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

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**Author Note**

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 [osf.io/wk5be](https://osf.io/wk5be)

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### **Abstract**

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

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

~~There are good reasons to expect~~ Some findings in the literature suggest that emotions may affect ones' decision to follow the majority opinion. For example, eEmotions are used as information to guide judgement 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 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, 2014), but they are inherently distinct. Prosociality motivates individuals to help others, whereas conformity indicates the tendency to follow, what 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 and Gerard, 1955; Toelch and 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 towards the powerful, imitation, conformity and compliance. Supporting this, awe was found to decrease ideological convictions and social dominance orientation (Stancato & Keltner, 2019; 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 sense of a situation (Claidiere & 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<sup>XM</sup> 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 (1) it has often been used for comparison reasons in previous studies investigating awe's effects, (2) it can be reliably elicited with videos, and (3) 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., 2021; Martin, 2006; Morreall, 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 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 mean  $\pm 3SD$ ; 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, 2006) which consists of short portraits of people describing a person's goals or aspirations that point implicitly to the importance of one of ten values, including conformity (see Supplementary Material). 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  $p = .049$ , 95% CI [0.00, 0.83],  $F(2, 305) = 3.80, p = .024, \eta^2 = .02$  (see Figure 1A). Neutral and amusement conditions did not significantly differ, Tukey's  $p = .998$  (see Supplementary Material for Means and ANOVA's analysis on all ten values). Awe induction's effect on conformity was completely mediated by feelings related to awe (we used the mean of awe, fascination, and curiosity),  $\beta_{\text{indirect}} = 0.10, SE = 0.05, p = .023, 95\% \text{ CI } [0.01, 0.19]$  (see Supplementary Material).

## **Experiment 2**

### **Method**

#### **Sample**

Using the same method than 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 the only 289 participants who mentioned having completed the study on a computer (vs. on a smartphone) were 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 mean  $\pm 3SD$ ). 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-minute 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 voluntaries 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 on the degree of contrast with the background (see Supplementary Material). 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  $V = .17$ . 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  $V = .15$  and a neutral video  $\chi^2(1, N = 186) = 7.58, p < .006$ , Cramer's  $V = .20$ , 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-minutes videos, suggesting that short-form emotional videos like the ones regularly watched on social platforms by number of individuals (see Wu et al., 2021) may significantly affect online social influence. Moderation analysis on gender were 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 provide 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 to 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 to stronger feelings of closeness with others induce social conformity, perhaps motivated by benevolent motives to conform out of concern for their group (Wice and Davidai, 2021).

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

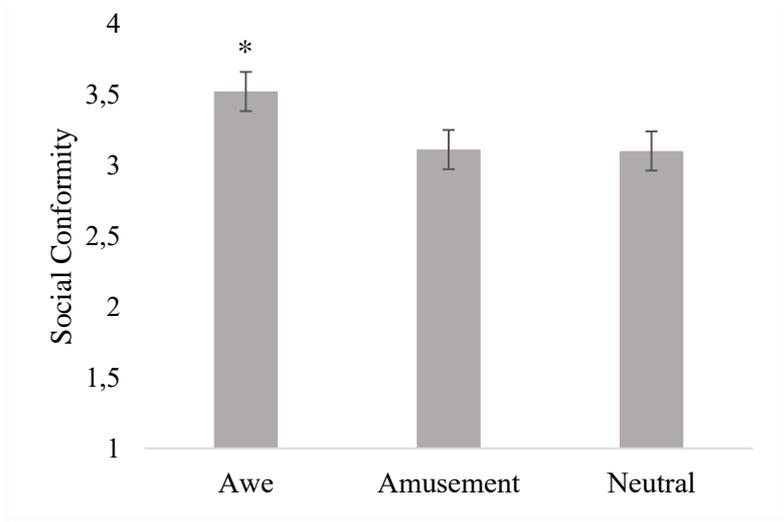
Affective states	Awe		Amusement		Neutral		<i>F</i>	$\eta^2$
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Experiment 1								
Awe	3.60 <sub>a</sub>	0.54	2.82 <sub>b</sub>	1.38	1.61 <sub>c</sub>	0.89	229.03*	0.60
Fascination	4.34 <sub>a</sub>	0.74	2.77 <sub>b</sub>	1.26	1.56 <sub>c</sub>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

*Notes.* \*  $p < .001$ . 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  $p < .10$ .

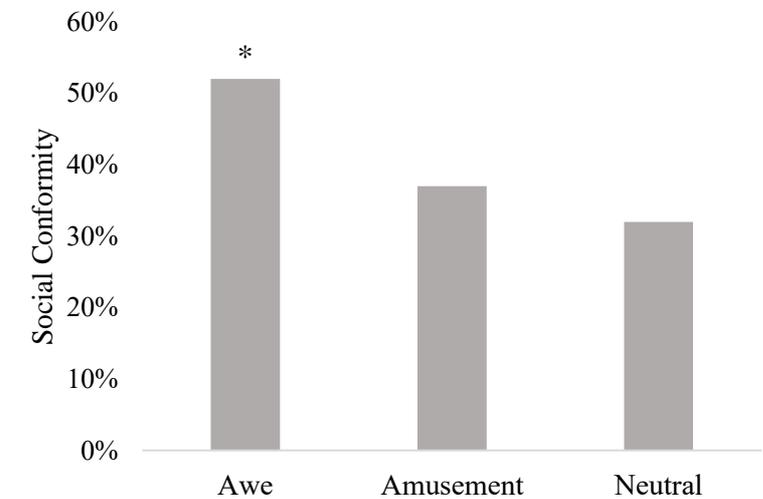
**Figure 1**

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

**A**



**B**



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