

# The Distinct Influence of Cognitive Busyness and Need for Closure on Cultural Differences in Socially Desirable Responding

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Research suggests that cognitive busyness and need for closure have similar effects on a host of consumer phenomena, leading some researchers to treat the two variables as substitutes. We propose that cognitive busyness and need for closure have distinct roots and can have different effects. We examine their distinction in the context of cultural differences in the two types of socially desirable responding—impression management and self-deceptive enhancement. Our findings indicate that high (vs. low) cognitive busyness weakens the relationship between culture and impression management, but not that between culture and self-deceptive enhancement. In contrast, high (vs. low) need for closure strengthens both relationships. The article concludes with a discussion of the theoretical, methodological, and practical implications of these findings.

Consumers who respond to marketing surveys often do so under different contexts and have distinct motivations. For example, some consumers may respond to a survey while watching TV, which may distract their attention and limit their cognitive resources, whereas others may do so without any such distraction. In another example, some consumers may be under a deadline to complete a survey, which in turn may motivate them to make quick decisions and respond rapidly to the survey questions, whereas others may not face the same rush. Do these cognitive and motivational factors influence consumer responses to surveys? How do these factors influence recently uncovered cultural differences in the tendency to engage in socially desirable responding? Are the effects of these factors similar or distinct?

Prior research suggests that cognitive and motivational factors have similar effects on a range of phenomena (Anderson and Slusher 1986) and that the two are indistinguishable (Greenwald 1975; Kruglanski 2001; Tetlock and

Levi 1982). For instance, research reveals that consumers who are either cognitively busy (vs. nonbusy) or those who have a high (vs. low) need for closure exhibit a greater tendency to selectively process information and rely on heuristics to evaluate products (Kardes et al. 2004), to resist persuasion attempts in the presence of an opinion (Kruglanski, Webster, and Klem 1993), and to rely on primed constructs to interpret target information (Ford and Kruglanski 1995; Thompson et al. 1994). The widespread belief that cognitive busyness and need for closure have similar effects has led researchers to treat them as equivalent (Ford and Kruglanski 1995; Knowles et al. 2001; Kruglanski and Webster 1991; Kruglanski et al. 1993).

The current research examines how cognitive busyness and need for closure influence the relationship between culture and socially desirable responding. If cognitive busyness and need for closure are substitutable, one should expect similar effects of both. However, we suggest that because cognitive busyness and need for closure have different roots and follow distinct processes, in certain circumstances, they may work in different or opposite ways. Indeed, cognitive busyness influences the processing resources available to participants (Gilbert and Osborne 1989; Pontari and Schlenker 2000), whereas the need for closure influences people's desire to quickly arrive at firm answers that provide epistemic closure (Kardes et al. 2004, 2007; Kruglanski and Webster 1996).

Five studies support our theorizing and indicate that high (vs. low) cognitive busyness weakens the relationship between culture and impression management—the tendency to distort responses to appear normatively appropriate. Fur-

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*John Deighton served as editor and Jennifer Aaker served as associate editor for this article.*

ther, high (vs. low) cognitive busyness does not influence the relationship between culture and self-deceptive enhancement—the tendency to provide exaggerated reports of one's skills and abilities. In contrast, high (vs. low) need for closure strengthens both relationships. Next, we flesh out the assumptions behind our predictions and present the studies, followed by a discussion of the implications of our findings.

## COGNITIVE BUSYNESS AND NEED FOR CLOSURE

Researchers have long been intrigued by the distinction between cognitive and motivational factors in people's judgments (Anderson and Slusher 1986; Tetlock and Levi 1982), with Kruglanski (1999, 55) terming it "the mother of all distinctions." Most prior research, however, has not been able to distinguish between the effects of cognitive and motivational factors (Greenwald 1975; Kruglanski 2001; Sorrentino and Higgins 1986; Tetlock and Levi 1982). Tetlock and Levi (1982, 69) reviewed a range of findings attributed to these factors and concluded that "cognitive and motivational theories are currently empirically indistinguishable." A similar view has been expressed by Kruglanski (2001, 42–43), who stated that "*motivation and cognition* are one, that is, in an important sense, *motivation is cognition*" (italics in original).

In the present research, we explore how cognitive busyness as a cognitive variable and need for closure as a motivational variable affect cultural differences in socially desirable responding. Consistent with the findings above, research indicates that cognitive busyness and need for closure act similarly on numerous aspects of consumer behavior (Ford and Kruglanski 1995; Knowles et al. 2001; Kruglanski and Webster 1991; Kruglanski et al. 1993). For instance, high (vs. low) cognitive busyness or high (vs. low) need for closure makes consumers more resistant to persuasion when prior information about the target is available (Kruglanski et al. 1993), increases their tendency to rely on heuristics to evaluate products (Kardes et al. 2004), enhances their likelihood of assimilating thoughts toward primed constructs (Thompson et al. 1994), and intensifies primacy effects in judgment formation (Webster and Kruglanski 1994; Webster, Richter, and Kruglanski 1996).

These and other similar findings have led some researchers to believe that cognitive busyness and need for closure are proxies of each other (De Dreu 2003; Ford and Kruglanski 1995; Kardes et al. 2004; Webster et al. 1996). Consequently, a number of researchers have attempted to induce need for closure by varying cognitive busyness (e.g., Knowles et al. 2001; Kruglanski and Webster 1991; Kruglanski et al. 1993; Webster, Kruglanski, and Pattison 1997). For instance, previous research (e.g., Ford and Kruglanski 1995) has attempted to increase need for closure by asking respondents to memorize a randomly chosen eight-digit number, a commonly used procedure to induce cognitive busyness (e.g., Gilbert and Osborne 1989). In a number of other articles, need for closure was activated by increasing ambient noise

(e.g., Kruglanski and Webster 1991; Kruglanski et al. 1993; Livi 2003; Webster et al. 1997), which is another standard manipulation of cognitive busyness (e.g., Knowles et al. 2001; Kruglanski et al. 1993, 873). Ford and Kruglanski (1995, 961) noted that "variables shown to limit cognitive capacity, such as concomitant cognitive load . . . (likely induce) a need for closure." Webster et al. (1996, 183) concluded that "the state of mental fatigue (arising from cognitive busyness) induces the need for cognitive closure."

In this article, we propose that because cognitive busyness and need for closure have distinct origins and act via different mechanisms, they can sometimes have dissimilar effects. Cognitive busyness is a cognitive variable that affects working memory capacity and, hence, the attentional resources available to the individual (Gilbert and Osborne 1989; Paulhus, Graf, and Van Selst 1989; Pontari and Schlenker 2000). In contrast, need for closure is a dispositional variable that enhances craving for epistemic closure (Kardes et al. 2004, 2007; Kruglanski and Webster 1996). The former reduces people's ability to perform certain tasks, whereas the latter increases their motivation to complete tasks quickly (Fu et al. 2007; Kruglanski et al. 1993; Pierro et al. 2003). In the next sections, we elaborate how this distinction can be examined in the domain of cultural differences in socially desirable responding.

## SOCIALLY DESIRABLE RESPONDING

Prior research has identified two types of socially desirable responding: self-deceptive enhancement (henceforth self-enhancement) and impression management. Self-enhancement is the tendency to describe oneself in an inflated yet honestly held manner and is motivated by the desire to see oneself in a positive, overconfident light (Paulhus 1991; Paulhus and John 1998). It is linked to optimism, self-esteem, narcissism, hindsight bias, and overestimation of one's skills, capabilities, and general knowledge (Paulhus 1991). In contrast, impression management is a deliberate and systematic attempt to distort self-reported actions in the most positive manner, to "fake good behavior," and to provide normatively desirable responses in order to obtain social approval (Mick 1996).

Some research findings suggest that self-enhancement is a spontaneous and unconscious response that requires little cognitive deliberation (Paulhus 1991; Paulhus and John 1998). Individuals who make unrealistically positive self-judgments often do so spontaneously (Greenwald and Banaji 1995) and believe in the truthfulness of these judgments (Paulhus 1991). Further, they often cannot help but project an overly positive view of themselves in social situations and seldom engage in critical reflection of the validity of their exaggerated positive self-views (Koole, Dijksterhuis, and van Knippenberg 2001).

Conversely, impression management is a conscious, active, and deliberate attempt to fake good behavior in front of a real or imagined audience (Leary and Kowalski 1990; Mick 1996; Paulhus and John 1998). Strategic impression management requires retrieval of relevant behavioral norms

from memory, selection and careful calibration of responses with the retrieved norms, and estimation of the generalized others' evaluations of the responses (Leary and Kowalski 1990). All these processes are effortful and require considerable cognitive resources (Vohs, Baumeister, and Ciarocco 2005). Accordingly, across eight studies, Vohs et al. (2005) found that engaging in impression management leads to depletion of self-regulatory resources. In short, the evidence suggests that self-enhancement is a spontaneous response that requires little cognitive deliberation, whereas impression management is a deliberate and effortful process that cannot be performed effectively without adequate cognitive resources. Hence, we hypothesize:

- H1:** Cognitive busyness will reduce people's tendency to engage in impression management but will have no effect on their tendency to engage in self-enhancement.

## CULTURE AND SOCIALLY DESIRABLE RESPONDING

Recent research suggests that the type of desirable responding pursued by people depends on their cultural self-construal—*independent or interdependent*. Because people with an independent self-construal are especially motivated to view themselves as self-reliant, skillful, and unique (Aaker and Williams 1998), they have been shown to engage in greater self-enhancement than those with an interdependent self. Conversely, because those with an interdependent self-construal are driven to seek social approval and avoid social disapproval, they are especially likely to provide normatively desirable responses and, hence, to engage in greater impression management than those with an independent self-construal. These relationships have been observed when participants are not cognitively busy (Lalwani and Shavitt 2009; Lalwani, Shavitt, and Johnson 2006; Lalwani, Shrum, and Chiu 2009).

How might cognitive busyness influence these relationships? Because we expect the tendency to engage in self-enhancement not to be influenced by cognitive constraints (hypothesis 1), we predict that cultural differences in self-enhancement will not be affected by cognitive busyness. That is, participants with an independent self-construal will engage in self-enhancement more than those with an interdependent self-construal irrespective of whether they are cognitively busy or not.

In contrast, we argue that everyone's tendency to engage in impression management, which is an effortful process requiring considerable cognitive resources, diminishes when they are cognitively busy (vs. nonbusy). People with an interdependent self-construal, who have a greater tendency to engage in impression management, should be affected by cognitive busyness more than those with an independent self-construal. Hence, we expect cognitive busyness to diminish the ability of people with an interdependent (vs. independent) self to engage in impression management. That

is, cultural differences in impression management observed in previous research should weaken or disappear, but those in self-enhancement should not be affected when participants are cognitively busy. Hence, we hypothesize:

- H2a:** When not cognitively busy, participants with an interdependent self-construal will have a greater tendency to engage in impression management and a lower tendency to engage in self-enhancement than those with an independent self-construal, as observed in previous research.
- H2b:** When cognitively busy, participants with an interdependent self-construal will no longer have a greater tendency to engage in impression management than those with an independent self-construal, who in turn will continue to have a greater tendency to engage in self-enhancement.

## The Role of Need for Closure

As defined earlier, need for closure is a personal desire to quickly arrive at firm answers that provide epistemic closure (Kardes et al. 2004, 2007; Kruglanski and Webster 1996). An important means of attaining closure is cultural consensus; individuals feel epistemically secure when they use judgments and practices widely accepted in their reference or cultural groups, as relying on them has minimal negative repercussions (Fu et al. 2007). Moreover, norms and practices associated with one's culture (vs. other cultures) are more likely to be accessible to individuals, and a high need for closure is likely to lead people to "seize" and "freeze" on these accessible constructs and use them in forming judgments (Chiu et al. 2000).

Accordingly, Americans with a high need for closure have been found to be more likely to display American attributional styles, employ conflict resolution strategies, and reward allocation behaviors than Chinese, whereas those with a low need for closure are less likely to display these tendencies. Likewise, Chinese with a high need for closure are more likely to engage in typically Chinese attributions, employ conflict mediation strategies, and reward allocation behaviors than Americans, whereas those with a low need for closure are less likely to do so (Chiu et al. 2000; Fu et al. 2007).

If need for closure increases adherence to normative practices within one's own cultural group, cultural differences in socially desirable responding styles should be more pronounced among high versus low need-for-closure consumers. Specifically, a high need for closure should prompt people with an independent (vs. interdependent) self-construal to attain closure by engaging in self-enhancement and should prompt those with an interdependent (vs. independent) self-construal to attain closure by relying on impression management. The differences between people with an independent and interdependent self-construal in self-enhancement

and impression management should be weaker among people low in need for closure. Hence, we hypothesize:

- H3a:** When need for closure is high, participants with an independent self-construal will have a greater tendency to engage in self-enhancement and a lower tendency to engage in impression management than those with an interdependent self-construal.
- H3b:** Among low need-for-closure participants, both differences in hypothesis 3a will be significantly weaker.

## Overview of Studies

We tested our five hypotheses in five studies. Studies 1–2 focused on cognitive busyness (hypotheses 1, 2a, and 2b), whereas studies 3–5 focused on the need for closure (hypotheses 3a and 3b). A multimethod approach was used to ascertain the generality of the results. The different operational definitions of culture include respondent ethnicity, salient self-construal that is contextually induced via priming, and direct assessment of chronic cultural orientation using standard scales. Similarly, self-enhancement and impression management were assessed with several different established measures as well as via scenarios that consumers encounter in their day-to-day lives.

## STUDY 1

The first study tested the assumption that impression management requires cognitive deliberation whereas self-enhancement does not (hypothesis 1). While responding to the socially desirable responding (self-enhancement and impression-management) measures, some participants were asked to engage in a cognitively demanding concurrent task (high cognitive busyness condition), whereas others were not (low cognitive busyness condition). Following hypothesis 1, we predicted that additional cognitive demands would reduce participants' tendency to engage in impression management but would not influence their tendency to engage in self-enhancement.

## Method

*Participants, Design, and Procedure.* The participants were 102 undergraduate students (40% female, ages 17–24) at a large university, who participated in exchange for class credit. A 2 (cognitive busyness: busy, nonbusy; between-subjects)  $\times$  2 (socially desirable responding: self-enhancement, impression management; within-subjects) mixed factorial design was used. As in numerous previous studies (e.g., Gilbert and Osborne 1989), we used memory load to manipulate cognitive busyness. At the start of the experiment, participants in the busy condition learned that the experiment concerned how people performed two tasks simultaneously. They were given and asked to memorize a

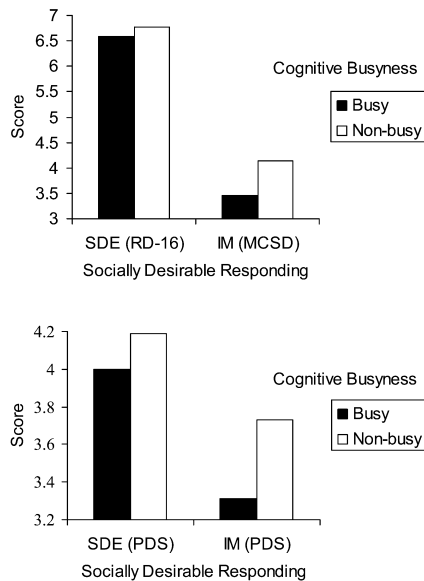
randomly generated eight-digit number during the experiment. At the end of the experiment, we asked these participants to recall the number. Thirteen participants failed to provide the number accurately, and their data were removed from further analyses, although our conclusions were similar when these participants were included. This memory task was not given to participants in the nonbusy condition. A pretest with 43 participants from the same subject pool showed that this manipulation was successful: those in the busy (vs. nonbusy) condition found the experiment to be more demanding ( $M_{\text{busy}} = 2.90$ ,  $M_{\text{nonbusy}} = 1.64$ ;  $t(41) = 3.21$ ,  $p < .005$ ).

*Measures.* Two established measures each of self-enhancement and impression management were used. The self-enhancement measures were the self-enhancement subscale in the 40-item Paulhus deception scales (Paulhus 1991) and the RD-16 scale (Schuessler, Hittle, and Cardascia 1978), whereas the impression-management measures were the impression-management subscale in the Paulhus deception scales and the Marlowe-Crowne scale. A sample item from the self-enhancement subscale ( $\alpha = 0.64$ ) is "My first impressions of people usually turn out to be right," and one from the impression-management subscale ( $\alpha = 0.76$ ) is "I have never dropped litter on the street." All items in both scales were anchored from 1 (strongly disagree) to 7 (strongly agree). A sample item from the RD-16 scale ( $\alpha = 0.73$ ) is "The future looks very bleak" (reverse coded), and one from the Marlowe-Crowne scale ( $\alpha = 0.80$ ) is "My table manners at home are as good as when I eat out in a restaurant." The RD-16 scale was anchored by 1 (strongly disagree) and 9 (strongly agree), whereas the Marlowe-Crowne scale was anchored by 1 (generally false) and 9 (generally true). Our pretests confirmed that the RD-16 scale was positively correlated with the self-enhancement component of Paulhus deception scales ( $r = 0.49$ ,  $p < .001$ ) and uncorrelated with the impression-management component ( $r = -0.04$ ,  $p > .68$ ). On the other hand, the Marlowe-Crowne scale was positively correlated with the impression-management ( $r = 0.57$ ,  $p < .001$ ) but not with the self-enhancement component ( $r = 0.16$ ,  $p > .14$ ).

## Results and Discussion

A general linear model (GLM) with socially desirable responding as a within-subjects factor (using the RD-16 scale to measure self-enhancement and the Marlowe-Crowne scale to measure impression management) and cognitive busyness as a between-subjects factor revealed a significant interaction ( $F(1, 87) = 6.75$ ,  $p < .02$ ). As hypothesized, cognitively busy participants had significantly lower impression-management scores ( $M = 3.46$ ) than did nonbusy participants ( $M = 4.13$ ;  $t(87) = 4.10$ ,  $p < .001$ ). Also as expected, cognitive busyness did not affect self-enhancement scores ( $M_{\text{busy}} = 6.59$ ,  $M_{\text{nonbusy}} = 6.78$ ;  $t(87) = 1.01$ ,  $p > .31$ ; fig. 1). These findings indicate that depletion of cognitive resources affected impression management, which is an effortful and deliberative response, but did not affect

**FIGURE 1**  
THE EFFECT OF COGNITIVE BUSYNESS ON SDE AND  
IM SCORES IN STUDY 1



NOTE.—SDE: self-deceptive enhancement; IM: impression management; RD-16: RD-16 scale; MCSD: Marlowe-Crowne social desirability scale; PDS: Paulhus deception scales.

the tendency to engage in self-enhancement, which is a spontaneous and noneffortful response.

Another GLM with socially desirable responding as a within-subjects factor (using the self-enhancement and impression-management components of the Paulhus deception scales) and cognitive load as a between-subjects factor revealed a marginally significant interaction ( $F(1, 87) = 2.72, p = .10$ ). Again, cognitively busy participants scored significantly lower on impression management ( $M_{\text{busy}} = 3.31, M_{\text{nonbusy}} = 3.73; t(87) = 2.79, p < .01$ ) but not on self-enhancement ( $M_{\text{busy}} = 4.00, M_{\text{nonbusy}} = 4.19; t(87) = 1.52, p > .13$ ) than did their nonbusy counterparts, as predicted.

Convergent results from two measures of self-enhancement and impression management supported hypothesis 1: cognitive load impairs everyone's ability to engage in impression management but not the tendency to engage in self-enhancement. This result reinforces the assumption that impression management is an effortful process: when respondents are cognitively busy, as when they need to divert cognitive resources to perform a secondary task, they become less effective in generating impression-management responses. In contrast, self-enhancement, being an automatic response, requires limited cognitive resources for its smooth execution and is therefore not influenced by cognitive busyness.

## STUDY 2

The second study was designed to test hypotheses 2a and 2b. We predicted that among nonbusy participants, priming

an interdependent (vs. independent) self-construal would produce higher impression-management and lower self-enhancement scores, consistent with prior research (Lalwani et al. 2006). We also predicted that cognitive busyness would weaken the effect of self-construal prime on impression management but not on self-enhancement.

## Method

One hundred and thirty-four students (58% female, ages 20–37) at a large university participated in exchange for class credit. A 2 (salient self-construal: independent, interdependent; between-subjects)  $\times$  2 (socially desirable responding: self-enhancement, impression management; within-subjects)  $\times$  2 (cognitive busyness: high, low; between-subjects) mixed design was used. Two methods of activating the salient self-construal were used to demonstrate the generality of our results across methods. Some participants read a short story (Agrawal and Maheswaran 2005; Mandel 2003) and counted all singular first-person pronouns (I, me, my, mine) in the independent prime condition or all plural first-person pronouns (we, us, our, ours) in the interdependent prime condition. Other participants were asked to think for 2 minutes how they were different from (independent condition) or similar to (interdependent condition) their family and friends, and to write down these thoughts. Our pretests showed that in both manipulations, participants in the independent (vs. interdependent) prime condition scored significantly higher on Triandis and Gelfand's (1998) eight-item scale to measure the independent self-construal (reading story prime:  $M_{\text{Ind}} = 5.56, M_{\text{Inter}} = 4.98; t(38) = 2.36, p < .05$ ; writing thoughts prime:  $M_{\text{Ind}} = 5.34, M_{\text{Inter}} = 5.00; t(139) = 2.47, p < .05$ ), suggesting that both these procedures were successful in making the desired self-construal (independent or interdependent) salient in the minds of participants.

Following Knowles et al. (2001), participants in the busy condition listened to several songs of variable durations (from 1/2 minute to 2 minutes) during the experiment and were asked to keep track of the number of songs played. This manipulation was not given to participants in the non-busy condition. A pretest with 91 participants from the same subject pool showed that this manipulation was successful in making the experiment more demanding among the busy versus nonbusy participants ( $M_{\text{busy}} = 3.52, M_{\text{nonbusy}} = 2.43; t(89) = 2.29, p < .05$ ). The 40-item Paulhus deception scale (Paulhus 1991) described in study 1 was used to measure self-enhancement ( $\alpha = 0.73$ ) and impression management ( $\alpha = 0.79$ ).

## Results and Discussion

Because the two types of priming manipulations did not interact with cognitive load and self-construal to explain socially desirable responding, the data pertaining to these were collapsed. As predicted, a GLM revealed a significant three-way interaction between cognitive busyness (busy, nonbusy), self-construal prime (independent, interdepen-

dent), and socially desirable responding (self-enhancement, impression management;  $F(1, 130) = 9.89, p = .002$ ). In the nonbusy condition, a self-construal prime  $\times$  socially desirable responding GLM revealed a significant two-way interaction ( $F(1, 66) = 4.29, p < .05$ ), as expected. Interdependent (vs. independent) self-construal priming produced higher impression-management ( $M_{\text{Ind}} = 3.26, M_{\text{Inter}} = 3.58; t(66) = 1.99, p = .05$ ) but not self-enhancement scores ( $M_{\text{Ind}} = 4.06, M_{\text{Inter}} = 4.06; t(66) < 1$ ). These findings suggest that when participants are not busy, impression management is associated with an interdependent self-construal. The insignificant difference in self-enhancement scores is not entirely surprising in light of previous research suggesting that although judgments assimilate toward salient constructs (Lalwani and Monroe 2005), they do so only when the primes are subtle but not when they are overt or blatant (Kuhnen and Hannover 2000). It is possible that the connection between the task used to activate the independent self (e.g., counting pronouns related to the self [I, me, mine]) and that of rating the self in the self-enhancement scale subsequently administered (sample items: "Many people think that I am exceptional"; "My first impressions of people usually turn out to be right"; "I am fully in control of my own fate") was readily apparent and overt, nullifying the effect of the prime. The interdependent prime, on the other hand, was likely subtle and effective because the link between the prime (e.g., counting pronouns related to groups [we, us, our, ours]) and rating self-traits in the impression-management scale (sample items: "I never cover up my mistakes"; "I always obey laws, even if I'm unlikely to get caught"; "I never swear") was not readily apparent.

Among cognitively busy participants, as evident in the significant two-way interaction between self-construal and socially desirable responding ( $F(1, 64) = 5.62, p < .05$ ), and follow up analyses, interdependent (vs. independent) self-priming produced lower impression-management scores ( $M_{\text{Ind}} = 3.51, M_{\text{Inter}} = 3.09; t(64) = -2.63, p < .02$ ), suggesting that these participants were less likely to engage in impression management. It is noteworthy that although we had predicted this effect to disappear, it actually reversed. The reasons for the reversal are not clear and should be examined by future research. Again, self-construal priming did not affect self-enhancement scores ( $M_{\text{Ind}} = 4.08, M_{\text{Inter}} = 4.17; t(64) < 1$ ).

The results of study 2 suggest that an interdependent (vs. independent) self-construal led to significantly higher impression-management tendencies in the cognitively nonbusy condition, though the opposite was true in the cognitively busy condition. This, we argued, is due to the effortful nature of impression management, which requires considerable cognitive deliberation. Although cognitive busyness influences everyone's tendency to engage in impression management (see study 1), we predicted and found that it especially influenced people with an interdependent self-construal, who are more prone to the tendency, than those with an independent self-construal. In contrast, because self-enhancement is an automatic response that requires little cog-

nitive effort, we argued and found that cultural differences in self-enhancement are similar in the cognitively busy and nonbusy conditions. Further, salient self-construal did not influence self-enhancement scores, possibly because the prime was too blatant. Future research should reexamine this relationship using subtle primes. It is noteworthy that other research (Lalwani et al. 2006, 2009; Shavitt et al. 2006) has provided robust support for this relationship using a number of alternate operationalizations of culture.

The next three studies tested the role of need for closure in the relationship between culture and socially desirable responding. We expect this influence to be different from that of cognitive busyness. Specifically, we predict that need for closure would increase cultural differences in self-enhancement and impression management. Among high need-for-closure consumers, we predict that participants with an independent self-construal will have a greater tendency to engage in self-enhancement than those with an interdependent self-construal, who in turn will have a greater tendency to engage in impression management. We further expect that these tendencies will be weaker among low need-for-closure consumers (hypotheses 3a and 3b).

## STUDY 3

### Method

*Participants and Design.* Four hundred and fifty undergraduate students at a large university participated in exchange for class credit. A 2 (participant ethnicity: Western, Eastern)  $\times$  2 (socially desirable responding: self-enhancement, impression management)  $\times$  2 (need for closure: high, low) mixed factorial design was used.

*Measures.* The 40-item Paulhus deception scale (see study 1 for sample items) was used to measure self-enhancement ( $\alpha = 0.67$ ) and impression management ( $\alpha = 0.78$ ). Need for closure ( $\alpha = 0.82$ ) was measured by a 42-item, 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). Sample items include: "I think that having clear rules and order at work is essential for success"; and "I dislike it when a person's statement could mean many different things" (Webster and Kruglanski 1994). Participant ethnicity was measured by the open ended question "With which ethnic group do you most identify yourself? \_\_\_\_."

### Results and Discussion

Based on their self-reported ethnicity, participants who indicated being from independent cultures (e.g., White, Greek, German, Irish, Italian, British, Australian, Canadian) were categorized as Western, whereas those who indicated being from interdependent cultures (e.g., Korean, Singaporean, Chinese, Hindu, Taiwanese) were categorized as Eastern. A GLM revealed a significant three-way interaction between respondent ethnicity (Western, Eastern; between subjects), socially desirable responding (self-enhancement, impression management; repeated measures), and need for

closure ( $F(1, 343) = 4.22, p < .05$ ). When need for closure was high (as assessed by a median split), the two-way interaction between ethnicity and socially desirable responding was significant ( $F(1, 167) = 19.39, p < .001$ ). However, as predicted, this interaction became nonsignificant when need for closure was low ( $F(1, 176) = 2.07, p > .15$ ), indicating that the relationship between culture and socially desirable responding disappeared at low levels of need for closure.

Further analyses in the high need-for-closure condition revealed that Westerners scored significantly higher on self-enhancement than Easterners ( $M_{\text{Westerners}} = 4.26, M_{\text{Easterners}} = 3.95; t(167) = 2.66, p < .01$ ), who in turn scored higher on impression management than Westerners ( $M_{\text{Westerners}} = 3.57, M_{\text{Easterners}} = 3.85; t(167) = -2.15, p < .05$ ). However, in the low need-for-closure condition, no significant differences were observed between the scores of Westerners and Easterners on both self-enhancement ( $M_{\text{Westerners}} = 4.18, M_{\text{Easterners}} = 4.03, t(176) = 1.47, p > .14$ ) and impression management ( $M_{\text{Westerners}} = 3.36, M_{\text{Easterners}} = 3.43; t(176) = -0.46, p > .64$ ). These results support hypotheses 3a and 3b and suggest that high (vs. low) need for closure accentuated cultural differences in both self-enhancement and impression management. As predicted, these effects are different from those of cognitive busyness, which mitigated cultural differences in impression management but had no effect on cultural differences in self-enhancement.

An interesting aspect of the findings pertain to the manner in which need for closure moderates cultural differences in socially desirable responding. Specifically, high need-for-closure Western participants self-enhanced more than their Eastern counterparts, and this difference was smaller for low need-for-closure participants. However, this result was driven both by low (vs. high) need-for-closure Westerners self-enhancing *less* ( $M_{\text{Low NFCC}} = 4.18, M_{\text{High NFCC}} = 4.26$ ; NFCC = need for cognitive closure) as well as by low (vs. high) need-for-closure Easterners self-enhancing *more* ( $M_{\text{Low NFCC}} = 4.03, M_{\text{High NFCC}} = 3.95$ ). Thus, cultural differences were attenuated for low need-for-closure groups, but the attenuation was driven both by one culture increasing socially desirable responding and the other culture decreasing the same type of socially desirable responding. We discuss the theoretical underpinnings of this distinction in the general discussion.

## STUDY 4

Study 4 extended the previous study in two ways. First, it replicated the findings of study 3 using different measures of socially desirable responding. Second, it examined the relationships using a different measure of participant ethnicity.

### Method

Respondents were 137 undergraduate students (58% male, 97% aged 20–23) at a large university who participated in exchange for class credit. The study used an eth-

nicity (Western, Eastern)  $\times$  socially desirable responding (self-enhancement, impression management)  $\times$  need for closure mixed design. The RD-16 scale (see study 1) was used to measure self-enhancement ( $\alpha = 0.77$ ), and the Marlowe-Crowne scale (see study 1) was used to measure impression management ( $\alpha = 0.66$ ). Participants also completed Webster and Kruglanski's (1994) 42-item need-for-closure scale ( $\alpha = 0.79$ ) described in study 3.

Participants were also asked to report the ethnic group they identified with by means of a closed-ended question with seven options (African American or Black; White; Hispanic or Latino; Asian; Native American or Aleut; Multi-racial; or some other group). Following previous research (Aaker and Williams 1998; Escalas and Bettman 2005; Lee, Aaker, and Gardner 2000), participants who indicated being White were termed "Westerners," those who indicated being Asian, Hispanic, or Latino were termed "Easterners," and the rest were classified as "others."

## Results and Discussion

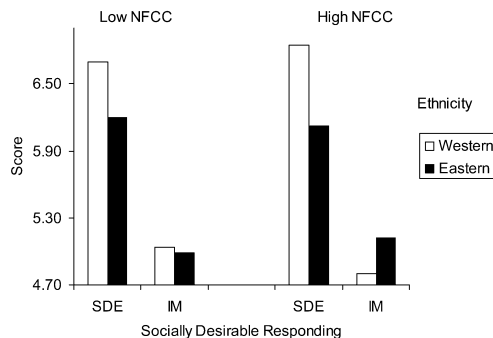
A GLM revealed a significant three-way interaction between participant ethnicity, socially desirable responding, and need for closure ( $F(2, 129) = 3.74, p < .05$ ). Further, the two-way interaction between participant ethnicity and socially desirable responding was significant when need for closure was high ( $F(2, 67) = 12.51, p < .001$ ) but not when it was low ( $F(2, 62) = 1.65, p > .20$ ), per a median split on need for closure. Hence, the relationship between ethnicity and socially desirable responding was stronger for high need-for-closure than for low need-for-closure participants.

Further analyses shed light on the distinct relationships for the high and low need-for-closure participants. When need for closure was high, Westerners scored significantly higher on self-enhancement ( $M_{\text{Westerners}} = 6.85, M_{\text{Easterners}} = 6.12; t(64) = 2.88, p < .01$ ) and lower on impression management ( $M_{\text{Westerners}} = 4.80, M_{\text{Easterners}} = 5.12; t(64) = -2.04, p < .05$ ) than Easterners. In contrast, when need for closure was low, the two ethnicities did not differ on impression management ( $M_{\text{Westerners}} = 5.04, M_{\text{Easterners}} = 4.99; t(58) = 0.26, p > .79$ ; fig. 2). Although Westerners ( $M = 6.71$ ) scored higher on self-enhancement than Easterners ( $M = 6.20; t(58) = 1.95, p < .06$ ) when need for closure was low, as predicted, this relationship was significantly weaker than when need for closure was high ( $\eta^2_{\text{High NFCC}} = .12, \eta^2_{\text{Low NFCC}} = .06$ ).

Further, as in study 3, the predicted effects on self-enhancement were driven both by low (vs. high) need-for-closure Westerners self-enhancing *less* ( $M_{\text{Low NFCC}} = 6.70, M_{\text{High NFCC}} = 6.85$ ) as well as by low (vs. high) need-for-closure Easterners self-enhancing *more* ( $M_{\text{Low NFCC}} = 6.20, M_{\text{High NFCC}} = 6.12$ ). Similarly, the predicted effects on impression management were driven both by low (vs. high) need-for-closure Easterners scoring *less* ( $M_{\text{Low NFCC}} = 4.99, M_{\text{High NFCC}} = 5.12$ ) as well as by low (vs. high) need-for-closure Westerners scoring *more* ( $M_{\text{Low NFCC}} = 5.04, M_{\text{High NFCC}} = 4.80$ ). This issue is elaborated in the general discussion.

FIGURE 2

THE EFFECT OF NEED FOR CLOSURE (NFCC) ON SDR DIFFERENCES BY RESPONDENT ETHNICITY IN STUDY 4



NOTE.—SDR: socially desirable responding; SDE: self-deceptive enhancement; IM: impression management.

These findings suggest that when need for closure was high, Westerners had a greater tendency to engage in self-enhancement than Easterners, who in turn had a greater tendency than Westerners to engage in impression management. In contrast, when need for closure was low, cultural differences in both self-enhancement and impression management were attenuated. These findings provide further support for the different moderating role of need for closure (hypotheses 3a and 3b) from that of cognitive busyness (hypotheses 2a and 2b) on the culture–socially desirable responding link using different measures of socially desirable responding and a different operationalization of ethnicity from that used in study 3.

## STUDY 5

The preceding two studies support the moderating role of need for closure in the association between culture and socially desirable responding. In study 5, we tested whether these relationships have implications for judgments and self-presentations. Specifically, we examined whether need for closure influenced cultural differences in respondents' predictions regarding their future behaviors or outcomes in the context of relevant consumption scenarios. Because people with an independent (vs. interdependent) self-construal have a greater tendency to engage in self-enhancement, we predicted that they will also be more likely to present their actions in ways that make one appear self-reliant when they have a high need for closure. Similarly, because people with an interdependent (vs. independent) self-construal have a greater tendency to engage in impression management, we predicted that they will also be more likely to present their likely actions as normatively appropriate when they have a high need for closure. Following hypothesis 3b, we predicted that these relationships will be significantly attenuated for low need-for-closure participants.

A pretest ( $N = 284$ ) was conducted to empirically derive a set of consumption scenarios relevant to either self-reliance

or image protection. Participants responded to five scenarios—two to tap self-reliance and three to tap image protection—constructed to reflect everyday situations that consumers are likely to encounter. A factor analysis with principal component analysis and varimax rotation with eigenvalues greater than one revealed that the self-reliance and image-protection scenarios loaded on distinct factors. The self-reliance and image-protection scenarios were averaged separately to form indices of self-reliance and image protection. As predicted, the “self-reliance index” significantly correlated with Paulhus's self-enhancement scale ( $r = 0.35, p < .001$ ), whereas the “image-protection index” significantly correlated with Paulhus's impression-management scale ( $r = 0.40, p < .001$ ).

## Method

One hundred seventy-two undergraduate students at a large university participated in exchange for class credit. These participants were shown the five scenarios (two for self-reliance and three for image protection) mentioned earlier. An example of a self-reliance scenario follows:

Some time back, you purchased a new camcorder. Apparently, you were one of the first few customers to buy it, and a manufacturer's representative calls you with a request to write your opinion about the camcorder. He adds that your write-up would be published in the company's weekly. How confident are you of being able to express your opinion frankly? (1 = Not at all confident, 9 = Very confident)

An example of an image-protection scenario follows:

You are traveling in another town and you find yourself at a large souvenir store, choosing between some items. Suddenly, one of the items you're considering slips from your hand and falls to the floor, breaking into pieces. You know that this store has a “you break it you bought it” policy. Fortunately, nobody saw you and you could easily walk out of the store without anyone knowing. How likely would you be to walk away without telling a store employee? (1 = Very likely, 9 = Not at all likely)

Participants were asked to predict their judgment or behavior in each scenario. In the first scenario noted above, it was expected that respondents engaging in self-enhancement would be more likely to present themselves as confident in their ability to write the article candidly. In the second scenario, it was expected that respondents engaging in impression management would be more likely to present themselves as honest and not likely to walk away without telling a store employee. Participants also completed the 42-item need-for-closure scale ( $\alpha = 0.82$ ; see study 3 for sample items) and Triandis and Gelfand's (1998) 16-item scale anchored by 1 (strongly disagree) and 7 (strongly agree) to measure chronic independent (eight items;  $\alpha = 0.73$ ) and interdependent (eight items;  $\alpha = 0.76$ ) self-construals. A sample item to measure the independent self was “I'd rather

depend on myself than others.” A sample item to measure the interdependent self was “If a coworker gets a prize, I would feel proud.”

## Results and Discussion

We predicted that cultural differences in the tendency to present oneself as self-reliant or normatively appropriate will be stronger for high (vs. low) need-for-closure participants. For the purposes of this study, independents were defined as those scoring high on the independence scale, and interdependents were defined as those scoring high on the interdependent scale, both using median splits. Respondents scoring high on both scales were excluded. Participants high and low on the need-for-closure scale were also determined using a median split. A GLM with the self-reliance and image-protection scenario indices entered as repeated measures revealed a significant three-way interaction between culture, need for closure, and scenario type ( $F(1, 66) = 5.06, p < .05$ ). The two-way interaction between culture and scenario type (self-reliance or image protection) was significant when need for closure was high ( $F(1, 40) = 13.86, p < .002$ ) but not when it was low ( $F(1, 26) = 0.02, p > .88$ ), suggesting that cultural differences in self-reliance and image-protection indices were stronger for high (vs. low) need-for-closure participants.

Contrasts revealed that when need for closure was high, participants with an independent self had significantly higher scores on the self-reliance index than those with an interdependent self ( $M_{\text{Ind}} = 7.03, M_{\text{Inter}} = 5.85; t(40) = 2.25, p < .05$ ), who in turn had higher scores on the image-protection index ( $M_{\text{Ind}} = 4.42, M_{\text{Inter}} = 5.49; t(40) = -2.45, p < .02$ ). However, when need for closure was low, independent and interdependent participants did not differ on either the self-reliance index ( $M_{\text{Ind}} = 6.53, M_{\text{Inter}} = 6.65; t(26) = -0.21, p > .83$ ) or the image-protection index ( $M_{\text{Ind}} = 5.20, M_{\text{Inter}} = 5.18; t(26) = 0.03, p > .97$ ). These findings replicate those of studies 3 and 4 using consumption scenarios instead of individual-difference measures of socially desirable responding and using chronic measures of cultural orientation.

It should be noted that we obtained similar results when the independent and interdependent self were used as continuous instead of discrete measures. When need for closure was high, positive correlations were observed between the independent self and the self-reliance index ( $r = 0.37, p < .001$ ) and between the interdependent self and the image-protection index ( $r = 0.30, p < .005$ ). As predicted, however, when need for closure was low, the relationships between independence and the self-reliance index ( $r = 0.15, p > .19$ ), and between interdependence and the image-protection index ( $r = 0.22, p > .05$ ), were significantly weaker, as also evident from other indicators of effect size (for independence/self-reliance index:  $\eta^2_{\text{High NFCC}} = .13, \eta^2_{\text{Low NFCC}} = .02$ ; for interdependence/image-protection index:  $\eta^2_{\text{High NFCC}} = .09, \eta^2_{\text{Low NFCC}} = .04$ ).

As in the previous studies, two distinct effects were responsible for the predicted effect of need for closure on cul-

tural differences in socially desirable responding. The effects on self-enhancement were driven both by low (vs. high) need-for-closure independents self-enhancing *less* ( $M_{\text{Low NFCC}} = 6.53, M_{\text{High NFCC}} = 7.03$ ) and by low (vs. high) need-for-closure interdependents self-enhancing *more* ( $M_{\text{Low NFCC}} = 6.65, M_{\text{High NFCC}} = 5.85$ ). Similarly, the effects on impression management were driven both by low (vs. high) need-for-closure interdependents scoring *less* ( $M_{\text{Low NFCC}} = 5.18, M_{\text{High NFCC}} = 5.49$ ) as well as by low (vs. high) need-for-closure independents scoring *more* ( $M_{\text{Low NFCC}} = 5.20, M_{\text{High NFCC}} = 4.42$ ).

Collectively, these findings extend those of the previous studies by showing systematic differences in the self-presentational response strategies used by high and low need-for-closure consumers on marketing scenarios. Specifically, we found that the relationships observed in prior research (cultural differences in responses to scenarios tapping self-reliance or image protection) were obtained for high need-for-closure participants, suggesting that their desire for consensus led them to follow their culturally congruent response style. When need for closure was low, however, as predicted, these relationships were significantly weaker. These findings further support the distinct manner in which cognitive busyness and need for closure moderate the relationship between culture and socially desirable responding.

## GENERAL DISCUSSION

Collectively, the five studies support the distinct effects of cognitive busyness and need for closure on cultural differences in socially desirable responding (i.e., impression management vs. self-enhancement) using a variety of measures and manipulations. In study 1, cognitive busyness attenuated participants' tendency to engage in impression management but not self-enhancement, suggesting that the former is more deliberate and effortful. Accordingly, we predicted and found in study 2 that cognitive busyness mitigates cultural differences in impression management but not self-enhancement. In contrast, because need for closure enhances reliance on culture-congruent response styles (Chiu et al. 2000; Fu et al. 2007), we found in studies 3–5 that cultural differences in both self-enhancement and impression management are increased when respondents have a high (vs. low) need for closure.

### Theoretical and Methodological Implications

These findings advance our theoretical and methodological understanding of cognitive busyness, need for closure, and socially desirable responding in a number of ways. First, our findings shed light on how cognitive and motivational demands in the survey context affect cultural differences in socially desirable responding. Second, the procedures used in the experiments permit the separation of cognitive versus motivational influences on behavioral control. Specifically, although prior research has treated cognitive busyness and need for closure interchangeably (De Dreu 2003; Ford and Kruglanski 1995; Kardes et al. 2004), our findings highlight

their distinct influence. Cognitive busyness decreased cultural differences in impression management, whereas need for closure increased them. Cognitive busyness did not affect cultural differences in self-enhancement, whereas need for closure increased them. As such, the common practice of using cognitive busyness and need for closure as proxies of each other may not be well advised.

Third, our studies distinguish between the two types of socially desirable responding in terms of the processing resources required to engage in them. Whereas impression management is found to be resource dependent in that a decrease in the ability to control one's actions disrupts it, self-enhancement requires minimal cognitive resources and occurs spontaneously (also see Knowles and Condon 1999). Fourth, although considerable prior research has examined the link between culture and response biases (e.g., Baumgartner and Steenkamp 2001; Lalwani et al. 2006; Lalwani and Shavitt 2009), limited research has examined the boundaries of these relationships. Our research is one of the first to examine factors that influence the strength of these relationships.

Fifth, studies 3–5 showed that a high (vs. low) need for closure influences cultural differences in socially desirable responding in two distinct ways simultaneously: first, by increasing a given culture's tendency to engage in culture-congruent socially desirable responding (i.e., the tendency of participants with an independent [interdependent] self to engage in self-enhancement [impression management]) and, second, by decreasing the other culture's tendency to engage in culture-incongruent socially desirable responding (i.e., independents' tendency to engage in impression management and interdependents' tendency to engage in self-enhancement). These findings are in line with the valuation and the devaluation effects, which suggest that while goal-congruent activities are valued more and pursued more vigorously, goal-incongruent activities are devalued and pursued less vigorously. For instance, research suggests that consumers with a high (vs. low) need to smoke are directionally more likely to participate in a raffle promising cigarettes (valuation effect). In contrast, those with a low (vs. high) need to smoke are more likely to participate in a raffle promising cash, instead (devaluation effect; Brendl, Markman, and Messner 2003). In our studies, high need for closure increased the tendency of participants with an independent (vs. interdependent) self to engage in self-enhancement (impression management) but decreased their tendency to engage in impression management (self-enhancement), although not significantly so.

### Contributions to Practice

By pointing to factors that increase or decrease respondents' tendency to pursue culture-characteristic socially desirable responding, our findings could lead to the development of strategies to attenuate such response styles. For instance, the simple tactic of playing background music during a survey may increase cognitive busyness and reduce respondents' tendency to engage in impression management.

The present findings may also enable survey researchers to anticipate how strong socially desirable responding is by assessing the pertinent cognitive and motivational factors in the survey environment.

Our findings may also have implications for retailers of premium versus generic brands. People may purchase premium brands that are publicly consumed (e.g., Nike athletic shoes) for impression-management reasons and those that are privately consumed (e.g., Johnny Walker Scotch whisky) for self-enhancement reasons. In a retail setting, cognitive busyness (e.g., imposed via music being played in the store; see study 2) may lower consumers' impression-management tendencies and reduce their preference for premium brands of publicly consumed goods, perhaps, in favor of generic brands. The same may not be true for premium brands of privately consumed goods fulfilling self-enhancement motives, which are impervious to cognitive load. Hence, depending on the brand (premium or generic) they want to push, retailers of publicly consumed products may induce or ease cognitive load among their customers to boost sales.

### Motivation versus Cognition

As discussed earlier, research suggests that motivation and cognition are intimately intertwined. Despite numerous efforts, previous research has not been able to disentangle the effects of the two (Kruglanski 2001; Tetlock and Levi 1982). This led to the belief that their effects are similar and prompted the use of motivational (e.g., need for closure) and cognitive (e.g., cognitive busyness) variables as proxies of each other (De Dreu 2003; Kardes et al. 2004). However, an understanding of their distinct effects can be useful not only in isolating the underlying mechanisms and in building theory but also in developing tactics to influence consumer behavior. For instance, as noted above, different levels of cognitive busyness can influence the attractiveness of premium or generic brands. If need for closure is distinct from cognitive busyness, as we demonstrated, the effects of the two may diverge.

An interesting issue arising from our findings pertains to the boundary conditions when cognitive busyness and need for closure will have similar versus dissimilar effects. Although our studies were not meant to address this issue, we speculate that an examination of the degree of ability and motivation required to accomplish tasks can potentially shed insights on these boundary conditions. When both the ability and the motivation required to accomplish tasks is high (e.g., when engaging in impression management), or when the ability required is low but motivation required is high (e.g., when engaging in self-enhancement), cognitive busyness and need for closure may have different effects, as suggested by our studies. However, when the ability required for the task is high but the motivation to pursue it is low, need for closure and cognitive busyness may have the same effects. Accordingly, Webster et al. (1996) and Webster and Kruglanski (1994) found that high (vs. low) cognitive busyness and high (vs. low) need for closure resulted in greater primacy effects in evaluating a hypothetical job candidate—a

task that requires some degree of ability to evaluate credentials but little personal motivation, given the relevance of the task to the experimental participants.

Our findings support the model proposed by Briley and Aaker (2006), who demonstrated that culture-based differences arise when people process information in a cursory, spontaneous manner but that these differences disappear when people engage in more deliberative processing. Given that deliberative processing has been associated with greater need for cognition (Kardes et al. 2004), and need for cognition negatively correlates with need for closure (Chiu et al. 2000; Kardes et al. 2004; Webster and Kruglanski 1994), it is likely that deliberative processing and need for closure have opposite effects. Specifically, deliberative processing should decrease reliance on cultural norms and reduce cultural differences, as observed by Briley and Aaker (2006), whereas need for closure should increase them, as observed in the current as well as previous research (Chiu et al. 2000; Fu et al. 2007).

The current investigation has several limitations. Because the data were collected using student samples in laboratory settings, our findings may have limited generalizability. Nevertheless, in light of the converging evidence from multiple studies and the underlying theories we draw from, our results seem reasonably robust. Further, we measured but did not manipulate need for closure. Future research should attempt to replicate our findings by manipulating need for closure. Future research should also use a state measure of cultural orientation (i.e., independence and interdependence) to test the mediating relationship between self-construal prime, cultural orientation, and socially desirable responding (self-enhancement and impression management) both under conditions of high (vs. low) cognitive busyness and high (vs. low) need for closure.

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