

The Strength of Social Norms Across Human Groups

Michele J. Gelfand¹, Jesse R. Harrington¹, and Joshua Conrad Jackson²

¹University of Maryland and ²University of North Carolina at Chapel Hill

Perspectives on Psychological Science
2017, Vol. 12(5) 800–809
© The Author(s) 2017
Reprints and permissions:
sagepub.com/journalsPermissions.nav
DOI: 10.1177/1745691617708631
www.psychologicalscience.org/PPS



Abstract

Social norms are a defining feature of human psychology, yet our understanding of them is still underdeveloped. In this article, we present our own cross-cultural research program on tightness-looseness (TL)—which draws on field, experimental, computational, and neuroscience methods—to illustrate how going beyond Western borders is critical for understanding social norms' functions and their multilevel consequences. Cross-cultural research enables us to account for the universal features of norm psychology but also explains the great cultural diversity we see in social norms around the globe.

Keywords

culture, diversity, neuroscience, individual differences, environment

Imagine a world where everyone drives on both sides of the road. There are stoplights but no one pays attention to them. Trains, buses, and airplanes don't operate with any fixed schedule. In conversations, people don't greet each other, interrupt each other frequently, and invade each other's space. At home, children wake up when they want and are free to leave the house with or without clothes on. At restaurants, people ask for things that aren't on the menu, chew with their mouths open, taste food off of strangers' plates, and do not say please or thank you. In elevators, people sing loudly, lean against each other, and face the wrong direction. At school, students text during lectures, play music out loud, and openly cheat on exams. People in city streets don't hesitate to throw their garbage on the ground and steal strangers' bicycles off racks when they want to get across town. Sex isn't reserved for private places like bedrooms; you might see it happening on public transportation, in parks, or on train platforms.

This is a world without social norms—where people don't have socially agreed-on standards for behavior. From the examples above, it becomes quickly apparent that this kind of world wouldn't function very well. When people don't follow norms, even simple activities become hopelessly difficult. Everything from navigating

around town, to having conversations, to running an organization turn into an uncoordinated mess.

Perhaps because of their important role in human behavior, social norms have been a central topic of study in psychology. The earliest studies of normative conformity include Milgram's (1963) obedience study, Asch's (1951) line study, Sherif's (1936) research on the autokinetic effect, and Bandura's (1978) studies of social learning and aggression. Throughout the 20th century, literature on social norms grew with Price and Bouffard's (1974) research on situational strength, J. Jackson's (1965) return potential model, Walter Mischel's *Personality and Assessment* (1968), and Cialdini's focus theory (e.g., Cialdini, Reno, & Kallgren, 1990), among many others. These authors began to move beyond demonstrating humans' conformist tendencies to documenting the conditions where norms exert the strongest influence on behavior. They also showed how motivation for social belonging could interact with the

Corresponding Author:

Michele J. Gelfand, University of Maryland, Department of Psychology,
1147 Biology-Psychology Building, College Park, MD 20742
E-mail: mgelfand@umd.edu

presence of social norms to influence large-scale behavioral trends with acute applied implications (e.g., littering, violent crime; Cialdini, 2003).

However, the psychological science of social norms remains surprisingly limited. Like other topics in this special issue, theorizing and research on social norms have been largely a Western enterprise, neglecting the vast array of differences we see across human groups around the globe. Until recently, the connection between social norms and basic psychological processes (e.g., cognition, motivation, emotion), or between social norms and the macro ecological and historical contexts in which they are embedded, have rarely been examined in psychological science. For example, what causes certain properties of norms to evolve in the first place? Why are some norms stronger than others across groups and across time? Do such differences in norm strength have an adaptive function for human groups?

Some theories did touch on these issues (e.g., Cialdini & Trost, 1998). Of particular note is research that contrasted norms from a social value perspective (e.g., Berger & Luckmann, 1966; Sherif, 1936), where norms were thought to arise from cultural idiosyncrasies, with those that took a functionalist perspective (Jacobs & Campbell, 1961; Schaller & Latané, 1996), where norms were thought to emerge on the basis of their ability to increase survival-related actions such as finding food and shelter and successfully mating. Nevertheless, scholars seldom discussed the way that ecological features could affect culture-level norms, or how culture-level norms could affect individuals' personality and motivation. Outside of psychology, work in evolutionary anthropology has examined the conditions under which norms evolve (e.g., norms for cooperation) using the same evolutionary models that biologists applied to genetic evolution (see Boyd & Richerson, 1988). This research was important in recognizing that variance in social norms was not accidental, but emerged on the basis of evolutionary selection pressures. Yet it remained largely isolated from psychology, perhaps because it neglected the role of individual psychological processes in cultural evolution.

Contemporary cultural psychologists build on insights from anthropology and evolutionary theory to enrich psychological models of human behavior. In this way, cultural psychology research has the strength of studying group-level cultural differences and their psychological adaptations through a dynamic socioecological lens. Above all, cross-cultural research enables us to build multilevel theories to understand how features of socioecological contexts (e.g., ecological and historical threat, climate, mobility) lead to differences in

culture-level factors (values and norms), which in turn facilitate and are reinforced by individual-level psychology (Berry, 1979; Gelfand et al., 2011; Triandis, 1972).

Cultural psychology not only provides theoretical insight into norm psychology but also enables the variance to put these theories to the test. Put differently, we can't fully understand the etiology and consequences of social norms by working only within one cultural context (e.g., the United States), which, by definition, restricts the range of variation available on culture-level predictors and consequences. For example, as we'll demonstrate below, it would be difficult to show how the experience of a hundred years of territorial invasions shaped the strength of norms in the context of the United States given that it has not experienced chronic historical threat. Cultural perspectives are thus invaluable for building theories concerning social norms' etiology and multilevel consequences. They enable us to both account for the universal features of norm psychology and also explain the cultural diversity we see in social norms around the globe.

In this article, we present our own research journey on the strength of social norms as one example of how cross-cultural research deepens and broadens psychological science. We first describe research in anthropology that sets the stage for research on the strength of norms in modern societies and nations. We then describe research using field, experimental, computational, and neuroscientific methods that collectively elucidate some of the functions and consequences of the strength of social norms for human groups. We conclude with new frontiers for norm psychology that await investigation.

The Strength of Social Norms: Etiology and Multilevel Consequences

Herodotus, an ancient Greek who is generally considered the "father of history," was one of the first to document cultural differences in human behavior in his *Histories*. Writing about the Persians, Herodotus noted their looseness and openness to foreign ideas: "There is no nation which so readily adopts foreign customs as the Persians. Thus, they have taken the dress of the Medes, considering it superior to their own; and in war they wear the Egyptian breastplate" (Herodotus, 1998, I.135). By contrast, he described the Egyptians as having very strong norms, especially for cleanliness, religion, and authority relations (Herodotus, 1998, II.37).

Thousands of years after Herodotus, modern-day anthropologists documented similar forms of cultural variation. Perti Pelto (1968) was the first to formally

quantify differences in the strength of social norms across many cultures. In his study of over 20 traditional societies, he observed that the Hutterites, Hanno, and Lubara were “tight” in that they had strong norms, were very formal, and had severe punishments for norm violations. By contrast, the Kung Bushman, Cubeo, and Skolt Lapps were “loose,” with weaker norms and more tolerance for deviance.

Pelto also speculated as to why these differences exist, noting that societies with high population density and greater crop dependency needed tighter norms to coordinate within their environments, whereas societies with lower population density and less reliance on agriculture could afford more permissiveness. In support of Pelto’s intuitions, a number of studies have found that traditional societies with primarily agricultural subsistence methods exhibited stricter child-rearing practices, more stringent social roles, and greater conformity compared to groups that relied on fishing or hunting (see Barry, Child, & Bacon, 1959; Berry, 1967; Boldt & Roberts, 1979; Lomax & Berkowitz, 1972; Witkin & Berry, 1975). This represented some of the earliest work to argue that social norms appeared to have adapted to ecological conditions.

Our team (Gelfand, Nishii, & Raver, 2006; Gelfand et al., 2011) picked up where Pelto left off. Grounded in an ecocultural tradition (Berry, 1979; Triandis, 1972), modern tightness-looseness (TL) theory is about *adaptation*: The evolution of norm strength is adaptive to features of ecological environments and, in turn, and is afforded by a suite of adaptive psychological processes (see Fig. 1). We specifically theorize that differences in norm strength evolve as a function of social and ecological threat (Gelfand et al., 2011). Societies with more natural disasters, higher disease prevalence, fewer natural resources, and greater threat from territorial invasions develop stronger norms and punishments of violators to coordinate in the face of these threats. By contrast, societies that lack exposure to serious ecological threats can afford to have weaker norms and tolerance for deviance given that they have less of a need for coordinated social action. As seen in Figure 1, the strength of societal norms is further reflected and promoted through institutions that foster narrow versus strong socialization (e.g., the media, government, criminal justice; Arnett, 1995) and stronger situations (Mischel, 1977).

In turn, at the individual level, people exposed to chronically higher situational strength have *higher felt accountability* (Frink & Klimoski, 2004)—that is, have a greater potential for being monitored, evaluated, and punished or rewarded based on their behavior. Greater felt accountability in turn implicates a broad suite of psychological processes that are recruited in the service

of avoiding sanctions in tight cultures. For example, individuals in tighter cultures are theorized to have greater self-monitoring, greater cautiousness, stronger self-regulation of behavior, higher need for structure, greater prevention focus, greater conscientiousness, and lower openness (Gelfand et al., 2011; Harrington & Gelfand, 2014), all of which are adaptive to stronger situations and contexts of higher threat. Notably, TL theory focuses on different constructs at different levels of analysis, all of which are qualitatively different but dynamically interrelated. TL theory does not treat individuals as being “tight” or “loose”; rather, these terms pertain to the multilevel cultural system of the strength of social norms.

Tightness-Looseness Across Nations

Over the past decade, research drawing on a variety of disciplinary perspectives across multiple levels of analysis has supported this general theory. Gelfand and colleagues (2011) led the first quantitative study to examine TL at the national level of analysis using archival and survey data. In this study, 6,823 individuals across 33 nations reported on the strength of social norms in their cultural contexts. The study’s measure of TL represented a single dimension, which was distinct from other cultural dimensions such as Gross Domestic Product (GDP) and individualism-collectivism. For instance, we identified cultures that were relatively individualistic and tight (Austria and Germany), individualistic and loose (New Zealand and the United States), collectivistic and loose (Brazil and Venezuela), and collectivistic and tight (South Korea and China).

As theorized, tightness correlated with an extensive array of historical and ecological threats. For example, tight societies had greater historical prevalence of natural disasters, food scarcity, population density, and territorial threats compared to loose societies. They also had stronger institutions; they had more autocratic governing bodies, more police per capita, less media openness, fewer political rights and civil liberties, and greater religiosity than loose societies. We found that everyday situations were stronger—restricting the range acceptable behavior—in tight cultures compared to loose cultures. Finally, variation in the strength of situations had cross-level effects on numerous psychological processes: individuals from tighter nations were found to score higher on measures of cautiousness, dutifulness, self-regulation and impulse control, self-monitoring, and need for structure. A multilevel structural equation model provided support for the system of TL—the interplay between ecological and historical factors, sociopolitical institutions, everyday situations, and individual differences.

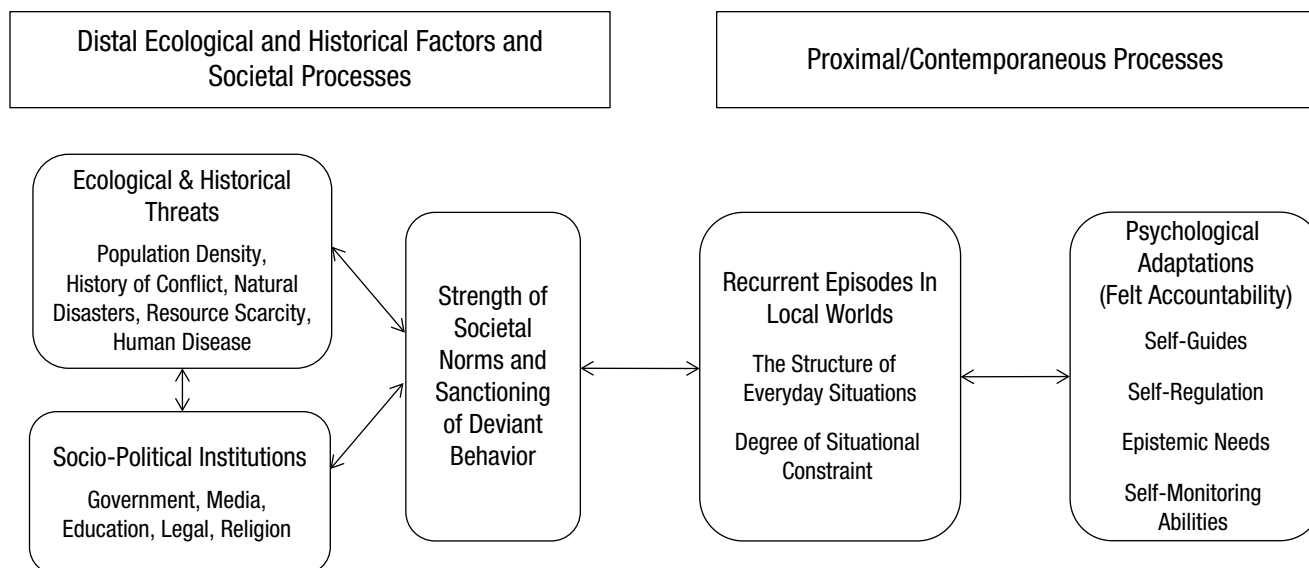


Fig. 1. Multilevel theory of tightness-looseness. Source: Gelfand et al. (2011). Reprinted with permission from AAAS.

Tightness-Looseness Across the U.S. States

TL theory has been shown to have remarkable parallels at other levels of analysis. For example, we (Harrington & Gelfand, 2014) investigated whether variance in TL and its ecological precursors and outcomes could be found *within* nations—in particular, at the state level in the United States. Drawing on Vandello and Cohen (1999), who took a similar approach to studying collectivism at the state level, we used existing archival data on the strength of punishments (e.g., percentage of students punished using corporal punishment, rate of executions, severity of punishments for violating marijuana laws), permissiveness and latitude (e.g., ratio of dry to total counties per state, legality of same-sex civil unions), the strength of religious institutions (e.g., reinforcement of moral order), and diversity (e.g., total foreign population) to index TL across the 50 U.S. states. The index was reliable, represented a single construct, and demonstrated substantial convergent and divergent validity. As with tight nations, tight states showed more negative attitudes toward social deviance, had more law enforcement employees per capita, desired greater media restrictions, displayed a more black-and-white sense of morality, and had greater perceptions of cultural superiority than loose states. TL varied at both the state and regional levels and was distinct from measures of collectivism.

As with the national level, state tightness was positively related to greater ecological and historical threat. Compared to looser states, tight states had higher death rates due to natural disasters, greater food insecurity,

and more disease prevalence. Tighter states also showed more ambient threat—higher rates of military recruitment and a belief that more money should go toward defense spending. There was also a positive link between tightness and the percentage of slave-owning families as reported in the 1860 U.S. census. This served as an additional indicator of territorial threat, since states with high prewar slave ownership were effectively conquered and occupied following the American Civil War (Woodard, 2011). Tight states had less residential mobility than loose states, suggesting that low residential mobility helps reinforce the normative order.

Tight and loose states also showed personality differences that were consistent psychological adaptations to national tightness. Tighter states had higher trait *conscientiousness*, a personality characteristic that has been associated with greater impulse control, cautiousness, self-discipline, and desire for orderliness (John, Naumann, & Soto, 2008). Looser states, in contrast, had higher trait *openness*, which has been associated with nontraditional values and beliefs, breadth of experience, tolerance of other cultures, and a preference for originality (John et al., 2008; Rentfrow, Gosling, & Potter, 2008).

As with the national level, there was a clear *TL trade-off* at the state level: Tight states had greater social organization (e.g., lower mobility, less divorce) and greater self-control (e.g., less drug and alcohol abuse), but they also had more discrimination (e.g., higher rates of Equal Employment Opportunity Commission claims and fewer women and minority-owned businesses), and lower creativity (e.g., fewer utility patents and artists

per capita) compared to loose states. In contrast, looser states were more disorganized and had more self-control failures, but they were also more accepting of change, more innovative, and less xenophobic compared to tighter states.

The Causal Structure of Tightness-Looseness

Following these field studies on TL's cross-cultural correlates, we have used other methods to understand the construct's causal structure. In one such investigation, we (Roos, Gelfand, Nau, & Lun, 2015) combined cross-cultural psychology with evolutionary game theory (EGT) to develop a computational model examining whether group threat would encourage norms for cooperation and punishment of deviants. In the resulting model, computer-simulated "agents" had a pool of resource points that they could contribute to a larger collective pool every round in a game. This collective pool of points was then distributed amongst all agents in a matrix at the end of each round, regardless of their contribution. Agents could *cooperate* by contributing to the pool or *defect* by not contributing, as well as *punish defectors* or *not punish* them at all. Our simulations also manipulated how much threat groups faced through a payoff reduction, simulating how groups facing natural disasters or warfare would face depleted resources. The simulation results showed that under conditions of high threat, norms for punishing defectors and cooperating indeed evolved to be the dominant behavioral strategies. Under low threat, defection and the lack of punishment were much more common. Roos et al. (2015) also showed that increases or decreases in threat caused corresponding shifts in tightness.

While EGT examines the evolution of tightness in a population of agents, other experimental research has examined how psychological affordances of TL can be made temporarily accessible. Using an "ecological priming" paradigm (Gelfand & Lun, 2013), Lun, Gelfand, and Mohr (2012) found that priming participants with threat via newspaper articles (e.g., population density, terrorism attacks) led them to view socially deviant behavior as more extreme and unjustifiable, and also encouraged more ethnocentric attitudes. In a follow-up study, we tracked social attitudes following the Boston Marathon bombing and found that the people who were most affected by the bombings showed a greater desire for tightness and the highest ratings of ethnocentrism compared to those who were less affected by the bombings. These results suggest that situational factors can temporarily increase a desire for strong norms, a point to which we return in our discussion.

Tightness-Looseness and the Brain

Beyond field, lab, and computational methods, research is now beginning to identify TL's neurobiological roots. Using electroencephalography (EEG), Mu, Kitayama, Han, and Gelfand (2015) studied the neural substrates for norm violation among participants from China, a relatively tight nation, and the United States, a relatively loose nation. We examined the universality and culture-specificity in the N400 response, a negative deflection peaking at roughly 400 milliseconds following exposure to unexpected stimuli. Previous research had linked the N400 response to semantic violations—such as sentences that had confusing endings—but this was the first project to relate N400 activity to social violations. Mu et al. (2015) showed that when Chinese and American participants viewed many social norm violations, Chinese participants had a stronger N400 response in the frontal area, a region typically associated with theory of mind and punishment. Moreover, cultural differences in frontal N400 responses were associated with reports of restrictions in everyday life as well as concerns with territorial threat, and they also partially explained U.S.-China differences in self-control, creativity, and ethnocentrism—trade-offs identified at other levels of analyses. This research not only disentangled the culturally universal semantic N400 response from the culturally relative social N400 response but also isolated the frontal region of the brain as a potential biological root for culturally derived reactions to norm violations.

In another neuroscience study, we combined cultural priming with hyperscanning—a state-of-the-art neuroimaging technique where two or more brains' activity can be monitored at the same time. TL theory predicts that strong norms and punishments help human groups evolve as a function of threat because it necessitates coordination for survival. To examine this assumption, Mu, Han, and Gelfand (2017) manipulated perceptions of threat and used hyperscanning EEG to measure and assess how threat shaped two individuals' brain oscillatory activity, which in turn facilitated behavioral coordination. Chinese participants were assigned to one of three priming conditions: an in-group-relevant threat (e.g., China facing external threat from Japan), an in-group-irrelevant threat (Ethiopia facing external threat from Eritrea), or an in-group nonthreat control. Participants then engaged in a coordination task in which they needed to mentally count at the same pace across numerous trials while their brain activity was simultaneously recorded. As expected, participants showed greater gamma interbrain synchronization and better behavioral coordination in the in-group-relevant threat condition relative to the in-group-irrelevant threat and

control conditions. Moreover, this gamma band activity—which is indicative of a fear response—mediated the association between in-group threat and behavioral coordination. The results of this study provide the first evidence that increased shared neural representations of threat may support behavioral coordination. It also advances multibrain scanning techniques as an emerging method in cultural neuroscience, which is often concerned with the influence of the environment on intersubjective brain activity. More broadly, our neuroscience research—along with studies of TL and genetics (Mrazek, Chiao, Blizinsky, Lun, & Gelfand, 2013)—confirms a major assumption of TL theory: that human biology has prepared us to coordinate in the face of ecological threats.

These multidisciplinary studies illuminate how both tightness and looseness can be adaptive for groups. The tight-loose trade-off entails that tighter groups will be comparatively more ordered and organized, whereas looser groups will be more open and innovative. However, recent work suggests that extreme levels of either tightness or looseness are maladaptive for human groups in general. Harrington, Boski, and Gelfand (2015) found a robust curvilinear effect such that nations with extreme scores on TL exhibited the worst psychosocial outcomes (i.e., the lowest happiness and highest levels of depression and suicide rates), health outcomes (i.e., the lowest life expectancy and highest mortality rates from cardiovascular diseases and diabetes), and the worse economic and political outcomes (i.e., the lowest GDP per capita and higher risk for political instability) relative to nations that are moderate on TL. These effects might stem from a general lack of perceived control by members of these societies. Very tight societies, for example, severely constrain individual choice and necessitate constant self-monitoring, while very loose societies provide few guiding principles and have very high levels of anomie. Above all, this research shows that, when it comes to optimal levels of TL, moderation is key: Extreme latitude or extreme constraint is dysfunctional for human groups.

Discussion

Norms are the glue that keeps people together—helping us coordinate within large groups and to survive in environments that would otherwise be uninhabitable. In this article, we described our own research program, which has focused on why and how social norms vary in their strength across cultures. In documenting variance in normative tightness-looseness, this research has yielded insights into the norms' historical

function and multilevel consequences for human groups that would have been impossible without a cross-cultural perspective. Nevertheless, research on the strength of social norms is still in its infancy. In what follows, we describe a number of exciting theoretical and methodological frontiers that await investigation.

The fractal structure of tightness-looseness

One interesting aspect of TL is its symmetry across scale. TL appears to have similar predictors and consequences across levels of analysis, from nations to small-scale societies (Jackson, Gelfand, & Ember, 2017). In this sense, TL resembles a fractal structure, in which a pattern is quasi isomorphic regardless of its scale. For example, in Sierpinski's triangle (Fig. 2), the triangular shape is reproduced recursively at smaller and smaller scales. TL appears to operate in much the same way; regardless of whether TL is measured in countries, states, regions, organizations, or small towns, it is predicted by ecological and human-made threat and catalyzes a suite of individual-level adaptations and trade-offs. Therefore, just as Sierpinski's triangle has the same shape across different scales, TL is a general principle of human organizing across levels.

Another recent exploration into this fractal dynamic pertains to the strength of norms across social classes (Harrington & Gelfand, 2017). Relative to the middle class, we have found that the working class is subject to greater threat, such as a higher potential to fall into debt, unemployment, and poverty. Moreover, working-class lives tend to be constrained across situations, in the home, and at work. In comparison to middle-class jobs, working-class jobs are more highly monitored, tend to have more stringent protocols, and are often less self-directed. As suggested by Kohn (1969), these factors influence working-class individuals' values. For example, working-class parents are more likely to teach their children the values of conformity and obedience to authority compared to middle-class parents. Teaching these values helps prepare children from working-class families for a tighter world. Indeed, like the national and state levels, we have recently found evidence of the TL trade-off as it pertains to social class: The working class is more norm abiding, less creative, and more ethnocentric than the middle class (Harrington & Gelfand, 2017).

In addition to class dynamics, tightness may also explain variation in religious cultures. Religions around the world are tremendously diverse, with some faiths imposing stringent moral norms on their believers (e.g., Reform Baptists) and others encouraging plurality and

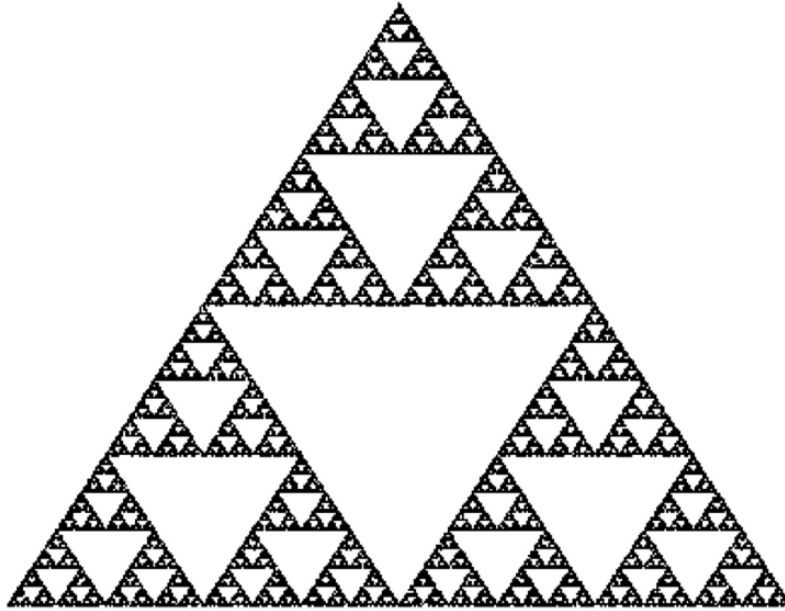


Fig. 2. The Sierpinski triangle, an example of a fractal structure. Like the triangle, tightness-looseness follows a quasi-isomorphic multilevel structure from large-scale to small-scale groups. Environmental pressures shape the strength of cultural norms, which affords a variety of individual-level psychological adaptations.

openness (e.g., Unitarians). Recent research suggests that this diversity represents an adaptation to religious groups' historical ecological pressures. For example, Caluori, Jackson, and Gelfand (2017) found that perceived out-group threat is associated with beliefs in a more authoritarian (versus benevolent) God. This relationship was mediated by a desire for tighter rules and greater punishment for those who disobeyed them, suggesting that people may view authoritarian Gods as a means of coordinating during times of potential warfare. These results provide support for TL's fractal structure: From nations to states, organizations, social classes, and religions, ecological and human threat appears to result in a strengthening of cultural norms, which entails individual-level adaptations that help people adapt.

TL is also relevant for work organizations (Gelfand et al., 2006). It likely explains variation not only across national cultures, but also across industries (e.g., mining vs. graphic design), within industries (e.g., consulting firms McKinsey vs. Ideo; E-commerce firms Amazon vs. Zappos), and even within the same organization (e.g., marketing vs. accounting; see also R. Li, Gordon, & Gelfand, 2017, on TL and consumer behavior).

Future research should continue to examine the behavioral trade-offs associated with TL. While norm abundance brings order and coordination, norm violations bring creativity and change. Moreover, several

studies indicate that violating norms can offer opportunities for people to stand out in their communities and gain status (Bellezza, Gino, & Keinan, 2014; van Kleef, Homan, Finkenauer, Gündemir, & Stamkou, 2011; van Kleef, Wanders, Stamkou, & Homan, 2015). However, research on antinormative behavior has seldom taken a cross-cultural perspective, which should be a future priority. Recent research, for example, suggests that the tighter a country is, the more individuals supported norm followers over norm violators (Stamkou et al., 2016).

Finally, research on culture and social norms would also benefit from exploring how tight and loose norms coexist within communities. Many generally loose groups have pockets of tightness, just as many tight groups have pockets of looseness. For example, Israel—a relatively loose nation—has strong norms around national identity and family size, whereas Japan—a relatively tight nation—is famous for its permissive drinking culture. Future research should not just label these cases as exceptions, but develop principles to explain domain specific TL within groups (Jackson & Gelfand, 2016). As a general principle, domains that are highly valued (e.g., large families in Israel) should evolve to be tight. Domain specific measures of TL will help to identify loose domains in tight groups and tight domains in loose groups.

Broadening cultural psychology's methodological toolbox

In addition to these future theoretical directions, there are important methodological innovations that cultural psychologists should apply to the study of social norms. Of particular importance are methods that allow scientists to study behavior in large groups—such as in vivo behavioral tracking (Halberstadt et al., 2016; Jackson et al., 2017a) machine learning analysis of big data (Lane, 2013)—and methods that allow for dynamic behavioral modeling—such as agent-based modeling (Jackson et al., 2017b; Nowak, Gelfand, Borkowski, Cohen, & Hernandez, 2015; Roos et al., 2015) and time-series analysis (Greenfield, 2013; Grossmann & Varnum, 2015). For example, Jackson, Gelfand, and Fox (2016) used Google's NGram database to document growing looseness in the United States over the past 200 years. The authors found that this looseness has produced a number of economic and social trends related to self-control (e.g., growing household debt) and creativity (e.g., increasing rates of patents). The trajectories of change in tight and loose cultures is also an important topic of investigation. Using mathematical analyses, De, Nau, and Gelfand (2017) recently showed that rates of change are much slower in tight than loose groups.

Conducting research with policy potential

Finally, research on the strength of social norms also holds promise for understanding cultural change across the globe and for potentially impacting policy. Recent research has already begun to show how TL can influence political dynamics. In one investigation, Gelfand, Jackson, and Harrington (2016) found that perceptions of threat—particularly from out-groups—could account for people's tendency to vote for Donald Trump in the 2016 election. In support of TL theory, this relationship was accounted for by a link between threat and desired tightness: people who felt threatened (e.g., felt there was a risk of ISIS infiltrating the United States) wanted stronger norms in the United States, and as a function of this desire, they supported Trump as president. Therefore, even though Trump is widely regarded as a norm violator and political outsider, his support appears to come from people who expect him to restore law and order to America. This ironic pattern also appears to generalize to other countries. In Austria, Britain, France, and the Netherlands, far-right populist parties have used threat as a way of currying support for authoritarian laws and ethnocentric immigration policies.

Other research has used TL to explain dramatic political swings such as the Arab spring, where entire

nations swing back and forth between extreme tightness and looseness—from autocratic control to total anomie back to autocratic control—what we have termed “autocratic recidivism” (Nowak, Gelfand, Borkowski, & Kruglanski, 2017). After the collapse of autocratic governments, there is a high risk of extreme looseness, chaos, and anomie, which can provoke a desired return to autocratic governing. Future research is needed to understand the factors that prevent rapid pendulum shifts and resultant autocratic recidivism.

Finally, a TL perspective can help to understand and manage cultural conflicts. Research is beginning to show how difficult it is for expatriates moving between tight and loose cultures (Geeraert, Li, Ward, Gelfand, & Demes, 2017), and the difficulty of merging organizations from tight and loose cultures (C. Li, Gelfand, & Kabst, 2017). For example, C. Li et al. (2017) found that the value obtained by acquirers decreased by over \$34.3 million on average for a one standard deviation increase in TL differences in cross-border deals. More generally, many cultural fault lines—urban versus rural, working class versus middle class, East versus West, blue state versus red state—involve differences in TL, and interventions built on this knowledge can increase cross-cultural understanding (Jackson, Gelfand, Ayub, & Wheeler, 2017). TL research could also help bicultural individuals and immigrants who regularly cross between tight and loose cultures. Given the links between TL and well-being (Harrington, Boski, & Gelfand, 2014), balancing tight and loose identities may have significant consequences for people's health and happiness.

Conclusion

Cross-cultural research has helped psychological science transition from simply studying the presence and power of social norms to explaining norms' functional purpose, ecological roots, and multilevel influence on psychological processes. This research not only sheds light on why norms vary in their strength and content across cultures; it also helps us understand the fundamental social properties that make humans such a unique animal.

Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

Funding

This work was funded in part by US Air Force Grant FA9550-14-1-0020 and an Annaliese Maier Research Award from Alexander von Humboldt Foundation [to M.J.G. (principal investigator)].

References

- Arnett, J. J. (1995). Broad and narrow socialization: The family in the context of a cultural theory. *Journal of Marriage and Family*, *57*, 617–628.
- Asch, S. E. (1951). Effects of group pressure upon the modification and distortion of judgments. In H. Guetzkow (Ed.), *Groups, leadership, and men* (pp. 222–236). Oxford, England: Carnegie Press.
- Bandura, A. (1978). Social learning theory of aggression. *Journal of Communication*, *28*(3), 12–29.
- Barry, H., III, Child, I. L., & Bacon, M. K. (1959). Relation of child training to subsistence economy. *American Anthropologist*, *61*, 51–63.
- Bellezza, S., Gino, F., & Keinan, A. (2014). The red sneakers effect: Inferring status and competence from signals of nonconformity. *Journal of Consumer Research*, *41*, 35–54.
- Berger, P. L., & Luckmann, T. (1966). *The social construction of reality: A treatise in the sociology of knowledge*. London, England: Penguin.
- Berry, J. W. (1967). Independence and conformity in subsistence-level societies. *Journal of Personality and Social Psychology*, *7*, 415–418.
- Berry, J. W. (1979). A cultural ecology of social behavior. In L. Berkowitz (Ed.), *Acculturation: Theory, models and some new findings* (pp. 9–25). Boulder, CO: Westview.
- Boldt, E. D., & Roberts, L. W. (1979). Structural tightness and social conformity: A methodological note with theoretical implications. *Journal of Cross-Cultural Psychology*, *10*, 221–230.
- Boyd, R., & Richerson, P. J. (1988). *Culture and the evolutionary process*. Chicago, IL: University of Chicago Press.
- Caluori, N. E., Jackson, J. C., & Gelfand, M. G. (2017, January). *Mean gods on your side: The role of intergroup threat in the origination of moralizing gods*. Poster presented at the Religion and Spirituality Preconference at the annual meeting for the Society for Personality and Social Psychology, San Antonio, TX.
- Cialdini, R. B. (2003). Crafting normative messages to protect the environment. *Current Directions in Psychological Science*, *12*, 105–109.
- Cialdini, R. B., Reno, R. R., & Kallgren, C. A. (1990). A focus theory of normative conduct: Recycling the concept of norms to reduce littering in public places. *Journal of Personality and Social Psychology*, *58*, 1015–1026.
- Cialdini, R. B., & Trost, M. R. (1998). Social influence: Social norms, conformity and compliance. In D. T. Gilbert, S. T. Fiske, & L. Gardner (Eds.), *The handbook of social psychology* (pp. 151–192). New York, NY: McGraw-Hill.
- De, S., Nau, D. S., & Gelfand, M. J. (2017, May). *Understanding norm change: An evolutionary game-theoretic approach*. Paper presented at the 16th International Conference on Autonomous Agents and Multiagent Systems, São Paulo, Brazil.
- Frink, D. D., & Klimoski, R. J. (2004). Advancing accountability theory and practice: Introduction to the *Human Resource Management Review* special edition. *Human Resource Management Review*, *14*, 1–17.
- Geeraert, N., Li, R., Ward, C., Gelfand, M. J., & Demes, K. (2017). *A tight spot: How personality moderates the impact of social norms on sojourner adaptation*. Manuscript under review.
- Gelfand, M. J., Jackson, J. C., & Harrington, J. R. (2016, April 27). Trump culture: Threat, fear, and the tightening of the American mind. *Scientific American*. Retrieved from <http://www.scientificamerican.com/article/trump-culture-threat-fear-and-the-tightening-of-the-american-mind/>
- Gelfand, M. J., & Lun, J. (2013). Ecological priming: Convergent evidence for the link between ecology and psychological processes. *Behavioral and Brain Sciences*, *36*, 489–490.
- Gelfand, M. J., Nishii, L. H., & Raver, J. L. (2006). On the nature and important of cultural tightness-looseness. *Journal of Applied Psychology*, *91*, 1225–1244.
- Gelfand, M. J., Raver, J. L., Nishii, L., Leslie, L. M., Lun, J., Lim, B. C., . . . Aycan, Z. (2011). Differences between tight and loose cultures: A 33-nation study. *Science*, *332*, 1100–1104.
- Greenfield, P. M. (2013). The changing psychology of culture from 1800 through 2000. *Psychological Science*, *24*, 1722–1731.
- Grossmann, I., & Varnum, M. E. (2015). Social structure, infectious diseases, disasters, secularism, and cultural change in America. *Psychological Science*, *26*, 311–324.
- Halberstadt, J., Jackson, J. C., Bilkey, D., Jong, J., Whitehouse, H., McNaughton, C., & Zollmann, S. (2016). Incipient social groups: An analysis via in-vivo behavioral tracking. *PLoS ONE*, *11*(3), e0149880.
- Harrington, J. R., Boski, P., & Gelfand, M. J. (2015). Culture and national well-being: Should societies emphasize freedom or constraint? *PLoS ONE*, *10*(6), e0127173.
- Harrington, J. R., & Gelfand, M. J. (2014). Tightness–looseness across the 50 United States. *Proceedings of the National Academy of Sciences USA*, *111*, 7990–7995.
- Harrington, J. R., & Gelfand, M. J. (2017). *Worlds unto themselves: Tightness-looseness and social class*. Manuscript in preparation.
- Herodotus. (1998). *The histories* (R. Waterfield, Trans.). New York, NY: Oxford University Press.
- Jackson, J. (1965). Structural characteristics of norms. In I. D. Steiner & M. Fishbein (Eds.), *Current studies in social psychology* (pp. 301–309). New York, NY: Holt.
- Jackson, J. C., Bilkey, D., Jong, J., Rossignac-Milon, M., & Halberstadt, J. H. (2017a). Strangers in a stadium: Studying group dynamics with in-vivo behavioral tracking. *Social Psychological & Personality Science* doi: <https://doi.org/10.1177/1948550617709112>
- Jackson, J. C., & Gelfand, M. J. (2016). On the evolution of tightness-looseness in cultural ecosystems. *Religion, Brain & Behavior*, *7*, 155–158.
- Jackson, J. C., Gelfand, M. J., Ayub, N., & Wheeler, J. (2017). *Together from afar: Using a diary contact technique to reduce conflict across cultures*. Manuscript under review.
- Jackson, J. C., Gelfand, M. J., & Ember, C. (2017, February). *Ecological threat and the transmission of cultural tight-*

- ness-looseness. Talk given at the American Association for the Advancement of Science annual meeting, Boston, MA.
- Jackson, J. C., Gelfand, M. J., & Fox, A. M. (2016, May). *The temporal signature of cultural tightness-looseness*. Presentation given at the 28th Annual Association for Psychological Science Convention, Chicago, IL.
- Jackson, J. C., Rand, D. G., Lewis, K., Norton, M. I., & Gray, K. (2017b). Agent based modeling: A guide for social psychologists. *Social Psychological and Personality Science*, 8(4), 387–395
- Jacobs, R. C., & Campbell, D. T. (1961). The perpetuation of an arbitrary tradition through several generations of a laboratory microculture. *Journal of Abnormal and Social Psychology*, 62, 649–658.
- John, O. P., Naumann, L. P., & Soto, C. J. (2008). Paradigm shift to the integrative Big-Five trait taxonomy: History, measurement, and conceptual issues. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (pp. 114–158). New York, NY: Guilford.
- Kohn, M. L. (1969). *Class and conformity: A study in values*. Chicago, IL: University of Chicago Press.
- Lane, J. E. (2013). Method, theory, and multi-agent artificial intelligence: Creating computer models of complex social interaction. *Journal for the Cognitive Science of Religion*, 1, 161–180.
- Li, C., Gelfand, M. J., & Kabst, R. (2017, August). Influence of tightness-looseness on cross-border acquisition performance. Paper presented at the annual Conference of the Academy of Management. Atlanta, Georgia.
- Li, R., Gordon, S., & Gelfand, M. J. (2017). Tightness-looseness: A new framework to understand consumer behavior. *Journal of Consumer Psychology*, 27(3), 377–391
- Lomax, A., & Berkowitz, N. (1972). The evolutionary taxonomy of culture. *Science*, 177, 228–239.
- Lun, J., Gelfand, M., & Mohr, R. (2012). *Attitudes toward deviance in tight and loose cultures*. Poster presented at the Culture Preconference at the annual meeting of the Society for Personality and Social Psychology, San Diego, CA.
- Milgram, S. (1963). Behavioral study of obedience. *Journal of Abnormal and Social Psychology*, 67, 371–378.
- Mischel, W. (1968). *Personality and assessment*. Mahwah, NJ: Psychology Press.
- Mischel, W. (1977). The interaction of person and situation. In D. Magnusson & N. S. Endler (Eds.), *Personality at the crossroads: Current issues in interactional psychology* (pp. 333–352). Hillsdale, NJ: Lawrence Erlbaum.
- Mrazek, A. J., Chiao, J. Y., Blizinsky, K. D., Lun, J., & Gelfand, M. J. (2013). The role of culture-gene coevolution in morality judgment: Examining the interplay between tightness-looseness and allelic variation of the serotonin transporter gene. *Culture and Brain*, 1(2–4), 100–117.
- Mu, Y., Han, S., & Gelfand, M. J. (2017). From one brain to many: Gamma interbrain synchrony enables interpersonal coordination under threat. *Social Cognitive and Affective Neuroscience*. doi: 10.1093/scan/nsx093
- Mu, Y., Kitayama, S., Han, S., & Gelfand, M. J. (2015). How culture gets embrained: Cultural differences in event-related potentials of social norm violations. *Proceedings of the National Academy of Sciences USA*, 112, 15348–15353.
- Nowak, A., Gelfand, M. J., Borkowski, W., Cohen, D., & Hernandez, I. (2015). The evolutionary basis of honor cultures. *Psychological Science*, 27, 12–24.
- Nowak, A., Gelfand, M. J., Borkowski, W., & Kruglanski, A. (2017). Autocratic recidivism: Computational models of why revolutions fail. In M. Moaddel & M. J. Gelfand (Eds.), *Values, political action, and change in the Middle East and the Arab Spring* (pp. 271–291). New York, NY: Oxford University Press.
- Pelto, P. J. (1968). The differences between “tight” and “loose” societies. *Society*, 5(5), 37–40.
- Price, R. H., & Bouffard, D. L. (1974). Behavioral appropriateness and situational constraint as dimensions of social behavior. *Journal of Personality and Social Psychology*, 30, 579–586.
- Rentfrow, P. J., Gosling, S. D., & Potter, J. (2008). A theory of the emergence, persistence, and expression of geographic variation in psychological characteristics. *Perspectives on Psychological Science*, 3, 339–369.
- Roos, P., Gelfand, M., Nau, D., & Lun, J. (2015). Societal threat and cultural variation in the strength of social norms: An evolutionary basis. *Organizational Behavior and Human Decision Processes*, 129, 14–23.
- Schaller, M., & Latané, B. (1996). Dynamic social impact and the evolution of social representations: A natural history of stereotypes. *Journal of Communication*, 46(4), 64–77.
- Sherif, M. (1936). *The psychology of social norms*. Oxford, England: Harper.
- Stamkou, E., van Kleef, G. A., Homan, A. C., Gelfand, M. J., van de Vijver, F. J. R., Boer, D., . . . Lee, I. (2016, August). *Rising to power or falling from grace: Collectivism and tightness moderate responses to norm violators*. Presentation at the International Association of Cross-Cultural Psychology, Nagoya, Japan.
- Triandis, H. C. (1972). *The analysis of subjective culture*. Oxford, England: John Wiley.
- Vandello, J. A., & Cohen, D. (1999). Patterns of individualism and collectivism across the United States. *Journal of Personality and Social Psychology*, 77, 279–292.
- van Kleef, G. A., Homan, A. C., Finkenauer, C., Gündemir, S., & Stamkou, E. (2011). Breaking the rules to rise to power: How norm violators gain power in the eyes of others. *Social Psychological & Personality Science*, 2, 500–507.
- van Kleef, G. A., Wanders, F., Stamkou, E., & Homan, A. C. (2015). The social dynamics of breaking the rules: Antecedents and consequences of norm-violating behavior. *Current Opinion in Psychology*, 6, 25–31.
- Witkin, H. A., & Berry, J. W. (1975). Psychological differentiation in cross-cultural perspective. *ETS Research Bulletin Series*, 1975(1), i–100.
- Woodard, C. (2011). *American nations: A history of the eleven rival regional cultures of North America*. New York, NY: Viking.