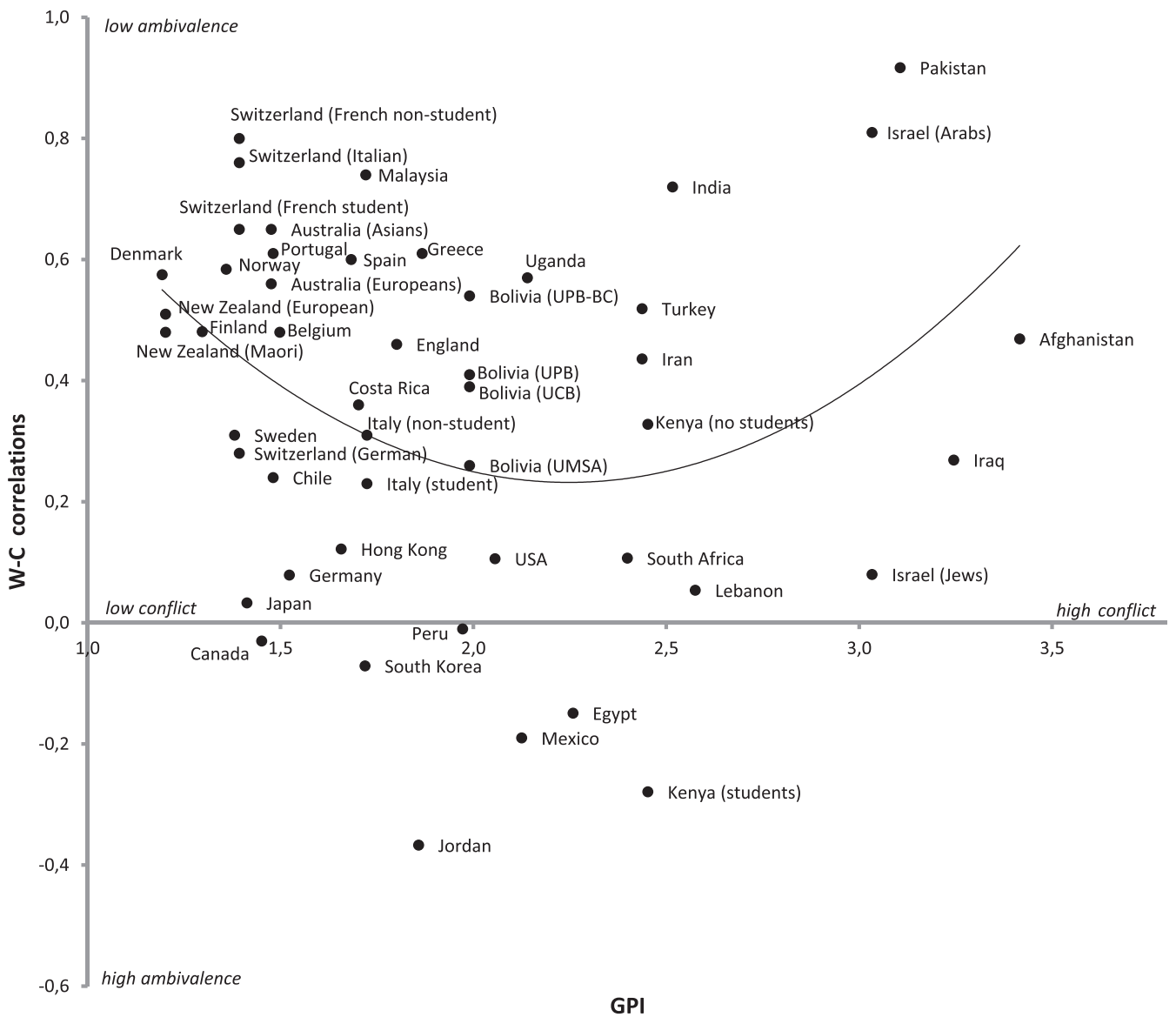
National index	<i>b</i> (95% CI)	SE	$\beta$	Z	<i>P</i>
GPI					
GPI-centered	-0.20 (-0.43, 0.04)	0.12	-0.28	-1.61	0.11
GPI-centered squared	0.38 (0.08, 0.67)	0.15	0.45	2.53	0.012
Gini	-0.01 (-0.02, -0.0004)	0.006	-0.29	-2.03	0.043

Mixed model (random intercept, fixed slopes); maximum likelihood estimate.

(29), with maximum likelihood, estimated the model, approximating inverse variance weighting by transformed sample size. Each correlation was Fisher-standardized (27).

The hypothesized relationship between conflict and ambivalence is curvilinear (both peaceful and conflictual nations display lower ambivalence than intermediate ones). First, to exclude the

possibility of a linear relationship, we regressed W-C Fisher-standardized correlations onto GPI coefficients, and the model was not significant ( $Q < 1$ ). To verify a curvilinear relationship, GPI coefficients were mean-centered, and then squared. Both the centered GPI and squared, centered GPI were entered in the meta-regression as independent variables, with W-C Fisher-standardized correlations as the response. The analysis yielded significance [ $Q(2) = 6.40, P = 0.041$ ], accounting for 11.7% of the variance. As Table 1 shows, the 95% confidence intervals (CIs) for the linear component contained zero, whereas the 95% CIs of the quadratic component did not, suggesting a nonmonotonic relationship between ambivalence and conflict. [The estimate of the intercept variance is  $\nu = 0.12, SE(\nu) = 0.03$ .] (Further tests are discussed in *Supporting Information*.) As Fig. 4 illustrates, both very peaceful and very conflictual countries show lower ambivalence, whereas countries with intermediate conflict mostly present higher ambivalence. Adding other societal variables [gross domestic product (GDP) for wealth and Human Development



**Fig. 4.** GPI coefficients and raw W-C correlations. A curvilinear (quadratic) pattern is significant (Table 1). UCB, Universidad Catolica Boliviana; UMSA, Universidad Mayor de San Andres; UPB, Universidad Privada Boliviana; UPB-CB, Universidad Privada Boliviana-Cochabamba.



Index (HDI) for development] does not eliminate the curvilinear pattern, and there were no outliers (*Supporting Information*).

Inverse variance-weighted meta-regression also replicated inequality predicting ambivalence. W-C Fisher-standardized correlations were regressed onto the Gini coefficients. The model explained 8.3% of the variance [ $Q(1) = 4.11, P = 0.043$ ]; the regression coefficient was significant, and the related 95% CIs did not contain zero (Table 1). This finding corroborates previous findings: more income inequality and more societal ambivalence (*Supporting Information*).

## Discussion

The stereotype ambivalence first discovered in North America and in some samples in Western Europe, East Asia, Africa, and South America replicates here mainly for relatively unequal countries intermediate on the peace-conflict continuum. Besides admiring the middle class as high on both dimensions and rejecting homeless people as low on both, intermediate nations, such as the United States, find older people to be warm but incompetent and rich people to be cold but competent, both ambivalent images that situate some poor people as deserving and others as not (likewise for higher status people). Ambivalent stereotypes can reinforce inequality (11), as well as intermediate peace-conflict.

In contrast, univalent vectors appear in two kinds of nations. First, peaceful, equal countries (Denmark) report positive stereotypes for social groups that share national identity (citizens, middle class, students, older people, retired people), but also report negative stereotypes of societal outcasts (criminals, immigrants, Muslims). Univalent stereotypes can reinforce equality, but only for the communal in-group. Second, extremely conflict-ridden countries (Pakistan) report positive stereotypes of in-groups and allies (Muslims in general, educated people) and negative stereotypes of outcasts (beggars, illiterate people) and foes (Christians). Such univalent stereotypes can reinforce conflict.

The limitations of these data suggest future research. First, although the effect sizes are medium by social science standards and significant by statistical convention, the variance explained is small; other explanations for stereotype ambivalence await discovery. Still, the data offer insights about stereotypes, especially ambivalent ones, in conflictual societies and in peaceful, equal societies.

Second, the data include few high-conflict countries so far. Unfortunately, we could not widen our survey among similar countries due to inaccessibility of data. Despite this flaw, the few high-conflict countries provided powerful insight into the ambivalence pattern. The GPI reveals a previously unexplored nonmonotonic relationship in stereotype ambivalence.

Another challenge typifies cross-cultural research: Potential confounds abound, and are not all ruled out. Similarly, broad-brush conclusions do not capture each nation's every particularity in stereotype mapping. Our speculation that peaceful, equal, unambivalent countries include more groups in their shared identity, excluding those groups beyond the pale, does not explain all groups.

Further, as comparative correlational research, the data do not show causality. Ambivalence predicts inequality, and vice versa; univalence predicts extremes of peace-conflict, and vice versa. Ideally, longitudinal data could track a nation's changing peace-conflict score, as a natural experiment. Unfortunately, we do not have GPI data before 2007, nor do we have longitudinal stereotype data, except in the United States (30): Four data points over 70+ y do not show changing ambivalence, but the data points are not positioned by changing national peace-conflict levels.

Finally, the GPI is a composite of both internal and external peace-conflict, although our participants evaluated groups within their own society. Still, the GPI calculation weights internal indicators more than external ones (60% vs. 40%). This decision relies on the "notion that a greater level of internal peace is

likely to lead to, or at least correlate with, lower external conflict; in other words, if 'charity begins at home,' so might peace" (ref. 31, p. 6). More broadly, charity might also reflect inclusive group images, expanding the in-group to include groups viewed ambivalently elsewhere, with resulting societal peace.

## Materials and Methods

Data on societal ambivalent stereotypes came partly from an earlier database (11) composed of 37 samples collected in 25 nations. Here, to explore the ambivalence–conflict relationship optimally, it was pivotal to include samples drawn from highly conflictual countries, which were hard to get and therefore absent from previous work. Similarly, to corroborate the ambivalence-inequality findings, it was crucial to collect data in countries with high equality, which were also absent from previous work. Therefore, the earlier database (11) was integrated with 16 new samples: 13 new samples collected between 2013 and 2014 [in Afghanistan, Egypt, Iran, Iraq, Jordan, Kenya (two samples: students and nonstudents), Lebanon, Pakistan, and Turkey (i.e., countries with high conflict) and in Denmark, Finland, and Sweden (i.e., countries with the highest available recorded level of equality, and peace, in the world)]. [In Afghanistan, Egypt, Iraq, Jordan, Lebanon, Pakistan, Turkey, and Kenya, participants completed the questionnaire (both for the preliminary and main surveys) in return for about US \$10.] Moreover, we added groups' warmth and competence data from Norway (ref. 32, study 1) and Germany (33) (again, very equal countries), which were collected independently and reanalyzed here. Notably, because the two US samples included in the earlier database (11) were collected in the year 2000 (before 9/11 and before the GPI reports), we decided to replace them with more recent US data (ref. 34, study 1). Additionally, we reckoned that the two Northern Irish samples should not be included in the study because the GPI coefficient referred to the whole UK area, therefore masking the level of conflict in Northern Ireland. [The Institute for Economics and Peace has recently released the UK Peace Index (UKPI 2013); it divides United Kingdom into areas. "The most peaceful region in the United Kingdom is South East England. The least peaceful region is Greater London, immediately preceded by Scotland and Northern Ireland" (ref. 35, p. 17)]. Cross-national analyses used 49 samples collected in 38 nations. (See also Table S5.) The Princeton University Institutional Review Board approved all procedures, including the consent form, and all participants provided informed consent.

**Preliminary Group-Listing Study.** In each country, a preliminary study identified societal groups that could be considered as most salient. A self-administered, open-ended questionnaire asked participants to list which types of people are generally categorized into groups in their society, what are the low-status groups, and what groups they belong to. [In Jordan and Afghanistan, participants listed the criteria used by their society to categorize people into groups (i.e., age, race, ability). In Jordan, a follow-up questionnaire asked the same participants to provide specific examples of social groups based on the criteria they mentioned. In Afghanistan, two local judges listed the most salient groups in the current Afghan scene; a similar approach was used by Fiske et al. (8) in study 1.] The questionnaire was administered in the nations' languages. (In Kenya, participants could complete the questionnaire in either an English or Kiswahili version of the questionnaire.) In all, 406 participants ( $n = 30\text{--}42$ ), who were mostly nonstudents (62.56%) and 47.5% female, with a weighted mean age = 28.98 y, completed the questionnaire on a voluntary basis. Groups mentioned by at least 15% of participants then appeared in that country's main survey questionnaire. Across the new samples, the number of distinct groups ranged between 16 and 37. An analogous procedure generated the list of groups in Germany (33), Norway (32), and the United States (34). Table S1 summarizes demographic information for each sample in our extended database: With total numbers missing for three samples, ~1,796 participants (54.81% female, weighted mean age = 25.92) took part in this phase.

## Main Survey.

**Participants.** As mentioned, 13 new samples were recruited, one from each country, except for Kenya, where we collected data from both students and nonstudents. Respondents ( $n = 965$ ) voluntarily participated in the main survey [with sample sizes varying in the range of  $n = 57\text{--}132$ , almost all students (91.92%), 44.25% female, weighted mean age = 24.45 y]. Samples from Germany ( $n = 82$ , students, 54.87% female, mean age = 23.05), Norway ( $n = 244$ , mostly nonstudents, 50% female, mean age = 35.04), and the United States ( $n = 73$ , nonstudents, 64.38% female, mean age = 35.24) were similar. Table S2 shows demographic information for each sample in our

extended database: Overall, 4,344 participants (57.44% female, weighted mean age = 23.73) participated in the main survey.

**Questionnaire and procedure.** Questionnaires were administered in the nations' local languages. (In Kenya, participants could complete either an English or Kiswahili version of the questionnaire.) For questionnaires administered in Middle Eastern countries, the translation/back-translation procedure was used (e.g., ref. 3). Participants in each sample evaluated the groups resulting from their respective preliminary surveys on items reflecting the fundamental dimensions of social perception. [We measured group status and competition (8) plus targeted emotions and behavioral tendencies (25), but these items fall outside the present scope and so are not presented.] More specifically, three items assessed competence (competent, capable, and skilled), five items assessed warmth (warm, friendly, sincere, well-intentioned, and moral), and they were presented intermixed. [Norwegian warmth items were friendly, warm, good-natured, and sincere; competence items were competent, confident, capable, and skillful (32). German warmth items were likeable, warm, and good-natured; competence items were competent, competitive, and independent (33). The recent US study (34) used bipolar items, namely, warm-cold, friendly-unfriendly (warmth), competent-incompetent, and capable-incapable (competence), and scales ranging from 1 to 7. Main survey procedures in Norway, Germany, and the United States were analogous to the procedure illustrated here.] Evaluations were made on five-point scales (1 = not at all to 5 = extremely). As in previous SCM studies, participants were asked to evaluate groups according to the society's point of view. To this purpose, instructions declared that we were not interested in their personal beliefs, rather in how they think such groups were viewed by the majority of their fellow citizens. This guideline was intended to mitigate social desirability issues, while identifying the culturally shared stereotypes. To avoid participant fatigue, the group list was split into sublists in each sample. "Because results

are analyzed primarily at the group level (i.e., each group receives mean ratings, which are then compared with other groups' mean ratings), randomly assigning different participants to rate different groups and then combining the datasets seemed permissible" (ref. 8, p. 891). A similar procedure was used to collect data in Norway, Germany, and the United States.

**SCM Reliability.** Cronbach's alpha reliability coefficients for each SCM construct were calculated across societal groups in each of the 16 new samples, and proved generally sufficient: warmth  $\alpha$ -range: 0.62–0.97 (median = 0.82); competence  $\alpha$ -range: 0.61–0.98 (median = 0.80).

**GPI and Gini.** Because data were gathered over many years (i.e., 2005–2014), for each country, we matched the year of data collection with the year of the GPI and Gini coefficients for the very same country as closely as possible (Table S4). [GPI reports were downloaded from [economicsandpeace.org/reports/](http://economicsandpeace.org/reports/) through the years. In April 2016, only GPI reports from 2011 to 2015 were downloadable, but previous reports are available from the authors. Gini coefficients were retrieved from <https://www.cia.gov/library/publications/download/index.html> and <https://www.cia.gov/library/publications/the-world-factbook/fields/2172.html> (April 11, 2016).] Because GPI was launched in 2007, 2007 GPI coefficients were held constant for all data samples collected in prior years. Gini coefficients were not available for Afghanistan, Iraq, and Lebanon, accordingly excluding them from the analyses involving the income inequality index, which were therefore run on 46 samples.

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