Supporting Information

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Index Components

The following nine variables are components included in our tightness–looseness index. We discuss the variable in question, including its source, coding scheme (when appropriate), and theoretical relevance to the construct of tightness-looseness. In the subsequent section, we demonstrate that these items are high in internal reliability and represent a single factor that captures a large percentage of variance. Data for all nine index variables are not available from the same year. However, we made an effort to locate data that are the closest in time.

Legality of School Corporal Punishment. Legality of school corporal punishment (The Center for Effective Discipline, 2005–2006; www.stophitting.com/index.php?page=statesbanning) indicates the legality versus illegality of physical corporal punishment (e.g., paddling) in schools and reflects the strength of punishment, as well as the degree of deviance tolerance and pressure to follow appropriate norms, in educational settings. States were dichotomously coded: they were given a score of "2" if corporal punishment was legally permitted in schools and given a score of "1" if it was not.

Percentage of Students Hit in Schools. Greater amounts of physical punishment, or at least the threat and presence of it, is indicative of low tolerance for deviance and strong norms for following appropriate behavior. States were scored with the percentage reported by The Center for Effective Discipline (2005–2006 rates, data available at www.stophitting.com/index.php?page=statesbanning; data for all 50 states can be obtained from the Office for Civil Rights, a branch of the US Department of Education, http://ocrdata.ed.gov/StateNationalEstimations/projections_2006). States in which school corporal punishment is illegal were given a score of 0%. We note that it is theoretically possible for school corporal punishment to occur in states where it is illegal. As there are no reported corporal punishment rates in these states due to its illegality, we have no way of verifying whether or not this is the case. Nevertheless, a tightness–looseness index that excludes this variable is correlated with the original index at $r = 0.99$.

Rate of Executions from 1976 to 2011. The rate of executions from 1976 to 2011 (Death Penalty Information Center; data available at www.deathpenaltyinfo.org/state-execution-rates/) divides the cumulative executions from each state between the years of 1976 and 2011 by the population taken from the 2010 Census. It captures divergent rates of execution and severity of punishment at the state level.

Severity of Marijuana Laws. This variable reflects the severity of punishment for breaking laws related to marijuana use, possession, cultivation, and sale. The legalization of marijuana for medicinal use and light punishment or lack of punishment for first offenders is indicative of greater latitude and permissiveness. This variable was computed through an unweighted, z-scored, and summed composite (reversing scores as necessary so that higher scores indicated greater punishment) that included the following variables reported by Sorens and Ruger (1): the legality of low-level marijuana possession, the decriminalization of low-level marijuana possession for first offenders, whether or not low-level marijuana possession for a first-time offender is a misdemeanor, whether or not low-level cultivation of marijuana is a misdemeanor, mandatory minimums (in years) for low-level marijuana cultivation or sale, the legality of medical marijuana, and the maximum possible prison term (in years) for any single marijuana offense (data available at www.statepolicyindex.com/archive/).

Ratio of Dry to Total Counties by State. Permissiveness in states is reflected in access to such substances as alcohol. Following the 1933 repeal of prohibition, many states or localities chose to maintain temperance laws. In such contexts, it is illegal to produce, sell, or distribute alcohol or these practices are severely or partially restricted. Lower tolerance for drunkenness and the enaction of laws to curb its incidence are indicative of greater behavioral constraint and, consequently, tightness. A team of researchers compiled county-level data on alcohol access for each state (excluding Georgia) on behalf of the British Broadcasting Corporation (2012; county map found at www.bbc.co.uk/news/magazine-17291978); their sources included the National Alcohol Beverage Control Association and various state governments. Their coding scheme denoted state counties as dry (strict alcohol controls), partially dry (some alcohol controls), and wet (alcohol is not banned). We coded each designation using the following scheme so that higher scores were indicative of greater constraint: dry counties ("1"), partially dry counties ("0.5"), wet counties ("0"). We then computed the sum of all county scores and divided the result by the total number of state counties. The resulting variable assesses the relative degree of alcohol constraint at the state level.

Legality of Same-Sex Civil Unions. Social norms uphold deeply rooted traditions, and allowing deviations from traditions reflects looseness. Conducting same-sex civil unions is one such practice that deviates from traditional values in many nations, including the United States. Accordingly, allowing same-sex civil unions is indicative of greater looseness and lowered tightness in a state. Sorens and Ruger (1) previously coded this variable in the following manner: same-sex marriage or extensive domestic partnerships allowed ("1"), limited domestic partnerships allowed ("0.5"), or no same-sex unions allowed ("0"). In the present study, this variable was reversed so that higher scores were indicative of greater tightness (data available at www.statepolicyindex.com/archive/).

Percentage of Individuals for Whom Religion Is Important in Their Daily Life and Percentage of Individuals with No Religious Affiliation. Religions are prescriptive in that they provide rules for behavior and sanctions for noncompliance, constraining individual choice and prompting a narrower socialization relative to more secular surroundings (2). Accordingly, greater rates of religiosity (Gallup, 2009; data available at www.gallup.com/poll/114022/state-statesimportance-religion.aspx#2) reinforce and sustain state levels of tightness. In contrast, a lack of religious affiliation (reversed; Gallup, 2000–2004; data available at www.gallup.com/poll/12091/tracking-religious-affiliation-state-state.aspx#2) is indicative of a high degree of latitude and less constraint by social norms and sanctions, reflecting looseness at the state level. We note that although norm enforcement is prominent in Abrahamic and other world religions that comprise the dominant faiths in the United States today, it is not necessarily a universal feature of all religions, particularly those found in small scale societies (2). As Norenzayan argues, norm enforcement may have proliferated in major religions because of their ability to produce prosociality and coordination among diverse social groups unconnected by kinship relations.

Percentage of Population That Is Foreign. This variable estimates the degree to which there is high (versus low) international diversity and an ambient mixture of people from different cultures in a state, which reflect looseness (reversed; US Census Bureau, 2007; data available at www.census.gov/compendia/statab/2007/population/native_and_foreignborn_populations.html).

Factor Analysis for Tightness–Looseness Index

All index items were moderately correlated (Table S1) and were internally consistent ($\alpha = 0.84$) (Table S2). The Kaiser–Meyer–Olkin Measure of Sampling Adequacy was equal to 0.78—exceeding the recommended value of 0.6 (3, 4)—and the Bartlett's Test of Sphericity was statistically significant, $\chi^2(36) = 170.87$, $P < 0.001$, indicating that the data were suitable for factor analysis (5). We used parallel analysis (6) to determine the number of factors to retain, a procedure that has been consistently shown to be one of the most accurate factor retention methods (7). To perform this procedure, 100 random data matrices with the same sample size, number of variables, and scale ranges as our sample data were created, and parallel eigenvalues were drawn from this data. As suggested by parallel analysis methods, eigenvalues found in our sample data were compared with the 95th percentile value of the parallel eigenvalues produced from the randomly generated data (8). To be retained, factors are required to exhibit eigenvalues greater than those generated randomly (i.e., they need to be above random chance). Parallel analysis indicated that a single factor solution was optimal, a conclusion further bolstered by a scree plot that plateaued after the first factor. Accordingly, we constrained the extraction to a single factor. All index items loaded highly on this single factor (Table S3), which accounted for ∼46.45% of the sample variance. In all, the tightness index was found to be reliable and to load on a single factor, consistent with theory and previous research (9).

Tightness Index Scores

As noted, tightness index scores were calculated by the following transformation method: all nine index items were *z*-scored, summed, divided by 9, multiplied by 20, and then added to 50. This produced easily interpretable tightness index scores and is consistent with methods employed previously (10). However, tightness composites for Alaska, Hawaii, and Georgia were only comprised of eight items. Hawaii and Alaska were missing data for the percentage of individuals claiming no religious affiliation, while Georgia was missing data for the ratio of dry to total counties. Consequently, their composite *z*-scores were only divided by 8.

Path Analysis

We used path analysis to assess overall model fit and to determine the significance of the relationships between tightness, ecological and human-made factors, personality traits, and state-level outcomes. In the model, ecological and human-made factors predicted tightness, and tightness predicted personality traits ("conscientiousness" and "openness") and numerous state-level outcomes derived from four categories from Study 4 (social disorganization from the "social organization" category, illicit drug use per capita from the "self-control" category, Equal Employment Opportunity Commission discrimination charges per capita from the "discrimination/equality" category, and patents per capita from the "creativity" category).

We incorporated a broad range of ecological and human-made pressures in our model that tapped into each of the five categories presented in the main text, including tornado risk from the "natural disasters/environmental vulnerabilities" category, percentage of food insecure households from the "natural resources" category, life expectancy (reversed) from the "health vulnerabilities" category, ratio of urban to rural population (reversed) from the "population variables" category, and rate of military recruitment from the "external threat" category. Percentage of slave-owning families could not be used to represent historical threat, as this variable lacks data for those 17 states that did not exist in 1860 and would have substantially reduced our sample size. Before path modeling, we performed a factor analysis of these ecological and human-made factors. The Kaiser–Meyer–Olkin Measure of Sampling Adequacy was equal to 0.70 and the Bartlett's Test of Sphericity was statistically significant, $\chi^2(10) = 65.85$, $P < 0.001$, indicating that the data were suitable for factor analysis (3–5). A factor analysis demonstrated that a single solution was optimal and explained 50.82% of the variance; all items loaded highly on this factor ($\alpha = 0.74$). Accordingly, we averaged the standardized scores of each of the above variables into a singular ecological/human-made threat factor.

We ran the model with Mplus, v5.21 and used maximum-likelihood estimation. Despite a small sample size, the model achieved good fit, $\chi^2(6, n = 50) = 11.48$, $P = 0.08$, relative χ^2 (χ^2/df) = 1.91, comparative fit index = 0.97, standardized root mean square residual = 0.04 (confidence interval at 0.90 = 0.00; 0.25). The critical value for path significance was ±1.96. All of the following reported β-values reflect standardized values. The path between ecological and man-made threat and tightness was significant and in the hypothesized direction ($\beta = 0.75$, $P < 0.001$). Similarly, the paths between tightness and openness ($\beta = -0.53$, $P < 0.01$), conscientiousness ($\beta = 0.66$, $P < 0.01$), social disorganization ($\beta = -0.61$, $P < 0.01$), illicit drug use per capita ($\beta = -0.84$, $P < 0.001$), Equal Employment Opportunity Commission discrimination charges per capita ($\beta = 0.93$, $P < 0.001$), and patents per capita ($\beta = -0.74$, $P < 0.001$) were all significant and in the expected direction. It is important to note, however, that the path model cannot demonstrate causality among the variables included, but merely demonstrates that such a causal structure is theoretically plausible.

Comparing State-Level and International Research

Tightness–looseness has previously been examined at the national level (9). Consequently, we thought it useful to examine, where possible, the similarities and differences between the present, state-level research and the national-level research (see Table S6 for all comparisons). With some exceptions (i.e., population density and murder rates), Table S6 demonstrates that there are numerous similarities in terms of ecological and institutional indicators, convergent variables, and cultural dimensions. The range of standardized tightness scores indicates that there is wider variability in tightness–looseness at the international level (−1.75 to 2.08) relative to the state level (−1.13 to 1.44). It is important to note that these studies used different methodologies to measure tightness–looseness. The international study conducted by Gelfand et al. assessed tightness–looseness directly via a six-item scale (see Supplemental, page 2 in ref. 9). Following other studies assessing culture in the 50 states (10), the present research used archival data to create an index of tightness–looseness in the US. Index variables were chosen to reflect the central aspects of the tightness–looseness construct: strength of punishment and the degree of constraint or permissiveness.

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Other Supporting Information Files

Table S1 (DOCX)
Table S2 (DOCX)
Table S3 (DOCX)
Table S4 (DOCX)
Table S5 (DOCX)
Table S6 (DOCX)