

Are the Motivational Effects of Autonomy-Supportive Conditions Universal? Contrasting Results Among Indians and Americans

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Abstract

In Western theories of motivation, autonomy is conceived as a universal motivator of human action; enhancing autonomy is expected to increase motivation panculturally. Using a novel online experimental paradigm that afforded a behavioral measure of motivation, we found that, contrary to this prevailing view, autonomy cues affect motivation differently among American and Indian corporate professionals. Autonomy-supportive instructions increased motivation among Americans but decreased motivation among Indians. The motivational Cue \times Culture interaction was extraordinarily large; the populations exhibited little statistical overlap. A second study suggested that this interaction reflects culturally specific norms that are widely understood by members of the given culture. When evaluating messages to motivate workers, Indians, far more than Americans, preferred a message invoking obligations to one invoking autonomous personal choice norms. Results cast doubt on the claim, made regularly in both basic and applied psychology, that enhancing autonomy is a universally preferred method for boosting motivation.

Keywords

culture, motivation, autonomy, obligations

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The origins of social psychology can be traced to an empirical finding: Social cues affect motivation (Triplet, 1898). The discipline's origins also can be traced to a region of the globe. Triplet's classic research, like much subsequent 20th-century study, was conducted in a Western cultural context.

Contemporary advances raise an empirical question that received insufficient attention in past eras. Do Western findings on the effects of social cues on human motivation generalize across cultural contexts (cf. Heine, 2007; Markus, 2016)? These considerations also raise a methodological question: How could one find out? The unreliability of self-reports of motivational states (McClelland, 1985) and the difficulty of identifying research materials whose meaning and significance is consistent across diverse cultural contexts (Cohen, 2007; Matsumoto & van de Vijver, 2010; Uskul, Oyserman, Schwarz, Lee, & Xu, 2013) combine to pose substantial challenges to research on motivation and culture.

We address these issues by exploring a topic of both basic and applied interest: the motivational effects of providing autonomy cues to individuals. We do so using a novel behavioral measure of work motivation and employing it in two culturally distinct nations: the United States and India. Study

1 obtains behavioral measures of units of work produced and time spent on a voluntary online task wherein workers evaluate the quality of posters promoting environmentalism, an issue of common concern in India and the United States (Guha, 2006). Study 2 explores a cultural variation that may contribute to the Study 1 findings.

Motivational Cues, Cultural Contexts, and Autonomy

Questions about the universality of motivational principles are of both basic and applied significance. In academia, some posit universal motives (McClelland, 1961) whereas others highlight culturally specific messages and themes that shape

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motivationally significant cognitions (D'Andrade & Strauss, 1992). In business management, scholars ask whether work motivation principles developed in the West apply uniformly in multinational workforces (Erez, Thierry, & Kleinbeck, 2001; Hofstede, 1980; Steers & Sánchez-Runde, 2017).

A motivational principle of particular significance involves autonomy. Job design theory sees autonomy as “the degree to which the job provides freedom, independence, and discretion to the individual in scheduling the work and in determining the procedures to be used in carrying it out” (Hackman & Oldham, 1976, p. 258; also see Oldham & Hackman, 2010). Allowing employees to rely, autonomously, on their “*own . . . decisions rather than . . . instructions from the boss or on a manual of job procedures*” (Hackman & Oldham, 1976, p. 258) is expected to enhance employee motivation. Although empirical evidence from European and North American countries consistently supports job design predictions (Hackman & Oldham, 1976; Oldham & Hackman, 2010), scholars ask for cross-cultural generalizability of motivation principles developed in the West in job design theory (Erez, 2010; Grant, Fried, Parker, & Frese, 2010; Oldham & Hackman, 2010).

Self-determination theory proposes a universal need for autonomy, conceived as a “desire to self-organize experience” (Deci & Ryan, 2000, p. 74) and thereby to act consistently with respect to one’s own personal values and interests (also see Deci & Ryan, 2012; Gagné & Deci, 2005; Ryan & Deci, 2000). Satisfaction of this “innate, essential, and universal” (Ryan & Deci, 2000, p. 74) need is believed to enhance performance and well-being in any cultural context (Deci & Ryan, 2000, 2006). Experimental studies, conducted predominantly in Western settings, support these views. In contrast to externally controlling contexts, autonomy-supportive contexts enhance motivation and improve performance outcomes (Reeve, Jang, Hardre, & Omura, 2002; Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004; Zhou, 1998). Researchers find that “even using language that conveys choice (e.g., can, may, could) rather than control (e.g., should, must, have to) has been found to enhance autonomous motivation for an activity” (Moller, Deci, & Ryan, 2006, p. 1026; see also Deci, Eghrari, Patrick, & Leone, 1994; Vansteenkiste et al., 2004). Autonomy-supportive work environments and managerial methods promote basic need satisfaction and intrinsic motivation, thereby enhancing engagement in work and productivity (Gagné & Deci, 2005; Guntert, 2015; Nie, Chua, Yeung, Ryan, & Chan, 2014; Trépanier, Fernet, & Austin, 2014). The cross-cultural generalizability of these claims is established mostly from self-report surveys (e.g., Chen et al., 2015; Chirkov, Ryan, Kim, & Kaplan, 2003). In the present report, we employ behavioral measures to test the motivational effects of autonomy while responding, more generally, to calls for contextualization of motivation principles developed in the West (Markus, 2016).

The Possibility of Cultural Variation

Cross-cultural findings highlight the need to address the cultural generality of motivational principles. For example, research on self-concept has identified cultural variations with implications for the motivational effects of autonomy support. In Asian cultures, individuals develop a relatively *interdependent* view of the self in which “actions are responsive to obligations and expectations of others, roles, and situations” (Markus & Kitayama, 2003, p. 7; Markus & Kitayama, 1991, 2010 see also Hofstede, Hofstede, & Minkov, 2010; Triandis, 1995). In European American cultures, people more frequently develop an *independent* self-concept in which actions are “made meaningful primarily by reference to one’s own internal repertoire of thoughts, feelings, and action” (Markus & Kitayama, 1991, p. 226). In addition to self-concept variations, cultural norms vary cross-culturally in ways that may affect responses to communications intended to motivate workers. For example, qualitative evidence suggests that Indian technology professionals have difficulty understanding implicit norms of communication in the West (Shah & Barker, 2017).

Such cultural variations may foster varying reactions to autonomy-related cues. Specifically, autonomy cues may be less effective in cultures where self-concept is oriented toward obligations and responsibilities to others; in such settings, autonomy may be “secondary to, and constrained by, the primary task of interdependence.” By contrast, in cultures where independent self-construals predominate “autonomy and its expression [should be of] primary significance” (Markus & Kitayama, 1991, p. 227).

To our knowledge, no prior research has tested the possible interaction of autonomy-related cues and culture by manipulating autonomy-related cues experimentally and obtaining behavioral measures of work motivation in cross-cultural samples of demographically matched adults. However, related lines of research indirectly suggest that such a manipulation would interact with culture in influencing motivation. For example, cognitively priming the concepts of independence and interdependence prior to the introduction of a performance task have been shown to differentially affect motivation among European Americans and Asian Americans (Hamedani, Markus, & Fu, 2013). Choice-of-task manipulations—that is, who chooses which task, among one or more, on which a given participant will work—differentially motivate children of Asian versus European American descent (Iyengar & Lepper, 1999) and groups induced with individualistic versus collectivistic norms (Hagger, Rentzelas, & Chatzisarantis, 2014). Yet these highly valuable research programs do not speak directly to the question we address here: whether, in the absence of prior self-concept primes or alternative tasks to perform, variations in cues signaling autonomy versus obligations on a given task would differently affect the motivation of different cultural groups. This question is of both

basic and applied interest. In actual workplaces, managers rarely present task-irrelevant self-concept primes, workers often cannot choose the task on which they work, but the work environment does present task-related cues that are meant to motivate employees.

Motivation in Indian Sociocultural Contexts

The non-Western culture we selected for our study, India, is home to traditions that differ from those of the West. Western discourse has highlighted individuality and free choice in personal affairs since Solon, in 7th-century BCE Greece, declared that all citizens have the right to self-rule (Dumont & Carson, 1995). Six thousand kilometers to the East, there was no Solon. Western discourse about the role of autonomous agency in human affairs has no parallel in Indian philosophy (Bhattacharya, 1967), which similarly has not systematically analyzed the problem of free will (Paranjpe, 1998). Ancient Hindu and Vedic philosophies emphasize *dharma*, a moral duty to serve others by fulfilling interpersonal obligations and social role expectations (Rosen, 2006). *Dharma* contrasts with the Protestant work ethic and Enlightenment-era individualistic conceptions of work, agency, and liberty (Weber, 1904/1930).

Contemporary research findings are consistent with these varying philosophical traditions. Americans tend to base choices on personal preferences whereas Indians take additional factors, other than their personal preferences, into account (Savani, Markus, & Conner, 2008; Savani, Morris, & Naidu, 2012; Savani, Morris, Naidu, Kumar, & Berlia, 2011; Savani, Wadhwa, Uchida, Ding, & Naidu, 2015). Even when experimentally induced to engage in the same actions, Indians construe only about half as many actions as choices as do Americans (Savani, Markus, Naidu, Kumar, & Berlia, 2010). Indians view helping others as a moral obligation whereas Americans view helping as a personal choice that is partly dependent on factors such as their liking for another person (Miller & Bersoff, 1998; Miller, Bersoff, & Harwood, 1990). When interpersonal obligations and principles of justice collide, Indians prioritize obligations to others whereas Americans emphasize consistency with personal moral standards (Miller & Bersoff, 1992). Indians' achievement motivation is interpersonally anchored; when thinking about workplace performance, they express more concern about coworkers, extended family, and community than do Americans (Tripathi & Cervone, 2008). Finally, unlike many other nations, in India the relation between empowerment and job satisfaction has been found to be negative (Robert, Probst, Martocchio, Drasgow, & Lawler, 2000).

These findings suggest that Indian culture places less emphasis on personal choice and discretion than does European American culture. A U.S.–India comparison is, also, particularly advantageous in that the nations share political and economic principles that potentially bear upon

individual autonomy (see also Frey & Stutzer, 2002; Lindley, 1986). They both are liberal democracies that guarantee basic freedoms such as freedom of speech and of press. They both feature market-based economies. Despite these similarities, we predicted that Indian and U.S. participants would differ in their reactions to autonomy-related cues, with autonomy support undermining motivation among Indians.

In a preliminary study (Tripathi, Savani, & Cervone, 2016), we found that the priming of autonomy (see Hodgins, Brown, & Carver, 2007; Levesque & Pelletier, 2003) generated higher levels of motivation among Americans on a subsequent task than did the priming of constraints. Subsequent to autonomy priming, Americans devised more solutions to everyday problems than they did after constraints priming. However, Indians were no less motivated after autonomy priming than constraints priming—a null result that may have reflected the nonsocial nature of the priming manipulation employed. Furthermore, this work was limited in that the semantic content of the primes could have affected participants' evaluations of the appropriateness of the solutions they were generating. The present methods were designed to circumvent these past limitations, and thus to unambiguously evaluate possible culture by motivational-cue interactions.

Study 1: Motivational Cues and Time-on-Task

In Study 1, we employed a novel task that possessed three properties of potential value to the cross-cultural study of motivation. First, its stimulus materials had similar meaning and significance across cultural contexts. Second, the semantic content of task materials was unrelated to the semantic content of cues that comprised our motivation manipulation. Third, the task yielded an objective behavioral index of time and effort expended.

The task was an online poster-rating task. Participants were exposed to a series of pairs of posters that promoted environmentalism. For each pair, they were asked to rate the relative quality of the two posters. Instructions explained that rating more posters would constitute a greater contribution to study goals. Participants were free to rate as many posters as they would like before stopping. Amount of work completed, that is, the number of posters rated, prior to stopping was a behavioral measure of work motivation.

This task was well-suited to cross-cultural motivation research in a number of respects. The topic of the stimulus materials, environmentalism, is meaningful in both cultures. Both of the motivational cues we employed—autonomy-supportive (emphasizing personal discretion and choice) and obligations-oriented (emphasizing external control and expectations)—were intuitively plausible instructional sets on the task. It was straightforward to prepare a large pool of stimulus items that enabled participants, at their option, to work for an extended period. Finally, online administration facilitated access to populations located in widely separated

Table 1. Country-Wise Distribution of Demographic Variables.

	The United States (<i>n</i> = 106)	India (<i>n</i> = 106)
Gender		
Men	92	95
Women	14	11
Education		
Bachelor's	87	86
Master's	18	16
PhD	1	4
Age (years)		
20-25	21	24
26-30	26	25
31-35	32	31
36-40	25	26
>40	2	0
Organizational tenure		
Junior	64	53
Middle	42	52
Executive	0	1

regions, eliminated nonverbal cues that might otherwise confound motivational-cue manipulations, and enabled automatic recording of amounts of work produced. We anticipated that these features might make the task particularly sensitive to large-scale variations in motivational states.

In Western cultural contexts, conditions that have been found to diminish autonomy include instructions that emphasize external control and obligations; this includes verbiage dictating what actors *should* or *should not* do (e.g., “you should,” “you have to,” “you’d better,” and “you must”). By comparison, autonomy-supportive instructions are ones that emphasize personal choice and discretion (e.g., “you can,” “you might,” “if you choose,” and “we ask you to”). For example, Western participants receiving autonomy-supportive instructions (“You *can* decide to learn more about recycling strategies”) displayed greater cognitive processing and persistence in recycling efforts than those who received controlling instructions (“You *should* learn more about recycling strategies.”; Vansteenkiste et al., 2004). In the present cross-cultural research with corporate professionals, we employed a similar manipulation to create autonomy-supportive and obligations-oriented work contexts. We hypothesized that Americans would be more motivated in the autonomy-supportive than the obligations-oriented condition, whereas Indians would display an opposite response to these motivational cues.

Method

Participants. An a priori power analysis was not conducted for this study. To solicit voluntary participants, we emailed

corporate professionals in several multinational companies in the United States and India. Email was sent to potential participants through their managers; managers merely forwarded study information, with no additional encouragement or coercion to participate. We also contacted alumni of a selective business school and a selective engineering college in India. We chose multinational companies to minimize between-country differences in extraneous variables, such as professional and language qualifications, formal role structures, incentive schemes, and organizational structures.

A total of 278 corporate professionals responded to the survey. To draw a distinct comparison between Indian and European American cultures, we only retained Indians who were residing in India and Americans of European American ethnicity (self-reported ethnicity *Caucasian*) residing in the United States. The following participants were not included in data analysis: three self-reported ethnicity Hispanic, one African American, 24 Asian Americans, 30 Indians residing in the United States, and five participants who dropped out in the initial “warm up” phase of the experiment.

The final sample consisted of 106 U.S. and 106 Indian nationals residing in their home country. The subsamples were closely matched on various demographic variables (Table 1). We used a 2 (Nationality: American/Indian) \times 3 (Condition: autonomy-supportive/obligations-oriented/no-autonomy-information) between-subject design. Participants were randomly assigned to one of the three conditions. Participants were not paid.

Procedure. The recruitment email directed participants to a website presenting a study about the appeal of visual images. Participants in both cultures read identical task instructions in English, as English is the primary mode of communication in multinational corporations operating in India. Participants judged the relative quality of pairs of posters promoting energy conservation and environmentalism, purportedly as an effort in Human Computation (von Ahn, 2006). The cover story, which was identical across conditions, informed participants that the goal of this study was to identify which images are better than others, a task which computers cannot do, and therefore, which can only be accomplished with the help of human volunteers. Furthermore, participants were informed that the task was of interest to psychologists as it would inform them about elements of visual images that people find more favorable than others.

All participants were told that the more posters they judged, the bigger a contribution they would be making to the experimenter’s efforts to understand why people prefer certain images over others. They were also told also that there were many posters that needed to be judged, and that people tend to spend varying amounts of time in this activity. Participants could discontinue participation at any time by clicking an “Exit” button.

To screen out casual Internet browsers, a “warm-up” period (Reips, 2002) was included. A 2-min slideshow displayed



Figure 1. Sample Poster Pair.

images similar to those used in the actual study. Participants could proceed only after viewing the 2-min slideshow.

Experimental manipulation. The experimental manipulation was executed via task instructions (cf. Vansteenkiste et al., 2004). The *autonomy-supportive* condition included phrases emphasizing the participant's personal discretion and freedom of choice (e.g., *if you want, you might*). After the header "It's your choice!" participants were told that the task "is essentially about choosing what you like best in visual images, and letting us know the reasons for your choice. You may rely on your own discretion in deciding which poster is better." In the *obligations-oriented* condition, after the header, "Tell us which poster is better," participants learned that they should "look at each poster very carefully. Notice that most posters have text and visual information. You should pay attention to both when you analyze the poster . . . Ultimately, you should make a sound decision." Analogous passage in the *no-autonomy-instructions* condition eliminated such autonomy-supportive and obligations-oriented verbiage, but included filler information to equate overall instruction length. The three kinds of instructions were matched on informational details about the posters and the task (see Supplemental Material for complete instructions).

A self-report mood measure, embedded in filler items (e.g., do you have a normal eyesight) followed the manipulation. Participants indicated how they felt on a 7-point semantic differential scale ("excited-bored"; "happy-sad"; "confident-nervous"). Upon submitting each of these items to a 2 (culture) \times 3 (condition) ANOVA, we did not find any

effect of condition, or any Culture \times Condition interaction, $ps > .19$.

Dependent measure. Participants then viewed a pair of posters (see Figure 1 for an example), and were asked, "which poster is the better of the two." They could continue by clicking a "Judge more posters" button or could drop out by clicking the "Exit" button. Thirty pairs of posters were available; the maximum amount of time that participants could spend on the task was set at 1 hr. The time spent on the poster judgment task served as the behavioral measure of motivation.

Manipulation checks. After exiting, manipulation-check measures tapped perceptions of the instructions, on the following measures: "The instructions told me exactly what to do," "I felt obliged to do the task as directed," "The instructions gave me enough freedom on how to do the task," and "The instructions provided specific details on how to do the task." The autonomy-supportive and obligations-oriented conditions differed markedly (t -values >7) as expected. The no-autonomy condition closely matched the autonomy-supportive condition. We also assessed participants' beliefs about the clarity of instructions on a 7-point scale ranging from 1 (*clear*) to 7 (*ambiguous*). In both conditions, and for participants of both nationalities, the large majority of participants indicated that the instructions were clear (i.e., a response of 1). Also, every single participant agreed that he or she noticed the "Exit" button on all webpages. Upon completing the self-report measures, the participants were thanked for their participation and debriefed.

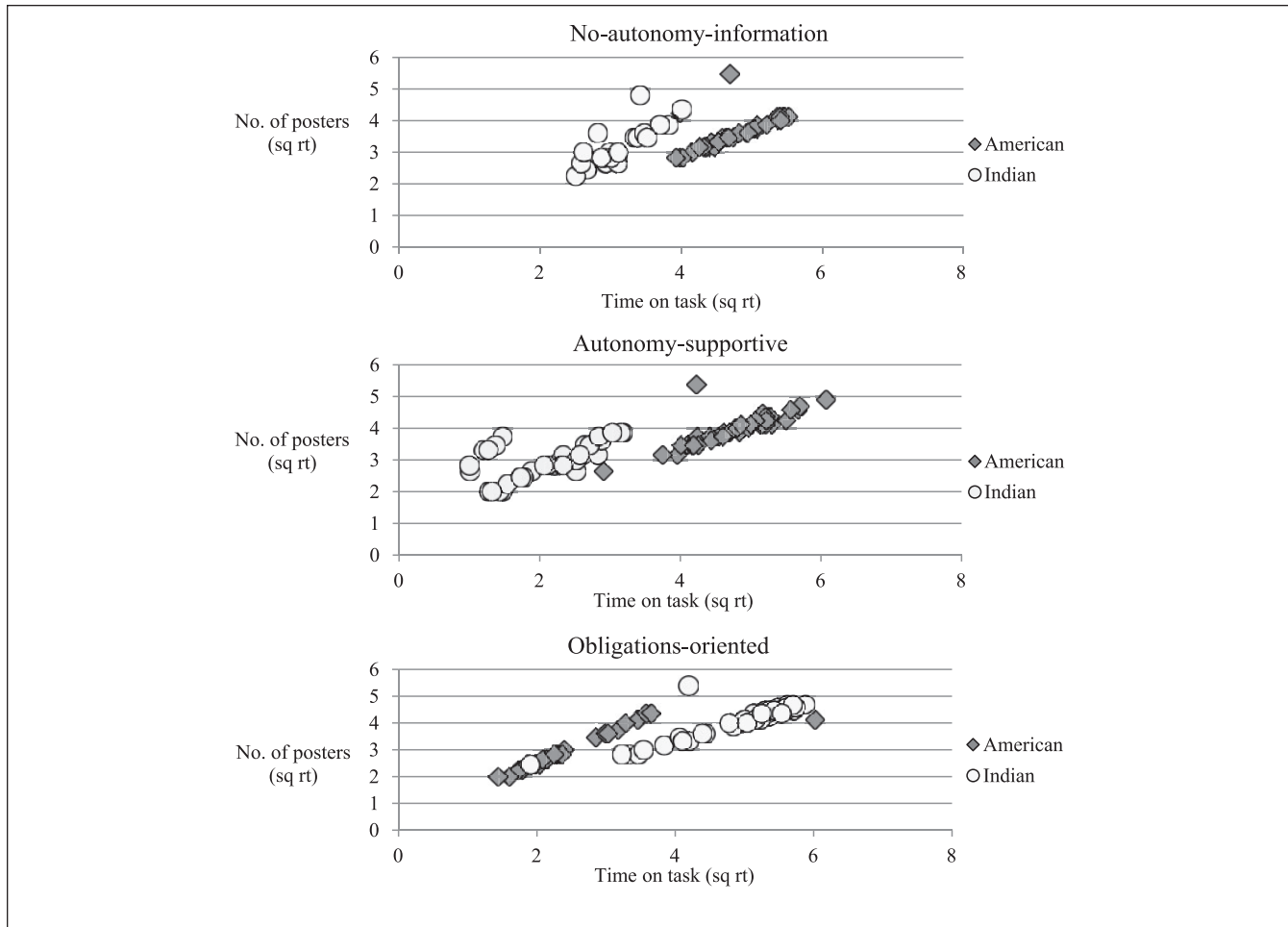


Figure 2. Time on task and number of posters judged by American and Indian participants in each of the three experimental conditions. Note. Square-root transitions were used to adjust for skewness in the distributions of both variables.

Results

Demographics with sufficient observations, such as age, educational qualification, and organizational tenure, did not interact with experimental conditions to have a significant effect on the dependent measures ($ps > .33$). Hence, these variables are not included in any further analyses.

Figure 2 displays each participant's performance, plotted by nationality and experimental condition. The two autonomy-relevant conditions had profoundly large and opposite effects in the two cultures. Differences were so large that the groups exhibited little statistical overlap. In the autonomy-supportive condition, almost all Americans (all but one) spent more time-on-task than any Indian participant. In the obligations-oriented condition, all Indian participants spent more time on task than all but eight Americans. Results in the no-autonomy-instructions condition resembled those observed in the autonomy-supportive condition. The absence of directive instructions appeared to connote autonomy to the participants, with Indian and U.S. participants again differing markedly in their persistence. Figure 3 reports mean time-on-task in the three conditions.

Statistical analyses confirmed these observations. We had two dependent measures: time spent on the poster-rating task and total number of posters rated. As both variables were right-skewed (skewness = .496 and .464, respectively), we square-root transformed them, bringing the distribution closer to normality (transformed skewness = .106 and .038, respectively). Upon submitting these transformed variables to 2 (culture) \times 3 (condition) ANOVAs, we observed significant Culture \times Condition interaction effects on both time-on-task, $F(2, 206) = 285.50, p < .00001, \eta_p^2 = .735$, and total number of posters judged, $F(2, 206) = 62.71, p < .00001, \eta_p^2 = .378$. An index of carefulness of work, time-per-poster judged, yielded a similarly large interaction between nationality and culture, $F(2, 206) = 410.44, p < .00001, \eta_p^2 = .799$. Across nationalities, independent-samples t tests indicated that Americans spent more time on task in the autonomy-supportive, compared with obligations-oriented, contexts; $t(72) = 11.82, p < .00001, 95\%$ confidence interval (CI) = [13.64, 19.18], whereas Indians spent more time under obligations-, than autonomy-oriented instructions; $t(77) = -15.50, p < .00001, 95\%$ CI = [-22.38, -17.28]. Effect sizes were extraordinarily large; Cohen's $ds > 2.7$ in both cases.

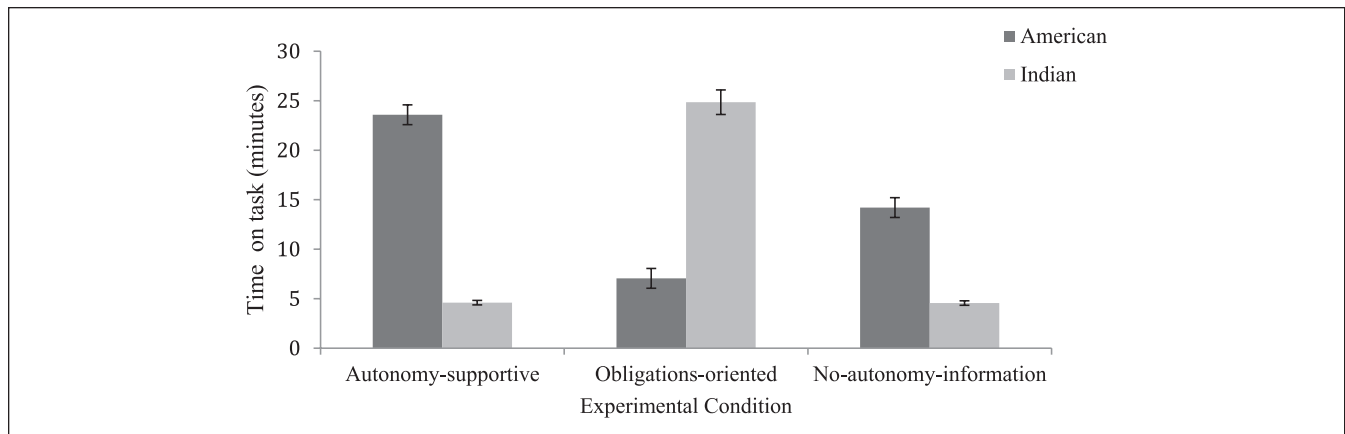


Figure 3. Time on task ($M + 0.95$ CI) of American and Indian participants in each of the three experimental conditions. Note. CI = confidence interval.

Additional Analyses: Split-Half Replication With Randomized Subsamples

The need to establish the reliability of research results (Lindsay, 2015) prompted us to conduct an additional analysis. Specifically, we conducted an *internal replication* (e.g., Duffy, McAnulty, & Albert, 1995; Groppe, Makeig, & Kutas, 2009), in which a dataset is split into two random halves and the results compared across the two subsamples. This is conceptually equivalent to running two independent smaller studies, which is particularly valuable when a complete replication of a study is logistically difficult (as in our case, in which samples of corporate professionals who volunteer their time to research are not easily accessible).

We split the original samples of Indian and American participants randomly into two subgroups, which we refer to as Subsamples A and B, for each nationality. We conducted t tests to evaluate the hypothesis that in both American subsamples, participants would spend more time on task in autonomy-supportive than in obligations-oriented condition, whereas in both Indian subsamples, participants would display the opposite pattern. These analyses revealed that the expected group differences replicated in each subsample of participants. Among Americans, the two subsamples showed that Americans spent significantly more time on task in the autonomy-supportive condition than in the obligations-oriented condition; in Subsample A, $M_{\text{aut-supp}} = 23.19$, $SD_{\text{aut-supp}} = 6.19$; $M_{\text{oblig-orient}} = 5.25$, $SD_{\text{oblig-orient}} = 2.70$; $t(32) = 10.15$, $p < .0001$, 95% CI = [14.33, 21.53]. Correspondingly, Subsample B exhibited a similar pattern, $M_{\text{aut-supp}} = 23.52$, $SD_{\text{aut-supp}} = 5.32$; $M_{\text{oblig-orient}} = 8.19$, $SD_{\text{oblig-orient}} = 7.75$; $t(38) = 7.35$, $p < .0001$, 95% CI = [11.10, 19.54].

For Indians, Subsample A showed results similar to Subsample B. Specifically, in Subsample A, $M_{\text{aut-supp}} = 5.03$, $SD_{\text{aut-supp}} = 2.91$; $M_{\text{oblig-orient}} = 26.29$, $SD_{\text{oblig-orient}} = 8.06$; $t(31) = -10.64$, $p < .0001$, 95% CI = [-25.33, -17.18] and in Subsample B, $M_{\text{aut-supp}} = 4.17$, $SD_{\text{aut-supp}} = 2.37$; $M_{\text{oblig-orient}} = 23.47$,

$SD_{\text{oblig-orient}} = 7.09$; $t(44) = -11.39$, $p < .0001$, 95% CI = [-22.72, -15.89]. The effect sizes for all subsample results, similar to those in the original finding, were extraordinarily large ($d_s > 2.38$).

Overall, the internal replication corroborated with the original findings. We found support for the hypotheses that autonomy support is motivating for Americans but demotivating for Indians, in the subsamples of participants of each nationality.

Discussion

The results powerfully contradicted the contention that autonomy boosts motivation universally: Providing autonomy-supportive instructions to Indian participants diminished their motivation compared with obligation-oriented instructions. The effect was nearly uniform across Indian participants, almost all of whom were less motivated when receiving autonomy-supportive instructions than when receiving obligation-oriented instructions. The exact opposite finding was obtained among U.S. participants, whose pattern of motivation was consistent with the predictions of self-determination theory.

The autonomy manipulation did not influence either Indian or American participants' mood. This helped rule out the alternative hypothesis that the participants spent more time on task in one versus the other condition under positive or negative emotion states. Specifically, the heightened motivation of Indians in the obligations condition cannot be attributed to experienced negative mood arising out of potential pressure or threat. The boundaries of "shoulds" and "should-nots," presumed controlling in Western motivational theories, are not experienced as such by Indians. Such boundaries, instead, reflect the culturally adaptive way of responding to social situations.

The diminished motivation among Indians in the autonomy-supportive condition compared to the obligation-oriented

condition suggested that a focus on personal judgment and discretion might be incongruent with the Indians' sense of the self. Personal autonomy, rather than being liberating, can be disconcerting to Indians, resulting in lower motivation for the task. Americans, on the contrary, as predicted by self-determination theory, are energized by autonomy-supportive work contexts.

Study 2: Why Do Americans Prefer Autonomy-Supportive and Indians Obligations-Oriented Instructions?

The strikingly large cultural differences observed in Study 1 raise the challenge of identifying factors that might contribute to Indian and American workers' varying responses to autonomy-supportive vs. obligation-oriented messages. One methodological strategy to meet such a challenge is to assess people's internal motivational states implicitly (e.g., Tripathi & Cervone, 2008). Historically, motivation theory (McClelland, Koestner, & Weinberger, 1989) highlights the possibility that people lack explicit, verbal awareness of psychological factors underlying their motivated action, so only implicit measures might reveal cultural variations in motivational forces of which people are unaware. An alternative is to capitalize on people's conscious awareness of the social practices that predominate in their own culture and the motivational implications of those practices. As cultural anthropologists find, individuals can be valuable informants with regard to the practices of their culture (e.g., Romney, Weller, & Batchelder, 1986).

We pursued the latter alternative for reasons that follow from our introductory discussion. As we noted, U.S. and Indian cultures differ in their emphasis on personal choice as opposed to social obligation. These cultural differences can create variations in social practices and expectations in everyday life; people expect to have personal choice in the United States, whereas Indians anticipate that others expect them to adhere to social obligations. In both countries, it is possible that people may recognize circumstances that do and do not adhere to the norms of their culture. Therefore, in Study 2, we asked participants to evaluate whether they prefer task instructions that favor autonomy versus obligations, and predicted that that when explicitly asked to indicate preference for autonomy-supportive versus obligations-oriented instructions, Indians would prefer obligations and Americans autonomy.

Method

Participants. A power analysis using G*Power 3.1 (Faul, Erdfelder, Buchner, & Lang, 2013), assuming an effect size $w = .5$, $\alpha = .01$, and power = 99% in a 2×2 contingency table for chi-square analysis, indicated a required total sample size of 97. We assumed a large effect size $w = .5$ (Cohen, 1988)

given the large effect sizes obtained in Study 1, with Cohen's $d > .80$.

Indian and American nationals from Amazon's online crowdsourcing website, Mechanical Turk (MTurk), were recruited as participants. Because the procedures required careful reading of materials, we included a preliminary instructional manipulation attention check (Oppenheimer, Meyvis, & Davidenko, 2009) as an inclusion criterion. This also served as a proxy for English language proficiency among Indians who are nonnative speakers of English. U.S. ($n = 51$) and Indian nationals ($n = 56$) passed the inclusion criterion.² Consistent with Study 1, we only retained Indians who were residing in India and Americans of European American ethnicity (self-reported ethnicity *Caucasian*) residing in the United States. The following participants, therefore, were not included in data analysis: Among Americans, four self-reported ethnicity Hispanic, three African American, three Asian Americans, one Other; Among Indians, one reported residing in United Arab Emirates, one in the United States, one did not report country of residence, one reported the nationality as Other. Therefore, the final sample consisted of 40 U.S. (21 men, 19 women) and 52 (37 men, 15 women) Indian nationals residing in their home country.³

Procedure. After informed consent, participants were presented with the instructional manipulation attention check. Then, as in Study 1, participants read about a poster-rating task that purportedly was an effort in Human Computation. Unlike Study 1, participants were informed that it is a challenge to get members of online communities to spend enough time doing such tasks, and that the researchers are evaluating alternative materials designed to enhance task engagement. Participants' task was to aid this evaluation process by (a) selecting instructions that they thought would be best to get people to spend more time on the task, and (b) providing reasons for their recommendations.

Participants read four sets of instruction alternatives. Each presented two versions of one- to three-sentence passages that would appear within instructions to prospective online community members. For each pair, participants indicated which of the two passages would be "better to get people to spend more time on the task," and then indicated "reasons for [their] selection" by typing into a text box.

Three of the four sets alternatives were filler items unrelated to autonomy, whereas the fourth included autonomy-supportive ("It's your choice . . . if you want . . . you might want to . . .") and obligations-oriented ("You must follow . . . you should pay attention . . . you must see . . .") alternatives (see Supplemental Material for complete instructions).

After participants responded to the four sets of alternatives, a new screen displayed the autonomy- or obligations-oriented option, which they did not select and asked them to provide additional reasons why they did not select that option.

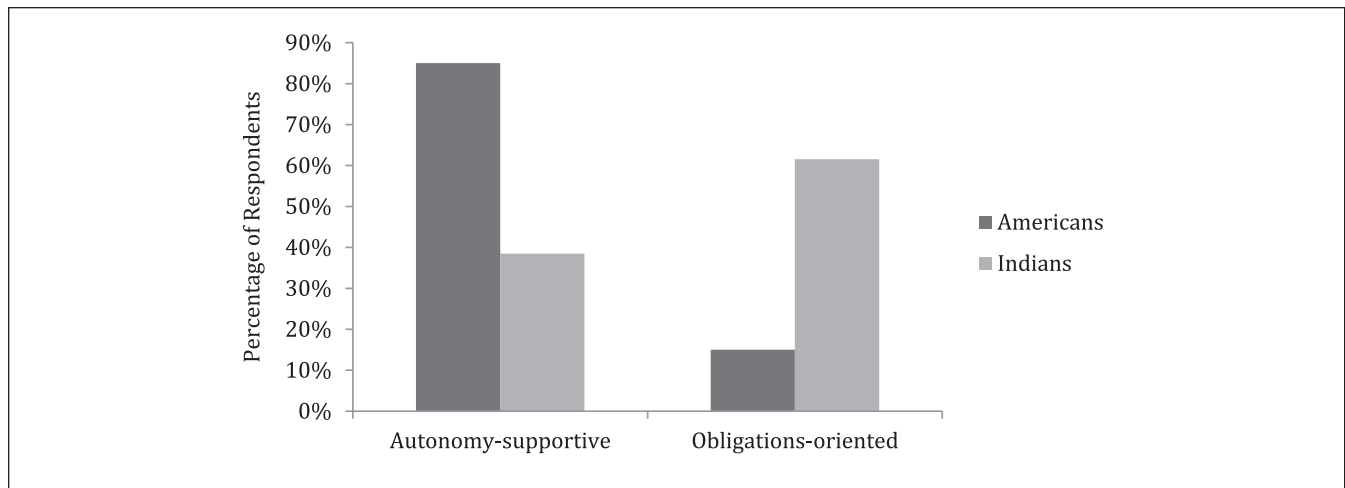


Figure 4. Percentage of Indians and Americans that prefer autonomy-supportive versus obligations-oriented instructions.

Results

Indians and Americans differed significantly in their beliefs about the types of instruction that would be best for motivating online communities for a voluntary task, $\chi^2(df = 1, N = 92) = 20.19, p = .000001$, Cramer's $V = .47$. As displayed in Figure 4, 62% of Indians recommended the use of obligations-oriented instructions rather than autonomy-supportive ones. By contrast, 85% of Americans recommended instructions that emphasized autonomy rather than obligations. The results strongly supported our hypothesis that when explicitly asked to make recommendations for the use of autonomy-supportive versus obligations-oriented instructions, Indians would prefer obligations and Americans autonomy.

When indicating reasons for their responses, most participants provided one or two complete statements. For coding purposes, we combined all statements provided by members of each of the two participant nationalities, and coded both positively and negatively valenced responses to autonomy- and obligations-oriented instructions statements into one of three categories: Instruction Focused (referring to the instructions per se), Response Focused (emotional/attitudinal reactions to instructions), and Task Performance Focused (effect of instructions on execution of task). Eighty-seven percent of the responses could be coded into one of the three categories; the remainder were either general statements (e.g., "I prefer this") or bogus responses that could not be categorized. Four participants did not provide reasons for their choice.

Aggregating across categories, Indians and Americans differed significantly in the frequency with which they provided positively and negatively valenced responses to autonomy- and obligations-oriented instructions, $\chi^2(df = 3, N = 191) = 41.90, p = .000001$, Cramer's $V = .47$. In the complete set of comments made by Americans, 48% referred negatively and 8% positively to obligation cues; 40% referred positively and 4% negatively to autonomy cues. In contrast,

among Indians, 46% of the overall comments referred positively, and 22% negatively to obligations; 24% positively and 8% negatively to autonomy. Overall, whereas Indians provided positive evaluation of obligations-oriented cues, American viewed them negatively. Also, fewer Indians than Americans viewed autonomy cues positively.

Turning to specific categories of responses, first with reference to obligations-oriented instructions, among Americans, the two most frequent classes of responses were negative responses that were either Instruction Focused (e.g., "too bossy"; 29% of all responses to obligations-oriented instructions) or Response Focused (e.g., "I don't like how it's telling me what to do"; 43%). Among Indians, 68% of responses to obligations-oriented instructions were positive; the most frequent class of response was a positive Task-Focused response (e.g., "attention on details is important," "it's better to follow instructions"; 49%). Regarding autonomy, Americans, more so than did Indians, primarily provided positive responses that were Response Focused (e.g., "people like freedom"; 43% of responses to autonomy-oriented instructions) or Task Performance Focused (e.g., "It makes the task seem more fun and less work"; 26%). In the language of coping research (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986), one could say that, under obligations-oriented instructions, Americans were emotion-focused whereas Indians were problem- or task-focused.

Discussion

The results are consistent with the idea that Americans and Indians hold different beliefs about the contexts that best motivate people, at least within the type of setting considered in the present study. American participants expressed views that were consistent with U.S.-based motivation theory: They recommended autonomy-based instruction cues

and found obligations-oriented instructions to be overbearing. Indian participants expressed very different views, consistent with the behavioral results observed with Indian participants in Study 1. Indians in Study 2 judged that work settings featuring explicit task instructions—settings that allow for *less* freedom and discretion in organizing work (cf. Deci & Ryan, 2000; Hackman & Oldham, 1976)—would be best for motivating people. Open-ended responses suggested that Indians thought that these instructions were more likely to elicit quality performance on the task at hand from people.

General Discussion

Studies 1 and 2 revealed that citizens of the United States and India respond very differently to autonomy-related motivation cues in work-related settings. In Study 1, autonomy-enhancing instructions, relative to obligations-oriented instructions, substantially increased motivation among Americans but substantially *decreased* motivation among Indians. An internal replication obtained through an analysis of split-half randomized subsamples demonstrated the robustness of the results. In Study 2, participants were asked for recommendations about instructions that would enhance motivation. Most Americans recommended autonomy-related instructions whereas most Indians recommended instructions invoking explicit obligations rather than autonomy.

These results cast doubt on the cross-cultural generalizability of claims about the motivational effects of autonomy-related cues. Motivational theories and mainstream management literature commonly state or presume that motivational principles apply uniformly across Western and non-Western contexts; they discuss the benefits of autonomy in universalistic language. However, rather than being universal, our findings reveal that the effects of autonomy can be culturally contingent. Indians differed strikingly from American in their responses to our autonomy manipulations.

In Study 1, we introduced a novel Internet-based behavioral measure of motivation conducted with volunteer, unpaid participants. The methodological advantages of this method may have contributed significantly to our capacity to detect substantial cultural variability in response to autonomy- and obligations-related cues. By comparison, much cross-cultural research has employed self-report survey methods. In surveys, factors such as the relative position of the researcher as a cultural insider or outsider, the nonequivalence of survey items, and response biases (e.g., socially desirable responding; Heine, Lehman, Peng, & Greenholtz, 2002; Peng, Nisbett, & Wong, 1997; see also Harkness, van de Vijver, & Mohler, 2003) might mask cultural variations. By minimizing such factors, our Internet-based behavioral measure was able to detect a cultural variation in motivation that was profoundly large.

Of course, behavioral methods that are laboratory-based are common (e.g., Iyengar & Lepper, 1999; Zuckerman, Porac, Lathin, & Deci, 1978). However, Internet-based behavioral measures have at least three advantages in comparison with lab-based in-person procedures. First, they have high ecological validity; contemporary workforces communicate electronically and engage in tasks that, like the ones we employed, are computer-based. Second, online tasks minimized surveillance threats; participants work with privacy, which allows them greater freedom to persist or to quit the task any time. By contrast, in laboratory paradigms researchers must make efforts (e.g., surreptitious cameras or one-way mirrors) to combat potential surveillance effects. Finally, an Internet-based procedure eliminated interpersonal confounds that can result from face-to-face communications and relational dynamics between an experimenter and research participant, which might be hard to control across cultures. In the present procedures, task instructions were presented, on screen, in a precisely identical manner across cultural settings.

Implications for Theory

It is possible to interpret the findings through the lens of Western motivational theory. In self-determination theory (Chirkov, Ryan, & Sheldon, 2011; Miller, Das, & Chakravarthy, 2011; Ryan & Deci, 2000), one may say that, in India, the *external* imposition of work constraints or obligations enhances *internal* feelings of autonomy; Indians may, in principle, feel self-directed when acting according to the directions of others. Such a view, while not implausible, raises two concerns. First, it may render self-determination theory impervious to disproof; the theory would be disprovable if one had license to claim, after the fact, that the most highly motivated participants in a given study were experiencing autonomy. Second, our findings contradict self-determination theory's expectations regarding autonomy construed as "the organismic desire to self-organize experience" (Deci & Ryan, 2000, p. 231). In Study 1, Indian participants in the autonomy-enhancing condition experienced an opportunity to self-organize (instructions emphasized personal choice and discretion) but it was demotivating.

The results align with the general framework of culture psychology (Kitayama & Cohen, 2007) in which culture and psyche are "mutually-constitutive" (Shweder & Sullivan, 1993), such that different cultural contexts may foster qualitatively different capabilities and tendencies. In the Indian context, the concept of *dharma* entails a sense of moral duty toward fulfilling external obligations that contrasts with Western conceptions of personal agency and empowerment (Malhotra, 2011). *Dharma* fosters an interdependent self that derives its primary motivational thrust from the fulfillment of obligations rather than the enhancement of autonomy (see Markus, 2016; Markus & Kitayama, 2003; Riemer, Shavitt, Koo, & Markus, 2014).

Study 2 suggests a somewhat different theoretical interpretation. Rather than explaining cultural variations solely in terms of internal mental constructs (e.g., autonomy, the self), one also can reference features of the social settings. To Americans, work settings that provide autonomy are the norm. To Indians, they are relatively odd; instead, work environments featuring structured obligations are expected. The choices and associated reasons provided by participants in Study 2 suggest that Indian and American cultures differ in the norms that are expected in work settings; the findings suggest that different “rules” structure the “game” of work in the two cultural contexts (cf. Wittgenstein, 1953). In any culture, individuals may be less engaged in work when the work environment violates cultural expectations.

Applied Implications

The results have implications for those who seek to motivate a multinational workforce. Managers should vary motivational cues to match implicit cultural expectations. They are advised to guard against the incorrect assumption that autonomy will enhance motivation uniformly across cultural groups. Awareness of the cultural differences revealed here also may facilitate interpersonal communications and work relations (Sanchez-Burks et al., 2003; Shah & Barker, 2017). Seemingly subtle cues involving word choice may powerfully affect employees.

Knowledge of cultural differences also can help managers to avoid concluding falsely that employees of one cultural background are more or less motivated than another. Our Indian and American subsamples were equally motivated, but under different situational contexts. Awareness of such findings may prompt managers to engage in effective cultural code-switching in multinational workforces (see Molinsky, 2013). It also may enable managers to avoid simplistic stereotypes of different groups of employees. For example, one Western guidebook suggests that Indians “just follow the instructions they’re given . . . even when they know a better way to do something” (Storti, 2007, p. 102), which can create the impression “that Indians are too timid to speak up, lack self-confidence, or just don’t want to cooperate” (Storti, 2007, p. 103). Our results suggest instead that Indians are motivated to excel, but do so in circumstances that may be demotivating in the West (also see Markus & Conner, 2013).

Present research is also relevant to meta-theoretical considerations in cross-cultural management theory and research. Researchers (e.g., Chao & Moon, 2005; Morris & Young, 2002; Peterson & Wood, 2008) warn against using culture-level variables such as individualism-collectivism and power distance to explain person-level variations in psychological functioning. They argue that the culture-level theoretical constructs are, at best, aggregate descriptions of cultural monolith, and these may or may not speak to the person-level behavioral tendencies (e.g., Oyserman, Coon, & Kemmelmeier, 2002). Person-level measures employing

experimental manipulations and behavioral dependent measures, such as the one we used, help offset some of these concerns. The present findings have the potential to inform the study of motivation in a more culturally inclusive manner (e.g., DeVoe & Iyengar, 2004; Erez et al., 2001; Gelfand, Erez, & Aycan, 2007; Steers, Sanchez-Runde, 2017) and to inform the broader evidence of person–context interactions (Mesquita, Barrett-Feldman, & Eliot, 2010; Mischel, 2004; Shoda, Cervone, & Downey, 2007).

Limitations and Future Research

Limitations of the present study primarily involve questions of generalization. We sampled only two cultures, Indian and American. Although these populations are of global economic significance (Cappelli, Singh, Singh, & Useem, 2010; Kumar, 2009), it would be valuable to extend the present methods to diverse, multinational samples.

Another question is whether our results generalize from our experimental study to actual school or work environments, which differ in the degree to which people chronically experience environments that support autonomy versus invoke obligations. Future research could explore generalization across methodological variations, such as the tasks that workers perform (cf. Langfred & Moye, 2004). Many workplace activities are more complex than our poster judgment task. In principle, the interaction of autonomy-related cues and culture may vary across levels of task complexity (cf. Wood, Mento, & Locke, 1987). Another methodological variation would be the temporal scope of behavior. We only examined single work sessions. Longitudinal research could explore the long-term impact of autonomy-supportive and obligations-oriented conditions on motivation in organizational or educational settings. Finally, research could employ alternative manipulations of autonomy, such as variations in freedom in decision making (cf. Hackman & Oldham, 1976).

Future work may also entail a more nuanced analysis of the nature of norms that affect one’s response to autonomy versus obligations. Norms may interact dynamically with cultural values on one hand and cognitive resources on the other (see Leung & Morris, 2015) in influencing the motivational constructs.

Authors’ Note

The data of Studies 1 and 2 is available on the Open Science Framework (OSF; osf.io/wt259).

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Notes

1. They also were asked to enter reasons for why they chose one poster over the other. These are not analyzed for the purposes of the present report.
2. Whereas only 5.5% of Americans failed the inclusion test, among Indians, this percentage was disproportionately high; 49%. Instructional manipulation check is normatively known to identify a "high proportion of participants (35%-45%) as inattentive" (Maniaci & Rogge, 2014, p. 62), with published research excluding high proportions of such respondents (e.g., Simmons & Nelson, 2006, Study 12). Among Indians, this percentage could also be high because of the language issues (see also Litman, Robinson, & Rosenzweig, 2015). An a priori decision on the exclusion criterion is considered critical to the reliability and meaningfulness of results obtained via online experimental manipulations and is encouraged by researchers (DeSimone, Harms, & DeSimone, 2015; Huang, Curran, Keeney, Poposki, & DeShon, 2012; Meade & Craig, 2012).
3. Participants' age was not reported due to an oversight during survey creation. However, as no other qualifiers were used, other than nationality, the demographics reported in the literature can be taken as a proxy. The majority of the Mechanical Turk (MTurk) participants, in both the United States and India, are born between 1980 and 1989 (Ipeirotis, 2010).

Supplemental Material

Supplementary material is available online with this article.

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