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Michele J Gelfand and Yoshihisa Kashima

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Michele J Gelfand



University of Maryland, College Park, MD, USA

e-mail: mgelfand@umd.edu

Michele Gelfand is Professor of Psychology and a Distinguished University Scholar Teacher at the University of Maryland, College Park. Gelfand's work focuses on cultural influences on conflict, negotiation, justice, and revenge; workplace diversity and discrimination; and theory and methods in cross-cultural psychology. Her work has been published in outlets such as *Science*, *the Proceedings of the National Academy of Sciences*, *Proceedings of the Royal Society B*, *PLOS 1*, *Psychological Science*, the *Journal of Personality and Social Psychology*, *Journal of Applied Psychology*, *Annual Review of Psychology*, *American Psychologist*, among others.

Yoshihisa Kashima



University of Melbourne, Parkville, Victoria, Australia

e-mail: ykashima@unimelb.edu.au

Culture is central to human sociality. Culture enables humans to coordinate our social actions and to cooperate in large-scale groups in unprecedented ways. To be sure, many species are capable of learning behaviors from other conspecifics; yet the scale and complexity of human culture is unique in the Earth's biosphere. From the ethnic restaurants in your city to the global conglomerates and international institutions like the United Nations, the visible signs of culture are ubiquitous in contemporary life. From the smartphone in your palm to the skyscrapers above, socially transmitted knowledge, skills, and technologies have extended human capabilities to a level that once existed only in the worlds of myths, legends, and science fiction. Human culture, which we have created, transmitted, and cumulated since *Homo sapiens* branched out from other primate species some 100 thousand years ago, has collectively orchestrated the realization of these achievements. And in turn, this humanly constructed world presents itself as the environment to which successive generations of humans will adapt, change, and co-construct. Culture, in short, is essential to the human mind and behavior.

Nonetheless, despite its ubiquity and importance, culture has a history of vicissitudes in psychology [1]. At the field's inception, culture was once integral to psychology, as seen in Wundt's *Völkerpsychologie*. However, as Logical Positivism and its behaviorist counterpart took hold of the main stage, culture and indeed the concept of mind itself were pushed to the periphery of psychology. The Cognitive Revolution of the 1960s brought the mind back in from the cold. But not culture. Indeed, it was in the 1980s when our everyday life began to show the visible signs of the interpenetration of world cultures, that is, globalization, that psychology too began to take notice of culture. Seminal contributions appeared around the 1990s [2–6]. And since then, the volume of publications in psychology pertaining to culture has doubled [7]. Culture, at last, has opened up a new frontier of psychology.

Section overview

In seven sections, this special issue brings together the most recent evidence for the proposition that *culture is essential to human psychology*. We start with an examination of the biological underpinnings of encultured mind in *Cultural Neuroscience*. We then look at dual questions concerning the antecedents and consequences of culture in psychology by reviewing the literatures on the genesis of the encultured mind in *Phylogeny and Ontogeny*, and the work on culture's consequences in three sections, *Culture and Basic Psychological Processes*, *Culture and Group Processes*, and *Culture, Mental Health, and*

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Yoshihisa Kashima is Professor of Psychology at the University of Melbourne. His research focuses on cultural dynamics — the formation, maintenance, and transformation of culture over time, with particular emphasis on culture of sustainability. His writing has appeared in *Psychological Review*, *Psychological Bulletin*, *Journal of Personality and Social Psychology*, *Science*, and *Nature Climate Change*. He was Associate Editor of *Journal of Personality and Social Psychology*, and the President of the International Association for Cross-Cultural Psychology.

Well-being. We then turn to *Cultural Evolution* — the macro-level trends and micro-level processes that drive the formation, maintenance, and transformation of culture over time. We conclude the special issue by providing perspectives on the unfolding cultural dynamics in *Culture in a Globalized World*. We are thrilled to feature this diverse territory in cultural science under one intellectual roof (see [Figure 1](#)).

Section I: Cultural Neuroscience

By revealing the inextricable interdependence of the encultured mind with its biological strata, two papers present recent evidence that culture is essential to human nature. In the first paper on **culture and the brain**, [Shihui Han and Glyn Humphreys](#) review literature showing that self-construal mediates differences in brain activity between East Asians and Westerners. They also show that priming independent or interdependent self-construal shapes people's sensory and cognitive processes. Their review culminates by arguing that self-construal may provide a powerful framework to see cultural differences in brain activity. Next, in their paper on **culture and genetics**, [Shinobu Kitayama, Anthony King, Ming Hsu, Israel Liberzon, and Carolyn Yoon](#) examine well-known cultural differences in independence–interdependence orientation from a genetic point of view. They argue that genetic variants can facilitate plasticity in behavior that leads to the construction of cultural norms in that carriers of certain alleles may be more sensitive to cultural cognition. They substantiate this 'norm sensitivity hypothesis' by examining allelic variants in the dopamine DA pathways, specifically, polymorphisms in the DRD4 gene. They conclude by showing how DRD4 allelic variation can moderate cultural differences through norm sensitivity.

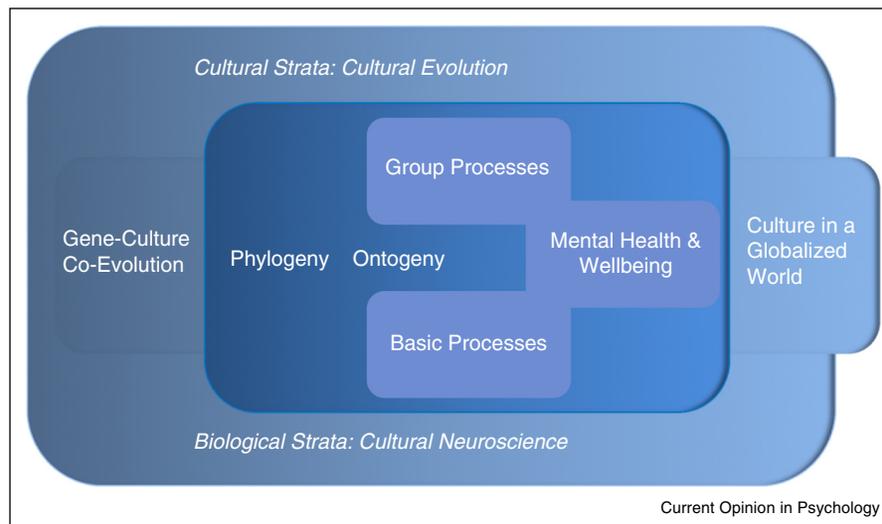
Section II: Phylogeny and Ontogeny of Culture

Culture is enabled by the phylogenetically endowed ability for social teaching and learning, that is, the ability to teach and learn from conspecifics. In the first paper in this section, [Andrew Whiten, Christine Caldwell, and Alex Mesoudi](#) examine the evolutionary basis of social learning on **cultural diffusion in animals and humans**. They present abundant evidence that non-human animals are capable of learning from others, thus possessing a capacity for culture. The authors highlight experimental methods and network-based diffusion analysis as methodological innovations which allow researchers to track the diffusion of behavior at both micro and macro levels within human and non-human animal species. They also review recent developmental and cross-cultural research that has pioneered the study of cultural diffusion in humans.

While acknowledging phylogenetic continuity, [Michael Tomasello](#), in his paper on **cultural learning**, argues for a significant phylogenetic discontinuity between human and non-human primate species. Human cultural transmission is unique for its 'ratchet effects', wherein culture builds on itself and accumulates over time. He shows the existence of uniquely human psychological proclivities surrounding cultural transmission by reviewing developmental and comparative research. He shows that children over-imitate, conform, and punish non-conformist actions. Paired with evidence of an apparently unique human tendency to instruct their peers and young, these cognitive and motivational tendencies enable a uniquely human capacity for cumulative cultural evolution.

Given the social nature of cultural transmission, how humans interact with other conspecifics throughout their lifespan is critical for cultural ontogenesis. [Barbara Rogoff](#) reviews research on **cultural participation**, namely,

Figure 1



Advances in the science of culture and psychology featured in this special issue.

individuals' engagement in dynamic cultural processes in the social environment. She regards the cultural participation perspective as a process approach to studying individuals in cultures, where people participate in the practices of previous generations, while adding to and modifying these practices themselves. Through this holistic conceptualization of culture, one can move beyond the false equation of culture with race, ethnicity, or other such markers. Rogoff argues that this framework marks a paradigm shift in cultural psychology, wherein culture is seen as less static compared to previous frameworks, which has profound implications not only for developmental psychology but also for education and interventions.

Further highlighting the significance of the social in cultural ontogenesis, Heidi Keller reviews research on **culture and attachment**. She presents evidence that subsistence patterns, household setups, and other socioecological factors shape the caregiver relationship and the number of significant interpersonal relationships that a child will develop. She also discusses cultural factors that shape childhood socialization and resultant differences in childhood rearing practices that vary in their autonomy and constraint. Overall, Keller argues that attachment relationships can extend far beyond the mother-child relationship, and that the sociocultural environment shapes the nature and diversity of children's attachment relationships in particular, and socio-emotional development more generally.

In this section's final paper, Patricia Greenfield examines the interaction between **social change, cultural evolution, and human socialization**. In support of her theory that links social change to cultural change and human

development, she cites evidence that as social environments become more urban and embedded in monetary economy, cultural values and learning environments adapt, which produce inter-linked changes at multiple levels culminating in the transformation of human development and social behavior. Most predominantly, modernization results in more individualist, egalitarian cultures with more autonomy-supportive developmental environments and childrearing that emphasizes formal education, thus producing an overall independent outlook in psychological processes.

Section III: Culture and Basic Psychological Processes

In this section, we first examine recent advances in the research on cultural influences on motivation, cognition, and emotion. Hazel Markus provides an overarching perspective in her **cultural grounding of motivation**. She begins by contrasting culturally divergent models of motivation: one that emphasizes internality as its locus and one that recognizes the importance of external sources. She then reviews literature on how motivation is conceptualized across cultures: Middle-class Americans (*Western Educated Industrialized Rich Democratic*, or WEIRD) often see motivation as originating within a person whereas much of the rest of the world (East Asians and non-WEIRD) often see motivation as potentially originating from norms and expectations. She concludes by emphasizing the need to study diverse populations in an effort to understand cultural conceptions of motivation and power.

Batja Mesquita, Michael Boiger, and Jozefien De Leersnyder next review research on **culture and emotion**, showing that emotions emerge in cultures to facilitate

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performance on culturally central tasks and to attain culturally normative states. This results in important differences across cultures in which emotions are considered normative — information that is translated to people early via parenting practices. Furthermore, cultures also vary in what they consider an emotion, and the stimuli that elicit emotion. Mesquita and her colleagues conclude by reviewing research on ‘emotional acculturation,’ finding that individuals can update their emotions based on changing cultural circumstances.

Two papers present complementary views on culture and cognition. First, [Li-Jun Ji and Suhui Yap](#) explore recent advances in our understanding of how **culture shapes cognition and decision making** and how these differences originate. They relate classic research on analytic and holistic cognitive styles to differences in facial expressions, object categorization, memory, and heuristic content. They discuss the social orientation hypothesis — cultures differing in social orientation differ in cognition as well — as a likely explanatory framework for culture-bound cognition. Finally, they review research on how differences in cognition across cultures impacts decision-making in face-to-face and online circumstances.

In the next paper [Matsumi Imai, Junko Kanero, and Takahiko Masuda](#) make an ambitious attempt to lay a foundation for research on the interplay between **culture, language and thought**. While examining cognitive and neural evidence for deeply ingrained and yet highly task-specific effects of language on cognition, cognitive psychology neglects the impact of culture on language use. At the same time, while stressing the importance of the acquisition of culturally transmitted knowledge on cognitive development, developmental psychology generally neglects the impact of culture on social transmission. And while examining cultural diversity in orientations to values and knowledge, cultural psychology has yet to consider the dynamic interplay between culture, language, and thought. They conclude by emphasizing a need to construct common ground that enables cognitive, developmental, and cultural psychologists to collaborate.

Personality and values are two of the enduring foci of research in culture and psychology. In his paper on **culture and personality**, [Timothy Church](#) reviews how the Five Factor Model (FFM) of personality is influenced by culture. He points to substantial evidence that the FFM replicates well in cultures that emphasize formal education, but does not replicate in less formally educated cultures. In response to this poor replication, researchers are increasingly using emic models of personality to demonstrate culture-specific dimensions of personality that are distinct from the original five factors. Church also reviews research on trait comparisons across cultures, finding that geographical differences influence expressions of Big Five traits.

[Ronald Fischer and Diana Boer](#) next present a framework to understand the influence of **cultural values** on human behavior. They describe factors that affect the internal structure of values across cultures, value development and change in individuals and societies, and the relationship of values to behaviors. Throughout the review, they illustrate that values reflect contextual constraints and affordances in the environment, suggesting that values function as broadly adaptive psychological structures.

Two papers review the recent developments in research on deontic psychological processes—norms and morality. [Michele Gelfand and Joshua Conrad Jackson](#) review the emerging science of **cultural norms**. They first outline the unique nature of human normative behavior. Next, they address when people will follow norms, and when they will deviate from them. Third, they discuss the ecological origins of norm content and strength. They conclude the paper by highlighting the future directions for research on cultural norms, and the applied importance of research on cultural norms for positive culture change. The final paper in this section, by [Jesse Graham, Peter Meindl, Erica Beall, Kate Johnson, and Zhang Li](#), reviews **culture and morality**. They explain cultural differences in morality in terms of dominant values (e.g. honesty, collectivism) and norms (e.g. cooperation). More distally, they invoke ecology (e.g. pathogen prevalence, ecological threat) as foundational to morality. They also highlight kinship practices and reputation maintenance as cultural influences on what comprises moral behavior.

Section IV: Culture and Group Processes

Group living is fundamental to human sociality. In the literature on culture and psychology, research on group processes has largely focused on the functioning of non-kin groups, particularly in organizational settings. [Brian Gunia, Jeanne Brett, and Michele Gelfand](#) first focus on **culture and negotiation** as a fundamental mechanism driving group processes. They evaluate intracultural research highlighting cultural differences in negotiation but also integrate this research into a theoretical framework in which psychological inputs (cognition, goals, affect) interact with situational factors to generate culturally divergent negotiation processes, resulting in different outcomes. They highlight the growing literature on *inter*-cultural negotiation, and the factors that facilitate or hinder their success.

Groups in organizational settings typically embed asymmetric social influence processes that structurally advantage a leader relative to other members of a team. In their paper on **culture and leadership**, [Paul Hanges, Juliet Aiken, Joo Park, and Junjie Su](#) highlight new research on cultural differences in leadership behavior and effectiveness. Although cultural differences in leadership style have been examined in the past, recent work suggests potential mechanisms of cultural differences

in leadership effectiveness. Expectations about leadership styles differ across cultures, and it is the fit between a leader's style and the cultural expectation that may enhance the overall performance of the team. At the same time, the rapidly globalizing work environment has prompted the emergence of theorizing in global leadership which marks a new frontier of research in this area.

Complementing the leadership process is the psychology of team performance. [Brad Kirkman](#), [Debra Shapiro](#), [Shuye Lu](#), and [Daniel McGurrian](#) review the recent literature on **culture and teams**. In addition to the investigation of the effect of culture and cultural diversity on team processes and performance, recent work reflects the rapidly changing workplace and investigates the performance of the global virtual teams in which interaction occurs within a virtual space among team members physically distributed around the globe. Echoing and complementing the literature on global leadership, the review notes the greater autonomy conferred to global virtual teams, which derives from the leadership style that empowers teams to act relatively autonomously. Culture's role in this emerging organizational dynamics is critically evaluated in this review.

Section V: Culture, Mental Health, and Wellbeing

If culture is a mechanism that facilitates human adaptation, one must ask the fundamental question, 'Does culture influence what it means to be adaptive?' [Shige Oishi](#) and [Elizabeth Gilbert](#) review the fast-growing literature on **culture and happiness**. They begin by recognizing cross-cultural and cross-temporal differences in conceptions of happiness (e.g., good fortune in Greece and East Asia and emotional pleasure in South and North America). Other factors differentially predict happiness across diverse cultures, ranging from relational mobility (USA) to status (Japan). The authors also discuss within-culture variation in happiness by reviewing research that contrasts predictors of happiness across the American states. They close by pointing out limitations to research on happiness and culture and suggesting future directions.

If culture affects psychological wellbeing, it can affect mental health as well. [Laurence Kirmayer](#) and [Andrew Ryder](#) review literature that advances our understanding of **culture and psychopathology**. They note a shift in research from an essentialist view of culture in terms of stable and stereotypic personality traits, to a more nuanced ecosocial view of culture as a system that a person interacts with. This view takes into account cultural influences over time and across early development, cultural diversity and acculturation processes, and cultural modes of interaction as shaping symptom expression. Kirmayer and Ryder discuss this literature in light of recent progress in clinical diagnosis and etiology, and conclude by discussing future directions in culture and psychopathology.

[Cindy Huang](#) and [Nolan Zane](#) next review research on **culture and psychotherapy** and discuss the need for culturally sensitive mental health initiatives. They begin by reviewing evidence that minorities are significantly less likely to use and benefit from mental health interventions than are majorities. They emphasize the importance of culturally tailored therapies to maximize the usage of mental health services amongst minorities, and racially matched therapist-client dyads. They also discuss the mental health risks that minorities face as they navigate dual identities in new countries.

Section VI: Cultural Evolution

In their paper on **culture-gene coevolution**, [Cristina Moya](#) and [Joseph Henrich](#) highlight the mutual influence of genes and culture in explaining human evolution. They review how cultural elements like alcohol production, herding, high-altitude farming, and milk production have shaped genetic selection. Against this culture-gene co-evolutionary framework, cultural learning, language, and ethnic group reasoning are interlinked in an important way to animate intergroup processes. In particular, cultural learning provides a basis for language evolution, and culture and language co-evolved, and therefore, the culture-language system was a significant part of the environment in which humans evolved. Because of this, symbolic cultural markers and language related markers are used to essentialize a category of people, thereby driving the intergroup dynamics.

In their paper on **culture and the evolution of language**, [Monica Tamariz](#) and [Simon Kirby](#) complement Moya and Henrich's review by examining the cultural emergence of linguistic structures. The authors focus on experimental research on communication, and in particular, research where people must use different types of signals to convey their referential meanings. This emerging body of literature shows that some of the uniquely linguistic characteristics such as combinatoriality (elementary signals are combined to produce complex signals) and compositionality (elementary signal-meaning mappings are combined to compose a new meaning) can emerge out of one-way, two-way, or multi-way communications between individuals within a group.

Next, [Toshio Yamagishi](#) and [Hirofumi Hashimoto](#) discuss **niche construction in human culture**. They begin by reviewing evidence that institution building is at the core of niche construction. These institutions can either be collectivist (producing social order through in-group favoritism) or individualist (producing social order through legal systems that apply to everyone regardless of group membership). People adopt styles of self-construal to help them navigate these institutions effectively, and this affects variations in institutional trust in different cultures. The authors' close by reconciling this perspective with current work in socioecological psychology,

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gene-culture co-evolution perspectives, and intersubjective approaches to culture.

Highlighting the fundamental role of the social transmission of cultural information in the genesis of culture, [Yoshi Kashima](#) reviews the recent empirical research on **cultural dynamics**—the formation, maintenance, and transformation of culture over time. He reviews diverse empirical findings pertaining to four interactive subprocesses: Production (translating memory representations to observable forms), grounding (establishing mutual understanding between senders and receivers of cultural information), interpretation (translating grounded information into memory), and memory. He notes that human cognitive and communicative processes appear to be attuned to the processing of cultural information likely instrumental for the individual's survival and the coordination for collective action, and that a result is cognitive and communicative mechanisms that are highly adapted and specialized to the local cultural niche.

In the final paper in this section, [David Sloan Wilson](#) advocates the possibility of **intentional culture change**. He argues that while evolution is blind and lacks intentionality, cultural evolution can be influenced by intentionality. This process occurs through the presence of human symbolic thought, in which humans can create cultural systems that exist outside the proximal environment. This process is also embedded in multi-level selection, whereby cultural evolution can steer individual-level decision-making.

Section VII: Culture in a Globalized World

In this final section of this special issue, we highlight the dynamic, and at times volatile, cultural processes unfolding on the global stage today. [Chi-Yue Chiu and Letty Kwan](#) provide a broad overview of the burgeoning field of **culture and globalization**. They focus on how the impact of globalization is perceived (in terms of growing competence and decreasing warmth), the psychological consequences of globalization (joint-cultural priming, where contextual cues determine the influence of a cultural prime), and responses to the inflow of global culture (exclusionary policies and collective action).

In such a globalized world, forms of culture become diverse. [Adam Cohen and Michael Varnum's](#) review on **religion, region, and class** powerfully drives this message home. They review evidence that lower class functions similarly to other collectivistic groups, and orients people to a holistic and interdependent cognitive style. They also elucidate how cross-cultural differences emerge from geographic regional differences. Finally, they consider religious culture as it influences social norms and moral values as well as intra and intercultural trust.

Without a doubt, one salient aspect of globalization is the greater speed and volume of human

movements across the world. In this context, acculturation and cultural identity processes are critical. [Colleen Ward and Nicolas Geeraert](#) review research on **acculturation**. They begin by introducing a process model of acculturation, wherein stressors derived from intercultural differences underlie acculturation success. They then highlight methodological innovations including latent class growth analyses and multilevel modeling that offer better insight into the acculturation process. They also review the influence that familial, organizational, and societal context has on acculturation. Cultural identity processes are next examined by [Ying Yi Hong, Siran Zhan, Michael Morris, and Verónica Benet-Martínez](#), who review a growing emphasis on **multicultural identities** in cultural psychology. Previous models operated with a hydraulic model of cultural identity, but new research has confirmed the presence of bicultural individuals and marginal individuals, who have no defined cultural identity. They also review evidence of conflicting cultural identities—wherein someone's personal cultural identity does not match the way that they are treated. They close by recognizing the organizational influence on growing multiculturalism, and residential mobility.

A significant driver of cultural processes in a globalized world is human consumption; a disturbing consequence is its impact on the natural environment. [Sharon Shavitt and Hyewon Cho](#) examine **culture and consumer behavior**, with an emphasis on horizontal-vertical individualism-collectivism. They review literature finding that vertical cultures generally have an advertising focus on status and upward social mobility, while ads in horizontal cultures tend to emphasize personal choice and harmony. These forces also influence charity and giving, and relationships with superiors. In the final paper, in this *Current Opinions*, [Tacio Milfont and Wesley Schultz](#) focus on how **culture affects human behavior toward the natural environment**. They show that humans can take various orientations to nature that influences how they interact with their natural environment. There are cross-cultural differences in environmental orientations, such that differences in cultural values and normative social influence shape human-environment interactions. The authors conclude by discussing cultural evolution and emotional experience as two additional but not-well-studied factors in how humans interact with their environment.

Conclusion

Culture is truly becoming a foundational topic in psychological science. Advances in innovative and cutting edge research are continuing not only within the traditional boundary of psychology, but in adjacent disciplines of anthropology, biology, linguistics, and psychiatry. In this special issue, these diverse lines of research have been brought together for the first time under one intellectual roof. Each of the articles in this special issue focuses on

advances in a single domain, but in combination they collectively present the novelty, dynamism, and diversity of the entire field of culture and psychology. We hope this special issue can act as a catalyst for further developments in the basic theory and research, and for applying cultural science to promote positive social change around the globe.

Acknowledgement

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