

BRIEF REPORT

Awe and Social Conformity: Awe Promotes the Endorsement of Social Norms and Conformity to the Majority Opinion

Claire Prade¹ and Vassilis Saroglou²

¹ Department of Psychology, Aix-Marseille University

² Department of Psychology, Catholic University of Louvain

Given that awe experiences promote collective identity and decrease self-importance, we reasoned that they should lead individuals to be more prone to cherish social conformity value and to adopt conformity behaviors. In two online experiments ($N = 593$), compared to neutral and amusement emotional states, awe was found to drive individuals to value the respect of social norms in a greater extent (Experiment 1), and to lead individuals to conform to the majority opinion on an evaluative judgment task (Experiment 2). The present research provides the first empirical evidence of awe as leading to conformity and, although more research is needed, it offers important theoretical implications about the social function of awe as well as, more generally, the importance of emotions in social influence situations.

Keywords: awe, conformity (personality), moral values, social influence, positive emotions

Supplemental materials: <https://doi.org/10.1037/emo0001225.supp>

Some findings in the literature suggest that emotions may affect one's decision to follow the majority opinion. For example, emotions are used as information to guide judgment and decision making (Keltner et al., 2006; Västfall & Slovic, 2013), and some positive emotions may increase the tendency to follow social conventions in order to form and maintain social order (Ng et al., 2017). To the best of our knowledge, however, less than a dozen of papers have been published on the role of emotions in social conformity situations in 50 years, and only two papers directly tested the effect of positive emotions on social conformity. The present research aims to complement this work on the social function of positive emotions by focusing on the emotion of awe.

Awe and Social Conformity

Occurring in the face of strikingly vast or powerful stimuli, awe experiences challenge the individuals' current frames of reference

and cause them to rethink their understanding of the world (Keltner & Haidt, 2003). Awe was found to promote humility, feelings of oneness with others, and prosociality (Bai et al., 2017; Prade & Saroglou, 2016; Van Cappellen & Saroglou, 2012). Consequently, awe has been suggested to help shifting from personal to collective identity. We argue that awe may not only promote prosociality, but social conformity as well. Both prosociality and conformity are consequences of collective identity (Hogg, 2012), but they are inherently distinct. Prosociality motivates individuals to help others, whereas conformity indicates the tendency to follow, which does not necessarily result in beneficial outcomes for others.

Conformity usually results from a combination of normative and informational social influences, with dominance of one or the other. Normative influence originates with the desire for social acceptance; individuals conform to others to be socially "liked," or to not be rejected. Informational influence comes from the search for accurate information; individuals conform to the majority because of the heuristic that consensus should imply correctness (Cialdini & Goldstein, 2004; Deutsch & Gerard, 1955; Toelch & Dolan, 2015).

From an evolutionary perspective, awe may have resulted as the emotional reaction of a subordinate toward a figure disposing power or prestige (Keltner & Haidt, 2003). Thus, awe may have adaptive function and biologically based action tendencies that may include heightened attention toward the powerful, imitation, conformity, and compliance. Supporting this, awe was found to decrease ideological convictions and social dominance orientation (Stancato & Keltner, 2021; Zhao et al., 2018).

Moreover, awe experiences come along with the perception of uncertain environment, reduced sense of control, and low self-importance (Bai et al., 2017; Keltner & Haidt, 2003). In such environment, quick decisions based on the heuristic that "consensus implies correctness" increase chances for survival and makes

This article was published Online First March 9, 2023.

Claire Prade  <https://orcid.org/0000-0002-7892-9579>

This research was part of the thesis project of the first author and was reviewed and granted by the Belgium Fund for Scientific Research (#T.0032.14). Data of the studies are available in Open Science Framework at <https://osf.io/wk5be>.

Claire Prade served as lead for writing—original draft. Vassilis Saroglou served as lead for supervision and contributed equally to writing—original draft. Claire Prade and Vassilis Saroglou contributed equally to conceptualization, formal analysis, funding acquisition, investigation, methodology, project administration, resources, software, validation, visualization, writing—review and editing, and data curation.

Correspondence concerning this article should be addressed to Claire Prade, Research Center for Psychology of Knowledge, Language, and Emotion, Aix-Marseille University, 29 Avenue Robert Schuman, 13621, Aix-en-Provence Cedex 1, France. Email: claire.prade@univ-amu.fr

sense of a situation (Claidière & Whiten, 2012). Awe may thus afford rapid responding to uncertain environments in the interest of the individual's survival by promoting social conformity. Finally, awe enhances feelings of closeness with others (Van Cappellen & Saroglou, 2012), which could increase adoption of group norms, obedience to the majority or the authority, and observational imitation (e.g., Dong et al., 2015).

The Present Studies

In Experiment 1, we tested whether experimentally induced awe increases the importance attributed to social norms and conformity as value priorities (normative social influence). In Experiment 2, we examined whether awe promotes conformity to the majority opinion in a judgment task (informational social influence). Both experiments were built using Qualtrics^{XM} and then advertised on a series of Facebook French Universities groups.

In both experiments, awe's effect on conformity was compared to those of a neutral emotion state as well as another positive emotion—amusement. Amusement was selected as control condition because (a) it has often been used for comparison reasons in previous studies investigating awe's effects, (b) it can be reliably elicited with videos, and (c) both awe and amusement are triggered by expectancy violations and can be considered as stimulus-oriented emotions rather than other- or self-oriented ones (Gocłowska et al., 2023; Martin, 2006; Moreall, 1989; Shiota et al., 2014).

Transparency and Openness

We report how we determined our sample size, all data exclusions, all manipulations, and all measures in the study, and we follow the Journal Article Reporting Standards (Kazak, 2018). The experiments were previously approved by the local ethical review board and data were analyzed using IBM SPSS Statistics Version 26.

Experiment 1

Method

Sample

Using the G*Power 3 software (Faul et al., 2007), we set the probability of type I error (0.05), expected effect size ($f = 0.20$), and power ($1 - \beta = 0.80$) and determined the minimum sample size to be 246 participants. Finally, 311 adults completed the study. Three outliers were removed (above or below $M \pm 3 SDs$; one of them did not correctly answer to the recall). Data from 308 participants were included in the analyses ($M_{age} = 20.01$, $SD_{age} = 2.96$; 244 women; 83% French; 87% students).

Procedure

Emotion Induction. Participants were randomly assigned to awe ($n = 99$), amusement ($n = 104$), or neutral ($n = 105$) condition, and completed an autobiographical memory task aimed at eliciting the target emotional state (taken from Prade & Saroglou, 2016). Participants indicated, using a slider from 1 (*not at all*) to 5 (*extremely*), how much they felt 10 affective states (see Table 1).

Conformity Value. Participants completed the Schwartz's 21-item Portrait Value Questionnaire (Schwartz, 2007) which consists of short portraits of people describing a person's goals or

Table 1

Means and Standard Deviations of Affective States by Condition in Experiments 1 and 2

Affective states	Awe		Amusement		Neutral		<i>F</i>	η^2
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Experiment 1								
Awe	3.60 _a	0.54	2.82 _b	1.38	1.61 _c	0.89	229.03*	0.60
Fascination	4.34 _a	0.74	2.77 _b	1.26	1.56 _c	0.81	210.36*	0.58
Curiosity	3.08 _a	1.28	2.38 _b	1.20	2.62 _b	1.21	8.22*	0.05
Sadness	1.67 _a	0.95	1.17 _b	0.53	1.42 _(c)	0.83	10.29*	0.06
Amusement	2.57 _b	1.14	4.71 _a	0.43	2.40 _b	1.20	177.93*	0.54
Joy	4.39 _b	0.73	4.41 _b	0.78	2.60 _a	1.10	143.17*	0.49
Excitement	3.60 _b	1.23	3.70 _b	1.22	1.85 _a	1.06	82.31*	0.35
Enthusiasm	3.67 _b	1.11	3.91 _b	1.04	2.48 _a	1.17	50.02*	0.25
Pride	2.95 _b	1.30	2.72 _b	1.33	1.85 _a	0.99	23.78*	0.14
Determination	2.84 _b	1.33	2.33 _a	1.20	3.19 _b	1.31	13.00*	0.08
Experiment 2								
Awe	3.22 _a	1.17	1.73 _b	0.89	2.21 _c	1.13	47.29*	0.25
Fascination	3.10 _a	1.18	1.91 _b	1.06	2.48 _c	1.17	25.90*	0.16
Amusement	1.47 _a	0.62	3.40 _b	1.00	2.20 _c	1.18	96.75*	0.41
Joy	2.55 _a	1.03	3.08 _b	1.15	2.26 _a	1.12	13.83*	0.09
Neutral	2.68 _a	1.41	2.37 _a	1.31	3.26 _b	1.41	10.40*	0.07

Note. Means in the same row that do not share subscripts differed at the $p < .05$ in Tukey post hoc tests. Mean with bracketed subscript differs marginally at the $p < .10$.

* $p < .001$.

aspirations that point implicitly to the importance of 1 of 10 values, including conformity (see the [online supplemental materials](#)). Participants indicated how much they consider themselves to be like the described person in each portrait, using a scale from 1 (*not like me at all*) to 6 (*very much like me*).

Results

The reported intensity of affects confirmed the effectiveness of the emotion induction (see Table 1). As hypothesized, conformity value was shown to be endorsed to a greater extent after awe induction ($M = 3.52$, $SD = 1.27$) than in the neutral condition ($M = 3.10$, $SD = 1.29$), Tukey's $p = .041$, 95% CI [0.01, 0.84] and the amusement condition ($M = 3.11$, $SD = 1.19$), Tukey's $p = .049$, [0.00, 0.83], $F(2, 305) = 3.80$, $p = .024$, $\eta^2 = 0.02$ (see Figure 1A). Neutral and amusement conditions did not significantly differ, Tukey's $p = .998$ (see the [online supplemental materials](#) for means and ANOVA's analysis on all 10 values). Awe induction's effect on conformity was completely mediated by feelings related to awe (we used the mean of awe, fascination, and curiosity), $\beta_{indirect} = 0.10$, $SE = 0.05$, $p = .023$, [0.01, 0.19] (see the [online supplemental materials](#)).

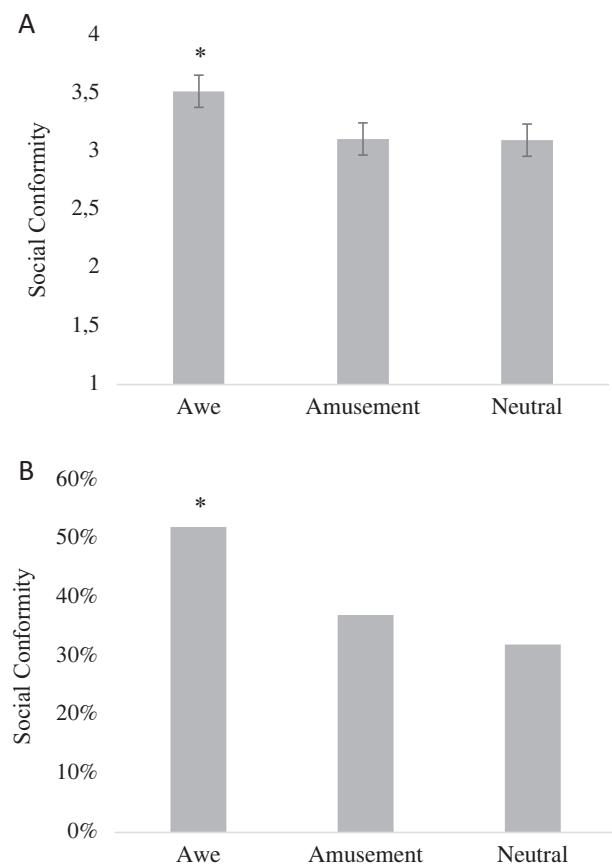
Experiment 2

Method

Sample

Using the same method as in Experiment 1, we determined the minimum sample size to be 241 participants. Finally, 297 adults completed the study. The use of videos and figures required relatively big screen so only 289 participants who mentioned having completed the study on a computer (vs. on a smartphone) were

Figure 1
Social Conformity as a Function of Conditions for Experiment 1 (A) and Experiment 2 (B)



Note. *Condition significantly differs from others ($p < .05$).

included in the analyses. Four participants were removed as they clearly mentioned to be aware of the hypothesis of the authors ($n = 1$) or resulted as outliers (above or below $M \pm 3 SDs$). Data from 285 participants were included in the analyses ($M_{age} = 21.92$, $SD_{age} = 5.08$; 228 women; 88% French; 95% students).

Procedure

Emotion Induction. Participants were randomly assigned in awe ($n = 90$), amusement ($n = 99$), or neutral ($n = 96$) condition and were asked to watch a 3-min video to elicit the target emotional state (videos taken from Saroglou et al., 2008). Afterwards, participants indicated, using a slider from 1 (*not at all*) to 5 (*extremely*), how much they felt specific affects when watching the video (see Table 1). The level of fear elicited by the videos was previously checked by asking 12 volunteers how much they felt it on a scale from 1 (*not at all*) to 5 (*extremely*). All participants rated fear at 1 for each video.

Conformity. We assessed social conformity using a display of two configurations made of blue geometric shapes that only differed in the degree of contrast with the background (see the [online supplemental materials](#)). A pretest ($N = 22$, $M_{age} = 28.5$, $SD_{age} = 14.31$, 16 men) revealed that the most contrasting configuration was

preferred by the majority (68% vs. 32%), which is consistent with prior research (Schloss & Palmer, 2011). Participants were shown the two configurations and were informed of the (bogus) choice of the majority (i.e., participants were informed that the majority's choice was the less contrasting configuration). Afterwards, participants indicated their own preference.

Results

The reported intensity of affects confirmed the effectiveness of the emotion induction (see Table 1). As hypothesized, participants in the awe condition conformed more to the majority preference than those in the other two control conditions (see Figure 1B). In the awe condition, 52% of participants selected the configuration that was reported to be preferred by the majority, whereas only 37% of participants in the amusement condition and 32% of participants in the neutral condition did so, $\chi^2(2, N = 285) = 8.23$, $p = .016$, Cramer's $V = 0.17$. Two-by-two comparisons revealed that participants who watched the awe-eliciting video conformed effectively more than participants who watched an amusement-eliciting video, $\chi^2(1, N = 189) = 4.21$, $p = .040$, Cramer's $V = 0.15$, and a neutral video, $\chi^2(1, N = 186) = 7.58$, $p < .006$, Cramer's $V = 0.20$, whereas no significant difference was found between the amusement and neutral conditions, $\chi^2(1, N = 195) = 0.55$, $p = .457$. Approximately the same percentage of individuals indicated to prefer the most contrasting configuration in the neutral condition (68%), amusement condition (62%), and in the pretest (68%), suggesting that social information did not, or only very slightly, influence the responses of individuals in amusement or neutral states. Interestingly, this effect was manipulated using 3-min videos, suggesting that short-form emotional videos like the ones regularly watched on social platforms by a large number of individuals (see Wu et al., 2021) may significantly affect online social influence. Moderation analysis on gender was not significant, $b = -0.03$, $p = .654$.

Discussion

We provided the first empirical evidence that awe promotes social conformity. Awe was found to drive individuals to value the respect of social norms (Experiment 1; normative conformity paradigm) and to lead individuals to conform to the majority opinion (Experiment 2; informational conformity paradigm). These findings support the hypothesis that awe may serve a social alignment function and may have resulted as the emotional reaction of (low rank) individuals toward a figure disposing power, status, or prestige (Keltner & Haidt, 2003). Awe may have served a vital social function by enhancing the motivation to keep society intact and providing a nonviolent mechanism for allocating power and submission to a greater entity. Moreover, in face of highly uncertain and hard-to-grasp environment, awe may help individuals to deal with such uncertainty by triggering improvement of pro-group behaviors. Conforming to social norms or to others' choices provides guidance for helping individuals to deal with uncertain situations because it offers order and meanings. Awe may thus be an adaptive emotional response that allows recognition of the limits of one's knowledge and a greater endorsement of others' views and behaviors.

As the very first experimental research demonstrating an effect of awe on social conformity, one should be cautious in interpreting and generalizing the results. One important limitation to consider is that,

because participants responded online, we only measured private conformity. Measuring conformity's effects on private and online settings is of interest given the reduced social presence and increased anonymity such contexts induce (Wijenayake et al., 2020). This question is all the more important in a world where the omnipresence of the Internet and smartphones make the majority opinions on a variety of subjects readily available, while minimizing social presence. However, research using face-to-face paradigms of conformity is needed to have a more complete sense of the effect of awe on social conformity. Moreover, we examined the effect of positive awe-inspiring experiences in nature; future experiments should replicate and extend the present results by using other elicitors of awe (e.g., childbirth, threatening natural phenomena). Finally, most participants were women. Although this observation is consistent with other online studies, it inevitably reduces the generalizability of the results.

Our findings raise questions for future research. For example, awe is associated with Openness to experience and creativity (Silvia et al., 2015; Zhang et al., 2021), which seems antinomic to the present findings. In fact, the relationship between creativity and conformity is highly complex (for a review, see Bonetto et al., 2021). For example, a positive relationship has been found between normative conformity and creativity; social norms may establish expectations of preferred creative behaviors and, to be recognized as creative, individuals need to be aligned with relevant standards. More studies are needed to clarify the relationship between awe, creativity, and conformity.

In addition to contributing to the understanding of the social function of awe, the present work adds support to the general idea that distinct positive emotions entail different consequences on individuals. Previous studies found that gratitude increases social conformity whereas joy did not (Ng et al., 2017). The present ones demonstrated that awe increases social conformity whereas amusement fails to do it. These findings suggest that some specific positive emotions share the ability to increase social conformity. More studies are needed in order to investigate which emotions affect social conformity and why. It could be that emotions associated with stronger feelings of closeness with others induce social conformity, perhaps motivated by benevolent motives to conform out of concern for their group (Wice & Davidai, 2021).

References

- Bai, Y., Maruskin, L. A., Chen, S., Gordon, A. M., Stellar, J. E., McNeil, G. D., Peng, K., & Keltner, D. (2017). Awe, the diminished self, and collective engagement: Universals and cultural variations in the small self. *Journal of Personality and Social Psychology*, 113(2), 185–209. <https://doi.org/10.1037/pspa0000087>
- Bonetto, E., Pichot, N., Pavani, J.-B., & Adam-Troian, J. (2021). The paradox of creativity. *New Ideas in Psychology*, 60, Article 100820. <https://doi.org/10.1016/j.newideapsych.2020.100820>
- Cialdini, R. B., & Goldstein, N. J. (2004). Social influence: Compliance and conformity. *Annual Review of Psychology*, 55(1), 591–621. <https://doi.org/10.1146/annurev.psych.55.090902.142015>
- Claidière, N., & Whiten, A. (2012). Integrating the study of conformity and culture in humans and nonhuman animals. *Psychological Bulletin*, 138(1), 126–145. <https://doi.org/10.1037/a0025868>
- Deutsch, M., & Gerard, H. B. (1955). A study of normative and informative social influences upon individual judgment. *The Journal of Abnormal and Social Psychology*, 51(3), 629–636. <https://doi.org/10.1037/h0046408>
- Dong, P., Dai, X., & Wyer, R. S. (2015). Actors conform, observers react: The effects of behavioral synchrony on conformity. *Journal of Personality and Social Psychology*, 108(1), 60–75. <https://doi.org/10.1037/pspi0000001>
- Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175–191. <https://doi.org/10.3758/BF03193146>
- Gocłowska, M. A., Elliott, A. J., van Elk, M., Bulska, D., Thorstenson, C. A., & Baas, M. (2023). Awe arises in reaction to exceeded rather than disconfirmed expectancies. *Emotion*, 23(1), 15–29. <https://doi.org/10.1037/emo0001013>
- Hogg, M. A. (2012). Social identity and the psychology of groups. In M. R. Leary & J. P. Tangney (Eds.), *Handbook of self and identity* (pp. 502–519). Guilford Press.
- Kazak, A. E. (2018). Editorial: Journal article reporting standards. *American Psychologist*, 73(1), 1–2. <https://doi.org/10.1037/amp0000263>
- Keltner, D., & Haidt, J. (2003). Approaching awe, a moral, spiritual, and aesthetic emotion. *Cognition and Emotion*, 17(2), 297–314. <https://doi.org/10.1080/02699930302297>
- Keltner, D., Haidt, J., & Shiota, M. N. (2006). Social functionalism and the evolution of emotions. In M. Schaller, J. A. Simpson, & D. T. Kenrick (Eds.), *Evolution and social psychology* (pp. 115–142). Psychosocial Press.
- Martin, R. A. (2006). *The psychology of humor: An integrative approach*. Elsevier Academic Press.
- Morreall, J. (1989). Enjoying incongruity. *Humor: International Journal of Humor Research*, 2(1), 1–18. <https://doi.org/10.1515/humr.1989.2.1.1>
- Ng, J. W. X., Tong, E. M. W., Sim, D. L. Y., Teo, S. W. Y., Loy, X., & Giesbrecht, T. (2017). Gratitude facilitates private conformity: A test of the social alignment hypothesis. *Emotion*, 17(2), 379–387. <https://doi.org/10.1037/emo0000249>
- Prade, C., & Saroglou, V. (2016). Awe's effects on generosity and helping. *The Journal of Positive Psychology*, 11(5), 522–530. <https://doi.org/10.1080/17439760.2015.1127992>
- Saroglou, V., Buxant, C., & Tilquin, J. (2008). Positive emotions as leading to religion and spirituality. *The Journal of Positive Psychology*, 3(3), 165–173. <https://doi.org/10.1080/17439760801998737>
- Schloss, K. B., & Palmer, S. E. (2011). Aesthetic response to color combinations: Preference, harmony, and similarity. *Attention, Perception, and Psychophysics*, 73(2), 551–571. <https://doi.org/10.3758/s13414-010-0027-0>
- Schwartz, S. H. (2007). Value orientations: Measurement, antecedents and consequences across nations. In R. Jowell, C. Roberts, R. Fitzgerald, & G. Eva (Eds.), *Measuring attitudes cross-nationally: Lessons from the European Social Survey* (pp. 169–203). Sage Publications. <https://doi.org/10.4135/9781849209458.n9>
- Shiota, M. N., Thrash, T. M., Danvers, A. F., & Dombrowski, J. T. (2014). Transcending the self: Awe, elevation, and inspiration. In M. M. Tugade, M. N. Shiota, & L. D. Kirby (Eds.), *Handbook of positive emotions* (pp. 362–377). Guilford Press.
- Silvia, P. J., Fayn, K., Nusbaum, E. C., & Beaty, R. E. (2015). Openness to experience and awe in response to nature and music: Personality and profound aesthetic experiences. *Psychology of Aesthetics, Creativity, and the Arts*, 9(4), 376–384. <https://doi.org/10.1037/aca0000028>
- Stancato, D. M., & Keltner, D. (2021). Awe, ideological conviction, and perceptions of ideological opponents. *Emotion*, 21(1), 61–72. <https://doi.org/10.1037/emo0000665>
- Toelch, U., & Dolan, R. J. (2015). Informational and normative influences in conformity from a neurocomputational perspective. *Trends in Cognitive Sciences*, 19(10), 579–589. <https://doi.org/10.1016/j.tics.2015.07.007>
- Van Cappellen, P., & Saroglou, V. (2012). Awe activates religious and spiritual feelings and behavioral intentions. *Psychology of Religion and Spirituality*, 4(3), 223–236. <https://doi.org/10.1037/a0025986>

- Västfall, D., & Slovic, P. (2013). Cognition and emotion in judgment and decision making. In M. D. Robinson, E. R. Watkins, & E. Harmon-Jones (Eds.), *Handbook of cognition and emotion* (pp. 252–271). Guilford Press.
- Wice, M., & Davidai, S. (2021). Benevolent conformity: The influence of perceived motives on judgments of conformity. *Personality and Social Psychology Bulletin*, 47(7), 1205–1217. <https://doi.org/10.1177/0146167220963702>
- Wijenayake, S., van Berkel, N., Kostakos, V., & Goncalves, J. (2020). Impact of contextual and personal determinants on online social conformity. *Computers in Human Behavior*, 108, Article 106302. <https://doi.org/10.1016/j.chb.2020.106302>
- Wu, Y., Wang, W., Hong, S., Hong, M., Pei, M., & Su, Y. (2021). The relationship between social short-form videos and youth's well-being: It depends on usage types and content categories. *Psychology of Popular Media*, 10(4), 467–477. <https://doi.org/10.1037/ppm0000292>
- Zhang, J. W., Howell, R. T., Razavi, P., Shaban-Azad, H., Chai, W. J., Ramis, T., Mello, Z., Anderson, C. L., & Keltner, D. (2021). Awe is associated with creative personality, convergent creativity, and everyday creativity. *Psychology of Aesthetics, Creativity, and the Arts*. Advance online publication. <https://doi.org/10.1037/aca0000442>
- Zhao, H., Zhang, H., Xu, Y., Lu, J., & He, W. (2018). Relation between awe and environmentalism: The role of social dominance orientation. *Frontiers in Psychology*, 9, Article 2367. <https://doi.org/10.3389/fpsyg.2018.02367>

Received June 8, 2021

Revision received January 10, 2023

Accepted January 11, 2023 ■