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Suppression as a Stereotype Control Strategy

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Recent research reveals that efforts to suppress stereotypic thoughts can backfire and produce a rebound effect, such that stereotypic thinking increases to a level that is even greater than if no attempt at stereotype control was initially exercised (e.g., Macrae, Bodenhausen, Milne, & Jetten, 1994). The primary goal of this article is to present an in-depth theoretical analysis of stereotype suppression that identifies numerous potential moderators of the effect of stereotype suppression on the likelihood of subsequent rebound. Our analysis of stereotype suppression focuses on two broad issues: the influence of level of prejudice and the influence of processing goals on the activation versus application of stereotypes. Although stereotype rebound occurs under some circumstances, we suggest that a complete understanding of this phenomenon requires consideration of the full array of possible moderating influences.

In recent years there has been a veritable explosion of research activity devoted to understanding the nature and function of social stereotyping. A great deal of this work suggests that stereotypes are easily activated and applied in the context of social judgment and behavior. Indeed, the ease with which stereotypes appear to be activated has encouraged some to sound cautionary notes regarding the unchecked use of stereotypes. In response, several researchers have begun to explore the processes and mechanisms involved in intentional efforts to avoid or control the pernicious effects of stereotypes. At present, there is considerable debate concerning the efficacy of efforts to control stereotype activation and use. Some research suggests that such intentional control is possible even if difficult. Other research suggests that efforts at control may backfire, producing unintended heightened activation and use of stereotypes. Addressing this controversy holds considerable promise for improving our theoretical analysis of both the activation and control of stereotypes.

Our goals in the present article are threefold. First, we provide a brief overview of the literature pointing to the ease and prevalence of stereotype activation. Second, we summarize the stereotype suppression findings that have alerted the scholarly community to the possibility that efforts to control stereotypes through suppression can have unintended and paradoxical effects. Finally, our primary goal is to provide an in-depth theoretical analysis of stereotype suppression that underscores the complex variety of possible moderating influences on stereotype suppression. When possible, we describe preliminary findings that help to illustrate the complexities of stereotype suppression and make suggestions for future work in this area.

The Propensity to Stereotype

There can be little doubt that the human mind is inclined to think with the aid of categories. The idea that categorization is and must be involved in the act of perceiving others is found in the classic writings of Lippman (1922), Allport (1954), and Bruner (1957). These influential works explain that people identify different classes of objects based on their features and attributes because to do otherwise would burden the perceiver with an overwhelming amount of information to perceive and digest. Processing social information without the aid of categories would result in data over-

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load and, consequently, an inability to navigate effectively and efficiently through one's social environment.

The natural, ubiquitous, and adaptive process of categorization has maintained popularity in current thinking, as reflected in leading models of person perception. For example, in Fiske and Neuberg's (1990) and Brewer's (1988) impression formation models, the first step in perceiving others entails categorization. Recent research has also empirically established the energy-saving and efficiency-enhancing properties of stereotyping (Macrae, Milne, & Bodenhausen, 1994). As Macrae et al. concluded, "Stereotypes, accordingly, serve to simplify perception, judgment, and action. As energy-saving devices, they spare perceivers the ordeal of responding to an almost incomprehensibly complex social world" (p. 37). Thus, the process of stereotyping is inviting to perceivers, in part, because stereotypes ease the burden of information processing and simultaneously provide comprehension of the social environment (see Hamilton & Sherman, 1994, for a review).

The process of stereotyping appears to be functional and appealing for reasons other than cognitive economy. Perceivers may boost their self-esteem by construing a group to which they belong favorably while derogating out-groups with the assistance of negative stereotypes (Fein & Spencer, 1997; Tajfel & Turner, 1986). The unequal distribution of resources can be twisted into a picture of fairness by applying negative stereotypes to disadvantaged groups that serve to justify the inequality (Jost & Banaji, 1994; Sidanius, Devereux, & Pratto, 1992). Motivations to avoid ambiguity or confusion (i.e., the need for structure) can also be fulfilled through the process of stereotyping (Kruglanski, 1989; Kruglanski & Freund, 1983; Lippmann, 1922).

The problem of stereotyping created by these apparently adaptive inclinations to categorize social groups is compounded by the fact that many stereotypes are transmitted through social learning. The explicit and implicit teachings of social agents such as parents, peers, or the media ensure that stereotypes will be transmitted to children at a young age, before they have had opportunities to develop their own personal beliefs based on their own personal experiences (Allport, 1954; Ehrlich, 1973; Katz, 1976; Proshansky, 1966). With repeated and frequent activation, stereotypes come to be cognitive structures that can be activated and used automatically (Devine, 1989). As such, stereotypes can color social perceptions without the perceiver's awareness or conscious intent (Banaji & Greenwald, 1995; Banaji, Hardin, & Rothman, 1993).

An examination of research reveals that this propensity to stereotype is frequently realized in actual behavior. Stereotypes often exert undue influence on evaluations, judgments, and behaviors (see Hamilton & Sherman, 1994, for a review). For example, ambiguous behaviors are likely to be interpreted in stereotypic

ways (Banaji et al., 1993; Darley & Gross, 1983; Devine, 1989; Duncan, 1976; Sagar & Schofield, 1980). Attributions for behaviors tend to be consistent with stereotypes, which serves to perpetuate the stereotypes (Bodenhausen & Wyer, 1985; Deaux & Em-swiller, 1974). Self-fulfilling prophecies occur, such that individuals respond to stereotyped targets in ways that place constraints on the target's behaviors, so that targets ultimately do behave consistently with stereotypes (Snyder, Tanke, & Berscheid, 1977; Word, Zanna, & Cooper, 1974). These examples illustrate the pervasive and subtle ways in which stereotypes can result in prejudiced responses.

Such responses may occur, of course, among individuals who persist in endorsing negative attitudes and stereotypes (Devine & Elliot, 1995; McConahay, 1986; Monteith, Spicer, Dicke, & Lombardi, 1997; Sears, 1988) despite the egalitarian trends stimulated by the civil rights movement and its aftermath (Schuman, Steeh, & Bobo, 1985). Such responses may even unwittingly occur among persons who neither espouse prejudiced attitudes nor endorse the content of negative stereotypes but who are in the habit of responding in stereotypic ways (e.g., Devine, 1989; Devine, Monteith, Zuwerink, & Elliot, 1991; Monteith, Devine, & Zuwerink, 1993). Precisely these types of outcomes led to the sounding of cautionary notes regarding the unchecked use of stereotypes. Social injustices resulting from stereotype activation and use may be avoided only if people control their prejudiced responses.

Stereotype Suppression as a Control Mechanism

In an attempt to control prejudiced responses, people may try to banish stereotypic thoughts from the mind (i.e., suppress stereotypic thoughts). However, attempts at such thought control may have unintended effects. In particular, research has shown that attempting to suppress a thought may lead to that thought becoming more accessible than if suppression had never been attempted. This finding has been demonstrated across a variety of domains, including, for example, thoughts of white bears (Wegner, Schneider, Carter, & White, 1987), thoughts of former romantic partners (Wegner & Gold, 1995), and depressive thoughts (Wegner, Erber, & Zanakos, 1993; Wenzlaff, Wegner, & Roper, 1988). Similar ironic effects have been observed following perceivers' attempts to suppress stereotypes (Macrae, Bodenhausen, Milne, & Jetten, 1994).

Wegner (1994; Wegner & Erber, 1992) recently developed a provocative model of mental control to explain such effects. According to Wegner's model, attempts to suppress unwanted thoughts (e.g., stereotypes) result in the initiation of two mental processes. First, an intentional operating process begins searching for thoughts that can serve as distracters; the goal of the

operating process is to focus attention on something other than the unwanted thought. Second, consistent with other theories that posit dual-process control systems (e.g., Miller, Galanter, & Pribram, 1960; Wiener, 1948), an ironic monitoring process begins searching consciousness for evidence of the unwanted thought. This "checking" mechanism ensures that the operating process is functioning successfully and, if it is not, signals the operating process of failure and the need for different and better distracters.

An important characteristic of these two mental processes concerns the cognitive requirements for their successful execution. Whereas the operating process is presumed to entail controlled and effortful thinking, the monitoring process is thought to operate continuously and in an automatic manner (Wegner, 1994). Through the continuous, effortless search for the unwanted thought, this thought presumably is repeatedly primed and thus becomes more and more accessible (Macrae, Bodenhausen, et al., 1994; Wegner & Erber, 1992), or *hyperaccessible*. That is, the unwanted thought achieves a level of accessibility that exceeds normal levels of accessibility that are associated with concentration on a given thought. If the functioning of the operating process is undermined through, for example, a cognitive load (Wegner, 1994) or if the conscious intention to avoid the unwanted thought is relaxed (Macrae, Bodenhausen, et al., 1994), the unwanted thought may *rebound*. In other words, the unwanted thoughts may exert an influence on thought and, perhaps, behavior that is even greater than would be expected if no attempt at suppression had ever been made. The implication of Wegner's work for stereotype control is that, under certain circumstances, the more people try to suppress stereotypic thinking, the more they will fail to do so (see Bodenhausen & Macrae, 1996; Macrae, Bodenhausen, et al., 1994).

Observations of such stereotype rebound effects have led Macrae and colleagues (Macrae, Bodenhausen, et al., 1994) and Wegner (1994) to question whether people will be able to control their use of stereotypes and, thus, the biases associated with them. These researchers' concerns are evident in the conclusions they reached regarding the efficacy of suppression-based control efforts following reviews of the relevant literature. For example, Bodenhausen and Macrae (1996) stated, "It seems that there are a substantial number of reasons to be concerned about whether stereotype suppression is a viable route to the goal of avoiding unfair bias in our assessments of others" (pp. 242–243). Wegner and Wenzlaff (1996) stated the dilemma in terms of whether control should be attempted: "When mental control has potentially troublesome consequences like these, we can begin to wonder about how wise it is to assume that we should always meet unwanted prejudices with attempts at control" (p. 486).

Observations of stereotype rebound effects—especially in light of the issue at stake—provide reason for pause. Do efforts at control necessarily lead to counter-intentional effects? Should the voices of social institutions be warned about the potential deleterious effects of encouraging people to avoid stereotypic thoughts? Should individuals who are grappling with a personal struggle to avoid being prejudiced be encouraged to abandon their efforts at stereotype control? We think that such measures would be seriously premature and ill-advised and that the consequences of the intention to suppress stereotypes are considerably more complicated than extant empirical findings imply. Before turning to our efforts to unravel these complexities, it is necessary to consider first the empirical findings that demonstrate people's failures to control stereotypic thinking despite their contrary intentions.

Stereotype Suppression Research

The ironic effects of stereotype suppression have been investigated in several experiments that have appeared in the social psychological literature. To examine the effects of suppressing sexist ideas, Wegner, Erber, and Bowman (1993; also cited in Wegner, 1994) asked participants to complete sentence stems, some of which were selected so that either sexist or nonsexist completions could be provided. For example, the sentence "Women who go out with a lot of men are ..." can be completed in a nonsexist way ("popular") or in a sexist way ("sluts"). Before executing this task, half of the participants were instructed to try to avoid being sexist, whereas no mention was made of avoiding sexism for the other participants. In addition, Wegner, Erber, & Bowman (1993) manipulated time pressure while the sentence completions task was being performed. Half of the participants were told to provide sentence completion immediately (high time pressure), whereas the remaining participants were given 10 sec to respond (low time pressure).

Not surprisingly, participants in the low time pressure condition made fewer sexist completions if they were told to avoid sexism than if they were not told to do so. In contrast, in the high time pressure condition, participants made more sexist completions if they were told not to be sexist than if no special instructions were provided. Although this pattern does suggest that time pressure coupled with instructions not to be sexist was associated with a relatively high number of sexist completions (i.e., higher than for suppression plus no time pressure participants), the pattern arguably is not indicative of a rebound effect. That is, rebound is most often conceptualized as an increase in the accessibility of the previously suppressed material (i.e., hyperaccessibility) compared to when no efforts at suppression have been attempted. In the Wegner, Erber, and Bowman (1993) study, although the number of sexist com-

pletions was higher among suppression participants who were under time pressure compared with those who were not, the number of sexist completions was approximately equal for suppression/time pressure participants and the low time pressure, no special instructions participants (i.e., the control group against which hyperaccessibility is to be assessed). Thus, although these findings suggest the immediate effectiveness of suppression instructions when cognitive resources are not taxed, they do not appear to provide strong evidence of rebound. Instead, the findings seem to suggest that the conscious intent to avoid stereotypic thoughts can be undermined through the imposition of a cognitive load (see also Devine, 1989; Gilbert & Hixon, 1991; Kruglanski & Freund, 1983; Jamieson & Zanna, 1989; Wyer, Sherman, & Stroessner, 1997a).

Macrae, Bodenhausen, et al. (1994) reported a series of three experiments that more directly point to rebound effects resulting from stereotype suppression. In their first experiment, participants were asked to spend five minutes writing a passage that described a typical "day in the life" of a person shown in a photograph, and this person happened to be a skinhead. Participants were either instructed to avoid stereotypic thoughts while writing their passage or were given no such instructions (control). After writing the initial passage, participants were given another photograph, again of a skinhead and were asked to write a second passage. This time, no special instructions about avoiding stereotypes was given to either group of participants. The authors reasoned that the "relaxation" of the instructions to suppress stereotypes during the second passage writing task (and thus the relaxation of the activity of the operating process) would create a situation in which the presumed cognitive consequences of the initial stereotype suppression could be observed. That is, if stereotypes were repeatedly primed during the earlier monitoring process, causing them to become hyperaccessible, stereotypic content should be especially prevalent in the second essay. Analyses of raters' judgments of the stereotypicality of the passages revealed a pattern of results that were consistent with expectations. The first passages written included less stereotypic content in the suppress instruction condition than in the control instruction condition. In contrast, for the second writing task, participants' passages were judged to include more stereotypic content in the suppression instruction condition than in the control condition. This pattern illustrates the rebound effect: More stereotypic content was included in the passages following suppression than when no attempt at suppression was made.

Macrae, Bodenhausen, et al.'s (1994) second experiment measured rebound in terms of behavioral reactions. As in Experiment 1, participants first wrote a passage about a skinhead under instructions to avoid stereotypic thoughts or with no such special instructions. As expected, the passages were judged to be more

stereotypical in the control than in the suppress condition. Participants then expected to interact with the skinhead shown in the photograph, but the skinhead supposedly had stepped out of the room. The experimenter asked the participant to have a seat and wait for the skinhead's return, whose belongings were already placed on one of the chairs. Interest centered on how close to this chair the participants would seat themselves. As expected, participants who had previously written a paragraph under instructions to suppress stereotypic thoughts chose to sit further away from the skinhead's belongings than participants in the control condition, demonstrating that the stereotype had been made hyperaccessible by the suppression instructions.

The final experiment in the Macrae, Bodenhausen, et al. (1994) series was designed to determine whether stereotypes actually become more accessible as a consequence of suppressing them. As in the first two experiments, participants initially wrote a passage about a skinhead under suppress or control instructions, and the content was later determined to be more stereotypical in the control condition. Next, participants performed a computerized lexical decision task in which they indicated whether strings of letters presented on the computer screen were or were not words. Half of the strings of letters were words, and half of these words were predetermined to be stereotypical of skinheads. The results indicated that participants who had previously suppressed stereotypes of skinheads responded more quickly to the stereotypic words than did participants in the control condition. This pattern of results provides strong support for the ironic consequences of attempts to control stereotypes: The initial suppression period resulted in unusually high levels of stereotype accessibility, or hyperaccessibility of the stereotype.

Macrae, Bodenhausen, and Milne (in press) recently examined whether stereotype rebound will also result when the intention to suppress stereotypes is spontaneously activated through situational cues, rather than being activated by experimental instructions to suppress stereotypes. In an initial set of experiments, Macrae et al. (in press) demonstrated that heightened self-focus caused individuals to avoid the use of stereotypes. This presumably occurred because self-focus increases the salience of internalized standards (e.g., Carver, 1975; Diener & Wallbom, 1976) so that, in this case, personal standards suggesting that stereotyping is inappropriate become salient. Macrae et al. (in press) reasoned that, if stereotype use was avoided under conditions of self-focus through a strategy of suppression, then stereotypes should subsequently be on the rebound when self-focus was later diminished. To examine this idea, participants first wrote a passage about a male hairdresser under conditions of either high or low self-focus. As anticipated, later coding and analyses revealed that participants wrote less stereotypic passages under high than low self-focus. Then participants wrote

a second passage about a different male hairdresser, and the participants who were formerly under high self-focus now either remained highly self-focused, or self-focus was diminished. Participants who initially were under low self-focus remained under low self-focus (thus serving as the control condition). Coding and analyses of the second passages revealed that participants who remained under high self-focus continued to avoid stereotypes, relative to the control condition. In contrast, participants who previously had experienced high self-focus but for whom self-focus now was diminished wrote highly stereotypical passages. That is, their second passages were more stereotypical than their first passages, and they were more stereotypical than the passages of the control group and than the passages of the initially highly self-focused participants who remained under high self-focus. This pattern of findings supports the idea that stereotype rebound need not result only from explicit instructions to suppress stereotypes. Suppression was spontaneously initiated through heightened self-focus, and when self-focus was diminished later, stereotypes were on the rebound.

In related research, Wyer, Sherman, and Stroessner (1997b) demonstrated spontaneous suppression and rebound effects by making social, rather than personal, standards against stereotyping salient. In their experiment, participants were first asked to complete a questionnaire regarding their attitudes toward African Americans. Participants completed this questionnaire under one of three instruction sets. In one condition, participants were explicitly told to suppress stereotypic thoughts. In a second "implicit suppression" condition, prior to filling out the questionnaire, participants were told that the experiment was being conducted by a student group concerned with racial equality. This condition was designed to increase participants' awareness of social norms against stereotyping. Finally, a control group was simply asked to fill in the questionnaire as they saw fit. After filling in the questionnaires, participants engaged in what they believed was a second, unrelated experiment on impression formation. In this second experiment, participants read a paragraph about a race-unspecified man named Donald whose behavior was somewhat ambiguous but exhibited aggressive tendencies (see Devine, 1989; Srull & Wyer, 1979). To the extent that the African American stereotype had been made salient by the first part of the experiment, participants would perceive Donald as particularly aggressive (Devine, 1989). A manipulation check confirmed that participants in both the "explicit" and "implicit" suppression conditions suppressed stereotypes as they filled out the questionnaires in the initial part of the experiment. Nevertheless, participants in both of these groups perceived the subsequent Donald target to be more aggressive than the control group, demonstrating a rebound effect. Thus, participants for whom anti-stereotyping social norms had been made salient dem-

onstrated suppression and rebound effects identical to those demonstrated by participants explicitly asked to suppress their stereotypes. These results show that spontaneous suppression and rebound effects may occur when social contexts increase the salience of social norms against stereotyping.

Macrae, Bodenhausen, Milne, and Wheeler (1996) investigated a different consequence of stereotype suppression—namely, whether stereotype suppression impairs memory for nonstereotypic information. In their article, the authors reasoned that suppressing stereotypic thoughts requires attentional resources and that expending such resources during the act of suppression might leave fewer resources for attending to nonstereotypic information. This idea was tested in two experiments. In Experiment 1, participants were shown a picture of a skinhead, and they were asked to listen to a self-descriptive narrative that was supposedly audiotaped by the skinhead. This narrative either included no stereotypical statements, just one stereotypical statement ("I strutted down the street in order to look threatening") or five such statements. The narratives also included information about age, address, and other impression nondiagnostic information. Crossed with the manipulation of the amount of stereotypic information was a manipulation of the suppression instructions. Half of the participants were told to suppress stereotype-based thoughts and beliefs that might be elicited by the target's appearance, whereas the other half were given no special instructions. While listening to the narrative, participants simultaneously performed a timed probe reaction task, which yielded a measure of the attentional demands associated with listening to the narrative. Shortly thereafter, participants completed a test that measured their memory for the skinhead's narrative.

The results suggested that suppressing stereotypes was indeed an attention-demanding activity for participants who were told not to think in a stereotypic way about the target but who listened to a target description that included quite a lot of stereotypic content. Specifically, the response latency findings for the probe reaction task suggested that the attentional demands while listening to the narrative were relatively high only among participants who were told to suppress stereotypes and who were exposed to the highly stereotypic narrative. Furthermore, recall for nonstereotypic information was relatively low in this group.

In the second experiment reported by Macrae et al. (1996), the stereotyped group was the elderly, and (for all participants) the narrative about a particular target included 12 pieces of stereotypic information (e.g., "I play bingo once a week") and 18 pieces of nonstereotypic information. Again, while listening to the narrative, participants were asked to suppress stereotypic thoughts and beliefs when forming their impression, or no special instructions were provided. Seven days later, participants returned to the laboratory and were asked

to write down as much of the narrative as they could remember. The results indicated that participants in the suppress condition recalled significantly more stereotypic information and significantly less nonstereotypic information, relative to the control condition. Macrae et al. (1996) concluded that the results confirm "... that the act of stereotype suppression can impair the processing and retention of nonstereotypic individuating information ... [and enhance] memory for the to-be-disregarded information" (p. 14). Sherman, Stroessner, Loftus, and DeGuzman (in press) demonstrated similar effects using a recognition measure of memory. These experiments underscore the possibility that efforts to regulate the use of stereotypes through suppression may lead to the ironic and unintended outcome that stereotypic information becomes highly accessible and memorable. As a result, subsequent stereotyping may increase. Therefore, to the extent that perceivers' real-world experiences provide them with exposure to significant amounts of stereotypic information about targets along with nonstereotypic information, such ironic consequences of attempted stereotype suppression may occur.

Moderating Influences on Stereotype Suppression

Although the cumulative evidence is discouraging regarding the likely efficacy of stereotype suppression as an effective control mechanism, we believe that stereotype suppression can succeed under certain circumstances. Stereotype suppression is likely to be a complicated process that is influenced by a variety of important personal and situational variables. Our goal is to propose a framework for investigating the full complexity of stereotype suppression and the conditions under which it is and is not likely to have unintended consequences. In developing the framework, we drew upon insights from existing thought suppression work (Wegner, 1994; Wegner & Wenzlaff, 1996) and considered additional factors that become especially important in the context of examining stereotype suppression in particular. In the next sections we outline a number of factors that may moderate the extent to which unwanted stereotype rebound effects result from such suppression, as well as some evidence suggesting that stereotype suppression does not inevitably lead to rebound. Specifically, we first examine the potential role that people's personal attitudes may play in moderating the effect of stereotype suppression on subsequent stereotype accessibility. In the context of this discussion, we identify a variety of processes that may enable people who are committed to avoiding the use of stereotypes to be able to do so without an increase in stereotype accessibility, even under conditions that typically favor stereotype rebound. Next we discuss the important distinction between stereotype activation versus

application. We suggest that one's processing goals may prevent stereotypes that have been activated through suppression-related processes from being applied to targets. Finally, we identify situations in which rebound effects arguably are most likely to occur. Throughout our analysis, we summarize very recent findings that are intended to illustrate possible moderators of stereotype suppression effects. Although the evidentiary basis is preliminary at this point, we believe there are good reasons to entertain the possibility that the unfortunate and paradoxical consequences of stereotype suppression can and will be averted in many instances. To the extent that this is true, effective strategies for regulating stereotype activation and use can be developed and implemented.

Level of Prejudice and Stereotype Suppression

Perhaps the most important factor in determining whether stereotype suppression will have negative consequences is the personal attitude of the suppressor. Many people find stereotyping to be personally unacceptable and have made corresponding decisions to renounce prejudice and to avoid stereotyping others. For these low-prejudice individuals, stereotypic thinking transgresses personal standards of fairness and open-mindedness. When they become aware that they have stereotyped another person, these people feel a sense of guilt or compunction (e.g., Devine et al., 1991; Monteith, 1993). In contrast, others may feel that it is perfectly acceptable to stereotype others (at least individuals who belong to certain groups; Pressly & Devine, 1997). There are a variety of important differences between those who do and those who do not condone stereotyping that will influence the likelihood that attempts at stereotype suppression may have negative consequences.

What stereotype is being suppressed? Of course, these differences will be relevant only in situations that differentiate low-prejudice persons from high-prejudice persons. To date, most of the published research on stereotype suppression has investigated stereotypes that people are typically not personally motivated to avoid (e.g., stereotypes of skinheads). These groups differ in important ways from groups about which there tend to be social, cultural, and political concern that group members are disadvantaged because of stereotyping, prejudice, and intergroup discrimination. For groups such as African Americans and women, the concerns have been great enough that legislation has been enacted to protect their civil rights. To be sure, skinheads, child molesters, and supermodels constitute clearly defined groups about whom stereotypes exist. However, knowledge that one has used a stereotype in

relation to a member of such groups is unlikely to bring public censure or personal recrimination. More specifically, there is not widespread agreement that members of these groups would be unfairly disadvantaged as a function of social stereotyping. Nor do individuals have clear personal standards or values that prohibit stereotyping members of such groups. In general, people indicate that stereotyping skinheads is acceptable (Macrae, Bodenhausen, et al., 1994). In contrast, only those people who are highly prejudiced toward African Americans and women agree that applying a stereotype to members of these groups is acceptable (Pressly & Devine, 1997). The crucial point is that stereotyping some groups is not viewed with the same condemnation as other groups, either publicly or privately. For reasons more fully elaborated later, the demonstration of consistent rebound effects in studies using target groups such as skinheads or child molesters is not surprising. In contrast, we would expect to find strong individual differences in the likelihood of rebound if the stereotypes referred to more sensitive social groups (e.g., racial stereotypes). Recent findings help to illustrate the role of individual differences in the efficacy of stereotype suppression.

Specifically, Monteith, Spicer, and Tooman (1997, Experiment 2) found that low- and high-prejudice persons do, in fact, differ in their ability to avoid heightened stereotype accessibility following suppression. Participants who held either low- or high-prejudice attitudes toward gays (as measured by the Heterosexual Attitudes Toward Homosexuals questionnaire; Larsen, Reed, & Hoffman, 1980) completed an experiment that supposedly concerned imagination and creativity in writing tasks. Participants completed the experiment in small groups, and they were given a folder with a picture of a couple in it. The experimenter explained that different participants had pictures of different types of couples in their folders. In fact, all participants were given a picture of a gay, male couple. Following Macrae, Bodenhausen, et al. (1994), the experimenter explained that participants were to spend 5 min writing a passage that described a typical day in the life of the couple. In the suppress instruction condition, the experimenter also mentioned that "Psychological research has established that our impressions and evaluations of others are consistently biased by stereotypes. So, you should actively try to avoid thinking about the target couple in stereotypic ways." These additional instructions were not provided for participants in the control condition.

After participants wrote their passages, stereotype accessibility was assessed in a supposedly separate study using a word recall task. Postexperimental probing was used to ensure that participants did not detect the relation between the passage writing and word recall tasks. Participants were led to believe that the word recall task was designed to assess short-term memory capacity among college students. Nine lists of words,

each including 10 words, were projected on a screen for 6 sec each. After each list was presented, participants attempted to recall and write down as many of the words as they could. Some of the words included on the lists were related to the stereotype of gays (e.g., artistic and immoral). Monteith, Spicer, & Tooman (1997) reasoned that, if the previous passage writing task caused stereotypes to be highly accessible among participants in the suppress instruction condition, recall of the stereotypic words should be enhanced.

The first issue addressed in data analysis was whether participants appeared to follow the experimenter's instructions to suppress stereotypic thoughts during the generation task. As expected, the proportion of stereotypical statements (as determined by a content analysis of the written passages) among high-prejudice participants in the control condition was significantly higher than that of high-prejudice participants in the suppress instruction condition. In contrast, stereotypical statements were infrequent among low-prejudice participants in both the control and suppress conditions. This latter finding may indicate that stereotypic thoughts never occurred to the low-prejudice participants. However, given the automatic nature of stereotype activation among many people (Banaji & Greenwald, 1995; Banaji et al., 1993; Devine, 1989), a more likely explanation is that stereotypes came to mind but were not used in the passage writing task by either suppression or no suppression participants. In addition, Monteith, Spicer, & Tooman (1997) asked a separate sample of low-prejudice participants how frequently they thought about stereotypes while performing the passage writing task under suppression instructions, and participants' ratings suggested that stereotypes did come to mind.

The second issue addressed in data analysis was whether participants showed evidence of heightened stereotype accessibility in the word recall task. Analysis of the proportion of stereotype-related words and non-stereotype words recalled as a function of prejudice level and instruction condition revealed the expected three-way interaction. Subsequent analyses revealed no differences among the cell means for recall of the nonstereotype words. A different pattern, however, emerged in memory for the stereotype-related words: Consistent with predictions, high-prejudice participants who had previously suppressed stereotypes recalled significantly more stereotype-related words than high-prejudice participants who had not previously suppressed stereotypes and more than low-prejudice participants in both the suppress and control conditions. Further support that only high-prejudice participants were prone to stereotype rebound was provided through comparisons with an appended control group, in which participants wrote a neutral passage (i.e., about their last vacation) before performing the word recall task. This group recalled significantly fewer stereotype-related

words than the high-prejudice, suppress group, but the appended control condition did not differ from the high-prejudice, control group or either of the low-prejudice groups.

These findings provide initial support for the notion that some people are able to avert stereotype rebound effects. Low-prejudice participants did not rely on stereotypes when writing their passages about the gay couple but, unlike their high-prejudice counterparts in the suppress condition, rebound was not the ultimate outcome. However, this research does not serve to identify the precise processes that enable low-prejudice individuals to avoid stereotype rebound. In the following section, we propose a variety of factors that may account for the differential ability of people who are low in prejudice versus others to avoid suppression-induced stereotype activation.

Motivation and stereotype suppression. One important factor may be the distinction between internal versus external motivation to control prejudice. Dunton and Fazio (1997) developed a measure called the Motivation to Control Prejudiced Reactions Scale, which was designed, in part, to distinguish between an *external* motivation to control prejudice (i.e., stemming from a social environment suggesting that prejudice is not socially acceptable) versus an *internal* motivation to control prejudice (i.e., stemming from internalized personal standards suggesting that prejudice is inappropriate). Although Dunton and Fazio found that external and internal motivations covaried sufficiently so that the corresponding items loaded on the same factor, Plant and Devine's (1997) results provide greater empirical support for the conceptual and empirical distinction between internal and external sources of motivation to respond without prejudice.

Plant and Devine (1997) developed and validated (i.e., convergent, discriminant, and predictive) separate scales of internal and external sources of motivation to control racial prejudice. Those high in internal motivation to control prejudice tend to agree strongly with statements such as "Being nonprejudiced toward Black people is important to my self-concept." Those high in external motivation to control prejudice are more likely to agree strongly with statements such as "I attempt to appear nonprejudiced toward Black people in order to avoid disapproval from others." Thus, the important evaluative audience differs for internally (self) and externally (others) motivated people. Plant and Devine predicted that when efforts to control prejudice end in failure, the qualitative nature of people's affective consequences would be determined by whether the source of the motivation to respond without prejudice is internal (i.e., internalized personal standards) or external (i.e., standards established by important referent groups).

To investigate these issues, Plant and Devine (1997) assessed the extent to which people's actual responses

were consistent with or discrepant from their personal (internal) standards or from an important referent group's (external) standards (i.e., the campus based nonprejudiced standards). Following Devine et al. (1991), participants reported how they felt in the face of discrepancies from these standards. Replicating previous work (e.g., Devine et al., 1991; Monteith et al., 1993), when the source of motivation to control prejudice was internal, discrepancies from personal standards led to feelings of guilt and self-recrimination. However, when the primary motivation was external to the self, discrepancies from referent groups' standards was associated with feeling fearful and threatened—reactions that derive from falling short of standards others hold for how one should behave (cf. Higgins, 1987). Importantly, Plant and Devine found that internal but not external motivation scores were strongly correlated with self-reported measures of prejudice, such that the lower individuals' prejudiced attitudes, the stronger their internal motivation to control their prejudice.

Practice and stereotype suppression. The fact that high- and low-prejudice individuals have different motivations for suppressing stereotypes may have important implications for their ability to achieve this goal without incurring unwanted stereotype activation. Because they are internally motivated to avoid stereotyping, low-prejudice individuals will attempt to do so whenever they become aware that the situation is one in which they may be biased. Due to these chronic egalitarian concerns, these persons may have years of experience trying to rid themselves of unwanted stereotypic thoughts. In contrast, others may attempt stereotype suppression only if motivated by external factors such as self-presentation concerns (e.g., they don't want to appear to be prejudiced) or experimental demands. For these people, stereotype suppression may have more to do with "act" suppression than "thought" suppression. Given the external motivational bases for their suppression, the concern is not so much that stereotypical thoughts will come to mind as it is that those thoughts will be revealed through inappropriate words or deeds. Thus, these individuals may have very little experience in trying actively to prevent stereotypical thoughts from entering consciousness.

It is reasonable to assume that expertise influences thought suppression as it does any other task: Practice makes perfect. Like any other mental process, thought suppression processes may be proceduralized and become relatively automatic (e.g., Smith, 1994). As Wegner (1994) argued, the operating (thought replacement) process theoretically can become as efficient as the thought monitoring process, thereby decreasing the incidence of unwanted rebound effects. In support of this argument, Kelly and Kahn (1994) demonstrated that people could successfully suppress their own fre-

quently occurring intrusive thoughts without incurring rebound effects. Obversely, attempts to suppress more novel experimenter-provided thoughts (e.g., white bear) did produce rebound effects. These results suggest that people may become quite efficient at suppressing recurrent thoughts that they are internally motivated to suppress (and have practice suppressing) but may have difficulty suppressing novel thoughts based on external motivations. Thus, through years of practice, low-prejudice people but not other individuals may develop the ability to suppress stereotypic thoughts without later experiencing a rebound in the activation of such thoughts.

The role of replacement thoughts in stereotype suppression. One component of efficient thought suppression is the development of readily accessible replacement thoughts for the unwanted thought. To date, the research on stereotype suppression has made the implicit assumption that suppression (i.e., banishing unwanted stereotypic thoughts from consciousness) is the preferred or dominant strategy for controlling stereotypic thinking. However, controlling stereotypic thinking is not directly analogous to suppressing thoughts of a white bear. When suppressing thoughts of a white bear, there is no clear alternative to thinking about a white bear. Such is not the case with stereotypic thinking. The premise of work by Devine (e.g., Devine, 1989) and Monteith (e.g., Monteith, 1993) is that there is an alternative strategy available for those who do not wish to stereotype others. Rather than simply suppressing unwanted stereotypic thoughts, those thoughts may instead be replaced with egalitarian responses that are more in line with one's personal beliefs.

In this context, it is important to note that when Wegner et al. (1987) provided participants with a handy replacement thought (i.e., if a white bear comes to mind, think of a red Volkswagen), rebound effects were eliminated. Similarly, Kelly and Kahn's (1994) explanation for why people are able to avoid rebound effects in relation to their own recurring, intrusive thoughts focused on the availability of distracter thoughts. They suggested, for example, that previous experience with suppressing particular thoughts may serve to establish a rich network of distracters that ultimately helps people to avoid the unwanted thought. Alternatively, or perhaps additionally, people's experience at suppressing particular thoughts may have helped them to learn to focus on one or two particularly effective distracters.

Related findings have recently been demonstrated in research on stereotyping. Blair and Banaji (1996) used a priming paradigm to demonstrate that the extent to which stereotypes are automatically activated can be modified by the conscious intention to replace stereotypic thoughts with counterstereotypic thoughts. In their studies, male and female names were presented on

a computer screen following the presentation of a trait or nontrait word that was either stereotypically masculine or feminine (e.g., *dependent* or *nurse* followed by *Jane* or *James*). The participants' task was to say whether the presented names were male or female names. Blair and Banaji (1996, Experiment 2) found that participants more quickly identified male than female names following stereotypically male words and identified female names more quickly than male names following female words. The use of a sufficiently brief interval between the trait presentations and the name presentations (250 ms) precluded the use of intentional strategies on the part of the participants. This outcome demonstrates the automatic activation of gender stereotypes.

In other studies (Experiments 3 and 4), Blair and Banaji (1996) explicitly provided some participants with counterstereotypical expectancies. Participants were told that, following a stereotypically male word, they should expect a female name, and following a female word, they should expect a male name. The names were presented at one of two different intervals following the trait primes. For some participants, the interval was very brief (350 ms in Experiment 3 and 250 ms in Experiment 4). For other participants, the interval was increased to 2000 ms, which provided enough time for participants to reflect on their expectancies consciously. The results showed that, with the longer interval, participants were able to reverse the stereotype priming effect. In other words, participants in this condition identified female names more quickly than male names following male words and male names more quickly than female names following female words. Perhaps of greater interest, participants with the 250 and 350 ms intervals who also had a counterstereotype expectancy were able to moderate the stereotype priming effect. That is, although they did not have enough time to apply their expectancy and reverse the stereotype priming effect consciously, they also did not show the patterns of facilitation that result from automatic stereotype activation. These findings demonstrate that, if perceivers have counterstereotypical replacement thoughts, stereotypes may be inhibited without a concomitant increase in the accessibility of stereotypic material. These results are particularly encouraging in that the effects of the counterstereotypic expectations were revealed within milliseconds, which does not allow enough time for controlled processing. Thus, to the extent that low-prejudice people have accessible egalitarian beliefs to replace activated stereotypic thoughts, they may be particularly effective at avoiding stereotype-based responses.

Stereotype suppression and activation. Another aspect of efficient stereotype suppression has to do with the extent to which unwanted stereotypic thoughts are

likely to be activated in the first place. After forming egalitarian values and practicing suppression, low-prejudice people may simply be less likely to have stereotypic thoughts intrude at unwanted times (Devine, 1989; Monteith, 1993). For example, recent research suggests that there are important individual differences in the extent to which negative stereotypes of African Americans are automatically activated (Fazio, Jackson, Dunton, & Williams, 1995; Lepore & Brown, 1997; Moskowitz, Wasel, Gollwitzer, & Schaal, 1996, as cited in Gollwitzer & Moskowitz, 1996; Wittenbrink, Judd, & Park, 1997). Obviously, to the extent that low-prejudice people experience fewer stereotypic thoughts, active suppression will be less necessary and, thus, its attendant rebound effects will be less likely to occur.

Stereotype suppression versus individuation.

To this point, our discussion has focused on perceivers' attempts to control stereotypic thinking by suppressing and/or replacing stereotypic thoughts. However, attempts to control stereotyping may not focus solely on information related to the stereotype. Instead, perceivers may seek to avoid stereotyping by actively seeking out individuating information about a person and forming impressions of the person based on this information. For example, Brewer's (1988) dual process model of impression formation describes a "bottom-up" type of processing whereby personalized representations of individuals result from the integration and elaboration of a variety of pieces of social information. Theoretically, personalization is thought to occur when the perceiver has motives or objectives that encourage such processing. With thoughtful, bottom-up processing, stereotypes should be less likely to influence responses. Similarly, Fiske and Neuberg's (1990) continuum model of impression formation holds that people will, at times, be motivated to engage in "piecemeal" processing. This processing entails the consideration and integration of individual attributes when forming an impression, rather than basing the impression simply on category information. As Fiske and Neuberg (1990) conclude, "In short, if perceivers create options to override their initial categorizations by paying more attention, as our model and supporting research indicate, then stereotyping is amenable to intentional control" (p. 20).

One factor that strongly influences the likelihood of individuation is the perceiver's degree of motivation to form accurate, nonstereotypical impressions (e.g., Brewer, 1988; Fiske & Neuberg, 1990; Tetlock & Kim, 1987). As described previously, low-prejudice people are more internally motivated to form nonstereotypical impressions than are their highly prejudiced counterparts. As a result, one might expect that low-prejudice persons are more likely than others to avoid stereotyping by actively forming individuated impressions of

others, particularly when no explicit social pressure encouraging nonprejudiced responding is present. Consistent with this idea, Sherman, Stroessner, and Azam (1997) employed an impression formation task and found that judgments of a gay target by low-prejudice individuals were closely related to the individuating information that these participants attended to and remembered about the target. By contrast, the judgments of high-prejudice participants were unrelated to the information that they attended to and remembered. In a second study, high- and low-prejudice participants were asked to form impressions of a gay target who was described either in primarily stereotypic or counterstereotypic terms. The results demonstrated that high-prejudice participants did not perceive a difference between the stereotypical and counterstereotypical targets. In contrast, low-prejudice participants rated the stereotypical target as much more stereotypical than the counterstereotypical target. These findings are consistent with the possibility that low-prejudice people attend to and use individuating information, but high-prejudice people do not. Critical for the present analysis, the findings illustrate the possibility that, by actively individuating others, low-prejudice people may avoid stereotypic biases without resorting to stereotype suppression and its attendant rebound effects.

Suppressing stereotypes versus creating states of mind.

Another alternative to suppressing unwanted stereotypes is to adopt the strategy of thinking in a fair, nonprejudiced, and egalitarian manner. The goal, then, would be to create rather than to suppress a particular state of mind. According to Wegner (1994), attempts to create, rather than to suppress, a particular state of mind should be much less likely to meet with ironic effects. Wegner's model of mental control suggests that this is because attempts to create a particular state of mind cause the operating process to search for such states, while the monitoring process searches for any thoughts that are not consistent with the state. Thus, if the goal was to think egalitarian thoughts, the operating process would search for such thoughts. In contrast, the monitoring process would search for any thought not related to egalitarianism, including both stereotype-unrelated and stereotypical thoughts. Because the monitor is not focused exclusively on a search for stereotypic thoughts, the possibility of ironic effects is reduced. Consistent with this framework, Gollwitzer and Moskowitz (1996) recently reported that, among those who adopt the goal of being nonprejudiced (i.e., what they refer to as an implementation intention of being fair and unbiased), stereotype activation may actually be prevented.

The important point here is that people may adopt different goals and, therefore, use different strategies

for avoiding the impact of social stereotypes. Stereotype suppression is not the only—and may not be the preferred—mechanism for avoiding stereotypic or prejudiced responses. To the extent that suppression is only one of many possible strategies that can be used to attempt to avoid stereotype-based biases, there is more room for optimism about the efficacy of stereotype control efforts.

Summary. A number of recent findings suggest that successful stereotype suppression is often difficult to achieve. Indeed, attempts at suppression may only increase the subsequent accessibility of the unwanted stereotype (e.g., Macrae, Bodenhausen, et al., 1994). Because stereotype suppression is a resource-consuming task (e.g., Macrae et al., 1996), such suppression failure may be a particularly likely outcome when processing resources are low (Wegner, Erber, & Bowman, 1993). Moreover, suppression goals may direct attention toward the stereotypical behaviors of social targets (e.g., Macrae et al., 1996; Sherman et al., in press). These results suggest that attempts at stereotype suppression may be useless at best and counterproductive in many circumstances. However, in this section, we have argued that stereotype suppression will not be equally overwhelming for all people in all situations. We have identified a variety of factors that appear to moderate the extent to which attempts at stereotype suppression will lead to increased accessibility of the stereotype. These factors include: motivation to control stereotyping, amount of experience or practice with stereotype control, having egalitarian replacement thoughts, the extent of automatic stereotype activation, reliance on individuating information, and having a nonprejudiced implementation intention. It is evident from this analysis that stereotype suppression is a complex process and that the prospects for successful suppression are multiply determined. To the extent that low-prejudice individuals can bring these factors to bear when interacting with or considering information relevant to stereotyped group members, they may not be prone to stereotype rebound. Thus, an important goal for future research is to examine the role that each of these factors plays in regulating the use of stereotypes.

Activation Versus Application of Stereotypes: The Influence of Processing Goals

In the suppression literature, evidence for suppression failure (e.g., ironic rebound) has often been gauged by showing heightened accessibility of the unwanted thought following suppression efforts. In the work on stereotype suppression an implicit assumption is that, to the extent that a stereotype has been made accessible through attempted suppression, then that stereotype will be applied in subsequent perceptions, judgments,

and behaviors toward members of the stereotyped group. However, the important distinction between the activation and the application of an unwanted stereotype (Devine, 1989; Gilbert & Hixon, 1991), and how goals may influence the extent to which accessible constructs are applied, is often overlooked. The simple fact of activation does not mean that a construct will necessarily be applied. Thus, if a perceiver's processing goals are at odds with the application of activated stereotypes—due to the influence of either personal or social norms suggesting that stereotype application is inappropriate—then stereotypes activated through suppression may not have undesired effects on people's actual responses.

The important distinction between activation and application is evident in Sedikides's (1990) research, which showed that communication goals can override accessibility effects in impression formation. First, participants engaged in a task that primed either positive or negative trait attributes. Subsequently, they were asked to read about a somewhat ambiguous target person and form an impression of the person. Prior to reading about the target, participants were informed that they would be asked to communicate their impressions of the target to another person (the recipient) who was described as having a positive, negative, or neutral impression of the target person. The results demonstrated standard priming effects when the recipient was described as having a neutral attitude toward the impression target. That is, participants liked the target more when they were primed with positive traits than when they were primed with negative traits. However, the priming manipulation had no effect when the recipient was described as having a positive or negative impression of the target. Regardless of the priming manipulation, participants with a positive recipient formed positive impressions of the target, and participants with a negative recipient formed negative impressions of the target. Thus, participants' communication goals obscured any effects of the activated traits.

Similar findings were reported by Thompson, Roman, Moskowitz, Chaiken, and Bargh (1994; see also Ford & Kruglanski, 1995). After being primed by different trait constructs, participants were asked to form an impression of an ambiguously described target person. Participants were given either a high or low motivation to form accurate impressions. When participants had low motivation to be accurate, their impressions assimilated to the activated trait constructs. However, when participants were highly motivated to be accurate, their impressions were not influenced by the priming manipulation. Once again, these results demonstrate that personal motivations moderate the extent to which activated constructs are subsequently applied. If motivations or processing goals are incompatible with the application of activated material, then that material will not be used.

These findings have significant implications for our understanding of suppression-induced stereotype rebound effects. Macrae, Bodenhausen, et al. (1994) demonstrated that previously suppressed stereotypes of skinheads rebounded to influence subsequent impressions of and behaviors toward secondary skinhead targets. However, as we have already discussed, there are no strong social or personal norms against stereotyping skinheads (Pressly & Devine, 1997). Thus, it is unlikely that participants were very concerned with using the stereotype in their second day-in-the-life descriptions of another skinhead. As a result, the stereotype made accessible by the initial suppression task was applied in the postsuppression period toward subsequently encountered skinheads.

A rather different set of motivations is likely involved in the suppression and subsequent application of more sensitive stereotypes, such as those having to do with race, gender, or sexual orientation. Because strong social (Gaertner & Dovidio, 1986; McConahay, 1986; Monteith, Deneen, & Tooman, 1996; Sears, 1988) and personal (Devine, 1989; Monteith, 1993) norms against stereotyping these groups are common, people often will be motivated to avoid stereotyping group members. These motivations are clearly at odds with the application of accessible racial stereotypes. Therefore, based on the research of Sedikides (1990) and Thompson et al. (1994), one might expect that stereotypes of these groups that are activated through thought suppression may not be applied to subsequent impressions of group members. The motivation to avoid stereotyping these secondary targets (even in the absence of explicit suppression instructions) would mitigate against the influence of the activated stereotype.

Wyer et al.'s (1997a) recent findings help to illustrate the conditions under which suppression-activated racial stereotypes may be subsequently applied. In the first part of Experiment 1, participants were asked to spend 5 min writing a short story about a day in the life of an African American or Asian American target person. Half the participants were asked to suppress stereotypic thoughts while they wrote these stories. Subsequently, in what they thought was an unrelated experiment (as confirmed during participant debriefing), participants were asked to form an impression of a second target person based on a somewhat ambiguous story about the person. In some cases, this target person was described as belonging to the same racial category whose stereotype had been suppressed previously (e.g., African American or Asian American). In other cases, no racial information was provided about the target (the "no race" conditions).

As expected, participants who suppressed their stereotypes wrote less stereotypical stories in the first part of the experiment. Primary interest centered on the extent to which this suppression caused stereotypes to

influence the impressions of the secondary targets. In the no race conditions, increased use of the suppressed stereotypes was observed. Participants who had initially suppressed the African American stereotype formed impressions of the race-unspecified target that were more stereotypically African American than did nonsuppressors. Similarly, participants who had initially suppressed the Asian American stereotype formed impressions of the race-unspecified target that were more stereotypically Asian American than did nonsuppressors. These findings suggest that the initial suppression instructions increased activation of the unwanted stereotypes. However, the suppression instructions had no influence when participants formed impressions of secondary targets who belonged to the social category that had been the target of the initial suppression task. Impressions of African American and Asian American targets in the second part of the experiment were uninfluenced by whether stereotypes about these groups had initially been suppressed or not. In these cases, the suppression-activated stereotypes were not applied to the secondary targets.

Although it is unclear whether Wyer et al.'s (1997a) findings were due to the effect of personal or social norms on participants' processing goals, other research designed to isolate these motivational factors has yielded consistent findings. For example, Pressly and Devine (1997) examined the effects of personal norms on the activation versus application of stereotypes by selecting participants who were low in prejudice toward African Americans. A second set of measures revealed that, although these participants believed that stereotyping African Americans was unacceptable, they had no such prohibitions against stereotyping skinheads. In the experiment proper, participants were instructed to suppress either the stereotype of African Americans or of skinheads in the now familiar day-in-the-life task. Then, in what participants believed was an unrelated experiment, they were instructed to form an impression of a same group target or a group-unspecified target based on a story about the target. These stories were ambiguous with respect to stereotypic characteristics of skinheads and African Americans, and no instructions about avoiding stereotypic thoughts were provided for the impression formation task. Analysis was conducted only on participants who did not accurately identify the link between the two studies.

Pressly and Devine (1997) found that, when the skinhead stereotype was initially suppressed, judgments of the second target were more stereotypic when this target was specified as a skinhead than when his group membership was unspecified. In contrast, when the African American stereotype was initially suppressed, judgments of the second target were less stereotypic when this target was specified as being African American than when his group membership was unspecified. In fact, judgments of the African

American target were even less stereotypic than judgments of a race-unspecified target made by participants in an appended control group that had not initially suppressed any stereotypes. Thus, participants appeared to exercise great caution (i.e., bent over backward to avoid stereotypic biases) when making judgments about the African American target, whereas they showed the typical priming and assimilation effects when the target was a skinhead. These findings are consistent with the possibility that stereotype application following suppression is contingent on whether social perceivers are personally motivated to avoid the use of stereotypes. When it is important and people are aware of the potential impact of stereotypes on judgments, people may be able to overcome the counterintentional effects of heightened stereotype accessibility following stereotype suppression efforts.

Even if perceivers are not personally motivated to avoid stereotyping, stereotype application may not occur following the suppression of socially sensitive stereotypes if social norms against stereotyping have been made salient. By using skinheads as the target group, Macrae, Bodenhausen, et al. (1994) likely precluded the operation of such social norms. For example, after writing a passage about a skinhead under the experimenter's instructions to avoid stereotypic thoughts, Macrae et al.'s participants likely did not sense a social norm suggesting that they should continue to avoid such thoughts while writing their second passage. Thus, stereotypes made accessible through their initial suppression were freely and frequently expressed while writing a second passage about another skinhead. As we have already suggested, the social constraints against expressing stereotypes of many other groups undoubtedly are considerably stronger (Pressly & Devine, 1997). When suppression research focuses on such groups, the instruction to avoid stereotypic thinking may result in an increased and prolonged salience of the social norms. Therefore, one would expect continued abatement of stereotype use that is parallel in magnitude to the strength and salience of the social norm, even among participants who have no personal norms against applying the stereotypes.

Monteith, Spicer, and Tooman (1997, Experiment 1) reported findings that are consistent with this reasoning in research that used a procedure similar to that of Macrae, Bodenhausen, et al. (1994, Experiment 1). In this experiment, participants who were low or high in prejudice toward gays completed a study that they thought concerned perceptions of romantic relationships. The experimenter explained that there are many types of relationships, ranging from traditional to non-traditional. The experimenter further explained that perceptions of all of these relationships were being examined by having people write passages describing what they thought would be a typical day in the lives of couples shown in photographs. Because of limited time,

participants were asked to use a random selection procedure to determine which couples they would consider. A rigged procedure was used to ensure that participants ended up choosing a gay couple to write about for the first passage. The experimenter included the typical stereotype suppression instructions when describing how to go about writing the passage for some participants, whereas these instructions were omitted for participants in the control instruction condition. After writing the first passage, participants chose another couple to write about through a supposedly random procedure, and this couple again was gay. Postexperimental probing was used to ensure that participants believed that coincidence accounted for their "choosing" gay couples for both passage writing tasks. For this second passage writing task, the experimenter simply instructed all participants to use their imagination while writing their passages. Recall that, in previously described research, Monteith, Spicer and Tooman (1997, Experiment 2) had found that initial stereotype suppression subsequently resulted in heightened stereotype accessibility among high-prejudice individuals. Despite this heightened accessibility, Monteith et al. did not expect heightened stereotype use in the second passage writing task of the present experiment, because they reasoned that the social norm to avoid stereotype application would remain salient throughout the completion of the second passage.

An examination of the proportion of passage statements that were stereotypical (as determined through content analysis) revealed that stereotypical statements were equally infrequent among low-prejudice participants in both the suppress and control conditions for the first and second passages alike. Thus, consistent with results that we summarized earlier (Monteith, Spicer, & Tooman, 1997, Experiment 2), participants with low-prejudice attitudes toward gays did not show the pattern of rebound that Macrae, Bodenhausen, et al. (1994) found in their research concerning skinheads. More relevant to the present focus, no rebound effect emerged among the high-prejudice participants. Specifically, for the first passage, high-prejudice participants who had been told to avoid stereotypic thoughts included fewer stereotype statements in their passages than high-prejudice participants who were given no special instructions. However, for the second writing task, high-prejudice participants' passages were no more stereotypical in the suppress than in the control condition; in fact, the suppress participants' passages were somewhat (although not significantly) less stereotypical than the control participants' passages. This finding, coupled with the previously summarized finding that completing the passage writing task under suppress instructions did heighten the accessibility of stereotypes among high-prejudice participants, would seem to indicate that participants were continuing to suppress stereotypes when writing the second passage. The experimenter's

initial instructions to avoid stereotypic thoughts likely activated a social norm against exhibiting extreme prejudice toward gays, which carried over to the second passage-writing task.

Summary. Earlier we argued that attempts to control stereotypic thinking may not always result in the unintended activation of stereotypes. Here, we have argued that, even if stereotypes are activated as a result of stereotype suppression, they may not be subsequently applied. If perceivers are motivated to avoid stereotyping subsequently encountered targets because of either personal or social norms, then the influence of suppression-activated stereotypes may not be inevitable. A key factor in determining when processing goals can overcome activated stereotypes is likely to be the perceiver's personal attitude toward group members. Low-prejudice persons will be more motivated to avoid stereotyping group members and may have developed skills to help them achieve this goal. However, if social norms against stereotyping have been made salient, then even high-prejudice persons may pursue this goal and avoid applying activated stereotypes, a situation that may not be fully applicable to stereotypes about skinheads.

When are Stereotype Rebound Effects Most Likely to Occur? The Motivated but Thwarted Suppressor

Just as there are factors that may enhance people's ability to suppress their stereotypes successfully, there are also factors that make suppression more difficult. In the next sections of this article, we outline conditions that may increase the likelihood of rebound, even among individuals who are personally or socially motivated to avoid stereotype use.

Inexperienced and Unpracticed Low-Prejudice Individuals

Rebound effects seem most likely to occur among high-prejudice persons who lack the requisite internal motivation, tools, and skills to suppress stereotypic thinking without experiencing a subsequent increase in the accessibility of stereotypic thoughts. Although low-prejudice individuals are likely to have greater success in suppressing stereotypes in the long as well as the short run, there may be exceptions to this success.

Recent advances in the stereotyping and prejudice literature have underscored the fact that there are different varieties of prejudice. For example, Fazio et al. (1995) identified three different types of participants. First, they identified truly high-prejudice individuals.

These people were not motivated to avoid being prejudiced against African Americans and had negative affect automatically activated upon viewing pictures of African Americans. A second group of people were truly low in prejudice. These individuals were motivated to be nonprejudiced and showed no automatic activation of negative affect in relation to African Americans. Finally, a third group of participants strongly desired to be nonprejudiced, but pictures of African Americans did automatically activate negative affect. These are the sorts of low-prejudice persons described by Devine (1989), who must exert effort to ensure that their personal beliefs overcome unwanted and unintended stereotyping tendencies. Furthermore, these people are especially likely to be prone to prejudice-related discrepancies, in which they actually respond with greater prejudice than they believe is appropriate (e.g., Devine et al., 1991; Monteith, 1996a, 1996b; Monteith et al., 1993).

These individuals who are caught in an unpleasant crossfire between what they spontaneously think and what they wish to think may be especially susceptible to the unintended consequences of thought suppression. First, the ease with which their stereotypes are activated coupled with the high cognitive cost of ongoing thought suppression (Macrae et al., 1996) may create the ideal circumstances in which suppression-induced hyperaccessibility would flourish (Wegner, 1994). Second, their ability to suppress successfully may be compromised by a low sense of self-efficacy in controlling their stereotypes. The fact that they are prone to prejudice-related discrepancies suggests that they will often experience failure in suppressing their stereotypes. This has significant implications for the stereotype suppression process. If individuals do not feel that they will be able to achieve their goal of stereotype suppression, anxiety may be aroused (Devine, Evett, & Vasquez-Suson, 1996). Because anxiety taxes cognitive capacity (e.g., Wilder & Shapiro, 1989), this will only make successful suppression more difficult (Macrae et al., 1996; Wegner, 1994). In fact, a cycle of suppression failure may occur. Initial anxiety may interfere with successful suppression. When the suppressor becomes aware of some degree of initial failure, anxiety may increase, further interfering with subsequent attempts at suppression. Thus, for a variety of reasons, discrepancy-prone, low-prejudice individuals may have a particularly difficult time successfully suppressing their stereotypes.

In our view, persons who are prone to prejudice-related discrepancies are engaged in the process of prejudice reduction but have not devoted sufficient time, effort, and practice to learning how to control the influence of spontaneously activated stereotypes to be particularly effective at it (Devine, 1989; Devine & Monteith, 1993; Monteith, 1993). However, rather than suggesting that these people should abandon their at-

tempts at stereotype control, we would argue that their continued effort will ultimately yield success. If strong egalitarian motives are maintained, effective suppression/replacement skills may well be eventually acquired. In the meantime, these individuals may still be able to avoid rebound effects by pursuing strategies of stereotype control (e.g., trying to create an egalitarian state of mind; individuation) that do not involve suppression.

The Role of Processing Capacity

As described previously, Wegner, Erber, & Bowman (1993) presented evidence that deficits in processing capacity increase the extent to which unwanted stereotypes are made accessible through attempted suppression. Recent research suggests that the extent to which such activated stereotypes will be applied in subsequent judgments is also moderated by the availability of cognitive resources. In particular, activated constructs are especially likely to influence responses if resources are low, even if one's goals are inconsistent with application of the constructs. For example, Thompson et al. (1994, Experiment 2; see also Ford & Kruglanski, 1995) primed participants with trait constructs prior to giving them an impression formation task. In this experiment, in addition to manipulating impression accuracy motivation, the researchers also placed some participants under a cognitive load as they reported their impressions of the target. The results demonstrated that assimilation effects occurred if participants either had low accuracy motivation or limited processing capacity. Only when participants were both motivated to be accurate and had full processing capacity were impressions unaffected by the primed material. Thus, processing goals can diminish the influence of activated mental constructs, but only if sufficient cognitive resources are available to enact the goal.

Gilbert and Hixon (1991) demonstrated a similar effect in the activation and application of stereotypes. Participants who had stereotypes activated in an initial phase of an experiment applied those stereotypes only when their capacity was depleted during the application phase. When capacity was high during the application phase, the activated stereotypes did not influence target impressions.

Recently, Wyer et al. (1997a, Experiment 2) examined whether processing capacity has the same influence on the likelihood that stereotypes activated via suppression will be applied in subsequent impressions. In the first phase of this experiment, participants either suppressed or did not suppress stereotypes as they wrote day-in-the-life stories about an African American or Asian American target. (Recall that the previously described Experiment 1 demonstrated that attempting to suppress these stereotypes increased their level of activation.) Then, in what participants thought was an

unrelated experiment, they were asked to read about and form an impression of a target belonging to the same social group. Some participants were put under a cognitive load as they formed their impressions of the second target. As expected, suppression participants wrote less stereotypical stories in the initial part of the experiment than nonsuppressors. In addition, replicating the previously described study (Wyer et al., 1997a, Experiment 1), results in the low cognitive load condition indicated that ratings of the second target were not influenced by whether participants had initially suppressed their stereotypes. Once again, these findings are consistent with the possibility that participants' motives to avoid stereotyping the second target diminished any impact of the suppression-activated stereotype. However, in the high cognitive load condition, heightened stereotype use was observed. African American and Asian American second targets were perceived to be more stereotypical following the initial suppression of these stereotypes. Thus, this initial investigation of the role of processing capacity in the context of stereotype suppression effects suggests that the motivation to avoid stereotyping may overcome the effects of the suppression-activated stereotype only if perceivers have the necessary resources to pursue this goal.

The present analysis clearly indicates that stereotype suppression is a complex process. At times suppression efforts lead to ironic rebound effects, in terms of the activation and application of stereotypes, but emerging evidence illustrates the possibility that this outcome is not inevitable. A variety of personal and situational factors may affect the ultimate outcomes of suppression efforts.

Conclusions and Directions for Future Research

Few topics have received as much theoretical and empirical attention in contemporary social psychology as the conditions under which social stereotypes are likely to be activated and applied. A great deal of evidence suggests that stereotypes are easily activated and often facilitate social perception. However, with such benefits also come some costs. Indeed, concern over the potentially negative, unfair biasing effects associated with the unchecked use of social stereotypes has led to a consideration of strategies and mechanisms involved in avoiding these pernicious effects. A highly influential control mechanism that has been widely investigated is stereotype suppression. This work, growing out of Wegner's (1994) model of mental control, suggested that suppression is generally effective in the short run. However, suppression appears to lead to the ironic outcome that the stereotype becomes hyper-accessible when the suppression instruction is relaxed or when cognitive resources are drained. Therefore, the

basic concern is that hyperaccessible stereotypes will be applied in social judgments, evaluations, and behaviors.

The present analysis, however, suggests that suppression as a strategy for controlling the unwanted effects of social stereotypes often may not be an ineffective and counterproductive form of mental control. First, stereotype suppression may not always lead to increased activation of stereotypes. The initial attempts to investigate this possibility that are summarized herein suggest that rebound effects from stereotype suppression efforts may not generalize to social groups for which there are social norms or personal prescriptions prohibiting the use of stereotypes (Monteith, Spicer, & Tooman, 1997; Pressly & Devine, 1997; Wyer et al., 1997a). Low-prejudice people, for example, do not appear to show heightened activation of the stereotype on an accessibility measure (Monteith, Spicer, & Tooman, 1997, Experiment 2). Second, even when stereotype accessibility is increased through suppression efforts, stereotypes may not always be applied (e.g., Pressly & Devine, 1997; Wyer et al., 1997a).

Third, emerging evidence suggests that other control efforts can be effective in avoiding unwanted effects of stereotypes. Especially enlightening in this regard is the possibility that low-prejudice people may rely on a variety of control strategies that enable them to avoid the unwanted influence of stereotypes. An example is Sherman et al.'s (1997) finding that low-prejudice people were able to avoid the impact of stereotypes in an impression formation task by individuating the target. Such a finding suggests that stereotype control can be achieved through mechanisms other than suppression that are guided by alternative goals. Banishing the stereotype from consciousness is one but not the only or necessarily the most effective strategy for avoiding the unwanted impact of stereotypes. Indeed, in many circumstances it may not be the preferred stereotype control mechanism.

Future Directions: The Psychological Processes That Underlie Stereotype Rebound Effects

The hyperaccessibility of suppressed stereotypic thoughts has been explained in terms of the consequences of the ironic monitoring process that operates below conscious awareness during thought suppression (Macrae, Bodenhausen, et al., 1994; Wegner, 1994). Under conditions of cognitive load that undermine the ability of the operating process to fill consciousness with alternative thoughts (Wegner, 1994), or when the conscious intention to avoid stereotypic thoughts is relaxed (Macrae, Bodenhausen, et al., 1994), accessible stereotypic thoughts will abound. We would like to suggest that, although this model is theoretically plau-

sible, the hyperaccessibility of stereotypes resulting from suppression efforts during the day-in-the-life task that is used in stereotype suppression research can be explained in other ways. This task has specific features that limit its ability to test Wegner's (1994) model. More specifically we propose that suppression during the day-in-the-life task may engage processes that differ from the processes that operate in the context of Wegner and his colleague's (see Wegner, 1994; Wegner & Wenzlaff, 1996) thought suppression research. In the following discussion, we explain how the day-in-the-life paradigm may instigate different processes than those that operate in other thought suppression research and describe how stereotype rebound might result from these other processes.

The inspiration for work on stereotype suppression is most famously exemplified in Wegner et al.'s (1987) classic "white bear" studies. In the white bear studies, participants are left in a room to do nothing but "not think of a white bear." Likewise, in other of Wegner's thought suppression studies, the experimental instructions are simply to think or write about something but to avoid particular thoughts while doing so. Given this type of task, thought control processes may well be instigated that entail the suppression of the unwanted thought, a search for distracter thoughts, and the initiation of a nonconscious checking process that ultimately causes the unwanted thought to be hyperaccessible.

The experimental task in the typical stereotype suppression study, however, is different in a rather subtle but important way. In this research, participants are asked to write a passage that is directly relevant to the forbidden thought. Participants must describe a typical day in the life of a target person who is a member of the stereotyped group and avoid stereotypic thoughts while doing so. This task seems different from a task in which participants can think or write about any topic, including topics that are not remotely relevant to the thoughts they have been instructed to avoid. This difference between the day-in-the-life writing paradigm and Wegner's typical paradigm introduces the possibility that different control strategies are initiated in the different experimental contexts. For example, whereas thought control processes may operate with Wegner's paradigm, response control processes may operate in the day-in-the-life paradigm (cf. Bodenhausen & Macrae, *in press*).

Specifically, while participants are writing about a stereotyped target under instructions to avoid stereotypic thoughts, they may well activate the stereotype consciously and then monitor, again consciously, the extent to which their paragraph includes the "to-be-avoided" characteristics. In other words, stereotypes may be activated and used consciously as a guide when performing the passage writing task, resulting in rehearsal of the stereotype. This seems especially likely

for individuals whose personal beliefs are not inconsistent with stereotypic thinking. Whereas low-prejudice individuals may perform some conscious monitoring to ensure that they are not relying on stereotypes, they simultaneously may rely on strategies described earlier (e.g., individuation) that help them to keep their stereotypic thoughts to a minimum. In contrast, high-prejudice individuals, being unaccustomed and unpracticed at avoiding stereotypic thoughts, may need to bring stereotypes to mind repeatedly and consciously to check to ensure that their paragraphs do not include stereotypic content. In this case, it is the response output rather than the thoughts that are being suppressed. Because both the nonconscious checking process described by Wegner (1994) and the conscious guiding process described here could cause heightened stereotype accessibility and use in the postsuppression period, extant evidence does not help us to determine exactly what processes are occurring as participants write their passages about the stereotyped target.)

Another difference between Wegner's studies and the stereotype suppression research is that Wegner's participants typically are instructed not to think about something that they initially had no intention of thinking about (e.g., a white bear) or that they have no particular desire to think about (e.g., depressing events). However, in the research using skinheads as targets (Macrae, Bodenhausen, et al., 1994) or gays as targets with high-prejudice participants (Monteith, Spicer, & Tooman, 1997), the participants likely were accustomed to thinking in stereotypic ways and, in fact, wanted to have stereotypic thoughts. Consequently, despite the experimenter's instructions to avoid stereotypic thoughts, participants may have simply avoided stereotypic responses. Preliminary findings consistent with the idea that such response, rather than thought, suppression may occur in the day-in-the-life paradigm were obtained in Monteith, Spicer, & Tooman's (1997) research. Specifically, high-prejudice individuals who were told to suppress stereotypic thoughts while writing a passage about gays later reported that they were highly preoccupied with such thoughts during the passage-construction task, despite the experimenter's instructions. In fact, they reported being just as preoccupied with stereotypic thoughts as did high-prejudice participants in a control instruction condition. This finding can be contrasted with, for example, Wegner et al.'s (1987) white bear research. As would be expected if thought suppression were actually occurring, Wegner et al. found that the suppress participants reported that the unwanted thoughts occurred infrequently during the suppression period, relative to a control condition. Perhaps, therefore, people who are not personally motivated to avoid stereotypic thoughts continually have such thoughts even when they are told not to do so, and they merely suppress stereotypic responses. Such response suppression, like thought suppression, may

serve to keep stereotypes highly accessible and ultimately result in a stereotype rebound effect.

In sum, we believe that stereotype suppression research would benefit not only from a more detailed examination of when stereotype rebound does and does not occur but also from greater attention to the exact psychological mechanisms responsible for stereotype rebound when it does occur. To the extent that stereotype suppression paradigms differ in important ways from the paradigms used in Wegner's research, different processes may be responsible for observed rebound effects. Although we realize the preliminary nature of our suggestions, we introduce the ideas to encourage researchers to consider more carefully the precise psychological mechanisms that underlie stereotype rebound effects when they do occur and to design their experiments so as to isolate and identify these processes. Regardless of whether future research yields findings that are in line with our suggestions, it seems clear that measures of stereotype accessibility or stereotypical responses during postsuppression periods are not sufficient for identifying the processes that contribute to (or prevent the occurrence of) stereotype rebound effects.

Future Directions: Greater Attention to Interpersonal and Intrapersonal Processes

Some of the greatest challenges in developing analyses of control over stereotype use lie ahead. Although the most important implications of stereotype activation and use are played out in judgmental and interpersonal contexts where their effects can be the most destructive, relatively little effort has been devoted to exploring the effects of stereotypes in such settings. Most of the work reported to date on stereotype suppression (as well as other forms of stereotype control) focuses on isolated social perceivers who must respond to stimulus others (e.g., stereotype labels and pictures of people) rather than interacting with real people. The outcome measures of central interest have been measures of stereotype accessibility (as indicated through response latency measures or amount of stereotypic content in descriptions of unfamiliar stimulus persons) and isolated social judgments. These types of findings are interesting in their own right, but they do not speak directly to the interpersonal implications of activated stereotypes. Indeed, the dilemma for the social perceiver who would rather not stereotype others extends well beyond any single judgment or interaction, particularly when there is necessity to maintain a relationship over time (see Devine et al., 1996; Devine & Vasquez-Suson, in press). We currently know very little about whether people are able to gain control over the use of their stereotypes in such important interpersonal settings, when control may be important for personal or norma-

tive reasons. A complete analysis of stereotype control will not be forthcoming until we accept the challenges created by social perceivers having to manage and negotiate both their cognitive (intrapersonal) and social (interpersonal) worlds over time.

Future work should also examine the extent to which alternative sources of motivation (e.g., internal vs. external) engage different stereotype control processes. Moreover, we need to consider whether successful or failed control attempts are isolated events or are part of a process during which the perceiver must learn to regulate the use of his or her cognitive categories in the social world. Does the reason for avoiding the use of stereotypes affect the process? Do people learn from their mistakes as in Monteith's (1993) work? Do control efforts lead to feelings of reactance and possibly escalation of prejudice? The bottom line implication of such questions is that we must develop more formal analyses of the nature of control efforts and clear criteria for when they have been successful. We cannot rely exclusively on whether the stereotype has been activated because most assuredly stereotype activation does not always lead to stereotype use (e.g., Devine, 1989; Gilbert & Hixon, 1991; Monteith, 1993; Spencer, Fein, Wolfe, Hodgson, & Dunn, in press; Wyer et al., 1997a).

In sum, the control of social stereotypes is a complex phenomenon—complex enough that the extant literature no doubt is more incomplete than complete. If the overarching goal is to understand the processes and mechanisms of efforts to control stereotype activation and use, as well as the short- and long-term consequences of such efforts, we will need to develop formal analyses of the various sources of motivation underlying control efforts. We will also need to develop a theoretical analysis of the success and failure consequences of efforts to control the use of stereotypes. And we will need to examine these issues in the context of dynamic intergroup exchanges similar to the types of situations that people encounter in their everyday lives. To develop a comprehensive analysis of the mechanisms and dynamics involved in the control of stereotype use, we need to broaden the context to include judgmental and behavioral outcomes that are consequential for both the target and the perceiver. We hope that this review of the literature encourages additional work into the processes underlying people's efforts at stereotype control and into the consequences of those efforts.

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