# Singapore Management University

# Institutional Knowledge at Singapore Management University

Research Collection School of Social Sciences

School of Social Sciences

1-2019

# The psychology of pro-environmental support: A global problem in need of global solutions

Kimin EOM

Singapore Management University, kimineom@smu.edu.sg

Viki PAPADAKIS

David K. SHERMAN

Heejung S. KIM

Follow this and additional works at: https://ink.library.smu.edu.sg/soss\_research



Part of the Experimental Analysis of Behavior Commons, and the Place and Environment Commons

### Citation

EOM, Kimin, PAPADAKIS, Viki, SHERMAN, David K., & KIM, Heejung S.. (2019). The psychology of proenvironmental support: A global problem in need of global solutions. Current Directions in Psychological Science, 28(5), 490-495.

Available at: https://ink.library.smu.edu.sg/soss\_research/3117

This Journal Article is brought to you for free and open access by the School of Social Sciences at Institutional Knowledge at Singapore Management University. It has been accepted for inclusion in Research Collection School of Social Sciences by an authorized administrator of Institutional Knowledge at Singapore Management University. For more information, please email libIR@smu.edu.sg.



# The Psychology of Proenvironmental Support: In Search of Global Solutions for a Global Problem

Current Directions in Psychological Science 1–6 © The Author(s) 2019 Article reuse guidelines: sagepub.com/journals-permissions DOI: 10.1177/0963721419854099



# Kimin Eom<sup>1</sup>, Viki Papadakis<sup>2</sup>, David K. Sherman<sup>2</sup>, and Heejung S. Kim<sup>2</sup>

<sup>1</sup>School of Social Sciences, Singapore Management University; and <sup>2</sup>Department of Psychological and Brain Sciences, University of California, Santa Barbara

#### **Abstract**

We review research that provides a sociocultural perspective on proenvironmental support. Despite the increasing volume of psychological research on proenvironmental action, there has been a relative dearth of consideration of sociocultural contexts, which poses critical theoretical and practical limitations to understanding and fostering proenvironmental actions across diverse populations. The sociocultural perspective posits that the primary motives driving action are context dependent. Building on this perspective, our research examines significant divergence in key determinants of proenvironmental support, focusing on several sociocultural variables, including national culture (individualism-collectivism), socioeconomic status, and religion. This program of research shows that personal environmental beliefs more directly lead to proenvironmental support in sociocultural contexts that prioritize personal motives over social motives. In contrast, in contexts that prioritize social motives, social influence becomes a more important predictor of proenvironmental support. Solving environmental challenges requires leveraging psychological diversity to motivate people across the globe.

## **Keywords**

environmental behavior, culture, socioeconomic status, religion, environmental belief

The most recent United Nations report highlighted the dire threat of climate change and the urgent need for action (Intergovernmental Panel on Climate Change, 2018). Climate change is already increasing the risks of extreme weather events. More frequent and harsher hurricanes, heat waves, droughts, and wildfires have been observed across the world, destroying lives and altering ecosystems. Climate change and environmental problems are rooted in human activities across the globe, and thus the solutions must lie in successful revision of human actions toward sustainability in all parts of the world.

Psychological science is perfectly positioned to make a significant contribution in this regard by providing a psychological understanding of proenvironmental action and policy support (Stern, 2011). Indeed, an increasing volume of psychological research has provided empirical findings and theoretical frameworks for a better understanding of the psychological processes related to proenvironmental support (see Gifford, 2014,

for a review). Yet most of this research has been focused on individual-level processes, with scarce consideration of systematic diversity of the processes across sociocultural contexts (see Clayton et al., 2016; Pearson, Schuldt, & Romero-Canyas, 2016, for discussions; see Milfont & Schultz, 2016; Tam & Chan, 2017, for recent exceptions), limiting a full understanding of the psychology of proenvironmental action and the implementation of effective and culturally informed interventions and policies.

#### **Corresponding Authors:**

Kimin Eom, School of Social Sciences, Singapore Management University, Level 4, 90 Stamford Rd., Singapore 178903 E-mail: kimineom@smu.edu.sg

Heejung S. Kim, Department of Psychological and Brain Sciences, University of California, Santa Barbara, Santa Barbara, CA 93106-9660 E-mail: heejung.kim@psych.ucsb.edu 2 Eom et al.

Abundant empirical evidence demonstrates that sociocultural contexts influence why and how humans make judgments and act in systematic ways (D. Cohen & Kitayama, 2019). This perspective underscores potentially critical theoretical and practical limitations of the current literature, which does not fully incorporate sociocultural factors. In our recent research, we have sought to understand sociocultural variation in primary motives instigating support for proenvironmental actions. The specific focus of our research has been on the role of environmental beliefs (i.e., individuals' environmental attitudes, environmental concerns, and climate-change beliefs) as precursors of support for proenvironmental action. Through a series of research projects, we found that diverse forms of sociocultural variables predictably moderate how strongly individuals' proenvironmental support is driven by personal beliefs and social influence.

In our research, we have focused on three dimensions of sociocultural contexts: cultural values of individualismcollectivism, socioeconomic status, and religion. Each dimension has been well documented as a powerful source of cultural influence in psychology (A. B. Cohen, 2009). These different forms of culture, although highly divergent in their characteristics, similarly affect how people prioritize personal versus social motives. They do so by fostering or hindering the worldview that individuals either could (e.g., on the basis of more or less resources) or should (e.g., on the basis of different cultural values or high or low religious conviction) have freedom and control to act on their personal volition. This sense of control, in turn, influences the psychological bases of behavior (Kim & Lawrie, 2019). When contexts afford a sense of personal agency and control, individuals are highly motivated to express their own attitudes, values, and emotions, and thus these internal attributes become central determinants of decision making and action. In contrast, when contexts emphasize the need for interdependence and social coordination, people are strongly motivated to fit in with social expectations and demands. Consequently, factors such as social norms are central determinants of decision making and action (Kim & Lawrie, 2019). Our analysis offers insight into why changes in attitudes, beliefs, and knowledge about environmental problems do not necessarily lead to behavioral change as well as how to design culturally informed policies and interventions for diverse populations.

# Cultural Values of Individualism-Collectivism

Individualism-collectivism is a cultural dimension that influences the relative value of personal versus social motives (Triandis, Bontempo, Villareal, Asai, & Lucca,

1988). In individualistic cultures, people are viewed as autonomous entities who freely express themselves and pursue their own goals. Therefore, there is a cultural emphasis on asserting one's personal attitudes, beliefs, and emotions through actions (Kim & Sherman, 2007; Markus & Kitayama, 2003; Riemer, Shavitt, Koo, & Markus, 2014). In contrast, collectivistic cultures encourage individuals to be good group members who contribute to collective goals and often yield their own volition to achieve group goals more efficiently (Morling, Kitayama, & Miyamoto, 2002). As a consequence, individuals' actions are driven more strongly by the desire to fit in with social expectations and demands (Kim & Markus, 1999).

Our research has found significant national variation in how strongly individuals' concerns about environmental crises predict their support for proenvironmental actions and policy (Eom, Kim, Sherman, & Ishii, 2016; see also Tam & Chan, 2017, who found similar results using a different international data set). Specifically, through an analysis of data from 47 countries (using the World Value Survey Wave 5), we found that environmental concerns were associated more strongly with participants' willingness to give part of their income to environmental causes in individualistic than in collectivistic cultures (Eom et al., 2016, Study 1; see Fig. 1). A follow-up study contrasting European Americans and Japanese provided converging evidence in a proximate and personal domain of consumer decision making. Personally held concerns about the environment significantly predicted choices of proenvironmental products among European Americans (who are from a more individualistic culture) but not among Japanese (who are from a more collectivistic culture). In contrast, the choices of proenvironmental products among Japanese were more in line with the perceived prevalence of proenvironmental behavior in their own society (Eom et al., 2016, Study 2). Together, these findings suggest that proenvironmental decision making in individualistic cultures is more dependent on environmental attitudes, whereas proenvironmental decision making in collectivistic cultures may be more dependent on social expectations and norms.

## Socioeconomic Status (SES)

The different level of resources available to high-versus low-SES people shapes the relative importance of their personal versus social motives. In higher SES contexts, individuals have greater social and economic resources and therefore more control over attaining personally desired outcomes. Therefore, direct expression of internal self-attributes through actions is more viable and common (Kraus & Stephens, 2012; Snibbe & Markus, 2005). In contrast, in lower SES contexts, limited resources

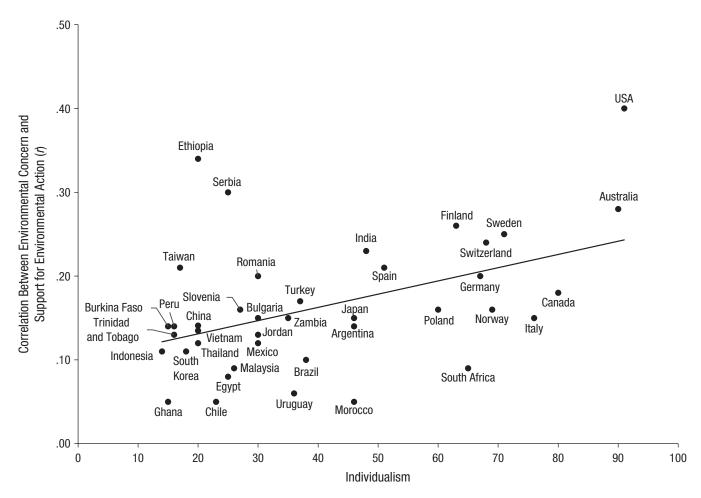


Fig. 1. Scatterplot (with best-fitting regression line) showing national variation in correlation between environmental concern and support for proenvironmental actions as a function of national-level individualism. Results reprinted from Eom, Kim, Sherman, and Ishii (2016, Study 1).

reduce individual autonomy and control in people's lives, and thus directly expressing internal aspects of the self is less viable and common. Rather, collaboration and coordination with other people (especially in-group members) is crucial to survive and thrive (Kraus & Stephens, 2012; Na, McDonough, Chan, & Park, 2016; Stephens, Markus, & Townsend, 2007).

Our research has found reliable differences between low- and high-SES groups in how strongly environmental beliefs are associated with support for proenvironmental action (Eom, Kim, & Sherman, 2018). Personal beliefs about climate change predicted proenvironmental support, such as support for proenvironmental policies and donation to a proenvironmental organization, more strongly among high- than low-SES individuals. This SES difference stems from the difference in a general sense of control over life outcomes between high-and low-SES individuals. When participants were experimentally instructed to relive a past life event when they felt in control, the SES difference was eliminated; when control was psychologically activated, low-SES individuals showed increased willingness to perform

proenvironmental behaviors consistent with their climatechange beliefs to the same extent as high-SES individuals (Eom et al., 2018, Study 3). We also found that among college students from a lower SES family background, willingness to make donations to a local campus environmental organization was significantly predicted by perceived prevalence of proenvironmental behavior among family and friends but not by personal climatechange beliefs (Eom et al., 2018, Study 4). Thus, in a manner similar to collectivism, lower SES contexts seem to increase the psychological importance of perceived norms about environmental behavior in predicting proenvironmental action.

## Religion

Religion shapes psychological tendencies by providing a central foundation for moral judgment (see A. B. Cohen, 2015, for a review). One common message in many religions is that believers should not follow their own personal desires and interests. For example, the apostle Paul states in the Bible that after becoming a

4 Eom et al.

believer, "I no longer live, but Christ lives in me" (Galatians 2:20). The Buddha also teaches "First remove I, that's ego, then remove want, there's desire" as the way to find happiness in life (Carus, 1997).

As exemplified above, self-expression of one's personal attitudes and beliefs is not a prioritized goal in religious minds (Sasaki & Kim, 2011). This deemphasis on self-expression in religion influences what primarily drives action. Our research has found that how strongly environmental beliefs predict proenvironmental action depends on religiosity (Eom, Saad, & Kim, 2019). Using international data from 32 countries (International Social Survey Programme, 2010; ISSP Research Group, 2019), we found that religiosity, both at the individual and national levels, moderated the association between personal awareness of environmental issues and proenvironmental action. Environmental awareness predicted proenvironmental action less strongly among religious than less religious people on an individual level as well as a national level (i.e., nations consisting of higher religious individuals on average). A follow-up study shed light on an underlying psychological mechanism; belief in an omnipotent (i.e., all-powerful) god explained the weaker association between environmental awareness and proenvironmental action among religious people. The idea that a supernatural agent, rather than the self, controls events in the world may decrease the motivation of individuals to have their personal beliefs guide proenvironmental action (cf. Kay, Whitson, Gaucher, & Galinsky, 2009).

As religious cultures accentuate a tightly bound community and parochialism (Graham & Haidt, 2010; Norenzayan & Shariff, 2008), religion may increase the importance of social motives in determining proenvironmental action. That is, it is possible that religious individuals are more sensitive to norms within their religious group in making decisions regarding their environmental behavior and policy support. Systematic empirical research is needed to examine this possibility. It is also important to note that social motives may not always involve other people. The effort to fulfill an almighty god's orders and expectations may be a specific form of social influence from an external agent that motivates religious individuals. For example, the Christian belief in environmental stewardship—the belief that humans are responsible for the environment given by God—is particularly relevant in that regard, and research has indeed found stewardship to increase proenvironmental engagement (Sherkat & Ellison, 2007; Wardekker, Petersen, & van der Sluijs, 2009). A sense of social responsibility (to God) seems to motivate strongly religious people to take care of the environment.

# **Implications for Policymaking and Interventions**

A Pew Research Center 2015 survey of 40 nations found that majorities of people in all nations around the world agreed that climate change is a serious problem (Wike, 2016). And in the United States, across different cultural, socioeconomic, and political groups, people report that they believe climate change is occurring and poses a major threat (Howe, Mildenberger, Marlon, & Leiserowitz, 2015; Van Boven, Ehret, & Sherman, 2018). Yet there is a persistent gap between people's awareness and concern about environmental problems and their proenvironmental actions. This presents a major challenge to making significant progress toward an environmentally sustainable society (Gifford, 2011).

Our research underscores the importance of sociocultural factors. Given the findings in this review, the limited effectiveness of the widely used information strategies targeting environmental attitudes and awareness on behavioral change (Abrahamse, Steg, Vlek, & Rothengatter, 2005) may be in part due to the heterogeneity across groups. Targeting attitudes and awareness may be relatively more effective among groups prioritizing personal motives, such as individualistic, high-SES, and nonreligious groups. In contrast, approaches centered on social influence, including changing perceived and actual social norms regarding environmental behavior, may be more effective among groups prioritizing social motives, such as collectivistic, low-SES, and religious groups. Little data are available about the variability in the effectiveness of these distinct strategies across sociocultural groups. The current review highlights the need for the field to pursue experimental examinations of the effectiveness of different strategies across populations. Such knowledge will offer a more realistic assessment of the utility of different approaches, informing the selection of interventions and policy tools.

Our framework contrasts distinct sociocultural groups and related primary precursors of environmental action (environmental beliefs vs. social norms). We urge caution, however, against overly essentialist thinking in the application of this framework. The relative forces of environmental beliefs and social norms in driving environmental action are situationally dynamic and malleable (e.g., as demonstrated in our experiment in which sense of control was manipulated; Eom et al., 2018). Given that, it would be prudent not to simply select an informational strategy (as often done currently) or a social-norm strategy. Although in our research, people in individualistic cultures and those high in SES contexts did not base their own environmental actions on their general perceptions of others'

proenvironmental tendencies, the effectiveness of social norms has been well established as an intervention tool to change specific behaviors (Schultz, Nolan, Cialdini, Goldstein, & Griskevicius, 2007; see Eom et al., 2016, for a discussion). Thus, policymakers and activists are advised to use both informational and social-norm approaches in conjunction, perhaps with differential balances depending on the characteristics of communities.

We also note that although our discussion is centered on environmental issues, the current framework has broader implications. Our research shows that collectivism and religiosity moderate the link between feelings of disease vulnerability and xenophobic tendencies (Chuang, Eom, & Kim, 2019; Kim, Sherman, & Updegraff, 2016). Both the generalizability across different social issues and boundary conditions of the current framework should be examined in future research. For example, investigating whether the process is similar across different religious groups that vary in the importance of stewardship could be fruitful.

Policies and interventions are built on implicit assumptions about the ways in which behavior operates. It is an assumption that people act on their beliefs or that people act in their economic self-interest, and these assumptions determine how policymakers and practitioners endeavor to change behavior. The current review suggests that relevance of these assumptions depends on sociocultural contexts and contextdependent goals and motives. When policies and interventions fail to capture the reality of how behavior operates, their effectiveness suffers. An understanding of cultural minds needs to inform how to design and implement policies and interventions to cope with the global problem of environmental crises. To solve this global problem, humanity needs to seek global answers informed by a cultural model of behavior.

#### **Recommended Reading**

- Eom, K., Kim, H. S., Sherman, D. K., & Ishii, K. (2016). (See References). An empirical study that demonstrates crosscultural variation in psychological predictors of proenvironmental support using large cross-cultural data.
- Gifford, R. (2014). (See References). A comprehensive review on key findings and issues in environmental psychology.
- Milfont, T. L., & Schultz, P. W. (2016). (See References). A highly accessible and concise review on culture and environmental attitudes and behavior.
- Pearson, A. R., Schuldt, J. P., & Romero-Canyas, R. (2016). (See References). A clearly written review that lays out a multilevel model for psychological science on climate change and environmental issues.
- Tam, K.-P., & Chan, H.-W. (2017). (See References). An empirical study that identifies multiple societal factors

moderating the association between environmental concern and proenvironmental behavior.

#### **Action Editor**

Randall W. Engle served as action editor for this article.

# **Declaration of Conflicting Interests**

The author(s) declared that there were no conflicts of interest with respect to the authorship or the publication of this article.

## **Funding**

This research was funded by National Science Foundation Grant BCS-1823824.

#### References

- Abrahamse, W., Steg, L., Vlek, C., & Rothengatter, T. (2005). A review of intervention studies aimed at household energy conservation. *Journal of Environmental Psychology*, *25*, 273–291. doi:10.1016/j.jenvp.2005.08.002
- Carus, P. (1997). *The gospel of Buddha* (18th ed.). Chicago, IL: Open Court.
- Chuang, R. Y., Eom, K., & Kim, H. S. (2019). *Religion, social connectedness, and xenophobic responses to Ebola*. Manuscript in preparation.
- Clayton, S., Devine-Wright, P., Swim, J., Bonnes, M., Steg, L., Whitmarsh, L., & Carrico, A. (2016). Expanding the role for psychology in addressing environmental challenges. *American Psychologist*, 71, 199–215. doi:10.1037/ a0039482
- Cohen, A. B. (2009). Many forms of culture. *American Psychologist*, 64, 194–204. doi:10.1037/a0015308
- Cohen, A. B. (2015). Religion's profound influences on psychology: Morality, intergroup relations, self-construal, and enculturation. *Current Directions in Psychological Science*, *24*, 77–82. doi:10.1177/0963721414553265
- Cohen, D., & Kitayama, S. (2019). *Handbook of cultural psy-chology* (2nd ed.). New York, NY: Guilford Press.
- Eom, K., Kim, H. S., & Sherman, D. K. (2018). Social class, control, and action: Socioeconomic status differences in antecedents of support for pro-environmental action. *Journal of Experimental Social Psychology*, 77, 60–75. doi:10.1016/j.jesp.2018.03.009
- Eom, K., Kim, H. S., Sherman, D. K., & Ishii, K. (2016). Cultural variability in the link between environmental concern and support for environmental action. *Psychological Science*, *27*, 1331–1339. doi:10.1177/0956797616660078
- Eom, K., Saad, C. S., & Kim, H. S. (2019). Religiosity moderates the link between environmental awareness and support for pro-environmental action: The role of belief in a controlling god. Manuscript in preparation.
- Gifford, R. (2011). The dragons of inaction: Psychological barriers that limit climate change mitigation and adaptation. *American Psychologist*, *66*, 290–302. doi:10.1037/a0023566

6 Eom et al.

Gifford, R. (2014). Environmental psychology matters. Annual Review of Psychology, 65, 541–579. doi:10.1146/annurevpsych-010213-115048

- Graham, J., & Haidt, J. (2010). Beyond beliefs: Religions bind individuals into moral communities. *Personality and Social Psychology Review*, 14, 140–150. doi:10.1177/10888 68309353415
- Howe, P. D., Mildenberger, M., Marlon, J. R., & Leiserowitz, A. (2015). Geographic variation in opinions on climate change at state and local scales in the USA. *Nature Climate Change*, 5, 596–603. doi:10.1038/nclimate2583
- Intergovernmental Panel on Climate Change. (2018). *Global warming of 1.5°C*. Retrieved from http://www.ipcc.ch/report/sr15/
- ISSP Research Group. (2019). *International Social Survey Programme: Environment III ISSP 2010 (ZA5500 Version 3.0.0)* [Data file]. Cologne, Germany: GESIS Data Archive. doi:10.4232/1.13271
- Kay, A. C., Whitson, J. A., Gaucher, D., & Galinsky, A. D. (2009). Compensatory control: Achieving order through the mind, our institutions, and the heavens. *Current Directions* in *Psychological Science*, 18, 264–268. doi:10.1111/ j.1467-8721.2009.01649.x
- Kim, H. S., & Lawrie, S. I. (2019). Culture and motivation. In D. Cohen & S. Kitayama (Eds.), *Handbook of cultural psychology* (2nd ed., pp. 268–291). New York, NY: Guilford Press.
- Kim, H. S., & Markus, H. R. (1999). Deviance or uniqueness, harmony or conformity? A cultural analysis. *Journal of Personality and Social Psychology*, 77, 785–800. doi:10.1037/0022-3514.77.4.785
- Kim, H. S., & Sherman, D. K. (2007). "Express yourself": Culture and the effect of self-expression on choice. *Journal of Personality and Social Psychology*, 92, 1–11. doi:10.1037/0022-3514.92.1.1
- Kim, H. S., Sherman, D. K., & Updegraff, J. A. (2016). Fear of Ebola: The influence of collectivism on xenophobic threat responses. *Psychological Science*, *27*, 935–944. doi:10.1177/095679761664259
- Kraus, M. W., & Stephens, N. M. (2012). A road map for an emerging psychology of social class. *Social and Personality Psychology Compass*, *6*, 642–656. doi:10.1111/j.1751-9004.2012.00453.x
- Markus, H. R., & Kitayama, S. (2003). Models of agency: Sociocultural diversity in the construction of action. In V. M. Berman & J. J. Berman (Eds.), *Nebraska symposium on motivation: Cross-cultural differences in perspectives on the self* (Vol. 49, pp. 1–58). Lincoln: University of Nebraska.
- Milfont, T. L., & Schultz, P. W. (2016). Culture and the natural environment. *Current Opinion in Psychology*, *8*, 194–199. doi:10.1016/j.copsyc.2015.09.009
- Morling, B., Kitayama, S., & Miyamoto, Y. (2002). Cultural practices emphasize influence in the United States and adjustment in Japan. *Personality and Social Psychology Bulletin*, 28, 311–323. doi:10.1177/0146167202286003
- Na, J., McDonough, I. M., Chan, M. Y., & Park, D. C. (2016). Social-class differences in consumer choices: Workingclass individuals are more sensitive to choices of others than middle-class individuals. *Personality and Social Psychology Bulletin*, 42, 430–443. doi:10.1177/0146167216634043

- Norenzayan, A., & Shariff, A. F. (2008). The origin and evolution of religious prosociality. *Science*, *322*, 58–62. doi:10.1126/science.1158757
- Pearson, A. R., Schuldt, J. P., & Romero-Canyas, R. (2016). Social climate science: A new vista for psychological science. *Perspectives on Psychological Science*, *11*, 632–650. doi:10.1177/1745691616639726
- Riemer, H., Shavitt, S., Koo, M., & Markus, H. R. (2014). Preferences don't have to be personal: Expanding attitude theorizing with a cross-cultural perspective. *Psychological Review*, *121*, 619–648. doi:10.1037/a0037666
- Sasaki, J. Y., & Kim, H. S. (2011). At the intersection of culture and religion: A cultural analysis of religion's implications for secondary control and social affiliation. *Journal of Personality and Social Psychology*, 101, 401–414. doi: 10.1037/a0021849
- Schultz, P. W., Nolan, J. M., Cialdini, R. B., Goldstein, N. J., & Griskevicius, V. (2007). The constructive, destructive, and reconstructive power of social norms. *Psychological Science*, 18, 429–434. doi:10.1111/j.1467-9280.2007.01 917.x
- Sherkat, D. E., & Ellison, C. G. (2007). Structuring the religionenvironment connection: Identifying religious influences on environmental concern and activism. *Journal for the Scientific Study of Religion*, 46, 71–85. doi:10.1111/j.1468-5906.2007.00341.x
- Snibbe, A. C., & Markus, H. R. (2005). You can't always get what you want: Educational attainment, agency, and choice. *Journal of Personality and Social Psychology*, 88, 703–720. doi:10.1037/0022-3514.88.4.703
- Stephens, N. M., Markus, H. R., & Townsend, S. S. M. (2007). Choice as an act of meaning: The case of social class. *Journal of Personality and Social Psychology*, *93*, 814–830. doi:10.1037/0022-3514.93.5.814
- Stern, P. C. (2011). Contributions of psychology to limiting climate change. *American Psychologist*, 66, 303–314. doi:10.1037/a0023235
- Tam, K.-P., & Chan, H.-W. (2017). Environmental concern has a weaker association with pro-environmental behavior in some societies than others: A cross-cultural psychology perspective. *Journal of Environmental Psychology*, *53*, 213–223. doi:10.1016/j.jenvp.2017.09.001
- Triandis, H. C., Bontempo, R., Villareal, M. J., Asai, M., & Lucca, N. (1988). Individualism and collectivism: Cross-cultural perspectives on self-ingroup relationships. *Journal of Personality and Social Psychology*, *54*, 323–338. doi:10.1037/0022-3514.54.2.323
- Van Boven, L., Ehret, P. J., & Sherman, D. K. (2018). Psychological barriers to bipartisan public support for climate policy. *Perspectives on Psychological Science*, 13, 492–507. doi:10.1177/1745691617748966
- Wardekker, J. A., Petersen, A. C., & van der Sluijs, J. P. (2009). Ethics and public perception of climate change: Exploring the Christian voices in the US public debate. *Global Environmental Change*, *19*, 512–521. doi:10.1016/j.gloenvcha.2009.07.008
- Wike, R. (2016). What the world thinks about climate change in 7 charts. Retrieved from Pew Research Center: http://www.pewresearch.org/fact-tank/2016/04/18/what-theworld-thinks-about-climate-change-in-7-charts/