



Contents lists available at ScienceDirect

Journal of Experimental Social Psychology

journal homepage: www.elsevier.com/locate/jesp

FlashReport

Who am I and who are you? Priming and the influence of self versus other focused attention ☆

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ARTICLE INFO

Article history:

Received 16 May 2008

Revised 6 October 2008

Available online 21 October 2008

Keywords:

Priming

Accessibility

Self

Self-focus

Behavior

Person perception

ABSTRACT

Recent research has demonstrated that primes can affect self-perceptions, and that subsequent behavior is typically in line with these changed self-perceptions. However, a wide range of other priming effects have been documented, including changes in person perception, motivation, and so forth. The conditions under which a given prime affects the self as opposed to creating one of these other outcomes remains unclear. The present research seeks to offer insight into this question by examining attentional factors as one determinant of whether the self or another target will be biased by a prime. Across two studies, manipulating attention to the self (or an irrelevant target) immediately following a prime produced assimilation in behavior (Experiment 1) and self-perceptions (Experiment 2) when participants thought about themselves, but not an irrelevant target. In addition, when participants thought about an unrelated target, perceptions of this target, but not the self, were changed (Experiment 2).

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Accessible constructs, such as those activated by primes, have a pervasive impact on judgment and behavior. Research has documented priming effects on social judgment (Higgins, Rholes, & Jones, 1977), behavior (Bargh, Chen, & Burrows, 1996), motivation (Chartrand & Bargh, 1996), situation construal (Kay & Ross, 2003), and a range of other outcomes (for review, see Dijksterhuis, Chartrand, & Aarts, 2007). Despite the diverse set of potential effects produced by any given prime, it is still not well understood *when* one particular outcome should be expected to occur over any other (Bargh, 2006; Wheeler & DeMarree, 2008). For example, when will a prime (e.g., the African American stereotype) change judgments of others (Devine, 1989) versus judgments of the self (DeMarree, Wheeler, & Petty, 2005)?

The present work seeks to determine when primes affect self-perceptions. Past research has demonstrated the ability of primes to bias one's self-perceptions (e.g., DeMarree et al., 2005), a particularly important effect due to the self-concept's vital role in guiding behavior (Wheeler, DeMarree, & Petty, 2007). For example, participants primed with the concept of aggression (by exposure to the African American stereotype) may come to view themselves as more aggressive, a change which should then affect behavior

(e.g., leading one to react in a hostile manner) in any situation in which self-perceptions are relevant guides to action (DeMarree et al., 2005). Despite the potential importance of understanding this prime-induced self-change, the exact variables that lead to such effects are not yet fully known.

In the current research we investigate the salience of the self versus a non-self target as a critical factor in determining whether the self and self-directed behavior will change following exposure to a prime. When the self is salient, processes that foster the disambiguation of the self-concept by prime-activated content (e.g., confusion of prime as self, biased activation of prime-congruent self-content, etc.; see Wheeler et al., 2007) should be encouraged, while attention to a non-self target should interfere with such processes. Based on past work by Kay, Wheeler, and Smeesters (2008), we manipulated the salience of the self by leading participants to focus on either the self or a non-self target after priming. To the extent that attention to any object is critical for a prime to affect perceptions of the object (Kay et al., 2008), then focusing attention on the self should *increase* the likelihood that a prime will be used to disambiguate the highly complex self-concept, while focusing attention on another target should *reduce* the likelihood that the primed construct's accessibility affects self-perceptions. Furthermore, as long as the self is a valid guide for subsequent behavior, focusing attention on the self should also increase the probability of observing behavioral priming effects.

In order to test these hypotheses, our studies utilized a paradigm in which we first subliminally primed all participants with a social stereotype and then directed them to focus their thought

☆ We thank Christian Wheeler and the 2008 Group for Attitudes and Persuasion for their valuable feedback on this research. This material is based upon work supported in part by a National Science Foundation Graduate Research Fellowship awarded to the second author.

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on either the self or a non-self target. In Experiment 1, we predicted that priming would result in behavioral effects only when participants were focused on the self and not when they thought about a person who was irrelevant to behavior in the experimental context. In Experiment 2 we extended this research, examining whether these manipulations did indeed lead to changes in the particular target of participants' attention (i.e., self or best friend). In doing so, we hoped to demonstrate that salience of a target can affect the impact of primes on both self-perceptions and judgments of any ambiguous target to which the prime is applicable.

Experiment 1

Participants

One hundred-six undergraduates were randomly assigned to the conditions of a Prime (African American vs. Buddhist monk) \times Target of Thought (self vs. best friend) between-subjects design. Because the effects of primes differ as a function of whether a person is a member of the targeted group (Shih, Ambady, Richeson, Fujita, & Gray, 2002), 10 African American participants were removed from the analyses as were two non-native English speakers. In addition, funneled suspicion probes indicated that 17 participants did not believe the cover story regarding our dependent measure (i.e., that some participants might be required to drink hot sauce), leaving 77 participants in the final sample.

Materials and procedure

Upon arrival to the experiment, participants first completed a lexical decision task consisting of neutral words (e.g., walnut, book) and non-words (e.g., nuwalt, koob) as a priming manipulation. Preceding each judgmental target, a prime appeared for 12 ms followed by a mask (XXXXXXX) for 225 ms. Prime words were either related to African Americans (*Black* and *African American*) or Buddhist monks (*Buddhist* and *Monk*). When probed for suspicion at the conclusion of the study, no participants reported seeing anything unusual during the priming task, nor did they believe that the task impacted their behavior.

Following this priming induction, participants were instructed to stare at a cross in the center of the computer screen for 2 min while thinking about an assigned topic. The topic of thought during this task was either participants' self or their best friend. Participants were told to think about as many aspects of their [or their best friend's] lifestyle as they could, considering the typical features, behaviors, characteristics, and traits that they possessed.

For the dependent measure, participants began an ostensibly separate experiment about online impression formation. During the instructions for this task, they were told that they would be fishing from a lake and that the lake's population of fish could not decrease below a critical level. Prior to beginning the game, participants were asked to select a punishment for their partner in case this person over-fished the lake and caused the population to become too low. The instructions were as follows: "You have the chance to punish your partner if they force the lake's population below this critical point. In order to standardize punishment across sessions, those participants who are to be punished will drink a 3 oz. cup of water containing approximately $\frac{1}{2}$ of a teaspoon of hot sauce." Participants were then given a choice between four hot sauces arranged in order of increasing intensity. These sauces ranged from a mild green sauce ("*African Rhino Peri-Peri Mild Sauce*; Heat factor – X; Scoville Units $\sim 5.6k$ ") to an extreme red sauce ("*Blair's Mega Death Sauce*; Heat factor – XXXX; Scoville Units $\sim 352.2k$ "). The intensity of the hot sauce selected served as our behavioral index of aggression (for a similar measure see McGregor et al., 1998). Higher numbers represent selection of a more power-

ful hot sauce and are indicative of greater levels of aggression towards one's partner. Aggression was chosen as the dependent measure because the two primed categories, African Americans and Buddhist monks, are stereotypically associated with more and less aggression, respectively.

Results and discussion

Scores on our behavioral measure of aggression were submitted to a Prime (African American vs. Buddhist monk) \times Target of Thought (self vs. best friend) ANOVA. The only significant effect to emerge was the predicted Prime \times Target of Thought interaction, $F(1, 73) = 3.84, p = .05$ (see Fig. 1). Simple effects tests revealed behavioral assimilation to the primes when participants thought about themselves, $F(1, 73) = 5.21, p = .03$, but not when participants thought about their best friend, $F < 1$. As predicted, a behavioral priming effect emerged only under conditions that were likely to foster prime-consistent changes in participants' active self-concept and not under conditions that should interfere with such processes. Thus, people who focused on their self following priming showed increased levels of aggression after exposure to African American (vs. Buddhist monk) primes. Participants who focused on their best friend, a target irrelevant to behavior in the experimental situation, showed no effects of prime.

Importantly, although we have proposed that these behavioral priming effects were due to changes in the self-concept, we did not provide any evidence of self-change. In order to address this limitation, Experiment 2 utilized the same procedure as Experiment 1, but changed the dependent measure in order to determine whether focusing on the self vs. a non-self target affects the ability of primes to change participants' actual self-perceptions. Thus, after the priming and target of thought inductions, participants were asked to rate both themselves and their best friend on their trait levels of aggression. Because, like the self, one's best friend is likely to be an applicable and ambiguous target for our primed categories, we predicted that the primes would also facilitate changes in participants' perceptions of their friend, but only when attention was focused on this target.

Experiment 2

Participants

Fifty-seven undergraduates were randomly assigned to the conditions of a Prime (African American vs. Buddhist monk) \times Target

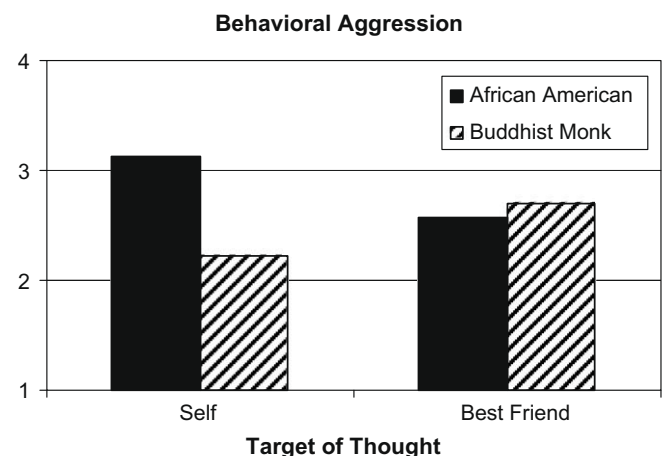


Fig. 1. Experiment 1 aggressiveness of hot sauce selection as a function of prime and target of thought.

of Thought (self vs. best friend) \times Target of Judgment (self vs. best friend) mixed design, with repeated measures on Target of Judgment. As in Experiment 1, African American participants were removed from the analyses ($n = 6$), leaving 51 individuals in the final sample.

Materials and procedure

After completing the same priming and target of thought manipulations from Experiment 1, participants rated themselves and their best friend on a number of traits, including the target trait of aggression. For the measure, participants were asked "On a scale from 00 (not at all) to 99 (completely), please indicate how AGGRESSIVE you are [your best friend is]." The order of these trait ratings was randomized. All other aspects of the procedure were identical to Experiment 1. As in Experiment 1, funnel debriefing probes indicated that no participants reported seeing anything unusual in the priming task, nor did they believe that the task had any impact on their subsequent responses.

Results and discussion

Ratings of aggressiveness were submitted to a Prime (African American vs. Buddhist monk) \times Target of Thought (self vs. best friend) \times Target of Judgment (self vs. best friend) mixed ANOVA with repeated measures on the Target of Judgment. The only significant effect to emerge was the predicted Prime \times Target of Thought \times Target of Judgment interaction, $F(1,47) = 6.73$, $p = .01$ (see Fig. 2). Simple effects tests revealed an assimilative effect on self-rated aggression when participants thought about themselves, $F(1,47) = 3.91$, $p = .05$, but not when participants thought about their best friend, $F < 1$. Similarly, there was a marginally significant assimilative effect on ratings of the best friend's aggression when participants thought about their best friend, $F(1,47) = 3.24$, $p = .08$, but not when they thought about themselves, $F < 1$.

As predicted, we found evidence that those participants who thought about their self after priming integrated prime-relevant information into their self-concept while participants who thought about a non-self target did not. Additionally, participants' ratings of their best friend also tended to change if they focused on their best friend following priming but not if they focused on the self. Thus, it appears that focusing on a given target allowed the primes to affect perceptions of that object, while focusing on an alternative target prevented such changes.

General discussion

Across two experiments, we saw that the object of focus following a prime induction was of critical importance in determining exactly what effect primes had on subsequent judgments and behavior. When participants focused on their self (but not their best friend), prime-related content became incorporated into self-perceptions (Experiment 2) and was used to inform subsequent behavior (Experiment 1). When participants instead focused on their best friend (but not the self) after priming, the same primes had very different effects. Instead, the prime-related con-

¹ Another way to analyze this data is to examine ratings of the focal versus non-focal target. To do this, we created new variables representing ratings of the "matched" (e.g., self-ratings in the self-focus conditions) and "mismatched" targets (e.g., friend ratings in the self-focus conditions). These variables were then submitted to a Prime (African American vs. Buddhist monk) \times Target of Thought (self vs. best friend) \times Matching (matched vs. mismatched target) mixed ANOVA, with repeated measures on Matching. As predicted, the Prime \times Matching interaction was the only significant effect, $F(1,47) = 6.73$, $p = .01$. Simple effects indicated a significant main effect of prime on the matched (i.e., focal) target, $F(1,47) = 6.65$, $p = .01$, but no effect on the mismatched target, $F < 1$.

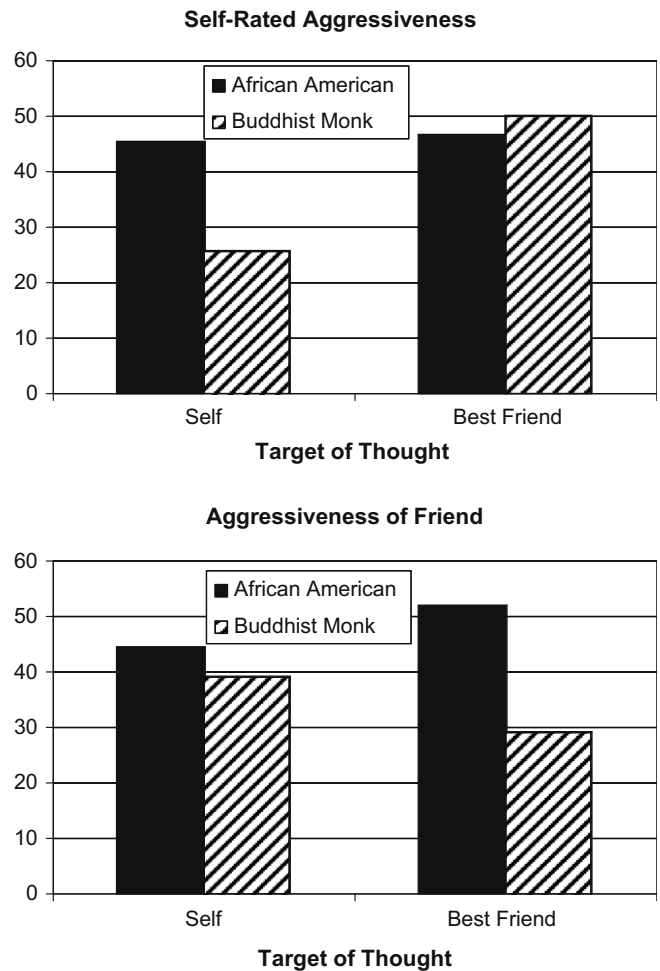


Fig. 2. Experiment 2 aggression ratings of self (top panel) and best friend (bottom panel) as a function of prime and target of thought.

tent became incorporated into perceptions of the best friend (Experiment 2) and was no longer used to inform participants' personal behavior (Experiment 1).

Together, these experiments provide a number of important contributions for the literatures on priming and the self. Perhaps most importantly, we illustrate the importance of attention to the self versus another target for the production of prime-related self-change and subsequent behavior. Although past theory has suggested that this variable is often critical for the production of behavioral priming effects (see Wheeler et al., 2007), this is the first research to experimentally manipulate attention to the self and to examine it as a determinant of the likelihood that prime-related content is incorporated into the self-concept. That other work has demonstrated similar results using individual differences associated with differential attention to the self (Hull, Slone, Meteyer, & Matthews, 2002; Wheeler, Morrison, DeMarree, & Petty, 2008) suggests that self-focused attention may be an important real-world predictor of many priming effects.

In addition, our work joins a growing literature stressing the importance of knowing exactly what aspect of the experimental situation is most salient to participants after a priming induction. Along with the recent work of Kay and colleagues (2008), we demonstrate that very different priming effects can result from a single prime depending on participants' object of focus. However, the specific role that attention plays is still unclear. For example, activation of the self versus another target might increase the likelihood that the prime is attributed to the self, reinforce existing

associations between the primed concept and the self, or provide another set of inputs that ensure that prime-congruent self-content is most accessible (for reviews, see Loersch & Payne, 2008; Wheeler et al., 2007). Elucidating the mechanisms by which such effects emerge represents an important task for future research.

Some readers might be concerned that we did not include manipulation checks to ensure that our self-focus versus friend-focus manipulations actually affected the salience of the focal targets. Although this is a limitation of our work, some ancillary measures collected in Experiment 2 are consistent with the successful manipulation of self-salience. At least when reporting self-attributes, participants' responses were faster in the self-focus than in the friend-focus condition. Although this finding did not extend to response times on friend ratings, it does suggest that our manipulation affected the salience of the self-concept.

Finally, these findings have practical implications for priming research. As our work suggests, the materials and questions provided by researchers can easily direct participants' attention, altering (perhaps inadvertently) the target that is biased by the activated content. Thus, even an effective priming manipulation may not always produce the expected effect if enough participants focus on unintended aspects of the experimental setting (see also Kay et al., 2008).

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