A New Look at Defensive Projection: Thought Suppression, Accessibility, and Biased Person Perception

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It has long been assumed that people perceive in others qualities that they wish to deny in themselves, but empirical evidence for defensive projection is limited and controversial. A new model of projection is presented in this article. People might try to actively suppress thoughts about the possibility that they have undesirable personality traits, but it was hypothesized that this response to threat ultimately causes thoughts about the unwanted traits to become chronically accessible. As a result, those trait concepts will be used to interpret others' behavior. Studies 1–4 showed that those people who both avoid thinking about having threatening personality traits and deny possessing them (repressors) also readily infer those traits from others' behavior. Studies 5–6 provided experimental support for the model. Unfavorable traits were attributed to participants, who, when they were asked or predisposed to not think about the traits, subsequently projected them onto someone else.

Why do so many people regard their rivals and opponents as exploitative and unscrupulous? Why are some people consumed with intense, irrational suspicions that their lovers are unfaithful? Why are gay people vilified and attacked by many heterosexuals? How do people form stereotypes of out-groups whose members they scarcely know? One traditional answer to such questions invokes the concept of *projection* (A. Freud, 1936; S. Freud, 1915/1957). According to this view, when people are motivated to avoid seeing certain faults in themselves, they contrive instead to see those same faults in others.

In recent years, a number of researchers have analyzed and investigated the social–cognitive mechanisms underlying phenomena that have traditionally been associated with psychoanalytic theory (e.g., Andersen & Cole, 1990; Bornstein, 1993; Erdelyi, 1985; Strauman, 1994; Wegner, 1992; Westen, 1992). Our purpose in this article is to contribute to this literature by providing an account of the processes underlying defensive trait projection. We concur with the Freudian view that people are prone to overperceive in others the traits that they seek to deny in themselves. Yet our understanding of the mechanism is quite different. Our model is based on ego threat, thought suppression, and the effects of accessibility on person perception.

A major form of ego threat is the implication that one possesses an undesirable trait. A person might respond to such implications by actively suppressing them from awareness. There are some advantages to this avoidant strategy (Lazarus, 1983), because it may enable people to convince themselves that they do not possess the unwanted trait. But cognitive suppression of unwanted self-knowledge may have an unintended side effect: It may lead thoughts about the problematic personality trait to rebound and become chronically accessible (Wegner, Schneider, Carter, & White, 1987). Insofar as chronically accessible constructs serve as the filters through which we view the world (Higgins & King, 1981), people may eventually come to see in others the precise traits that they most fear and loathe in themselves.

Defensive Projection Defined

Projection is a term that can be rather broadly defined. For example, according to one Jungian scholar, projection is the unconscious "transfer of subjective psychic elements onto an outer object" (Franz, 1980, p. 4). Our purpose in this article, however, is to examine *defensive* (also known as *classical*) projection, which is defined here as the act of perceiving in other people those characteristics that one wishes to deny in oneself.

This definition allows us to avoid two thorny issues that have plagued past research on defensive projection (see Holmes, 1968, 1978, 1981). The first of these is the question of whether a person has to, in reality, possess the trait that he or she sees in others. The second is whether an essential criterion for defensive projection is that a person must be unaware of possessing the trait. We concur with Sherwood's (1982) argument that both criteria are "functionally irrelevant to the basic dynamic essen-

tial to classical projection" (p. 373). The criterion of trait possession requires proof that people definitely possess the very traits they seek to deny. In our view, though, the most important issue is not actual possession of a trait, but whether the person would be very threatened by the possibility that he or she has it. If a person is upset by some such implication, projection might well follow even if the person does not actually have the trait in any objective sense. Hence, projection is not contingent on the possession of an actual trait that a person might or might not be aware of; more important is that a person wishes to remain unaware of the possibility of possessing a trait.

The concept of projection was introduced in psychoanalytic theorizing about defense mechanisms. Unfortunately, no definitive comparison between our model and the psychoanalytic version is possible. Sigmund Freud (1915/1957) claimed that the mechanism of *projection* is evidenced when the ego "expels whatever within itself becomes a cause of displeasure" (p. 136), but scholars such as Halpern (1977), Lewis, Bates, and Lawrence (1994), and Sherwood (1982) have concluded that Freud never provided a more thorough treatment of projection. Anna Freud (1936) contributed substantial conceptual advances to the psychoanalytic theory of defense mechanisms in her classic, *The Ego and the Mechanisms of Defence*, but that work on the topic likewise failed to provide a precise explanation or even definition of projection (see also Sandler & Freud, 1985, pp. 136–146). Thus, early psychoanalytic theorists failed to provide a detailed and explicit theory of projection. Undoubtedly, however, they would recognize the inferential bias we are studying as the phenomenon they called projection.

Previous Empirical Approaches

The concept of projection has long been widely used in contexts ranging from everyday conversation to literary criticism to analyses of group dynamics. At the same time, experimental psychologists have had a difficult time finding satisfactory evidence that projection occurs. Skepticism about the concept has been increased by a series of review articles by Holmes (1968, 1978, 1981; cf. Sherwood, 1981, 1982). Holmes found very little empirical evidence for projection. He noted that there is ample evidence that various aspects of self-knowledge color the way people perceive others, and he acknowledged that in that very loose sense projection does occur. But according to Holmes, defensive projection has not been shown in any convincing, replicable fashion. We concur with his assessment that there seems to be very little in the way of methodologically sound evidence for defensive projection, as we indicate in the next brief review.

Sears's Research

Within Sigmund Freud's lifetime, Sears (1936) seemed to provide empirical evidence for defensive projection. Sears found that college students with an undesirable trait (as assessed by others' ratings) who also lacked insight into the fact that they possessed this trait (i.e., they said the trait was more characteristic of other people than themselves) were more likely than insightful students to see the trait in (or project it onto) others. But Rokeach (1945) noted that "it might be expected purely

on mathematical grounds that those who rate themselves lower than they rate others must necessarily attribute a higher . . . score on the whole to others than those who rate themselves higher than they rate others" (p. 160). When Sears's study was replicated, correcting for this methodological artifact, no evidence for projection was found (Wells & Goldstein, 1964).

Dissonance Models

Another approach to studying projection sprang from cognitive dissonance theory (Festinger, 1957). In studies of this sort (e.g., Bramel, 1962; Edlow & Kiesler, 1966) research participants would be presented with evidence that they possessed what they regarded as undesirable traits (e.g., attraction to same-sex people). Afterwards, they seemed eager to attribute these traits to other people, especially people they liked. In this way, researchers concluded, people were able to reduce the dissonance aroused by the manipulations. The stigma of possessing an otherwise disgraceful personality trait is diluted if it is shared with other positively evaluated people.

As Holmes (1968) pointed out, this process, *attributive* projection, is quite different from defensive projection. The procedure used in these studies does not give people an opportunity to deny, dispute, or avoid thinking about the threatening traits they are said to possess; in fact, the results of these studies are dependent on people not denying the traits. In essence, this research shows how people respond when they must come to peace with undesired personality traits.

The False Consensus Effect

Horney (1939) stated that projection is "not essentially different from the tendency to assume naively that others feel or react in the same manner as we ourselves do" (p. 26). Viewed this broadly, there is a form of projection for which there is already a great deal of evidence: the false consensus effect (Ross, Greene, & House, 1977). Numerous investigations have revealed that people typically view their own behavior, attitudes, and feelings as normative and overestimate the extent to which others think and behave in the same way that they themselves do. At the descriptive level, however, the phenomenon differs from the kind of projection that is the focus of this article. In the case of false consensus judgments, not only does one not deny the characteristic that one sees in others, but one would not even necessarily be motivated to do so. False consensus effects are found with neutral and even positive attributes.

Even more important is that the mechanisms underlying the false consensus effect are different from those that we propose play a role in defensive projection. Although there is still no agreement on the necessary and sufficient causes of the false consensus effect (see Fiske & Taylor, 1991), those processes that have been proposed differ markedly from those that we argue lead to defensive projection. One class of explanations for the false consensus effect focuses on cognitive processes unrelated to any motives for self-protection or enhancement (e.g., selective exposure to similar others). Another approach emphasizes self-serving motivations (e.g., Sherman, Presson, & Chassin, 1984). False consensus estimates may thus be driven by people's desires to see their own behaviors, beliefs, and

feelings as normative and appropriate. If so, the false consensus effect can be seen as similar to the attributive projections studied by the dissonance researchers described above. As previously discussed, however, the proposed motivational mechanisms underlying attributive projection may be quite distinct from those involved in defensive projection.

The false consensus effect demonstrates how the self can affect how we perceive others, and judgments reflecting this bias may in fact serve a defensive purpose. Attributing to other people unfavorable characteristics that one acknowledges or admits in oneself (regardless of the underlying mechanism) could serve a self-protective or self-enhancing function by reducing potential blame for socially undesirable behavior. But "if projection is everything, it is nothing" (Murray, 1951, p. 13). The false consensus effect is an example of *projection* defined in the broadest way, but is a phenomenon distinct from the defensive projection of traits that one denies in oneself.

Direct Assessment

A very different approach to demonstrating and measuring projection has consisted of attempts to assess the operation of the process directly, with either projective techniques such as the Defense Mechanism Inventory (DMI; Gleser & Ihilevich, 1969) or self-rating questionnaires (Heilbrun & Cassidy, 1985). The former measure operationalizes projection as the attribution of hostile intent to characters in brief stories; the latter approach consists of identifying as projectors those people who ascribe unfavorable traits to others even more than they ascribe positive traits to themselves. Both of these procedures may serve to identify important individual differences, but we question their face validity as measures of defensive projection. In addition, Cramer (1988) found that there was little empirical support for the validity of the Projection scale of the DMI. In summary, it is not surprising that Holmes (1981) reached the conclusion that "we are still without evidence for the concept of classical projection" (p. 465).

A Model of Defensive Projection

By definition, defensive projection is in evidence when people are highly sensitized to the presence of their unwanted traits in other people. For example, people who cannot tolerate any hint of laziness in their behavior might also be quick to conclude that their coworkers fall far short of the mark in the amount of effort they expend. When traits dominate social information processing in this way, they are called *chronically accessible* (Higgins, 1989; Higgins & King, 1981). Our approach to understanding how projection occurs thus focuses on understanding why being motivated to deny the self-relevance of certain attributes might lead those undesirable and unwanted attributes to become chronically accessible.

Higgins and King (1981) reviewed the basic determinants of chronic accessibility. First of all, the *frequency* with which concepts are encountered and activated in long-term memory will enhance accessibility. Such activation might be the result of passive exposure (e.g., *competitiveness* might become chronically accessible due to repeated exposure to competitive situations or competitive people), but active processes (i.e., thought

and behavior) in the service of needs and goals can also cause frequent activation. Another important determinant of a construct's accessibility is a close relationship to other accessible constructs. To illustrate, if one associates a particular kind of behavior, such as aggressiveness, with a particular situation, then a chronic (or temporary) boost in the accessibility of one's representation of that situation will also increase the accessibility of thoughts related to aggression. As we detail below, thoughts about personally threatening traits may follow both of these pathways to accessibility.

Thought Suppression and Accessibility

A common way of dealing with unpleasant and distressing thoughts is to try to put them out of mind and avoid dwelling on them (Wegner & Zanakos, 1994). People may thus often try to suppress thoughts about the possibility that they possess unwanted personality traits. If they can avoid focusing and elaborating on evidence implying that they might possess such traits, it will be easier for them to conclude that they cannot in fact be characterized by them.

The work of Wegner and his colleagues on the consequences of thought suppression, however, reveals that the deliberate attempt to avoid a certain thought also has unwanted consequences (for a review, see Wegner, 1992). In particular, active attempts to suppress a thought seem to ensure that one will become more preoccupied with the thought than would have been the case had one never attempted to suppress it. For example, Wegner et al. (1987) asked people to suppress thoughts about white bears for 5 min while recording a stream-of-consciousness monologue. They were reasonably (but not totally) successful in doing so. Afterwards, however, when these same people were asked to purposely generate white bear thoughts, they verbalized more such thoughts than did participants who had not attempted suppression. In other words, suppression resulted in a *rebound effect*. Attempts to purposely avoid a thought paradoxically heightened that thought's accessibility. (For replications, see Clark, Ball, & Pape, 1991; Clark, Winton, & Thynn, 1993; Lavy & van den Hout, 1990.)

Wegner et al.'s (1987) explanation of the rebound effect focused on the strategy people typically use to suppress a thought. Suppression usually begins with the use of a distractor of some sort. One focuses on the distractor until the unwanted thought comes to mind, at which point a new distractor is selected. Eventually, the new distractor loses its ability to absorb the person, and the unwanted thought may again appear in consciousness. This, of course, means that yet another distractor is needed. This process can repeat itself any number of times, and although it generally helps keep one's mind off of the unwanted thought, periodic failures of suppression will lead the distractor and the thought that one is trying to suppress to reside in consciousness at the same time. As a result, associations between the distractors and unwanted thoughts will form. Furthermore, the more one tries to suppress, the more associations will be formed between the undesired thought and other ideas, images, memories, and concepts. Prolonged suppression, then, results in one creating a large set of retrieval cues that will bring to mind precisely the thought that one wants to avoid. As previously discussed, if a thought or construct has links to many others in

long-term memory, it will be frequently activated and thus will become chronically accessible.

Subsequent investigations by Wegner and his colleagues have produced empirical support for this account of the rebound effect (see Wegner et al., 1987, Experiment 2; Wegner, Schneider, Knutson, & McMahon, 1991). Recently, however, Macrae, Bodenhausen, Milne, and Jetten (1994) offered another interpretation of the rebound effect. While people search for distractors during thought suppression, an *ironic monitoring process* is said to continually (and automatically) search for the presence of the unwanted thought in consciousness (Wegner, 1994; Wegner & Erber, 1992). When the unwanted thought is detected (e.g., a white bear), the ironic monitoring process registers a failure of suppression and triggers the search for a new distractor. The ironic monitor thus sensitizes a person to any thought related to what is being suppressed. Unfortunately, it also increases the likelihood that unwanted thoughts will reach awareness during suppression. Macrae et al. (1994) noted that the ironic monitor ensures frequent and repetitive priming of the very thought that one is trying to avoid, and as noted above, frequent activation leads to accessibility. The proximal cause of the rebound effect, Macrae et al. suggested, is the increase in accessibility caused by the inadvertent priming of the suppressed thought.

The present studies were not designed to distinguish between these two (not mutually exclusive) interpretations of the rebound effect, but both make similar predictions. Active efforts to banish a thought from awareness, be it an evaluatively positive, negative, or neutral thought, will have the unanticipated effect of leading it to become chronically accessible. Therefore, if one attempts to suppress threatening thoughts about one's unwanted attributes, a rebound can be expected to occur. A number of investigators (e.g., Bargh, Bond, Lombardi, & Tota, 1986; Higgins, King, & Mavin, 1982) have shown that if someone's behavior is open to construal in terms of a particular trait, observers will be especially likely to infer the trait if it is chronically accessible.

The Unwanted Self

Projection is thus driven by efforts to avoid awareness that one might possess undesirable personality traits. Although there is undoubtedly quite a bit of consensus on what are considered to be undesirable traits, we assume that any given person is more motivated to avoid some personal qualities than others. Therefore, in the research reported below, we idiographically identify each participant's undesired or unwanted self. Ogilvie (1987) showed that there is considerable variability in the content of this "possible self" (see Markus & Nurius, 1986), and he also found that the level of discrepancy between the undesired self and one's actual self-concept can be an important predictor of life satisfaction. We hypothesized that idiographically identified undesired self-attributes would be particularly threatening and would be those most likely to be projected.

Summary of the Model

We hypothesized that people are frequently faced with evidence suggesting that they might (at least to some extent) possess characteristics that make up their unwanted or undesired

selves. One way of responding to this threat is to avoid or suppress thoughts about the possibility. Over time, repeated thought suppression may allow a person to maintain the belief that he or she does not possess the unwanted traits. Another consequence, though, will be that the trait concepts one is suppressing will become chronically accessible. Chronically accessible traits dominate people's interpretations of others' behavior. The final outcome of this defensive process, then, is that threatening traits will be projected onto others.

Needless to say, we are not arguing that the processes we describe here are the only ones that lead a construct to be chronically accessible. Any chain of events that causes trait constructs to have a high potential for activation will lead to chronic accessibility, and this is true whether those traits are evaluatively positive or negative. Nor are we arguing that our model presents an account of the only way in which self-relevant trait concepts become chronically accessible. For example, when people think of themselves as extreme on some trait dimension and report that the trait is important to them (i.e., when it is self-schematic), that trait will play an important role in their perceptions of others (Markus, Smith, & Moreland, 1985). Instead, we are hypothesizing that certain cognitive processes (defensive ones) can lead certain trait concepts (those a person is highly motivated to deny) to become chronically accessible and so produce a phenomenon (defensive projection) that has long been considered by psychologists to be intriguing.

Repressive Coping as a Moderator of Projection

Everyone, at one time or another, chooses to avoid and suppress unwanted feedback, and when this happens, the tendency to project increases, owing to the processes described above. In the studies reported below, however, we adopt a strategy described by Underwood (1975) and use a trait moderator to provide support for the hypothesized mediating processes.

Our model specifies that projection is set in motion by defensive responses to threatening material; therefore our research program makes use of a trait measure of repressive coping developed by Weinberger (1990; Weinberger, Schwartz, & Davidson, 1979; cf. Bell & Byrne, 1978). This individual-differences variable identifies individuals especially likely to engage in a variety of self-deceptive maneuvers, to avoid becoming aware of threatening information. These maneuvers include active avoidance of negative feedback (Baumeister & Cairns, 1992); redirection of attention (Bonanno, Davis, Singer, & Schwartz, 1991; Mendolia, Moore, & Tesser, 1996); self-generation of comforting thoughts (Boden & Baumeister, in press); reinterpretation of upsetting material (Tublin & Weinberger, 1987); and isolation of unpleasant episodes in long-term memory (Hansen & Hansen, 1988). Furthermore, these behaviors do not seem to be simply impression-management tactics (Weinberger & Davidson, 1994). Given their liberal use of avoidant defensive strategies and chronic inhibition of distress (see Brown et al., 1996, for physiological evidence), we predicted that projection of undesired traits would be in evidence most clearly among repressors.

Preview of Present Studies

The studies reported here provide some tests of the defensive projection model and its implications. We conducted Study 1 to

establish that threatening traits can be identified idiographically and that defensive people will distance themselves from them. We conducted Study 2 to demonstrate that these same people also tend to deny possessing undesired traits. We designed Studies 3 and 4 to test the hypothesis that defensive people see in others those traits that they distance themselves from and deny possessing (i.e., to show that their defensive style leads to projection). In Studies 5 and 6, we experimentally manipulated self-concept threat and the type of processing devoted to it, to shed more light on the processes underlying defensive projection.

Study 1: Distancing Oneself From Unwanted Traits

In the first study, unwanted traits were idiographically identified by means of an open-ended questionnaire. We then took a straightforward approach to examining whether defensive people (repressors) would avoid self-relevant thoughts about these traits: We asked participants to confront these traits in themselves by writing autobiographical stories about them. We predicted that both the content of these stories and the way in which they were written (i.e., the amount of time spent on them) would reflect repressors' tendency to distance themselves from threatening traits. There were two bases for these predictions.

First of all, the very act of retelling the incidents in the stories should be aversive, especially for people unaccustomed to revealing such things about themselves. DePaulo, Epstein, and Lemay (1990) showed that when people find providing a self-disclosure to be unpleasant, they spend less time talking and are less forthcoming (see also Meleshko & Alden, 1993). Repressors, motivated as they are to avoid admitting socially undesirable thoughts and behaviors (Weinberger et al., 1979), should be even more likely than other participants to be brief and superficial when recounting episodes indicating that they might not be the people they want to be.

Second, our predictions were based on hypotheses about how participants might originally have dealt with the thoughts and feelings evoked by the incidents recounted in their stories. Receiving negative feedback related to unwanted traits or behaving in a way clearly consistent with them should evoke negative affect. Hansen and Hansen (1988) and Davis (1990) found that the way repressors deal with upsetting incidents serves to isolate them in long-term memory and make the memories difficult to retrieve and reconstruct. Therefore, repressors' impoverished representations of the episodes they were asked to reveal in Study 1 might also lead them to recount the episodes in a bland and abbreviated way.

We predicted that differences between repressors and nonrepressors would emerge most clearly, not when they self-disclosed about any unfavorable attribute, but primarily when they wrote about their most undesired attributes. In addition, we expected no differences between repressors and nonrepressors when other people were the subjects of their stories.

Method

Participants. Participants were 48 introductory psychology students (22 men and 26 women). All were recruited by telephone and tested individually in sessions lasting 30–40 min. Half of the participants

were repressors; the other half were nonrepressors. Participation partially fulfilled a course requirement.

Repressors in this and all subsequent studies were identified by means of criteria specified by Weinberger (1990). Anxiety and social desirability scales were administered to all introductory psychology students at Case Western Reserve University in class early in the semester. Students whose scores fell below the median (10) on Bendig's (1956) shortened form of the Taylor Manifest Anxiety Scale and in the upper third (16 and higher) of all scores on the Marlowe–Crowne Social Desirability Scale (Crowne & Marlowe, 1964) were classified as repressors.[1]

Identification of unwanted traits. Personally threatening attributes were idiographically assessed (in this and subsequent studies) with a self-perception questionnaire that was an adaptation of Higgins, Klein, and Strauman's (1985) Selves measure. The questionnaire, which was administered along with the Bendig Anxiety and Marlowe–Crowne scales at the beginning of the semester, consisted of two parts. On the first page, students were asked to list the attributes they believed made up their actual selves, that is, "beliefs concerning the attributes or characteristics you think you actually possess now" (see Higgins et al., 1985). Eight blank lines were provided for listing the first such attributes that came to mind. In addition, students were asked to rate each attribute in terms of the extent to which they believed they possessed it. A scale ranging from 1 (*slightly*) to 4 (*extremely*) was provided for this purpose.

The second part of the questionnaire focused on a different dimension of the self-concept: the unwanted self. Eight more blank lines appeared on the second page, and students were asked to list "the attributes or characteristics you most don't want to have—those you are most glad you don't possess and those you possess but wish you did not." Students were again told to list traits in the order in which they came to mind. Another 4-point scale was provided, so that students could rate the extent to which they did not want to possess the attributes they had listed. (These ratings do not play a role in Study 1's selection procedure, but see Study 2.) This part of the self-perception questionnaire thus allowed people to list traits that they felt they did not possess, but despised, and also those they feared that they did unfortunately possess. It did not, however, require them to confess to having undesirable personality characteristics.

For this and all subsequent studies, participants' most threatening traits were defined as the first two unwanted traits listed on the self-perception questionnaire (cf. Higgins et al.'s [1982, Study 2] output primacy criterion for accessible constructs). Preliminary analysis revealed the following traits to be the most common aspects of the unwanted self: *selfish, lazy, mean, obnoxious, rude, uncaring, arrogant, dishonest, grouchy, impatient, stubborn,* and *egotistical* (listed in order of frequency). Only students who had listed 1 of these 12 traits were asked to participate in Study 1. Four of them (2 repressors and 2 nonrepressors) were recruited to represent each of the 12 possible threatening traits (for a total of 48 participants).

Procedure. In this and all subsequent studies described in this article, participants were tested during the semester in which they had completed the prescreening questionnaires (from 3 to 12 weeks after the administration of those measures). Study 1 participants were tested individually and were asked to write two stories in private. Both involved

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[1] Use of this procedure also allows one to identify other subgroups, specifically, those who are classified as high anxious, low anxious, and defensive high anxious (Weinberger, 1990). It is possible that distinguishing among all four kinds of people would have allowed us to account for more variance in our dependent variables. Our analysis and model, however, led us to predict differences only between repressors and other research participants. Therefore, preselection for this and all subsequent studies in this report focused on recruiting repressors, in particular, who were expected to be more avoidant when dealing with threat than people from the three other subgroups.

incidents in which someone had behaved in a socially undesirable way. One story involved a threatening trait (operationalized as described above), and another involved some other unfavorable control trait (the order of the stories was counterbalanced). In addition, half of the participants were asked to write stories about themselves, and half were asked to write about other people's socially undesirable behaviors.

On arriving for the study, participants were provided with written instructions for writing the first story (e.g., "Describe an occasion on which you acted in a _____ way. Please be as thorough as possible. Describe the background, the event itself, and any consequences—the whole story"). They were asked to tell the experimenter when they had thought of a suitable episode to write about. The experimenter surreptitiously recorded the amount of time (to the nearest second) that elapsed between the point at which a participant started reading the instructions and the moment when he or she reported remembering an appropriate incident. The experimenter then left the room, and the participant wrote the story. There were no time restrictions imposed, but participants rang a bell to signal to the experimenter that they had finished recounting the story. The experimenter recorded the amount of time participants spent writing, then asked them to place the story they had written in a large envelope and seal it. The same procedure was then followed for the second story.[2] On completion of the second story, participants were thanked and debriefed.

So as to determine the nonthreatening unfavorable trait that each participant would write about, the 12 possible threatening traits had previously been divided into nonsynonymous pairs (i.e., *arrogant–selfish, dishonest–obnoxious, egotistical–stubborn, grouchy–uncaring, impatient–lazy,* and *mean–rude*). Participants' nonthreatening stories were written about the unfavorable trait that had been paired with the trait that was personally threatening to them. For example, if *mean* was a participant's threatening trait, he or she wrote about that trait and also about *rude,* the control trait. This yoking procedure ensured that there was no confound between threat and story content; across participants, the topics of the stories about threatening traits were identical to the control topics.

Results and Discussion

Writing times. The primary dependent variable in Study 1 was the amount of time participants spent writing the stories.[3] Initial analyses revealed that many participants unexpectedly cut their second stories short, as indicated by a significant order effect, $t(47) = 2.38, p < .025.$ The second stories written by participants were significantly shorter than the first ones (650 s vs. 576 s). This effect was restricted to stories written about the self, and a 2 (story: first vs. second) × 2 (target of story: self vs. other) × 2 (disposition: repressor vs. nonrepressor) analysis of variance (ANOVA) revealed a significant Story × Target interaction, $F(1, 44) = 6.09, p < .025.$ Although the average time spent writing the two stories about other people was identical (582 s), participants spent less time writing the second stories (570 s) than they did writing the first ones (717 s), when the target was the self. Stiles, Shuster, and Harrigan (1992) found also that people offered less information in the second of two self-disclosures. Accordingly, we confined our main analysis to the first story written by each participant.

The 2 (disposition: repressor vs. nonrepressor) × 2 (target of story: self vs. other) × 2 (threat) ANOVA on the duration of time people spent writing the first story they were assigned revealed the expected significant three-way interaction among disposition, target, and threat, $F(1, 40) = 4.41, p < .05.$ There was also a significant interaction between disposition and threat,

Table 1

Time Spent Writing Stories, by Target, Threat, and Disposition, in Study 1

| | Trait | | | |
| | Threatening | | Nonthreatening | |
Disposition	M	SD	M	SD
Stories about self				
Repressor	547	199	969	294
Nonrepressor	781	446	571	203
Stories about others				
Repressor	588	188	568	94
Nonrepressor	603	235	568	231

Note. Time is in seconds.

$F(1, 40) = 4.81, p < .05,$ and a marginally significant effect of target, $F(1, 40) = 3.38, p = .073.$ Table 1 contains the means for this analysis. Because of the special interest in stories about the self, we conducted a separate simple effects analysis on these stories alone and found a significant Disposition × Threat interaction, $F(1, 40) = 9.21, p < .005.$

The pattern of means was consistent with our prediction that repressors would try to avoid thinking about themselves acting in ways that might reveal undesired traits. The lowest mean writing time among the eight cells in the design was achieved by repressors writing about themselves acting in a way consistent with the threatening trait. The writing time distributions were moderately skewed, however, and there were outlier writing times in some cells of the 2 (disposition: repressor vs. nonrepressor) × 2 (target of story: self vs. other) × 2 (threat) design. To rectify this, any writing time that was more than 2 standard deviations greater than the mean of its cell was first recoded so that it was equal to that maximum value (see Fazio, 1990). Only 5 data points were changed using this criterion. Then writing times were subjected to a square root transformation (the transformation recommended by Tabachnick & Fidell, 1983, for moderate positive skew). This transformation successfully eliminated the positive skew, and a subsequent 2 (disposition) × 2 (target) × 2 (threat) ANOVA on the transformed data

[2] Before being debriefed, participants were also asked to report (on 7-point scales) how easy or difficult it was to recall each incident and its details, how much trouble they had deciding exactly what to write about, and the extent to which other relevant incidents came to mind. They were asked also to estimate how long ago the episodes they described took place. Analyses of these data revealed no significant effects. In addition, just before participants began writing each story, a disguised measure of anxiety was administered. Participants were asked to write down numbers in descending order from 100 for exactly 1 min. Previous research has found anxiety to increase writing speed (see Higgins, Bond, Klein, & Strauman, 1986), but writing speed did not vary as a function of any of the independent variables of interest in Study 1.

[3] A more indirect measure of the amount of time participants spent thinking about the behaviors they recalled was also used: the number of words per story. As would be expected, number of words was significantly correlated with the amount of time spent writing. However, analyses of this cruder measure did not reveal any significant effects.

revealed a pattern of means similar to the one reported above. The significant Disposition × Threat interaction, $F(1, 40) = 4.39$, $p < .05$, was again qualified by a three-way Disposition × Target × Threat interaction, $F(1, 40) = 3.84$, $p = .057$.

Post hoc simple effects analyses on the transformed data confirmed that repressors spent less time writing self-revealing stories involving threatening traits than nonthreatening traits, $F(1, 40) = 8.40$, $p < .01$; for nonrepressors, the mean difference in writing times for the two stories was not statistically significant. Repressors, then, were willing to spend quite a bit of time writing about themselves when the trait was not particularly threatening. They were also just as willing as other participants to write about other people having the threatening trait, a finding that rules out the possibility that the results for stories about the self were due to differences in schematic knowledge about threatening versus nonthreatening traits. Repressors only became terse when they were asked to write about themselves revealing the threatening trait.[4]

When the 2 (disposition) × 2 (target) × 2 (threat) analysis was conducted using both the first and second stories written by each participant, the pattern of means remained the same, but the three-way interaction dropped below significance, $F(1, 44) = 2.06$, $p = .158$.

Story content. All stories written by participants were supposed to recount a socially undesirable behavior. Leonard Newman and a second coder rated how offensive the behaviors in the stories actually were, on a scale ranging from 1 (*behavior that was actually favorable, or behavior superficially related to the intended trait but described in a way that emphasized positive consequences*) to 4 (*clearly bad behavior that would seem hard to forgive*). The interrater agreement was .51 for stories about threatening traits and .67 for stories about control traits, and the ratings were averaged for each story. A 2 (disposition) × 2 (target of story: self vs. other) × 2 (threat) ANOVA of the mean global valence ratings revealed an expected target main effect, $F(1, 44) = 9.99$, $p < .005$. Stories written about others described more unpleasant behavior ($M = 3.16$) than did those that participants wrote about themselves ($M = 2.67$). The main effect was qualified, however, by the predicted (but marginally significant) Disposition × Target × Threat (within-subjects) interaction, $F(1, 44) = 3.61$, $p = .064$. As revealed by Table 2, the most positively valenced stories were the ones repressors

wrote about themselves when they were asked to confess to behavior that might imply their possession of a threatening trait. The pattern of means thus approximately paralleled the pattern of writing time means: Those behaviors that repressors were loath to write about were also the ones least revealing of socially undesirable attributes.

Post hoc analyses revealed a marginally significant Disposition × Threat interaction for valence of stories written about the self, $F(1, 22) = 3.90$, $p = .061$, but not for stories written about others. In the key cell, when participants wrote autobiographical accounts involving threatening traits, the incidents described by repressors ($M = 2.42$) were less socially undesirable than were those described by nonrepressors ($M = 2.96$), $F(1, 22) = 4.48$, $p < .05$.

Stories were also coded for three more specific details: whether the behavior described "hurt or really inconvenienced someone"; whether it had "other negative consequences (e.g., loss of job, money, opportunity, or friends)"; and whether the writer of the story explicitly attributed the unfavorable trait to the story protagonist (e.g., "he's really mean"). Interrater reliability for the first and third details was moderate, according to Landis and Koch's (1977) criteria (agreement = 73%, $\kappa = .44$, for the *hurt* variable; agreement = 83%, $\kappa = .59$, for the *attribution* variable). A third coder resolved disagreements, but subsequent analyses revealed only self–other differences. Participants were more likely to state that other people's undesirable behaviors reflected stable attributes than that their own did ($Ms = 0.75$ out of two stories about others vs. 0.29 about self), $t(46) = 2.58$, $p < .025$. They were also more likely to describe other people's behavior as hurtful ($Ms = 1.67$ for others vs. 0.96 for self), $t(46) = 4.12$, $p < .001$.

Speed of memory retrieval. The data on writing times were consistent with the view that repressors find it aversive to recall and write about certain events. But as discussed above, a complementary explanation would be that repressors find it difficult to recall such events. An analysis of how long it took participants to retrieve an episode from memory revealed a Target of story (self vs. other) × Threat interaction, $F(1, 44) = 3.91$, $p = .054$. As shown in Table 3, participants did indeed have a harder time coming up with self-relevant stories when they involved threatening traits. Repressive style, however, did not moderate this effect (i.e., there was no significant three-way interaction). Both repressors and nonrepressors spent a relatively long time recalling incidents when their own behaviors were involved and when the traits were threatening ones.

The retrieval-time distributions, however, were severely skewed, and there were outlier writing times. As before, we

Table 2

Negativity of the Behavior Described in Participants' Stories, by Target, Threat, and Disposition, in Study 1

| | Trait | | | |
| | Threatening | | Nonthreatening | |
Disposition	M	SD	M	SD
Stories about self				
Repressor	2.42	0.71	2.62	0.53
Nonrepressor	2.96	0.54	2.67	0.86
Stories about others				
Repressor	3.21	0.66	2.96	0.58
Nonrepressor	3.21	0.62	3.25	0.62

Note. Ratings could range from 1 (*favorable*) to 4 (*unfavorable*).

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[4] The tendency for nonrepressors to actually spend more time writing autobiographical stories about threatening than nonthreatening traits is arguably consistent with Stiles et al.'s (1992) findings. Stiles et al. found that when strategic interpersonal motives such as impression management are made moot, people who report moderate to high levels of trait anxiety (i.e., nondefensive people) self-disclose at relatively high levels when the topics are anxiety arousing. The fact that repressors spent a great deal of time revealing behaviors related to nonthreatening traits is consistent with suggestions that repressors can be expected to be exemplary research participants when cues for defensiveness are less salient (see Weinberger, 1990).

recoded any datum that was more than 2 standard deviations from its cell mean, so that it was equal to that maximum value (Fazio, 1990). Only 6 data points were changed as a result. Then, writing times were subjected to a logarithmic transformation (the transformation recommended by Tabachnick & Fidell, 1983, for severe positive skew). This transformation eliminated the skew, and a three-way ANOVA on the transformed data again revealed a Target × Threat interaction, $F(1, 44) = 6.80$, $p < .025$. Post hoc analyses of the transformed data confirmed that participants spent significantly more time attempting to retrieve self-relevant autobiographical episodes when the traits involved were personally threatening, $F(1, 44) = 6.33$, $p < .025$. In addition, self-relevant stories involving personally threatening traits took longer to retrieve than similar stories about other people, $F(1, 44) = 3.83$, $p = .057$.

The pattern of means in Table 3 indicates that differences in writing times were not simply a function of the relative ease or difficulty with which repressors and nonrepressors retrieved trait-related incidents. The very act of retelling autobiographical behaviors that were diagnostic of unwanted traits was perhaps more aversive for repressors, and this may be why these stories were cut short and their content distorted. It is still possible, however, that repressors had stored these incidents in long-term memory in a less elaborated form with fewer details that could later be recalled (see Hansen & Hansen, 1988).

The ANOVA revealed also a main effect for Disposition, $F(1, 44) = 4.58$, $p < .05$, which was qualified by a significant Disposition × Target interaction, $F(1, 44) = 12.36$, $p < .005$. Analyses of the transformed data revealed only the significant interaction, $F(1, 44) = 14.26$, $p < .001$. As can be seen in Table 4, repressors seemed to have an especially hard time retrieving self-relevant autobiographical incidents involving socially undesirable personality traits, an effect that was independent of how personally threatening the traits were. Post hoc analyses of the transformed data revealed that it took longer for repressors than nonrepressors to recall these episodes, $F(1, 44) = 7.00, p < .025$; repressors also found it easier to recall socially undesirable behaviors when they were performed by others than when the behavior was their own, $F(1, 44) = 3.91, p = .054$. These findings thus replicate and extend the results of a series of studies by Davis (1990; see also Myers & Brewin, 1994), who found that repressors generally find it more difficult than nonrepressors to recall autobiographical incidents that are associated with negative affect.

Table 3
Time to Recall Trait-Relevant Episodes, by Target and Threat, in Study 1

Target	Trait			
	Threatening		Nonthreatening	
	M	SD	M	SD
Self	72	80	46	45
Others	42	23	50	31

Note. Time is in seconds.

Table 4
Time to Recall Trait-Relevant Episodes, by Target and Disposition, in Study 1

Target	Repressor		Nonrepressor	
	M	SD	M	SD
Self	87	56	31	18
Others	39	25	53	24

Note. Time is in seconds.

Study 2: Denying Undesired Traits

Study 1 served to further validate the procedure used in these studies to idiographically identify threatening traits and to show that defensive participants (repressors), in particular, would show a tendency to avoid thinking about how they might be characterized by threatening traits. The most obvious consequence of avoiding thinking about self-relevant threatening information is that it might make it easier for people to successfully convince themselves that they do not possess undesired characteristics. It was hypothesized, then, that repressors would be less likely to admit possessing any of the traits that make up their unwanted selves (i.e., those traits that they had spontaneously listed on the self-perception questionnaire as being very undesirable).

Method

During their introductory psychology classes, 130 students at Case Western Reserve University completed the self-perception questionnaire. Participants thus provided lists of actual and unwanted traits. In addition, all traits were rated on 4-point scales indicating the extent to which participants believed they possessed actual traits and the extent to which they did not want to possess unwanted traits (see Study 1). The Bendig Anxiety and Marlowe–Crowne scales were also administered, and students whose scores fell below the median (9) on the former and in the upper third of all scores on the latter (16 and higher) were again classified as repressors ($n = 31$).[5] The remainder of the research participants ($n = 99$) made up the sample of nonrepressors. The number of students in the two groups was unequal because all questionnaires filled out by these students were analyzed; the procedure used to identify repressors guarantees such an imbalance.

The method developed to quantify the discrepancy between the two lists of traits was derived from a system used by Strauman and Higgins (1988). The procedure involves comparing each actual-self-attribute with the traits that make up the unwanted self and identifying synonyms and antonyms in the two lists. In calculating a discrepancy score for each person, pairs of antonyms (e.g., *selfish* in the unwanted-self-concept and *generous* in the actual-self-concept) are scored negatively (-1), whereas pairs of synonyms, or matches (e.g., *honest* in both lists or *unintelligent* in the unwanted-self-attributes and *dumb* in the list of

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[5] Note that the median anxiety score differs slightly for the student samples used in Studies 1 and 2. The procedure used for identifying repressors is such that the exact criteria can differ between populations. In practice, though, we have found the median Bendig scale score for a particular student sample to vary by no more than 1 point from semester to semester. The same has been true for the cutoff point defining the upper third of the Marlowe–Crowne distribution.

actual-self-attributes) are assigned positive scores (2). Those traits that are neither matches nor mismatches (nonmatches) receive a score of 0 and do not play a role in the calculation of discrepancy scores. Finally, the ratings assigned to the traits on the 4-point scales described above are also used to calculate scores. Near matches (scored as 1) occur when the rating of an unwanted trait that is antonymous to an actual-self-attribute is 2 or more scale points higher than the rating assigned to the actual-self-attribute (e.g., *lazy* rated as extremely unwanted and *hardworking* perceived as only slightly possessed). Overall, the lower or more negative the score, the greater the discrepancy, and the less one admits to having unwanted traits. Higher scores reflect acknowledging undesirable traits and reporting fewer discrepancies between actual and unwanted selves.

Results and Discussion

Leonard Newman coded all questionnaires, and a second judge coded a subset of 66 of them. Both were unaware of participant disposition (repressor or nonrepressor) when coding discrepancies. Agreement was high ($r = .84$, $p < .001$) and equivalent to levels reported in previous studies using similar methods (e.g., Strauman & Higgins, 1988; Strauman, Vookles, Berenstein, Chaiken, & Higgins, 1991). Having established the reliability of this coding system, Leonard Newman's coding was used for the analysis. The mean repressor discrepancy score was -2.19, whereas the corresponding score for nonrepressors was -0.49. Thus, although there was an overall tendency for people to report that they did not possess their unwanted traits, this was significantly more pronounced for repressors, $t(128) = 3.2$, $p < .005$. These results conceptually replicate those reported by Altrocchi, Parsons, and Dickoff (1960), who used Minnesota Multiphasic Personality Inventory scales to identify repressors.

The results of Study 2 therefore indicate that repressors not only try to think as little as possible about how they might have undesirable characteristics but also tend to believe that they do not possess those traits. In other words, repressors who report disliking laziness and selfishness not only seem to avoid thinking about their own laziness and selfishness but also, when asked to describe themselves, are likely to report that they are hardworking and generous.

As noted by Higgins (1991), self-guides such as undesired selves have self-regulatory as well as self-evaluative implications. In other words, self-guides not only serve to make us feel bad when we become aware of not living up to them but also guide our behavior. People generally try to live up to their ideals and try to avoid being like their unwanted selves. These principles have important implications for our interpretation of the results of Studies 1 and 2. The data reported above are consistent with the idea that repressors are highly threatened by and defensive about the possibility that they might possess attributes they find extremely undesirable. But it is also possible that repressors (a) do not easily report incidents in which their behavior has been consistent with a threatening trait and (b) deny possessing the threatening traits simply because they really do not possess these traits, that is, they have eliminated threatening traits from their behavioral repertoires.

Other data we collected, however, are inconsistent with this interpretation. Students from two separate samples, both consisting of repressors and nonrepressors, were each rated by two

acquaintances on a variety of trait dimensions.[6] For all students, one of the trait dimensions involved an idiographically identified undesired trait. The mean of the two ratings each student received on the threatening trait dimension was calculated, as was the mean rating he or she received on all of the other traits combined. Although the two samples did not yield similar patterns of data in all respects, they both failed to reveal any sign that repressors are people who are more likely than nonrepressors to have freed themselves from threatening traits. In fact, in the larger of the two samples, both repressors and nonrepressors were actually rated significantly more negatively on the traits they found threatening than they were on all of the other traits combined.

Study 3: Projecting Undesired Traits

The previous studies established that the undesired traits we idiographically identified were characteristics that defensive people distance themselves from, avoid thinking about, and deny—even though other people seem to be not so convinced that repressors outshine others on these trait dimensions. Study 3 was a test of the most important prediction to be derived from our model. As discussed at length earlier, we predicted that this defensive style would result in repressors projecting these unwanted traits onto others. To test this hypothesis, we used a standard test of the accessibility of social constructs: how people interpret ambiguous behaviors (e.g., Bargh & Pietromonaco, 1982; Higgins, Rholes, & Jones, 1977; Wyer & Srull, 1981).

Method

Participants. Thirty-two introductory psychology students (17 women and 15 men) participated in the study. As participants were recruited from the Study 2 sample described earlier, those whose scores fell below 9 on the Bendig Anxiety Scale and above or equal to 16 on the Marlowe–Crowne Social Desirability Scale were classified as repressors. Sixteen repressors and 16 nonrepressors participated in the study. Participation partially fulfilled a course requirement.

We recruited only those students for whom one of the following traits (or its synonyms) was threatening, as assessed by the self-perception questionnaire: *mean* (*coldhearted, cruel, evil, uncaring, or unkind*); *lazy* (*procrastinator or irresponsible*); *obnoxious* (*rude, impolite, or irritating*); and *self-centered* (*conceited, egotistical, selfish, or stuck on self*). Each of these threatening traits was represented by 8 participants, 4 repressors and 4 nonrepressors.

Materials. Ambiguous behaviors were developed. Each one was constructed so that it could be interpreted in terms of one of the four threatening traits or in terms of some alternative evaluatively positive trait. Pretesting yielded a set of behaviors that were interpreted in terms of the intended favorable and unfavorable traits with approximately equal frequency (see Appendix A for a complete list). In general, the alternative interpretations for the behaviors were not mutually exclusive. What was of interest in Study 3, however, were the inferences that most quickly and easily came to mind for each participant. Overall, eight ambiguous behaviors were developed, two corresponding to each of the four threatening traits (*mean, lazy, obnoxious,* and *self-centered*).

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[6] Sample 1 consisted of the 48 students who participated in Study 1; Sample 2 consisted of 58 students from a study not directly related to the current investigation. A more complete description of the methods and results is available on request.

Four versions of a questionnaire were created on the basis of the pretests. Each had nine items, but Items 3–4 and 7–9 were fillers (e.g., "Diane noticed around 10 that morning that Adam had not eaten the food in his dish that she had left out for him. At that moment, she realized that she had not even seen Adam since last night. So Diane looked all over the house, but she could not find him. What kind of animal is Adam?"). The first and fifth items, however, were ambiguous behaviors that could be interpreted in terms of the participant's idiographically identified threatening trait. Two others (the second and sixth items) were control behaviors that could also be explained in terms of a positive trait; for these behaviors, however, the alternative unfavorable trait was one that was not threatening to the participant (i.e., it was a trait the participant did not spontaneously mention as being very threatening on the self-perception questionnaire). Traits were paired so that lazy behaviors served as controls for participants in the mean condition (and vice versa), whereas obnoxious behaviors served as controls for participants in the self-centered condition (and vice versa). As noted above, repressors and nonrepressors were matched on threatening traits. Overall, then, the behaviors repressors were given to interpret were the same behaviors presented to the nonrepressors, and across participants, the threatening behaviors were identical to the nonthreatening behaviors.

Procedure. Participants were asked to help test out materials for some other research we claimed to be doing on text comprehension. They were told that they would read a number of paragraphs and that after each one, they would be asked a brief question. They were asked to quickly answer the questions in writing with a word or two and were told not to think long about any one question. Participants were then given the appropriate version of the questionnaire to fill out. No one needed as long as 10 min to complete it. Finally, participants were thanked and debriefed.

Results and Discussion

If a participant provided two (or more) possible interpretations of an ambiguous behavior, only the first one was coded. Using a system adapted from one described by Lombardi, Higgins, and Bargh (1987), Leonard Newman coded all responses on a 4-point scale, where a score of 4 indicated that the participant offered the intended favorable interpretation (e.g., *honest* or *outgoing* for the behaviors), whereas a 1 indicated that the participant made the intended negative interpretation (e.g., *mean* or *obnoxious* for the behaviors). Scores of 3 and 2 were used to indicate other evaluatively positive and negative inferences, respectively. A second judge also coded all responses, and interrater agreement was high ($r = .92, p < .001$). Analyses were therefore based on Newman's coding.

Five participants were not native speakers of English. Given the importance of participants' appreciation of the nuances of the ambiguous descriptions, the analyses that follow reflect only data from the remaining 13 repressors and 14 nonrepressors. The initial analysis was based on participants' mean scores for the two threatening and two nonthreatening behaviors. This analysis revealed the expected pattern of means. Repressors (with an average score of 2.62) were more likely than nonrepressors (3.25) to negatively label behavior when that unflattering interpretation involved a trait they found personally threatening. On the other hand, when ambiguous behaviors did not involve a trait they found personally threatening, repressors were actually more generous with their interpretations (3.19 vs. 2.82 for nonrepressors).

The predicted Disposition × Threat interaction only approached statistical significance in the first analysis, $F(1, 25)$

$= 3.56, p = .07$ (no other effects were even close to being significant). But analyses involving only the first two behaviors presented to participants (one threatening and one nonthreatening) yielded similar and even stronger results. The expected Disposition × Threat interaction was in this case significant, $F(1, 25) = 4.26, p < .05$. Table 5 reveals the overall pattern. As predicted, repressors were more likely to conclude that other people's ambiguous behaviors reflected socially undesirable attributes when the undesirable attributes were those they found personally threatening. A simple effects analysis showed that the mean difference between repressors' ratings of behaviors that potentially revealed a threatening trait and their ratings of other behaviors was significant, $F(1, 25) = 6.31, p < .025$. The mean difference for nonrepressors was in the opposite direction but did not approach significance.

Note that repressors were not more generally inclined to see the worst in others. Although it was not a significant difference, when nonthreatening unfavorable traits were involved, repressors labeled behavior less negatively than other participants. Because repressors are motivated to see and present themselves as unflappable, reasonable, and rational people (Weinberger, 1990), this result is not surprising. In general, one would not expect them to admit to being annoyed or upset by others' behavior.

It is also not surprising that whereas the results overall were as predicted, they were even stronger when analyses were restricted to the first two behaviors. Interpretations of the first pair of behaviors were more likely to have been a function of participants' chronically accessible constructs. Responses to the next two ambiguous behaviors would also have been affected by the traits activated and made temporarily accessible as a function of thinking about and labeling the earlier stimuli. In addition, participants associated with a given threatening trait were always presented with the two related ambiguous behaviors in the same order (one was always the first item on the questionnaire, and one was always fifth). A confound between order and content may thus account for these results; indeed, stronger items (i.e., those that pretests revealed most clearly to be ambiguous) were intentionally selected to be those presented earlier in the questionnaire.

Study 4: Projecting Undesired Traits—A Replication

The results of Study 3 were consistent with the a priori hypotheses. Some effects were only marginally significant, how-

Table 5

Repressor and Nonrepressor Interpretation of Ambiguous Behaviors Relating and Not Relating to Idiographically Identified Threatening Traits, in Study 3

	Relevant undesirable trait			
	Threatening		Nonthreatening	
Disposition	M	SD	M	SD
Nonrepressor	3.21	0.98	3.07	1.07
Repressor	2.46	1.05	3.46	0.78

Note. Lower scores mean more negative labeling.

ever, so Study 4 was designed to replicate those findings. Another goal was to provide more evidence in support of the idea that cognitive accessibility is the proximal mediator of projection. To reiterate, we have argued that the projection of threatening traits found in Study 3 occurred as a function of the relatively passive effects of construct accessibility. Previous cognitive activities (i.e., thought suppression) had caused certain trait constructs to have a high level of chronic activation for some participants. This in turn led to biased person perception.

If this interpretation is correct, then experimental manipulations shown by previous research to moderate the effects of accessibility on impression formation should also affect projection. For example, Martin, Seta, and Crelia (1990) found that although ambiguous behavioral information will be assimilated to accessible trait constructs, when those traits are blatantly primed, people typically refrain from using them to interpret behavior. Blatant priming should thus also lead repressors to correct for the biasing influence of their highly accessible threatening traits. In Study 4, then, some participants were confronted with their own undesired traits just before being presented with behaviors to interpret. We predicted that the results of Study 3 would be replicated only when participants were not blatantly primed in this way with threatening traits.

Confirming this hypothesis would also help resolve the dispute over the *awareness* criterion for projection, which was a prominent feature of previous reviews of the literature by Holmes (1968, 1978, 1981) and Sherwood (1981, 1982). Holmes, in particular, argued that a necessary feature of classical projection is a lack of awareness that one possesses the trait being projected. This argument, of course, presupposes that projection involves only traits that one objectively possesses, a criterion that we have argued is unnecessary. More important is the fear that one might possess the undesired characteristic to a greater extent than one desires (see also Sherwood, 1982). This does not mean, however, that awareness is an irrelevant issue. Instead, what is crucial is that one not be aware of the process through which projection occurs. Projection is less likely to occur if one becomes aware that one's interpersonal perceptions might be biased simply because certain traits are personally threatening. Note that this hypothesis is consistent with the traditional psychoanalytic conception of defenses as unconscious and involuntary processes that are only effective as long as they remain unconscious (see Vaillant, 1993).

Method

Participants. Fifty-two introductory psychology students from the University of Illinois at Chicago participated in the study. Two of them failed to comply with instructions and were dropped from the final sample. Given the distribution of questionnaire scores that semester, all students whose scores fell below the median (9) on the Bendig Anxiety Scale and in the upper third (12 and higher) of all scores on Strahan and Gerbasi's (1972; see also Fischer & Fick, 1993) 20-item short form of the Marlowe–Crowne Social Desirability Scale were classified as repressors. The personality measures were distributed in participants' introductory psychology classes early in the semester. Twenty-four repressors (13 men and 11 women) and 26 nonrepressors (13 men and 13 women) participated in the study, which partially fulfilled a course requirement.

We again recruited only those students for whom particular undesir-

able personality traits were among the first two spontaneously mentioned on the self-perception questionnaire. These were considered to be threatening traits, and as in Study 3, we sought out participants for whom the traits *lazy, mean,* and *obnoxious* were threatening. In Study 4, however, the fourth group of participants were those who specifically indicated that the trait *selfish* was threatening, rather than those who mentioned traits more broadly related to self-centered behavior (see Study 3).

Two other groups of participants ($n = 18$ overall), for whom the traits *short-tempered* and *egotistical* were threatening, were also tested, for exploratory purposes, with new ambiguous behaviors designed to be relevant to those unfavorable traits. Ratings of one of the egotistical behaviors, however, showed very little variance, and there was no consensual favorable interpretation for one of the short-tempered behaviors. These data are not discussed further.

Materials and procedure. The procedure was similar to the one followed in Study 3. There were, however, a number of important changes. Ambiguous behaviors were refined through further pretesting. In addition, a new behavior that could be interpreted in terms of selfishness was created. The complete list of ambiguous behaviors is presented in Appendix B. Traits were paired, so that lazy behaviors served as controls for participants in the *selfish* condition (and vice versa), whereas obnoxious behaviors were controls for participants in the *mean* condition (and vice versa).

Participants were again presented with nine paragraphs, including the five filler paragraphs used in Study 3. This time, however, the third and ninth paragraphs were the ambiguous behaviors that could be interpreted in terms of the participant's idiographically identified threatening trait, whereas the fifth and seventh items were the control behaviors. In addition, so as to reduce carryover effects, paragraphs were presented one at a time on a computer screen rather than together on a page. Participants were told to read each paragraph and then answer in writing the question that followed it. Each participant received two pages stapled together on which they were to record responses. The first page contained five numbered lines for the first five questions, whereas the second had four numbered lines for the remaining ones. (This procedure was intended to make participants less aware of the possibility that they might have interpreted more than one behavior in terms of the same trait.) Participants were also told that after answering each question, they should move on to the next paragraph by pressing the N key on a computer keyboard. Stimulus presentation was controlled by the Superlab for Macintosh software package (Abboud, 1991).

Study 4 included another between-subjects variable: Exposure to threatening traits. Participants in the exposure condition were told that the experimenter (either Leonard Newman, Kimberley Duff, or a female research assistant) was interested in analyzing some questionnaires that had been administered to students earlier in the semester but, unfortunately, only had degraded xerox copies of one of them. The experimenter further explained that he or she needed participants to help verify (for record-keeping purposes) that the correct student identification (ID) numbers were being associated with these forms. (ID numbers consisted of the last six digits of students' social security numbers.) Participants were then handed an envelope containing the xeroxed self-perception questionnaire that they had previously filled out (with a barely legible ID number), and they were asked to (a) look it over to verify that it was theirs and (b) write down their ID numbers again on the bottom of the page. Participants in the no-exposure condition were told instead that the experimenter had lost a sheet of paper with a list of all of the study participants' ID numbers. They were asked simply to write their ID numbers down on another piece of paper. All participants were thus told that a clerical mishap had taken place, and all wrote down their ID numbers. Only participants in the exposure condition, however, were presented with their threatening traits.

Results

Responses were coded by Leonard Newman and Kimberley Duff, by means of a system identical to the one developed for

Table 6

Repressor and Nonrepressor Interpretation of Ambiguous Behaviors Relating and Not Relating to Idiographically Identified Threatening Traits, in Study 4

	Relevant undesirable trait			
	Threatening		Nonthreatening	
Disposition	M	SD	M	SD
Without recent exposure to threatening traits				
Nonrepressor	3.04	0.72	2.30	0.91
Repressor	2.17	0.83	2.62	0.82
With recent exposure to threatening traits				
Nonrepressor	2.29	0.92	2.85	0.88
Repressor	2.57	0.66	2.75	0.71

Note. Lower scores mean more negative labeling.

Study 3. Interrater agreement was again high ($r = .88$, $p < .001$), although slightly lower than in Study 3. Therefore, the two coders' scores for each response were averaged, and all analyses were based on this mean score.

The 2 (disposition: repressor vs. nonrepressor) × 2 (exposure to threatening traits: yes vs. no) × 2 (threat) ANOVA revealed only the predicted three-way interaction, $F(1, 46) = 4.16$, $p < .05$. Table 6 reveals the overall pattern. Replicating Study 3's results, in the no-exposure condition, repressors were more likely to conclude that other people's ambiguous behaviors reflected socially undesirable attributes when the undesirable attributes were those they found personally threatening. The simple Disposition × Threat interaction within the no-exposure condition was itself significant, $F(1, 46) = 5.16$, $p < .05$. Unlike in Study 3, a simple effects analysis did not yield a significant difference between repressors' ratings of behaviors that potentially revealed a threatening trait and their ratings of other behaviors; however, interpretations of behaviors related to threatening traits were significantly more negative for repressors than nonrepressors, $F(1, 46) = 5.58$, $p < .025$.

Results were quite different for participants recently exposed to the undesired traits that they had listed earlier in the semester. Such blatant priming eliminated any significant differences between conditions (see Table 6).

Discussion

Projection is essentially a form of biased person perception, and Studies 3 and 4 examined how repressors perceive ambiguous behaviors. In keeping with our model of projection, repressors were especially likely to see other people's ambiguous behaviors as reflecting traits that were threatening to them. Repressors were not, however, simply more punitive in general. When no threatening trait was involved, repressors interpreted others' actions in a relatively positive light. Also consistent with the model, especially the role it assigns to the heightened accessibility of threatening trait concepts, was the finding that a manipulation known to moderate the effects of accessibility—blatant priming—also eliminated projection among repressors in Study 4.

Thus, Studies 3 and 4 complete the first set of studies in this investigation. These studies focused on individual differences in repressive responses to threat, to show that highly defensive individuals conform to the various predictions made by our model of projection. To summarize: First, we found that repressors avoid thinking about how they might have highly undesirable traits. Second, we found that they deny having such traits (although their acquaintances are not so convinced by their denials). Finally, we found that repressors are especially likely to see other people as having those traits.[7] Taken together, then, Studies 1–4 provide support for the main predictions that follow from a model of projection that is based on threat, suppression, and chronic accessibility. What is missing from these studies is evidence of a causal sequence, especially the crucial point that trying not to think about one's threatening trait will cause one to perceive it in others. Studies 5–6 used experimental manipulations to address this key point.

Study 5

The main challenge for Studies 5–6 was to provide more evidence for the importance of the proposed mediating processes in our model of projection. We manipulated ego threat by providing participants with unflattering, bogus feedback about their personalities (allegedly based on an inventory they had filled out earlier). Then, in the crucial conditions, they were instructed to suppress thoughts about the threatening feedback, that is, we directly manipulated the key mediating process. Afterwards, participants engaged in a person-perception exercise. According to the model, suppressing thoughts about one's undesirable traits will heighten the accessibility of these trait categories. We hypothesized, therefore, that the traits that made up the negative feedback could become temporarily accessible through the same processes that led to chronic accessibility among participants in Study 3. As a result, people would be especially prone to interpret other people's behavior as conforming to those unfavorable traits. That, in turn, would constitute projection.

Study 5 provided the main experimental test of the projection model. We predicted that both repressors and nonrepressors would be most likely to perceive the target person as having the unflattering trait that they had tried not to think about.

Method

Participants. In partial fulfillment of a course requirement, 31 college students were tested individually. Fifteen (9 women and 6 men) were repressors and 16 (8 women and 8 men) were nonrepressors. Three other students also participated, but the data provided by 2 of them were dropped due to suspiciousness (i.e., doubting the veracity of the personality ratings). Another student's data were dropped due to a proce-

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[7] Higgins (1989) provided a complementary account of the motivational factors that might lead threatening traits to become chronically accessible. He called traits that people claim to possess that are discrepant from their standards *problematic* and argued that rumination over those traits increases their accessibility. This approach shares with our model the assumption that unwanted traits might be frequently activated; the models differ only in emphasizing different processes leading to that activation. Both active efforts to avoid awareness of discrepancies and active attempts to resolve them can enhance accessibility.

dural error. In Studies 5–6, repressors were those students whose scores fell below the median (9) on the Bendig Anxiety Scale and in the upper third of Marlowe–Crowne Social Desirability Scale scores (16 and higher). The personality measures were administered in participants' introductory psychology classes early in the semester.

Procedure. Students were recruited for a study entitled The Flow of Thought and were told that they would be providing thought samples so that the experimenter could use a new technique to analyze how free-flowing thoughts are strung together. Participants were told also that their monologues would be taped and that the experimenter would leave the room while they spoke. In addition, the experimenter assured participants that the audiotapes would be analyzed at some future date by research assistants who would be unaware of their identities. To this end, participants were asked not to reveal their names when talking.

As part of the cover story, participants were further told that psychologists doing experiments like this unfortunately "do not always examine meaningful and self-relevant thoughts" but that in this experiment, participants would "be thinking about something that shouldn't be boring at all." The experimenter went on to say,

Early in the semester, you filled out a couple of personality measures in class. We've entered those into a computer and had them analyzed, and come up with a personality profile of everyone who filled out the questionnaires. I have yours here. This is how it works: Even though you can describe people in all sorts of ways, a lot of research shows that a person's personality can be summed up very well with just six personality trait scores. These are called the "Big Six" by some people. I'm going to show you your six scores in a few minutes. That's what we used those questionnaires for: to come up with the six scores. And that's what I'm going to ask you to think about.

Participants were then given some practice with the think-aloud procedure. First, they were provided with written instructions on how to report one's stream of consciousness. As stated in the instructions, participants were to indicate whatever went through their minds, including "images, ideas, memories, feelings, fantasies, plans, sensations, observations, daydreams, objects which catch your attention, or efforts to solve a problem . . . whatever you are conscious of or aware of." These instructions were identical to those used by Wegner et al. (1987), which in turn were adapted from those presented by Pope (1978). The experimenter left the room, and participants were given an initial 3-min period to talk about whatever came to mind.

After 3 min, the experimenter returned and said the following:

Okay, now that you have some practice letting your thoughts flow, I'll let you see the results of the test. By the way: this was printed out by someone else and is identified only by ID number. I haven't seen it and won't see it. I'll leave the room while you look it over. Look it over carefully, because you'll be asked to think about it. Again, there will be six trait scales. Your standing on each one will be marked with an X. And again, this is just for you to see. Don't even tell me what the results are.

Participants were given 2 min to look over the results of the test. Results were rigged so that all participants received high ratings on the filler trait dimensions of generosity and friendliness (scores of 3 or higher on 11-point scales ranging from −5 to 5). Approximately half of all participants learned also that they were quite honest and well-adjusted; however, they were told also that analysis of the personality tests revealed that they were very inflexible and indecisive (scores of −3 or lower on the same scales). Other participants found that their scores revealed them to be open-minded and decisive but that they also seemed to be dishonest and disturbed. The unfavorable trait ratings always occurred on the third and sixth trait dimensions.

The experimenter then continued with the instructions:

For the next five minutes, I want you to verbalize your thoughts as you did before. But there will be two differences. First of all, this time I want you to think about the personality test results you just saw. Your thoughts may wander, and if so you should follow your thoughts wherever they lead you to. But try to focus on the trait ratings. Also, I want you to *try not to think about* one of the trait ratings you got. Think about any of the trait ratings except this one. We'll determine which one with a random number generator.

Participants were instructed to press a button on a computer keyboard that made a bogus random number generator (developed with the use of the Reaction Time module of the MacLaboratory for Psychology software package; Chute, 1991) begin rapidly flashing numbers from 1 to 6 on a computer screen. The participants were told that they could press the button again at any time to stop the number generator. The computer was programmed so that when they did so, the screen always displayed the number 3. In this way, it was possible to arrange for the suppressed trait rating to be an unflattering one. It was also possible to ensure that approximately equal numbers of participants would be asked to suppress thoughts about each of the four possible unfavorable traits attributed to them (*dishonest, disturbed, indecisive,* and *inflexible*).

Participants were then given an additional 15 s to look over the test results again, to make sure that they knew which trait they were supposed to not think about. They then placed the test results in an envelope, which they handed over to the experimenter. The experimenter then left the room for 5 min while the second monologue was recorded. When the experimenter returned, participants were told the following:

The next thing I want you to do is watch a videotape. The reason for this will become clear later, but for now I just want you to watch this tape and try to form an impression of the woman on it—you know, figure out what she's "like". The woman on the tape was being interviewed and was being asked to talk about a number of topics, some kind of mundane and others of a more sensitive nature. You'll be seeing a series of excerpts of this interview. The topics will appear at the bottom of the screen. The first is "public humiliation," I believe. I should also point out that there will be no sound. So watch her carefully and try to figure out what she's like.

Participants then watched the tape, which was an edited version of one created by Gilbert, Pelham, and Krull (1988) for their study of correspondence biases. The woman on the tape appears somewhat anxious, but otherwise, there is no explicit information about her personality. The version of the tape used in this study was less than 5 min long.

The experimenter then returned and told participants the following:

Now you remember earlier I told you that the six traits on which you were rated are those that sum up a person's personality very well? The Big Six? Well, we also believe that these traits are important not only for psychologists to describe personality, but are also important to people when they form impressions of others. And we think we can get the kind of information we need to form these impressions even from nonverbal behavior. We'll see. So right now I want you to rate the woman on the tape on those same six trait scales.

After participants completed their ratings of the target on 11-point scales ranging from −5 to 5, they were informed that the feedback they had received earlier was bogus. They were then asked to try to recall their feedback using a recall sheet on which the "Big Six" trait dimensions were presented, with 11-point scales identical to those that had been used earlier to provide the bogus feedback. Participants were asked to circle numbers corresponding to the ratings they had received. The

order of the trait dimensions on the recall sheet always matched the order on the participant's printed test results. Recall of the valence of the trait ratings (i.e., whether it was higher or lower than the midpoint of 0) was near perfect overall. Participants were then fully debriefed with a script derived from both the process debriefing described by Ross, Lepper, and Hubbard (1975) and Mills's (1976) suggestions for debriefing people in deception experiments. Included were an apology for the deception and an explanation of the hypotheses and methods.

Results

Manipulation check. When Studies 5–6 were completed, two coders listened to a random sampling of 28 participants' monologues (the initial 3-min warm-up vocalization periods were ignored). Each participant's bogus test results indicated that he or she clearly possessed six personality traits (e.g., *friendly, generous, honest, well-adjusted, indecisive,* and *inflexible*). For each of these traits, the coders counted (a) the number of times it was explicitly mentioned, (b) the number of times a participant stated agreement with the trait rating, and (c) the number of disagreements with the rating. The average correlation across all traits and categories (mentions, agreements, and disagreements) was .76. Reliability was considered adequate, and one of the coders then coded all of the tapes for analysis.

It was important to confirm that participants in Study 5 had complied with the instructions and had suppressed traits when asked to do so. In fact, participants on average mentioned the unfavorable trait they were asked not to think about only 0.35 times. In contrast, the mean number of mentions of the other unfavorable trait that had been attributed to them was 2.58, and the mean number of mentions per trait for the four favorable trait ratings was 1.14. A 2 (disposition: repressor vs. nonrepressor) × 3 (trait: suppressed unfavorable vs. other unfavorable vs. positives) ANOVA revealed a main effect for trait, $F(2, 58)$ = 8.94, p < .001. These data show that participants did in fact try to avoid thoughts about traits when asked to do so. That not all of them were totally successful is consistent with past research on thought suppression (e.g., Wegner et al., 1987). Further evidence of the difficulty of this task comes from the finding that people indirectly mentioned the "forbidden" trait 1.06 times on average (e.g., "Oops, I almost mentioned the thing I'm not supposed to think about").

There was no interaction with repressive coping style. Bonanno et al. (1991) presented evidence in support of the idea that repressors not only engage in more avoidant information processing than other people but also are better at controlling their attention when instructed to do so. There was no evidence for this difference in the present study.

Ratings of the target. After thought suppression, participants made judgments about the personality of an ambiguous target person presented on videotape. We predicted that they would rate her more negatively on the trait dimension associated with the unfavorable trait that they were asked to suppress than on other trait dimensions.

Ratings on the filler trait dimensions (*friendly–unfriendly* and *generous–selfish*) were not analyzed. Including them in the analysis would have introduced a confound between trait dimension and valence of feedback received (the feedback variable below), because participants always were given flattering ratings with regard to their friendliness and generosity. Partici-

pants' trait judgments on the two other trait dimensions for which they had received positive personality feedback (either *honesty* and *adjustment* or *decisiveness* and *openness*) were averaged, and a 2 (disposition) × 3 (feedback: positive feedback traits vs. the trait dimension associated with the threatening feedback that was suppressed vs. the other trait dimension on which participants received negative threatening feedback) ANOVA was run, with the latter variable within subjects. (Preliminary analyses revealed no significant effects involving participant gender.) The ANOVA revealed a main effect only for feedback, $F(2, 58)$ = 4.53, p < .025. The ratings given to the target person were quite unfavorable when participants had the opportunity to attribute to her the trait that they had suppressed (M = −2.10, SD = 2.23). (For all means, the possible range was −5 to 5, with lower numbers meaning more unfavorable ratings.) Participants were more charitable, however, when they rated the target person on the other trait dimension on which they had received negative feedback (M = −0.84, SD = 2.88) and when they rated her on the trait dimensions that had been associated for them with positive feedback (M = −0.44, SD = 1.97). The pattern of the cell means was thus as predicted. Participants did not simply denigrate the target person in a manner identical to the way in which the results of the bogus personality test had denigrated them. Instead, it was the unfavorable trait about which they had tried to suppress thoughts that they attributed to her. This conclusion is further supported by the results of a planned contrast analysis done with methods described by Rosenthal and Rosnow (1985). As would be expected from the pattern of means, the results of that analysis (with cell weights of −2 for suppressed threat, +1 for other threat, and +1 for positive traits) were also significant, $F(1, 60)$ = 8.31, p < .01.[8]

There was no interaction between disposition and feedback, nor was one expected; the manipulation essentially turned all participants into repressors and thus had the same effect on both groups. There was, however, an orthogonal main effect for disposition, $F(1, 29)$ = 15.26, p < .001. Repressors were more generous with their overall ratings than were nonrepressors (M = −0.24 for repressors vs. M = −1.95 for nonrepressors). This finding echoed the results of Study 3, where repressors were hesitant to infer socially undesirable traits in others when the kind of behavior they were judging was not chronically threatening to them. As noted above, repressors may try to avoid "ruffling feathers" when revealing their impressions of other people.

Discussion

As predicted, when students in Study 5 were asked to try to suppress thoughts about an unflattering trait, they subsequently projected that trait onto another person. Showing that the experimental manipulation selectively affected specific trait dimensions was of vital importance. In a number of past studies, investigators have attempted to document projection by giving false feedback to people (or exposing them to some threat to

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[8] The denominator degrees of freedom for this analysis were slightly different from those reported for the omnibus ANOVA because the contrast analysis was based on a one-way ANOVA design. (Repressive coping, for which there were no a priori hypotheses, was excluded.)

their self-concepts) and then allowing them to rate the personality of some other person (e.g., Halpern, 1977; Sherwood, 1979). It has been argued that if and when research participants respond to negative feedback by providing the same unflattering feedback to others, projection can be said to have occurred. Unfortunately, past research has typically neglected to show that participants' negative evaluations of others were confined to (or stronger for) the specific undesirable traits that were attributed to the participants. For example, Sherwood (1979) found that people who resisted evidence that they were neurotic subsequently attributed neuroticism to disliked others. It is possible, however, that participants would have evaluated other people negatively regardless of the trait dimension involved. (In fact, participants in that study made other trait ratings, but these data were not presented in the published report.) Were that to be the case, it would be difficult to argue that a process of projection had occurred. For example, findings such as those might simply be mediated by the unpleasant moods that could have been triggered by the initial bogus feedback. Judgments of all sorts, both social and nonsocial, are strongly affected by moods (see Clore, Schwarz, & Conway, 1994, for a review).

Also note again that although we are emphasizing the role of thought suppression in enhancing the accessibility of thoughts, frequent activation by any means should also increase accessibility (Higgins, 1989). For example, intentional thinking about the unfavorable trait rating that participants were not asked to suppress (M = 2.58 mentions) should have increased its accessibility as well. This may have contributed to the moderately unfavorable ratings given to the target person on this other trait dimension (M = −0.84). In this case, though, the direct thinking did not enhance accessibility as much as suppression did—a common finding (Wegner, 1994). However, instructing people to focus exclusively on one trait rating in particular could dramatically increase its accessibility. In fact, a variant of Study 5 conducted by Newman and Baumeister (1993) demonstrated just such an effect. Participants were told to try to focus on one of the unfavorable trait ratings, and the results paralleled those of Study 5: Participants were more likely to attribute to the target the trait that had been made more accessible, although the way in which accessibility was enhanced (explicit focus rather than suppression) differed (see also Footnote 7).

Study 6

Study 6 provides a link between the first set of studies and Study 5. In Study 5, we found that projection resulted from suppressing negative feedback about the self. In Studies 3 and 4, we found that repressors were especially prone to project unwanted traits. The assumption was that repressors habitually respond to threatening feedback like the participants in Study 5: They suppress thoughts about it. Study 6 was designed to test this assumption.

More precisely, we instructed all participants in Study 6 merely to verbalize their thoughts about the personality evaluations they received. We did not instruct them to suppress any particular thoughts. We predicted that repressors would spontaneously suppress thoughts about the negative feedback and would therefore project those traits onto others. Specifically, we predicted that they would be more likely than nonrepressors to

rate the target person more harshly on those trait dimensions than on those for which they had been given good feedback.

Method

Participants. In partial fulfillment of a course requirement, 35 students participated. Sixteen were repressors (10 women and 6 men), and 19 (10 women and 9 men) were nonrepressors. Four other students participated as well, but data provided by 3 of them were omitted from analysis due to suspiciousness. In another case, a participant's poor English language skills led to his exclusion.

Procedure. The procedure of Study 6 was identical to the procedure described for Study 5, with one exception. Before the second think-aloud period, participants were simply told, "For the next five minutes, I want you to verbalize your thoughts as you did before. But this time I want you to think about the personality test results you just saw. Your thoughts may wander, and if so, you should follow your thoughts wherever they lead you to. But try to focus on the trait ratings." Participants were not instructed to suppress any thoughts.

Results

Recall of the valence of the bogus trait ratings (i.e., whether it was higher or lower than the midpoint of 0) was again near perfect overall. Preliminary analyses also revealed no significant effects involving participant gender.

Ratings of the target. Participants' ratings of the target person on the filler trait dimensions (*friendly–unfriendly* and *generous–selfish*) were again not analyzed. Participants' trait judgments on the two other trait dimensions for which they had received positive personality feedback were also averaged again, as were their judgments on the two trait dimensions for which they had received unfavorable (threatening) personality feedback (either the *honest–dishonest* and *well-adjusted–disturbed* or the *decisive–indecisive* and *open-minded–inflexible* dimensions).

A 2 (disposition) × 2 (feedback: favorable vs. unfavorable) ANOVA (with the latter variable within subjects) yielded a main effect for feedback, $F(1, 33) = 4.59$, $p < .05$. As revealed by Table 7, this effect reflected the fact that participants' trait judgments tended overall to be directly related to the feedback they had received. It is also apparent, however, that this pattern was restricted to repressors. Personality ratings made by repressors were relatively neutral on those trait dimensions that in-

Table 7

Ratings of Ambiguous Target Person, by Repressive Coping and Nature of Feedback Received by Participant, in Study 6

Disposition	Negative feedback		Positive feedback		Total M
	M	SD	M	SD	
Nonrepressor	−1.42	2.02	−1.13	1.96	−1.28
Repressor	−1.56	1.48	−0.41	1.60	−0.98
Total M	−1.49		−0.80		

Note. For study 6, there were no suppression instructions. Ratings could range from 5 (*very positive*) to −5 (*very negative*). Lower scores mean more negative labeling, so for unfavorable traits, lower ratings mean more projection.

volved the favorable traits that had been attributed to them, but their evaluations of the target person were harsher when the trait dimensions instead involved undesirable traits that they had been told they might possess. Nonrepressors' ratings, on the other hand, were generally unfavorable but not so clearly driven by the feedback they had received.

The omnibus Disposition × Feedback interaction was not significant, $F(1, 33) = 1.65$, ns, but the significance of the pattern of means that was predicted a priori was assessed with a planned contrast, again using methods described by Rosenthal and Rosnow (1985, chap. 5). We expected repressors to be more likely than nonrepressors to project traits associated with unflattering feedback. But on the basis of the results of Study 5, it was also reasonable to expect that repressors would otherwise be more generous in their evaluations of the target person. Therefore, the repressor–positive-feedback cell was assigned a weight of +3, the repressor–negative-feedback cell received a weight of −3, and the corresponding weights for the nonrepressor cells were +1 and −1. The contrast analysis indicated that the hypothesized linear trend pattern was significant, $F(1, 33) = 6.20$, $p < .025$. The effect size associated with this contrast was .4, midway between medium and large, according to criteria proposed by Cohen (1977).

Post hoc t tests also supported the hypothesis that repressors would rate the target more unfavorably on the negative than the positive feedback traits, $t(15) = 2.40$, $p < .05$, but nonrepressors would not, $t(15) = 0.62$, $p > .5$. Thus, projection was found mainly among repressors. Only their trait ratings mirrored the feedback that repressors had received.

Mentions of trait ratings. Repressors were expected to mention the unflattering traits that had been attributed to them less often than nonrepressors. This prediction was not confirmed. Participants on average mentioned these unfavorable traits 6.0 times. The mean number of mentions of the favorable trait ratings was 1.07. A 2 (disposition) × 2 (feedback: unfavorable vs. favorable) ANOVA revealed a main effect for feedback, $F(1, 33) = 34.74$, $p < .001$. Effects involving individual differences in repressive coping styles were not significant.

Thus, repressors did indeed project more than nonrepressors, but they failed to show the predicted pattern of suppressing thoughts about threatening feedback. Additional analyses, however, were more supportive of the hypothesized link between suppression and projection. Wegner et al. (1987, Experiment 1) found a negative (but nonsignificant) correlation between thoughts about a white bear during an initial suppression period and the subsequent rebound of such thoughts (cf. Merckelbach, Muris, van den Hout, & de Jong, 1991). In line with those findings, we also expected that mentions of the unfavorable trait ratings would be negatively correlated with subsequent projection, as fewer mentions of those ratings could indicate active efforts to avoid thinking about them. To test this hypothesis, we created an index of defensive projection by subtracting the mean target ratings for the trait dimensions on which participants had received negative feedback from the mean target ratings for the trait dimensions on which they had received positive feedback (higher scores thus indicated more defensive projection of unflattering traits). We then computed the correlations between this index and the number of times during the thought-suppression exercise participants mentioned the unflattering traits they

were led to believe they might possess. Among nonrepressors, the correlation was .02. Among repressors, however, the correlation was negative and significant ($r = -.51$, $p < .05$). These findings suggest that the frequency with which unfavorable traits were mentioned served as an index of efforts not to think about the unflattering feedback only for people predisposed to cognitively avoid unwanted self-knowledge. Among repressors, the suppression of thoughts about those traits seems to have led to seeing the traits in other people.

Agreements and disagreements. As noted above, participants' agreements and disagreements with the traits that had been attributed to them were coded. For participants in Study 6, there were no constraints on what aspects of the test results participants could talk about. Therefore, we also analyzed these data. The average number of agreements and disagreements per trait was calculated for the four flattering trait ratings, as was the average number of these reactions to the two unfavorable ratings. Table 8 contains the cell means for the Disposition × Trait Valence × Reaction (agreement vs. disagreement) design (the latter two variables were within subjects). There was an obvious effect of trait valence (unfavorable ratings were discussed more on average), $F(1, 33) = 8.95$, $p < .01$, and a Trait Valence × Reaction interaction, $F(1, 33) = 8.64$, $p < .01$. The latter effect reflects the fact that participants tended to agree with flattering ratings and rarely disagree, whereas reactions to unflattering ratings were less clear-cut.

More interesting was the three-way interaction, which approached significance, $F(1, 33) = 3.67$, $p = .064$. Repressors were especially resistant to the unfavorable trait ratings. They were more likely to express disagreement with being labeled with undesirable traits than were nonrepressors and less likely to agree that they might possess those traits. Our model of projection assigns a causal role to thought suppression and avoidance, not the overt disparagement of disagreeable feedback, and in fact, analyses conducted using procedures suggested by Baron and Kenny (1986) failed to show that either agreements or disagreements mediated the relationship between repressive coping and judgments of the target person. These data do, however, further demonstrate the propensity of repressors to be resistant to information that might upset them.

Table 8

Average Number of Explicit Agreements and Disagreements With the Personality Test Results, by Repressive Coping and Trait Desirability in Study 6

Disposition	Favorable traits		Unfavorable traits	
	M	SD	M	SD
Repressor				
Agrees	0.48	0.39	0.28	0.41
Disagrees	0.05	0.10	0.72	1.00
Nonrepressor				
Agrees	0.54	0.33	0.61	0.49
Disagrees	0.20	0.20	0.45	0.47

Note. For study 6, there were no suppression instructions. Means reflect averaging across the four favorable traits and the two unfavorable traits attributed to participants.

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Discussion

As expected, repressors engaged in more projection than non-repressors. One aspect of Study 6 was disappointing. The results of the analyses focused on the mediating effects of thought suppression (as reflected in trait mentions) were weak. These results, however, were arguably consistent with Kelly and Kahn's (1994) findings. Their research also examined the suppression of personally relevant thoughts. Kelly and Kahn found that with such thoughts, the suppression process is more difficult to document by means of people's verbalizations than it is when thoughts about neutral objects are suppressed. It seems reasonable to assume that people will be sensitive to self-presentational concerns when asked to talk about unfavorable self-relevant (and potentially embarrassing) thoughts. They may be especially prone to self-censoring. Nonreactive measures of suppression are probably needed in cases such as this, like the indirect accessibility measures used here (or physiological ones; see Wegner, Shortt, Blake, & Page, 1990). More generally, and as discussed by Newman, Duff, Hedberg, and Blitstein (1996), the number of explicit mentions of a thought one has been told to suppress is difficult to interpret. Frequent mentions could reflect (a) the lack of a serious attempt to suppress the thought or (b) failed attempts to suppress it. Similarly, few mentions of the thought could mean that a person (a) successfully suppressed it or (b) devoted little effort to suppressing the thought and, so, did not become preoccupied with it.

General Discussion

In this article, we have presented a theoretical model of projection and tested various parts of it. We proposed that people sometimes try to suppress thoughts about threatening implications, especially implications that they may have highly undesirable traits. The process of thought suppression makes those particular trait concepts highly accessible, and as a result, people become especially likely to use those traits to interpret the ambiguous behavior of other people.

The findings generally supported our model of projection. The first set of studies proceeded by identifying highly defensive individuals (i.e., repressors) and showing that they exhibit the main patterns predicted by the model. In these studies, we sought to ascertain what traits each participant found most threatening, in the sense that the person was highly concerned about not having that particular trait. We found that repressors were more likely than other people to deny that they had those traits (Study 2) and that they were also reluctant to think or write about events in which their actions resembled their threatening traits (Study 1). They were, however, just as willing as other participants to write about other people having those threatening traits, and they were even willing to write about themselves having undesirable traits other than the particularly threatening ones. Thus, repressors seem to respond very specifically to particular threats (as opposed to avoiding all negativity). In short, they avoid thoughts about having the traits they most want to deny in themselves.

Next, we turned to person perception, which, after all, forms the essence of the concept of projection. In Study 3, we found that repressors were prone to see other people as having the

traits that the repressors themselves found threatening. Repressors were not simply more harsh in general when judging other people, for when others' behaviors could be construed in terms of nonthreatening traits (including even other unfavorable traits), repressors were at least as positive and charitable as nonrepressors in their judgments of other people. When it came to traits they sought to deny in themselves, however, they were quite critical of other people, and they were more prone than others to interpret ambiguous behavior as reflecting those threatening traits. Study 4 replicated these results and further demonstrated that although our explanation of projection differs from classic psychoanalytic conceptualizations, it shares an important feature: It leads to the prediction that projection is undermined by awareness that it might occur. In keeping with past research on the relationship between accessibility and impression formation (Martin et al., 1990), when threatening traits were blatantly primed, we no longer found that repressors engaged in more projection.

Study 5 provided the key experimental demonstration of the causal mechanism in our model of projection. Participants in this study received negative feedback about their personalities and then tried to suppress thoughts about some of it. Then they engaged in a person-perception task involving ambiguous behaviors by a stimulus person. We found that people were most likely to project the socially undesirable traits they had suppressed. Receiving undesirable feedback was not enough to cause projection, because participants did not project the traits unless they had been instructed to suppress them. Moreover, this was true of participants in general, not just repressors. Thus, trying to avoid thinking about a threatening trait increases the tendency to see other people as having it. The final investigation, Study 6, showed that when people are allowed to ruminate about negative feedback without explicit instructions to suppress, repressors are subsequently more likely than nonrepressors to project threatening traits onto others. This finding is consistent with the hypothesis that repressors are dispositionally inclined to deal with unfavorable self-relevant information in the defensive manner that was imposed on Study 5 participants. Hence, they are more likely to project.

Taken together, these findings suggest that projection may indeed occur as part of a process of defending the self against a threat. Chronically defensive people tend to deny their faults, and their efforts at avoiding thoughts about their faults are accompanied by an ironically heightened tendency to see other people as having those same faults. Similarly, people are especially likely to interpret another person's behavior as reflecting an unfavorable trait when they themselves tried to suppress the threatening thought of having it.

Although our model and the research described here emphasize the consequences of suppressing unpleasant thoughts about unwanted traits, suppressing thoughts about any trait concept should theoretically lead to rebound effects. A study by Newman et al. (1996) supported this hypothesis. Participants in that study suppressed thoughts about either an evaluatively negative trait (e.g., *dishonesty* or *unfriendliness*) or a positive one (*honesty* or *friendliness*). Suppression increased the accessibility of both positive and negative trait concepts, with predictable consequences for subsequent person perception. It is arguably more common to avoid thoughts about negative than positive person-

ality characteristics, but the Newman et al. study provided further support for our model of defensive projection by testing one of its implications.

Defending the Self-Concept

Our findings have implications for several broader issues. First, our model and findings provide a departure from the traditional view of projection as a defensive process. Projection is typically thought of as a distinct mechanism of defense that protects one from the awareness of threat or the negative affect associated with it (e.g., Juni, 1979; Vaillant, 1977). The present evidence suggests that projection of threatening traits is a by-product of the attempt to suppress them instead of a means of doing so. Put another way, projection is a consequence of a defensive response rather than the defensive response itself.

Is it then appropriate to speak of defensive projection at all? Holmes (1968, 1978) criticized the research literature on projection by saying that there is no evidence that people see unwanted traits in others to avoid seeing them in themselves. In one sense, his critique is still valid even if our results are accepted, because we have not shown that projection serves any role to help defend the self against unflattering implications. On the other hand, we have shown that projection has strong links to defensive responses. Chronically defensive people (repressors) were most likely to show projection, and experimentally induced defensive responses led to projection. Because projection appears to be the result of a defensive process, it seems fair to speak of defensive projection, even though the projection itself is not actually a means of defense.[9]

The relation between *projection* and *repression* (loosely defined) may also require some revision from traditional views. S. Freud (1896/1962) and A. Freud (1936) proposed that defense mechanisms arose because of the ineffectiveness of repression. In their view, the *return of the repressed* meant that people's efforts to avoid unwelcome or threatening thoughts would ultimately fail. Because of this failure, people found other ways of getting rid of such thoughts, mainly by transforming them into more acceptable thoughts. Projection furnishes a good example: People are presumably more willing to believe that someone else is dishonest or conceited or sexually immoral than to believe that they themselves are.

The rebound effect (Wegner et al., 1987) in thought suppression research is somewhat similar to the concept of the return of the repressed. In both cases, people eventually fail in the simple effort to shut certain thoughts out of their minds. The present investigation does not show, however, that projection is based on the failure or inadequacy of repression (cf. Cameron, 1963). We agree that projection is associated with efforts to keep material out of awareness. But rather than signaling a failure of such efforts, projection may simply be a natural consequence of those efforts. Indeed, in Study 6, we found a negative correlation between mentioning the forbidden thought and subsequently projecting it onto others (at least among repressors). In other words, greater success at thought suppression was correlated with greater projection.

The Self and Person Perception

A broader issue concerns the role of self-conceptions in person perception. Most current researchers would agree that there

are important connections between perceptions of self and perceptions of others. Still, most research has focused on the prediction that consciously acknowledged aspects of self are the ones that drive social inferences about others (see Lambert & Wedell, 1991; Markus et al., 1985; Sedikides & Skowronski, 1993; cf. Dunning, Perie, & Story, 1991). The present results suggest that that approach may be overly narrow. Other aspects of the self, such as conceptions of the undesired self (as well as other-self-guides and possible selves), also determine what we see in other people and how we react to them. More precisely, our findings suggest that certain views about the self can influence person perception, despite the fact—indeed, because of the fact—that these are not readily acknowledged features of the self-concept. Unwelcome views about the self may shape one's views of others. The motivational underpinnings of the self-concept, not just its cognitive structure, produce projection.

Conclusion

Defensive projection is one of the oldest psychological theories of motivated cognition. Although generations of scholars from various fields have found the concept intuitively appealing and interpretively useful, there has been little agreement among theorists how projection might operate, and researchers have had difficulty providing evidence that it actually occurs. In the present investigation, we present evidence of defensive projection. People's efforts to defend their self-concepts against threatening implications lead them to perceive others as having the traits they wish to deny in themselves.

Our model of projection is largely faithful to S. Freud's original observations and speculations, but the mediating process has been elaborated to benefit from the intervening generations of research in social and cognitive psychology. The largest apparent difference is that in our model, seeing the threatening traits in others is a by-product of the defensive response rather than actually a vital means of defending the self. Threat elicits defense, defense increases accessibility, and accessibility alters person perception.

Undoubtedly, the enduring interest in projection has been partly due to its implications regarding human social life in general. People dislike certain traits and are particularly loath to believe that they themselves have such traits. It is also clear that they seek to deny some of their faults and to suppress thoughts about evidence that paints them in certain dark colors. Our findings shed light on why these defensive processes may breed interpersonal discord and personal unhappiness: The pursuit of a favorable view of self may ironically result in a more dismal view of one's fellows. Through projection, a person may end up in the highly unenviable position of being surrounded by people who seem to have precisely the traits that the person most despises and most earnestly wishes to deny in himself or

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[9] It is possible, however, that projection has independent affective consequences. A person's decision that other people are better characterized by unwanted traits than he or she is may be a source of positive affect and enhanced self-esteem (see discussion of the false consensus effect in introduction). In fact, it has long been hypothesized that projection reduces stress (see Sherwood, 1981).

herself. The tragedy of defensive projection is that such a person constructs the unappealing social world in which she or he lives.

References

Abboud, H. A. (1991). Superlab (Version 1.4) [Computer software]. Phoenix, AZ: Cedrus Corporation.

Altrocchi, J., Parsons, O. A., & Dickoff, H. (1960). Changes in self–ideal discrepancy in repressors and sensitizers. Journal of Abnormal and Social Psychology, 61, 67–72.

Andersen, S. M., & Cole, S. (1990). Do I know you? The role of significant others in general social perception. Journal of Personality and Social Psychology, 59, 384–399.

Bargh, J. A., Bond, R. N., Lombardi, W. J., & Tota, M. E. (1986). The additive nature of chronic and temporary sources of construct accessibility. Journal of Personality and Social Psychology, 50, 869–879.

Bargh, J. A., & Pietromonaco, P. (1982). Automatic information processing and social perception: The influence of trait information presented outside of conscious awareness on impression formation. Journal of Personality and Social Psychology, 43, 437–449.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator distinction in social psychological research: Conceptual, strategic, and statistical considerations. Journal of Personality and Social Psychology, 51, 1173–1182.

Baumeister, R. F., & Cairns, K. J. (1992). Repression and self-presentation: When audiences interfere with self-deceptive strategies. Journal of Personality and Social Psychology, 62, 851–862.

Bell, P. A., & Byrne, D. (1978). Repression–sensitization. In H. London & J. E. Exner, Jr. (Eds.), Dimensions of personality (pp. 449–485). New York: Wiley.

Bendig, W. (1956). The development of a short form of the Manifest Anxiety Scale. Journal of Consulting Psychology, 20, 384.

Boden, J. M., & Baumeister, R. F. (in press). Repressive coping: Distraction using pleasant thoughts and memories. Journal of Personality and Social Psychology.

Bonanno, G. A., Davis, P. J., Singer, J. L., & Schwartz, G. E. (1991). The repressor personality and avoidant information processing: A dichotic listening study. Journal of Research in Personality, 62, 386–401.

Bornstein, R. F. (1993). Implicit perception, implicit memory, and the recovery of unconscious material in psychotherapy. Journal of Nervous and Mental Disease, 181, 337–344.

Bramel, D. (1962). A dissonance theory approach to defensive projection. Journal of Abnormal and Social Psychology, 64, 121–129.

Brown, L. L., Tomarken, A. J., Orth, D. N., Loosen, P. T., Kalin, N. H., & Davidson, R. J. (1996). Individual differences in repressive–defensiveness predict basal salivary cortisol levels. Journal of Personality and Social Psychology, 70, 362–371.

Cameron, N. (1963). Personality development and psychopathology: A dynamic approach. Boston: Houghton Mifflin.

Chute, D. L. (1991). MacLaboratory for psychology [Computer program]. Devon, PA: MacLaboratory.

Clark, D. M., Ball, S., & Pape, D. (1991). An experimental investigation of thought suppression. Behaviour Research and Therapy, 29, 253–257.

Clark, D. M., Winton, E., & Thynn, L. (1993). A further experimental investigation of thought suppression. Behaviour Research and Therapy, 31, 207–210.

Clore, G. L., Schwarz, N., & Conway, M. (1994). Affective causes and consequences of social information processing. In R. S. Wyer, Jr., & T. K. Srull (Eds.), Handbook of social cognition: Vol. 1: Basic processes (pp. 323–417). Hillsdale, NJ: Erlbaum.

Cohen, J. (1977). Statistical power analysis for the behavioral sciences. New York: Academic Press.

Cramer, P. (1988). The Defense Mechanism Inventory: A review of research and discussion of the scales. Journal of Personality Assessment, 52, 142–164.

Crowne, D. P., & Marlowe, D. (1964). The approval motive. New York: Wiley.

Davis, P. (1990). Repression and the inaccessibility of emotional memories. In J. L. Singer (Ed.), Repression and dissociation: Implications for personality, psychopathology, and health (pp. 387–403). Chicago: University of Chicago Press.

DePaulo, B. M., Epstein, J. A., & Lemay, C. S. (1990). Responses of the socially anxious to the prospect of interpersonal evaluation. Journal of Personality, 58, 623–640.

Dunning, D., Perie, M., & Story, A. L. (1991). Self-serving prototypes of social categories. Journal of Personality and Social Psychology, 61, 957–968.

Edlow, D. W., & Kiesler, C. A. (1966). Ease of denial and defensive projection. Journal of Experimental Social Psychology, 2, 56–69.

Erdelyi, M. H. (1985). Psychoanalysis: Freud's cognitive psychology. New York: Freeman.

Fazio, R. H. (1990). A practical guide to the use of response latency in social psychological research. In C. Hendrick & M. S. Clark (Eds.), Research methods in personality and social psychology: Review of personality and social psychology (Vol. 11, pp. 74–97). Newbury Park, CA: Sage.

Festinger, L. (1957). A theory of cognitive dissonance. Stanford, CA: Stanford University Press.

Fischer, D. G., & Fick, C. (1993). Measuring social desirability: Short forms of the Marlowe–Crowne Social Desirability Scale. Educational and Psychological Measurement, 53, 417–424.

Fiske, S. T., & Taylor, S. E. (1991). Social cognition. New York: McGraw-Hill.

Franz, M. L. von (1980). Projection and re-collection in Jungian psychology. Peru, IL: Open Court.

Freud, A. (1936). The ego and the mechanisms of defence. London: Hogarth Press.

Freud, S. (1957). Instincts and their vicissitudes. In J. Strachey (Ed. and Trans.), The standard edition of the complete psychological works of Sigmund Freud (Vol. 14, pp. 109–140). London: Hogarth Press. (Original work published 1915)

Freud, S. (1962). Further remarks on the neuropsychoses of defense. In J. Strachey (Ed. and Trans.), The standard edition of the complete psychological works of Sigmund Freud (Vol. 3, pp. 157–186). London: Hogarth Press. (Original work published 1896)

Gilbert, D. T., Pelham, B. W., & Krull, D. S. (1988). On cognitive busyness: When person perceivers meet persons perceived. Journal of Personality and Social Psychology, 54, 733–740.

Gleser, G. C., & Ihilevich, D. (1969). An objective instrument for measuring defense mechanisms. Journal of Consulting and Clinical Psychology, 62, 159–167.

Halpern, J. (1977). Projection: A test of the psychoanalytic hypothesis. Journal of Abnormal Psychology, 86, 536–542.

Hansen, R. D., & Hansen, C. H. (1988). Repression of emotionally tagged memories: The architecture of less complex emotions. Journal of Personality and Social Psychology, 55, 811–818.

Heilbrun, A., Jr., & Cassidy, J. (1985). Toward an explanation of defensive projection in normals: The role of social cognition. Journal of Social and Clinical Psychology, 3, 190–200.

Higgins, E. T. (1989). Knowledge accessibility and activation: Subjectivity and suffering from unconscious sources. In J. S. Uleman & J. A. Bargh (Eds.), Unintended thought (pp. 75–123). New York: Guilford Press.

Higgins, E. T. (1991). Development of self-regulatory and self-evaluative processes: Costs, benefits, and trade-offs. In M. R. Gunnard & L. A. Sroufe (Eds.), Self processes and development: Twenty-third

Minnesota Symposium on Child Psychology (pp. 125–165). Minneapolis: University of Minnesota Press.

Higgins, E. T., Bond, R. N., Klein, R., & Strauman, T. (1986). Self-discrepancies and emotional vulnerability: How magnitude, accessibility, and type of discrepancy influence affect. *Journal of Personality and Social Psychology, 51,* 5–15.

Higgins, E. T., & King, G. A. (1981). Accessibility of social constructs: Information processing consequences of individual and contextual variability. In N. Cantor & J. Kihlstrom (Eds.), *Personality, cognition, and social interaction* (pp. 69–121). Hillsdale, NJ: Erlbaum.

Higgins, E. T., King, G. A., & Mavin, G. H. (1982). Individual construct accessibility and subjective impressions and recall. *Journal of Personality and Social Psychology, 43,* 35–47.

Higgins, E. T., Klein, R., & Strauman, T. (1985). Self-concept discrepancy theory: A psychological model for distinguishing among different aspects of depression and anxiety. *Social Cognition, 3,* 51–76.

Higgins, E. T., Rholes, W. S., & Jones, C. R. (1977). Category accessibility and impression formation. *Journal of Experimental Social Psychology, 13,* 141–154.

Holmes, D. S. (1968). Dimensions of projection. *Psychological Bulletin, 69,* 248–268.

Holmes, D. S. (1978). Projection as a defense mechanism. *Psychological Bulletin, 85,* 677–688.

Holmes, D. S. (1981). Existence of classical projection and the stress-reducing function of attributive projection: A reply to Sherwood. *Psychological Bulletin, 90,* 460–466.

Horney, K. (1939). *New ways in psychoanalysis.* New York: Norton.

Juni, S. (1979). Theoretical foundations of projection as a defence mechanism. *International Review of Psychoanalysis, 6,* 115–130.

Kelly, A. E., & Kahn, J. H. (1994). Effects of suppression of personal intrusive thoughts. *Journal of Personality and Social Psychology, 66,* 998–1006.

Lambert, A. J., & Wedell, D. H. (1991). The self and social judgment: Effects of affective reaction and ''own position'' on judgments of unambiguous and ambiguous information about others. *Journal of Personality & Social Psychology, 61,* 884–897.

Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics, 33,* 159–174.

Lavy, E. H., & van den Hout, M. A. (1990). Thought suppression induces intrusions. *Behavioural Psychotherapy, 18,* 251–258.

Lazarus, R. S. (1983). The costs and benefits of denial. In S. Breznitz (Ed.), *The denial of stress* (pp. 1–33). New York: International Universities Press.

Lewis, J. R., Bates, B. C., & Lawrence, S. (1994). Empirical studies of projection: A critical review. *Human Relations, 47,* 1295–1319.

Lombardi, W., Higgins, E. T., & Bargh, J. A. (1987). The role of consciousness in priming effects on categorization: Assimilation versus contrast as a function of awareness of the priming task. *Personality and Social Psychology Bulletin, 13,* 411–429.

Macrae, C. N., Bodenhausen, G. V., Milne, A. B., & Jetten, J. (1994). Out of mind but back in sight: Stereotypes on the rebound. *Journal of Personality and Social Psychology, 67,* 808–817.

Markus, H., & Nurius, P. (1986). Possible selves. *American Psychologist, 41,* 954–969.

Markus, H., Smith, J., & Moreland, R. L. (1985). Role of the self-concept in the social perception of others. *Journal of Personality and Social Psychology, 49,* 1494–1512.

Martin, L. L., Seta, J. J., & Crelia, R. (1990). Assimilation and contrast as a function of people's willingness and ability to expend effort in forming an impression. *Journal of Personality and Social Psychology, 59,* 27–37.

Meleshko, K. G. A., & Alden, L. E. (1993). Anxiety and self-disclosure: Toward a motivational model. *Journal of Personality and Social Psychology, 64,* 1000–1009.

Mendolia, M., Moore, J., & Tesser, A. (1996). Dispositional and situational determinants of repression. *Journal of Personality and Social Psychology, 70,* 856–867.

Merckelbach, H., Muris, P., van den Hout, M., & de Jong, P. (1991). Rebound effects of thought suppression: Instruction-dependent? *Behavioural Psychotherapy, 19,* 225–238.

Mills, J. (1976). A procedure for explaining experiments involving deception. *Personality and Social Psychology Bulletin, 2,* 3–13.

Murray, H. A. (1951). Foreword. In H. H. Anderson & G. L. Anderson (Eds.), *An introduction to projective techniques.* Englewood Cliffs, NJ: Prentice Hall.

Myers, L. B., & Brewin, C. R. (1994). Recall of early experience and the repressive coping style. *Journal of Abnormal Psychology, 103,* 288–292.

Newman, L. S., & Baumeister, R. F. (1993). [The effects of intentional rumination about trait feedback on subsequent person perception]. Unpublished raw data.

Newman, L. S., Duff, K. J., Hedberg, D. A., & Blitstein, J. (1996). Rebound effects in impression formation: Assimilation and contrast effects following thought suppression. *Journal of Experimental Social Psychology, 32,* 460–483.

Ogilvie, D. M. (1987). The undesired self: A neglected variable in personality research. *Journal of Personality and Social Psychology, 52,* 379–385.

Pope, K. S. (1978). How gender, solitude, and posture influence the stream of consciousness. In K. S. Pope & J. L. Singer (Eds.), *The stream of consciousness* (pp. 259–299). New York: Plenum Press.

Rokeach, M. (1945). Studies in beauty: II. Some determinants of the perception of beauty in women. *Journal of Social Psychology, 22,* 155–169.

Rosenthal, R., & Rosnow, R. L. (1985). *Contrast analysis: Focused comparisons in the analysis of variance.* New York: Cambridge University Press.

Ross, L., Greene, D., & House, P. (1977). The ''false consensus effect'': An egocentric bias in social perception and attribution processes. *Journal of Experimental Social Psychology, 13,* 279–301.

Ross, L., Lepper, M. R., & Hubbard, M. (1975). Perseverance in self-perception and social perception: Biased attribution processes in the debriefing paradigm. *Journal of Personality and Social Psychology, 32,* 880–892.

Sandler, J., & Freud, A. (1985). *The analysis of defense: The ego and the mechanisms of defense revisited.* New York: International Universities Press.

Sears, R. (1936). Experimental studies of projection: I. Attribution of traits. *Journal of Social Psychology, 7,* 151–163.

Sedikides, C., & Skowronski, J. J. (1993). The self in impression formation: Trait centrality and social perception. *Journal of Experimental Social Psychology, 29,* 347–357.

Sherman, S. J., Presson, C. C., & Chassin, L. (1984). Mechanisms underlying the false consensus effect: The special role of threats to the self. *Personality and Social Psychology Bulletin, 10,* 127–138.

Sherwood, G. G. (1979). Classical and attributive projection: Some new evidence. *Journal of Abnormal Psychology, 88,* 635–640.

Sherwood, G. G. (1981). Self-serving biases in person perception: A reexamination of projection as a mechanism of defense. *Psychological Bulletin, 90,* 445–459.

Sherwood, G. G. (1982). Consciousness and stress reduction in defensive projection: A reply to Holmes. *Psychological Bulletin, 91,* 372–375.

Stiles, W. B., Shuster, P. L., & Harrigan, J. A. (1992). Disclosure and anxiety: A test of the fever model. *Journal of Personality and Social Psychology, 63,* 980–988.

Strahan, R., & Gerbasi, K. C. (1972). Short, homogeneous versions of

the Marlowe–Crowne Social Desirability Scale. *Journal of Clinical Psychology, 28,* 191–193.

Strauman, T. J. (Ed.). (1994). Psychodynamics and social cognition: Perspectives on the representation and processing of emotionally significant information [Special issue]. *Journal of Personality, 62*(4).

Strauman, T. J., & Higgins, E. T. (1988). Self-discrepancies as predictors of vulnerability to distinct syndromes of chronic emotional distress. *Journal of Personality, 56,* 685–707.

Strauman, T. J., Vookles, J., Berenstein, V., Chaiken, S., & Higgins, E. T. (1991). Self-discrepancies and vulnerability to body dissatisfaction and disordered eating. *Journal of Personality and Social Psychology, 61,* 946–956.

Tabachnick, B. G., & Fidell, L. S. (1983). *Using multivariate statistics.* New York: Harper & Row.

Tublin, S. K., & Weinberger, D. A. (1987, April). *Individual differences in coping processes: A thought sampling approach.* Paper presented at the annual meeting of the Western Psychological Association, Long Beach, CA.

Underwood, B. J. (1975). Individual differences as a crucible in theory construction. *American Psychologist, 30,* 128–134.

Vaillant, G. E. (1977). *Adaptation to life.* Boston: Little, Brown.

Vaillant, G. E. (1993). *The wisdom of the ego.* Cambridge, MA: Harvard University Press.

Wegner, D. M. (1992). You can't always think what you want: Problems in the suppression of unwanted thoughts. In M. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 25, pp. 193–225). San Diego, CA: Academic Press.

Wegner, D. M. (1994). Ironic processes of mental control. *Psychological Review, 101,* 34–52.

Wegner, D. M., & Erber, R. (1992). The hyperaccessibility of suppressed thoughts. *Journal of Personality and Social Psychology, 63,* 903–912.

Wegner, D. M., Schneider, D. J., Carter, S. R., III, & White, T. L. (1987). Paradoxical effects of thought suppression. *Journal of Personality and Social Psychology, 53,* 5–13.

Wegner, D. M., Schneider, D. J., Knutson, B., & McMahon, S. R. (1991). Polluting the stream of consciousness: The effect of thought suppression on the mind's environment. *Cognitive Therapy and Research, 15,* 141–152.

Wegner, D. M., Shortt, J. W., Blake, A. W., & Page, M. S. (1990). The suppression of exciting thoughts. *Journal of Personality and Social Psychology, 58,* 409–418.

Wegner, D. M., & Zanakos, S. (1994). Chronic thought suppression. *Journal of Personality, 62,* 615–640.

Weinberger, D. A. (1990). The construct validity of the repressive coping style. In J. L. Singer (Ed.), *Repression and dissociation: Implications for personality, psychopathology, and health* (pp. 337–386). Chicago: University of Chicago Press.

Weinberger, D. A., & Davidson, M. N. (1994). Styles of inhibiting emotional expression: Distinguishing repressive coping from impression management. *Journal of Personality, 62,* 587–613.

Weinberger, D. A., Schwartz, G. E., & Davidson, R. J. (1979). Low-anxious, high-anxious, and repressive coping styles: Psychometric patterns and behavioral and physiological responses to stress. *Journal of Abnormal Psychology, 88,* 369–380.

Wells, W. D., & Goldstein, R. L. (1964). Sears' study of projection: Replications and critique. *Journal of Social Psychology, 64,* 168–179.

Westen, D. (1992). The cognitive self and the psychoanalytic self: Can we put our selves together? *Psychological Inquiry, 3,* 1–13.

Wyer, R. S. Jr., & Srull, T. K. (1981). Category accessibility: Some theoretical and empirical issues concerning the processing of social stimulus information. In E. T. Higgins, C. P. Herman, & M. P. Zanna (Eds.), *Social cognition: The Ontario Symposium* (Vol. 1, pp. 161–198). Hillsdale, NJ: Erlbaum.

Appendix A

Ambiguous Behaviors in Study 3[A1]

Possibly Mean Behaviors

Jennifer's lab partner had been away at a relative's funeral, and he had not had time to do the final assignment. But when he asked Jennifer if he could copy from her, Jennifer acted without hesitation. All students had signed an Honor Code at the beginning of the semester, so she reported the incident to the instructor. (*honest*)

The team had just run 10 miles, but Coach Thompson was not happy with their performance. The first game was in just a few days, and he felt the players were not ready. He announced that they would have to do push-ups, followed by a sprint up and down the stadium steps. (*strict*)

Possibly Lazy Behaviors

The test was going to be given in only a couple of days, but Eva had not yet done any studying. She had spent every night that week helping her friend move, even though her friend had said she would understand if Eva felt she had no time. (*helpful*)

Bob had still not done any of the reading for his history class. He finally sat down to begin but then noticed that the evening news had begun. A major story was developing. Bob put his books aside and moved over to the television set to watch. He decided it was important to follow the story and got no reading done that night either. (*concerned*)

Possibly Obnoxious Behaviors

The party had been going on for quite some time when Roger got there, but he spotted two people he thought he knew standing in a corner talking earnestly. He sprinted over and joined them, singing along to the jukebox while doing so. (*friendly* or *outgoing*)

Mr. Higgins was clearly not interested in Gordon's proposal, but Gordon would not be deterred. He even called Mr. Higgins up a number of times over the weekend and would not take no for an answer. (*persistent*)

Possibly Self-Centered Behaviors

Ronda and her friends were sitting around discussing the chemistry midterm. When asked, she admitted to them that she thought she would get the highest grade. (*confident*)

Erik was a music lover, and had been carefully saving up money for quite a while to buy a CD player. So when the letter arrived asking for donations to help build some ramps to help out handicapped students at his university, he looked it over and threw it away. (*thrifty* or *self-disciplined*)

[A1] Alternative favorable interpretations are in parentheses after each paragraph.

Appendix B

Ambiguous Behaviors in Study 4[B1]

Possibly Mean Behaviors

Jennifer's lab partner had been away at a relative's funeral, and he had not had time to do the final assignment. He asked Jennifer if he could look over her answers. She refused, and because all students had signed an Honor Code at the beginning of the semester, Jennifer acted without hesitation: She reported the incident to the instructor. (*honest*)

The team had just run 10 miles, but Coach Thompson was still not satisfied. He called the players "sissies" and announced that they would have to do push-ups, followed by a sprint up and down the stadium steps. (*strict*)

Possibly Lazy Behaviors

The test was going to be given in only a couple of days, but Eva had not yet done any studying. Even though her friend had said she would understand if Eva felt she had no time, Eva had spent every night that week helping her friend unpack boxes in her new apartment. (*helpful*)

One night, Bob finally sat down to do some of the reading for his history class. But then he noticed that a major story about a famine overseas was being reported on TV. Bob put his books aside and moved over to the television set to watch. He decided it was important to follow the story and got no reading done that night either. (*concerned*)

Possibly Obnoxious Behaviors

The party had been going on for quite some time when Roger got there, but he spotted two people he thought he knew standing in a corner talking earnestly. He sprinted over and stood between them, singing along to the jukebox while doing so. (*friendly* or *outgoing*)

Mr. Higgins was clearly not interested in Gordon's proposal, but Gordon would not take no for an answer. Although he had been asked not to, Gordon even called Mr. Higgins up at home that night and a number of times over the weekend. (*persistent*)

Possibly Selfish Behaviors

The people from next door asked Tim if he would please join them on Saturday to protest the treatment of their neighbors, an elderly couple being evicted because one of their rent checks had bounced. Tim told them he could not spare the time, because he had decided to take his family on a drive that day. (*family oriented*)

Music was Wayne's passion, and he had been carefully saving up money for quite a while to buy a CD player. So when a letter arrived asking for donations to help build some wheelchair ramps for handicapped students at his university, he thought it over carefully but decided he could not contribute. He threw the letter away. (*thrifty* or *self-disciplined*)

[B1] Alternative favorable interpretations are in parentheses after each paragraph.