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Covering Up What Can't Be Seen: Concealable Stigma and Mental Control

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In these studies the authors examined the effects of concealing a stigma in a social interaction relevant to the stigma. An interview paradigm called for undergraduate female participants who either did or did not have eating disordered characteristics to play the role of someone who did or did not have an eating disorder (ED) while answering stigma-relevant questions. The data suggest that the participants who concealed their stigmas become preoccupied with the control of stigma-relevant thoughts. In Study 1, participants with an ED who role-played not having an ED exhibited more secrecy, suppression, and intrusive thoughts of their ED and more projection of ED-related thoughts onto the interviewer than did those with an ED who role-played someone with an ED or those without an ED who role-played someone without an ED. This finding was replicated in Study 2, and the authors found both increasing accessibility of ED-related words among those participants with concealed stigmas during the interview and high levels of accessibility following the interview.

People who have a stigma that can be hidden—a *concealable stigma*—may be highly motivated to engage in a deliberate effort to conceal the stigma. Goffman (1963) referred to this activity as "passing" and observed that being able to conceal a socially devalued aspect of the self may be viewed by the people with these types of stigmas as highly advantageous in social interactions. It may enable them to minimize the impact of their stigma on others' judgments of them and be accepted as "normal." Trying to influence what is revealed or not revealed about oneself in social interaction, however, demands a great deal of mental control. In the effort to hide something important about themselves, individuals who have concealable stigmas may face an internal struggle that can have serious costs. The present studies are a first step in determining the cognitive and interpersonal effects that may occur as a result of keeping stigma a secret.

Stigma is commonly defined as some characteristic individuals possess (or are believed to possess) that conveys a social identity that is devalued in a particular social context (Crocker, Major, & Steele, 1998). Our research focuses on stigmas with the property of *concealability,* the capacity to be hidden from others (Jones et al., 1984). Goffman (1963) believed that concealability is crucial in understanding the experiences of stigmatized individuals during mixed-contact interactions—the times when stigmatized and nonstigmatized individuals are in the same social situation. The primary focus for our studies was the mental life of the person whose stigma is not able to be detected on superficial inspection and so can be concealed in the course of social interaction.

Preoccupation With Concealable Stigma

The theory underlying this research derives from the work of Lane and Wegner (1995; see also Pennebaker, 1990; Wegner, 1989; Wegner & Erber, 1993; Wegner & Lane, 1996; Wegner, Lane, & Dimitri, 1994) on the cognitive effects of keeping secrets. Their findings support a *preoccupation model of secrecy* in which attempts at secrecy activate a set of cognitive processes that lead to an obsessive preoccupation with the secret. This happens because the first step in the process of keeping a secret is to suppress thoughts of the secret topic. Thought suppression can be an effective way to maintain a secret at first, because temporarily pushing the secret thought out of mind allows for attention to be focused on redirecting the conversation away from the secret topic and on attempting to appear as sincere and truthful as possible.

The next step in the secrecy cycle, however, is that attempts at thought suppression lead to intrusive thoughts of the very thing that the secret keeper is trying to keep out of mind. This effect has been observed repeatedly (e.g., Wegner, 1992; Wegner, Erber, & Zanakos, 1993; Wegner, Schneider, Carter, & White, 1987) and is an example of a more general ironic tendency for unwanted mental contents to occur precisely because they are unwanted (Wegner, 1994). The attempt to suppress a thought yields high levels of accessibility of that thought, which fuels automatic intrusions. People with concealable stigmas, then, may not have conscious thoughts of their stigmas all of the time but rather experience thoughts of their stigmas as periodic intrusions as they try not to think about them.

The thought intrusions result in renewed attempts to try to keep the secret thoughts out of consciousness. The initial motivation for

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the suppression—to keep the thought out of mind in service of trying to maintain the secret—is then joined by the motive to reduce the distress and anxiety provoked by having the intrusive thought (Wegner & Gold, 1995). This yields the last stage of preoccupation with the secret thought, in which thought suppression and thought intrusion occur cyclically in response to each other. This cycle yields a continuing preoccupation with the secret that is likely to persist beyond the circumstances that originally prompted the secrecy and indeed even after the secret has been revealed (e.g., Wegner et al., 1994).

The preoccupation model of secrecy is useful in understanding how concealability impinges on the experiences of those who are stigmatized. It suggests that when one has a concealable stigma and tries to hide it, this secret can become highly accessible. Those social situations that require active concealment are likely to be particularly trying, as they should intensify suppression and the resulting increased accessibility. The enhancement of the accessibility of an unwanted thought, in turn, could yield a variety of effects: most notably intrusive thoughts and further suppression (Wegner & Smart, 1997), but also a general focus on the stigma and even tendencies to project the stigma onto others (Newman, Baumeister, & Duff, 1997). Unlike individuals with conspicuous stigmas who must cope with the real and anticipated reactions of others, those with concealable stigmas who attempt to pass as normal are saddled with preoccupation in the attempt to hide their stigmatizing condition.

Research on secrecy and suppression has not established, however, precisely how such preoccupation may arise or how it could influence behavior in the case of concealable stigmas. In prior secrecy studies (Lane & Wegner, 1995; Wegner et al., 1994) researchers have examined either laboratory-imposed secrets, as when participants are asked to keep a secret from the experimenter or from other participants, or past secrets, as when participants are asked to reflect on illicit or secret relationships that no longer exist. The study of preoccupation as it may occur in vivo among individuals who are compelled by circumstance to hide their own stigmatization has not yet been undertaken.

Effects of Conspicuous and Concealable Stigmatization

Prior conceptions of stigma have not encompassed its potential for producing preoccupation. This is because the focus of most research on the effects of possessing a stigma has been on the experience of the visibly stigmatized and, more particularly, on their concern about the negative behaviors of others and their reactions to such behaviors. Sibicky and Dovidio (1986), for example, found that when people were told that their conversational partner was recruited from either a group of people seeking psychological therapy (clients) or students from an introductory psychology course (nonclients), people who were paired with supposed clients behaved more negatively toward their partner. These behaviors, in turn, led to a self-fulfilling prophecy effect for those who were labeled clients. They were rated by judges as behaving in a less socially desirable manner than the nonclients.

Visibly stigmatized people must, of course, think and worry about the negative evaluations and behaviors of others. For instance, believing that others were aware of their status caused patients in a psychiatric hospital to feel less appreciated (Farina, Gliha, Boudreau, Allen, & Sherman, 1971). Behavioral confirmation of the stereotypes of the mentally ill also occurred, as these individuals were perceived by an observer to be more tense, anxious, and poorly adjusted. Kleck and Strenta (1980) found, in turn, that participants who thought that another person believed they possessed a physical stigma (a facial scar) felt and behaved more negatively during an interaction with the other person even though the scar was never in fact visible. These studies suggest that the deleterious consequences of a conspicuous stigma on social behavior may be due in part to how the person who possesses the trait thinks others will react to it, not just to how they are actually treated. Still, this concern seems to fall short of a genuine preoccupation.

Evidence that stigma concealability might prompt one kind of preoccupation has been provided by Frable, Blackstone, and Scherbaum (1990). These researchers examined the concealability of *master status conditions*—statistically unusual characteristics that, unlike stigma, may be either positive or negative. Pairs of people (one with a master status and one without) sat in a room together for 5 min while their interaction was surreptitiously recorded. When participants were then separated and asked to recall what that they could about the interaction, those with visible master characteristics tended to focus on the room and on their partner's appearance. People with concealable master characteristics, however, focused more on the conversation by taking their partner's perspective, making frequent references to the conversation, and spontaneously remembering what their partner said. Frable et al. (1990) speculated that the conspicuously stigmatized people focus on an already spoiled interaction, whereas those with concealed stigmas need to keep the interaction from being spoiled and try to prevent such an occurrence by managing the conversation and paying close attention to what is being said.

This special attention to conversation management is a key part of the task of the person with a concealable stigma. As Jones et al. (1984) noted, "The effects of asymmetrical knowledge may show themselves in the awkward reticence of the markable [stigmatized], as he closes off entire areas of conversation to avoid revealing the nature of his mark" (p. 186). Regular concern with such conversation management would seem likely to produce stress in social interaction (Goffman, 1963; Leary, 1995), and this could be compounded by the reactions of interaction partners, who may become suspicious of a relative lack of disclosure (Herek, 1996). Certainly, it would seem that a person with a concealable stigma would need to think about—and not think about—the stigma often during each such interaction.

Such preoccupation could be mentally taxing. People with concealable stigmas might be so distracted by their impression management and mental control tasks that they suffer in the performance of other cognitive tasks. Such cognitive performance effects have been observed repeatedly for conspicuous stigmas (e.g., Farina et al., 1971; Lord & Saenz, 1985). It is also possible to view the findings of Steele and Aronson (1995) in this light. In their studies, African American students who were led to focus their attention on the significance of their performance in light of negative stereotypes about their racial group exhibited performance deficits. It is not clear whether these participants viewed their stigmas as being conspicuous or concealed in this setting, but Steele and Aronson did find an increase in the accessibility of stereotype- and failure-related thought among the very participants who suffered these performance declines.

Perhaps in some cases, harboring a concealable stigma is more costly to an individual than suffering the social consequences of stigma visibility. When a concealable stigma is not as disapproved by others as the stigmatized person imagines, for example, the social consequences of the stigma could be insubstantial, even when the person suffers from preoccupation with the stigmatizing condition. Frable, Platt, and Hoey (1998) found in this regard that people with concealable stigmas have lower self-esteem than do those with conspicuous stigmas. The preoccupation model would suggest that under conditions where preoccupation is more costly than the actual negative social conditions produced by disclosure, concealed stigmatization could be more harmful than conspicuous stigmatization.

Present Research

In our studies, we applied the preoccupation model of secrecy to the psychological consequences of concealable stigma in social interaction. We used an interview paradigm to examine if the attempt to keep a concealable stigma hidden may set into motion the same processes that operate when someone tries to keep any kind of secret. We hypothesized that in trying to keep the stigma from being revealed, people also will try to keep their stigmas out of their own minds. These attempts at thought suppression should lead to an increase in the accessibility of the thoughts and to an increase in the intrusiveness of stigma-related thoughts. We also tested some potential consequences of the accessibility of such thoughts. We assessed the tendency to project these thoughts and behaviors onto the interviewer (Newman, Baumeister, & Duff, 1997). We also examined whether maintaining a concealable stigma impairs effectiveness in social interaction as perceived by others and (in Study 2) whether it impairs cognitive performance.

For both studies, we examined the concealable stigma of having characteristics of the eating disorders (EDs) of anorexia nervosa and/or bulimia nervosa. The stigma of an ED falls under Goffman's (1963) category of "blemishes of character." Disordered eating behaviors are commonly hidden from others, likely to be accompanied by self-reports of shame, and widely disapproved (e.g., Sanftner, Barlow, Marschall, & Tangney, 1995; Silberstein, Striegel-Moore, & Rodin, 1987). Of course, EDs are also diagnosable mental illnesses (American Psychiatric Association, 1994), a more broadly stigmatizing condition. The reason for choosing eating-disordered characteristics as the concealable stigma was that pretesting revealed that having signs of an ED was a potential stigma that a notable percentage (approximately 5–7%) of undergraduate women research participants confessed to having. In addition, the majority of women who indicated that they had these characteristics also reported that they were motivated to keep this information about themselves hidden from others. The abnormal patterns of behavior and thought processes that people with these disorders share (e.g., hiding food, eating unusual quantities of food, or needing to find secret places to purge) often necessitate keeping this information about themselves hidden from others (Abraham & Llewellyn-Jones, 1992). The women recruited for the present studies revealed pathognomonic signs of EDs in their pretesting responses but were not clinical samples. Although some of the participants were very thin, it was not obvious on the basis of appearance that these women may have thoughts and behaviors characteristic of having an ED.

Study 1

Participants took part in an interview for which they were asked either to play the role of someone who has an ED or to play the role of someone who does not have one. The interview began with several neutral questions and then progressively became more relevant to EDs. It included questions about the participants' exercise regimen, eating behaviors, and body image. Women who actually did have an ED as well as those who did not were recruited, and they were randomly assigned to role-play either having an ED or not having one for the interview. Participants completed postexperimental questionnaires that they were asked to complete truthfully (i.e., not role-playing), and audiotapes of the interviews were analyzed by judges blind to participants' actual and role-played ED status.

Method

Participants

Undergraduate women enrolled in an introductory psychology course at the University of Virginia, 29 of whom reported having eating-disordered characteristics of anorexia nervosa and/or bulimia nervosa and 32 of whom did not, participated to fulfill a course requirement. Individuals were recruited on the basis of their responses to a screening measure that they had completed in a pretesting session at the beginning of the semester. The three statements used to assess whether they had ED characteristics were "I am terrified of being overweight," "There have been times when I have vomited or taken laxatives after eating in order to purge," and "I am always concerned with a desire to be thinner." Those women who responded with a 6 or greater on a 7-point scale (with 1 = *not at all true* and 7 = *very true*) to each of the three questions were defined for the purposes of the study to have an ED. The women who responded with a 1 to each of the three questions were defined for the study as not having an ED. In addition, those participants with an ED also had all indicated that no one or very few people in their lives knew this information about them and that they would be moderately to extremely reluctant to disclose this information to a random other student. All participants were administered the Multidimensional Eating Disorder Inventory (Garner, Olmstead, & Polivy, 1983) after the experimental session. The ED sample scored significantly higher than did the no-ED sample on the subscales of Drive for Thinness (M = 13.96 vs. 0.53), $F(1, 57) = 216.03$, $MSE = 12.70$, $p < .01$; Bulimia (M = 5.50 vs. 0.16), $F(1, 57) = 38.67$, $MSE = 11.22$, $p < .01$; and Body Dissatisfaction (M = 18.46 vs. 2.41), $F(1, 57) = 121.11$, $MSE = 32.27$, $p < .01$.

Preoccupation Measures

Self-report ratings were used to assess levels of secrecy, thought suppression, thought intrusions, and projection of ED-relevant thoughts after the interview. Secrecy was rated through each participant's response to the question "Did you actively try to keep your eating habits and/or thoughts about your body image a secret?" Thought suppression was tapped by the question "How often did you feel like you were pushing thoughts of your eating habits or body image out of your mind?" Participants indicated the frequency for both of these on 7-point scales ranging from 1 (*not at all*) to 7 (*very often*). To assess the amount of thought intrusion experienced in the interview, we created an index of thought intrusion. It was formed by taking the ratio of the rating on the question "How often did thoughts of your eating habits or body image 'pop' into mind?" to the sum of ratings on this question and the question "How often did you try to think about your eating habits or body image during the interview?" In past research, Lane and Wegner (1995) found that self-reports of different kinds of thinking—intrusive and intentional—tend to be correlated and that a ratio

of this kind can isolate the relative intrusiveness of thought more effectively than a report of intrusion by itself. The questions used to measure thought intrusion and intentional thinking were answered on 7-point scales ranging from 1 (*not at all*) to 7 (*very often*).

A measure of projection was created by summing the ratings on the questions (a) "How perfectionistic do you think your partner is?" (b) "How concerned do you think your partner is with her body image?" and (c) "How often do you think your partner tries to control her eating behavior?" The first two items were answered on a scale ranging from 1 (*not at all*) to 7 (*extremely*), and the rating scale of the third item had endpoints of 1 (*not at all*) and 7 (*very much*). The three-item projection measure was reliable (Cronbach's $\alpha = .81$).

Procedure

When participants arrived at the experimental session, they were greeted by a female experimenter and told that they would take part in an interview, as the study concerned how people get to know one another. The participants then were assigned to be interviewed by another student, who was actually a confederate trained to conduct the interview. This assignment to be either an interviewer or interviewee was supposedly random, with the experimenter saying to both the participant and confederate, "For the interview, we have people be either the interviewer or the interviewee. For this session, you, [confederate's name], have been assigned to be the interviewer and you, [participant's name], will be the interviewee." In actuality, this was not a random assignment, as the participant was always assigned to be the one who was interviewed. A consent form was given to both the participant and the confederate at this time. On the consent form, the study was described as follows: "You will converse with another participant about some of your activities and opinions. You may be asked to discuss topics such as your eating behaviors, exercise regimen, and body image."

At this point, the experimenter explained that because the interviewer and interviewee each had different tasks, she would like to talk to them separately. The experimenter then handed the confederate the interview questions and asked her to take a seat in the hallway outside of the experiment room and browse through the questions. When the experimenter returned she explained that for the interview, each interviewee was asked to role-play either someone with an ED or someone without one. These roles were used to operationalize visibility of the stigma. The participants who were assigned to play the role of having an ED and who actually did have one were considered to have their stigma conspicuous. Those who actually had an ED and were instructed to play the role of not having one were considered to have their stigma concealed. The purpose of this role-playing approach was to allow the ED participants to have the psychological experience of hiding or revealing details about their ED but also to avoid having them feel that they were forced to disclose information about themselves that they would have preferred to have kept hidden. Participants played their role while thinking that the confederate believed their answers were real, but they also knew that they could disavow their responses as having been part of the role-play once the interview was over. In all conditions, the confederate was blind to the participants' actual ED status.

To make the role-playing clear for all participants, it was important to define what was meant by an ED. For this purpose, the experimenter read descriptions aloud of someone with an ED and someone without one. The ED profile read as follows:

> People with the eating disorders of anorexia nervosa or bulimia nervosa are generally characterized by obsessive–compulsive behaviors in relation to food and their bodies. Some behaviors that they typically may engage in are exercising for several hours a day, regulating their caloric intake daily, refusing to eat food even when they are hungry, or eating excessively and then purging by vomiting, laxative use, or excessive exercise.

The no-ED profile read as follows:

> People who do not have eating disorders generally eat for nourishment, enjoy eating, and if they exercise, they do so to maintain a healthy lifestyle.

Participants were told that the interviewer was not aware at this time that they were playing a role. The participants were therefore under the impression that the interviewer would believe that they did or did not have an ED, depending on which role they were assigned to play.

The interview began with several neutral questions (e.g., "What do you like most so far about being in college?"). As the interview progressed, the questions became increasingly more relevant to the participant's stigma (e.g., "Do you eat regular meals?" "Sometimes people have problems with self-control; is there any part of your life where you have self-control problems?" "Does anyone [e.g., friends, roommates, family] ever tell you that you have unusual eating habits?" "What do you think is your level of concern about your body weight and shape as compared with other women your age?" "Have you ever had a time when you weighed much less than other people thought you ought to weigh? If so, were you very afraid that you could become fat?" "What do you think it would be like to be overweight?").

Following the role-play, participants were asked to respond truthfully (i.e., no longer in their role) to self-report measures. The first measure included the self-report items mentioned earlier. The other measure was the ED screening measure used in pretesting. On completion of the questionnaires, participants were asked to put the forms in an envelope that had only a participant number on it. The experimenter emphasized that the participant's name would not be associated with any personal information that she provided in the study.

After the participants completed these measures, the experimenter verbally administered a postexperimental inquiry to determine whether the participants were suspicious in any way about the hypotheses or the confederate; none were. The debriefing immediately following involved first a verbal and then a written explanation. The experimenter explained that the interviewer was a confederate and went over the reasons for using a confederate rather than another participant. The experimenter also explained that the interviewer was fully aware that each participant was assigned to play a role. The written debriefing provided a detailed description of the study, including who was recruited, what the research questions were, and what the predictions were for each task.

An important part of the debriefing was to make sure that the participants did not leave the session with negative feelings about the study. Several measures were taken to reduce the chances of this occurring. The experimenter gave assurances of confidentiality. She explained that people both with and without EDs were recruited for the study and that she did not know which condition each participant was in at the time of the study. Each participant was given a list of resources to contact if there were any issues that were brought up during the study that she might want to discuss further with a professional counselor. A follow-up call was also made to all of the participants who had EDs. Inquiries were made about how they felt about the experiment in retrospect, and no negative reactions were observed.

Social Interaction Ratings

Four independent female judges who were naive to experimental condition rated the interpersonal functioning of each participant on the basis of the audiotaped interviews. Twelve dimensions were rated on a 7-point scale ranging from 1 (*not at all*) to 7 (*very much*). Following each dimension label, a description was provided for the judges. The dimensions were depth of response (How much did she elaborate, fully explain her responses?), emotionality (How much emotion did she express?), engagement (Did she seem involved in the conversation or did she seem detached or disinterested? How responsive did she seem?), anxiety (Overall anxiety, may include behaviors such as speech hesitancy, disfluencies such as

stammering, uhs, umms, and nervous laughter), concealing (How much did she seem like she was concealing information? Did she act as if she was trying to hide something about herself?), know (How much do you feel like you got to know this person?), likeability (How much do you like her?), uncomfortable (How uncomfortable did she seem?), defensive (How defensive did she seem? Signs of defensiveness may include hesitancy, quick responses, abrupt tone, or redirecting the questions back to the interviewer), neuroticism (How neurotic did she seem? Strange, peculiar, out of the ordinary), hesitations (How much did she hesitate when responding?), and disfluencies (How many speech disfluencies did she have? Umm, etc.).

Results and Discussion

Preoccupation Measures

Secrecy. The rating of secrecy is akin to a manipulation check in this paradigm, as it taps the key variable that promotes preoccupation. Thus, in this setting, concealing a stigma was indeed linked to self-reported concern with secrecy (see Table 1). An analysis of variance (ANOVA) on the secrecy measure showed a main effect of actual ED status, $F(1, 57) = 30.86$, $MSE = 2.68$, $p < .001$, and actual ED participants reported more secrecy about eating-related thoughts in the interview ($M = 4.96$) than did participants without an actual ED ($M = 2.62$). A significant interaction was also found, $F(1, 57) = 12.89$, $p < .001$, with significant simple main effects. Actual ED participants role-playing no ED (the concealed stigma group) had higher rated secrecy ($M = 5.71$) than did no-ED participants role-playing no ED ($M = 1.87$), $F(1, 57) = 41.87$, $p < .001$, and tended to report higher secrecy than did ED participants role-playing an ED ($M = 4.20$), $F(1, 57) = 3.65$, $p < .07$. Also, probably because they were being deceptive to feign an ED, the no-ED participants reported greater secrecy ($M = 3.37$) when role-playing an ED than when role-playing no ED ($M = 1.87$), $F(1, 57) = 4.43$, $p < .05$.

Thought suppression. The item measuring thought suppression showed a main effect of actual ED, and actual ED participants reported more suppression of thoughts about the ED ($M = 4.62$) than did no-ED participants ($M = 3.03$), $F(1, 57) = 13.06$, $MSE = 2.95$, $p < .001$. As expected, the interaction of actual stigma and role-play was significant, $F(1, 57) = 11.54$, $p < .01$, revealing enhanced suppression in the concealed stigma condition (see Table 1). Simple main effects revealed that the actual ED participants reported more thought suppression when they were playing the role of not having an ED ($M = 5.71$) than when they were playing the role of having an ED ($M = 3.53$), $F(1, 58) = 9.16$, $p < .005$. Among participants role-playing no ED, those with an ED reported greater suppression ($M = 5.71$) than did those with no actual ED ($M = 2.62$), $F(1, 58) = 22.91$, $p < .001$.

Thought intrusion. A marginally significant interaction of ED status and role-playing condition was found, $F(1, 57) = 3.95$, $MSE = .01$, $p < .06$ (see Table 1). Significant simple effects revealed that those ED women who role-played no ED ($M = .63$)—the concealed stigma group—had more intrusiveness of ED thoughts than did ED women who role-played an ED ($M = .54$), $F(1, 58) = 4.35$, $p < .05$, and than did no-ED women who role-played no ED, ($M = .54$), $F(1, 58) = 4.33$, $p < .05$.

Projection. A significant main effect was found for role-play condition on projection, $F(1, 57) = 11.84$, $MSE = 8.24$, $p < .001$. Actual ED and no-ED participants playing the role of no ED were more inclined to report that the interviewer had an ED ($M = 12.31$) than were those playing the role of having an ED ($M = 9.78$). There was a marginally significant interaction, $F(1, 57) = 3.66$, $p < .07$, indicating a tendency for this trend to be stronger among actual ED participants (see Table 1). A significant simple effect, $F(1, 58) = 13.82$, $p < .01$, showed that the women with an ED who played the role of someone without an ED projected their concerns onto the interviewer ($M = 13.14$) more than did those with an ED who were playing the ED role ($M = 9.20$). In other words, the participants with concealed stigmas rated the (confederate) interviewer higher on a set of questions about her likelihood of having an ED—evaluating the interviewer's perfectionism, concern with her body image, and control of eating behavior—than did those whose stigmas were being revealed, even though her behavior for all participants was scripted and did not vary by condition.

Correlations. Simple correlations between the self-report post-experimental measures showed a relationship between secrecy and suppression of ED-related thoughts, $r(61) = .62$, $p < .001$. There was also a correlation between thought suppression and thought intrusion, $r(61) = .51$, $p < .01$, and between secrecy and thought intrusion, $r(61) = .44$, $p < .01$. As in the studies by Lane and Wegner (1995; see also Wegner et al., 1994), the secrecy, suppression, and intrusion of thoughts were highly interrelated. This indicates that participants who reported trying to keep secret their thoughts about their eating habits and body image also reported suppressing and having more intrusive thoughts about these topics. It is not clear, of course, whether secrecy induces thought suppression, which yields thought intrusion, as we propose, or whether some other causal relationship applies. However, it seems reasonable to propose that the causal relationships underlying these effects quickly become bidirectional as the cycle of thought suppression grows (cf. Wegner & Zanakos, 1994).

Table 1
Preoccupation Measures in Study 1

	Actual stigma		Actual no stigma	
Measure	Role-play stigma ($n = 15$)	Role-play no stigma ($n = 14$)	Role-play stigma ($n = 16$)	Role-play no stigma ($n = 16$)
Secrecy	4.20	5.71	3.37	1.87
Thought suppression	3.53	5.71	3.44	2.62
Thought intrusion	0.54	0.63	0.57	0.54
Projection	9.20	13.14	10.38	11.50

Finally, it is worth noting that there was a significant correlation between thought suppression and projection, $r(61) = .25, p < .05$, indicating that efforts to suppress ED-related thoughts were associated with believing that these attributes applied to the interviewer. No other correlations among these variables were significant.

Social Interaction Ratings

The effective reliabilities for the rated dimensions were all at an acceptable level (ranging from .63 to .81), and separate ANOVAs were computed for each dimension. The pattern that arose was for participants role-playing an ED to be perceived as less effective in the interaction.

For the rating of how uncomfortable the participants were, there was a main effect for role-play, $F(1, 56) = 10.47$, $MSE = 1.25$, $p < .01$. Those playing the role of having an ED were viewed as being more uncomfortable ($M = 3.81$) than those playing the role of not having an ED ($M = 2.87$). The interaction was also significant, $F(1, 56) = 4.92$, $p < .05$. The simple effect for role-play within having an ED was significant, $F(1, 57) = 13.74$, $p < .01$, indicating that when ED participants were playing the role of having an ED, they appeared more uncomfortable ($M = 3.90$) than when they were playing the role of not having an ED ($M = 2.32$). When participants were playing the role of not having an ED, they were viewed as being less uncomfortable when they actually had an ED ($M = 2.32$) than when they did not ($M = 3.42$), $F(1, 57) = 5.51$, $p < .05$. This finding is not consistent with our hypothesis that concealable stigmas might create awkward social interaction; instead, it contradicts that hypothesis.

For the rating of how neurotic the participants seemed, there was a main effect for role-play, $F(1, 56) = 22.46$, $MSE = .86$, $p < .01$. Those playing the role of having an ED were rated more neurotic ($M = 3.19$) than those playing the role of not having an ED ($M = 2.05$). There was also a significant interaction between actual ED and role-play ED, $F(1, 56) = 3.96$, $p = .05$. The simple effect was significant for role-play within having an ED, $F(1, 57) = 21.85$, $p < .01$. Those participants who had an ED and were playing the role of having one were viewed as being more neurotic ($M = 3.33$) than were those playing the role of not having an ED ($M = 1.71$). Thus, again, the hypothesis that concealing a stigma would hamper interaction ability was disconfirmed.

The rating of emotionality yielded a significant interaction of actual ED and role-play, $F(1, 56) = 3.74$, $MSE = 0.85$, $p = .05$, but no simple effects were significant. Among participants with an ED, those who were role-playing not having an ED were rated as being more emotional ($M = 3.93$) than were those who were role-playing having an ED ($M = 3.38$). For participants who did not have an ED, those playing the no-ED role were rated as being less emotional ($M = 3.36$) than were those who were playing the ED role ($M = 3.73$). No other social interaction rating effects reached significance, so the conclusion suggested by these data is that concealing a stigma does not have the hurtful influence we had imagined, at least in this paradigm. These data reveal, counter to our expectation, that those who are stigmatized and are keeping it a secret from the interviewer were perceived as being somewhat more comfortable and less neurotic than those in the other conditions.

These results provide support for the appropriateness of applying the secrecy model to predict increased thought suppression and thought intrusion for those with concealed stigmas. They also suggest the possibility that such individuals experience projection of their stigma onto others, although there is little suggestion from this study that these cognitive effects lead to any negative interpersonal consequences.

Study 2

The purpose of this study was to reexamine the effects of concealing a stigma, this time with a special focus on the accessibility of stigma-relevant thoughts. In Study 1, we found that when undergraduate women were trying to keep their EDs hidden, they engaged in more thought suppression and experienced more intrusive thoughts and projection than did the women who were not trying to keep their EDs hidden or did not actually have an ED. The emphasis for this second study was whether these effects were accompanied by increased accessibility of ED-relevant thoughts, as measured during the interview with a word-completion task and after the interview with a Stroop (1935) color-naming interference task.

The word-completion task involved four measures interspersed throughout the interview, each of which tapped the accessibility of ED-relevant thoughts by assessing participants' tendencies to complete word fragments with letters yielding such thoughts (e.g., __ATTY). This allowed us to assess the accessibility of the thoughts during the process of concealment of the stigma. Although word-completion measures are convenient to administer during an interview, they are open to criticism as measures of automatic activation (cf. Bargh & Chartrand, in press). Participants may become conscious of the ED relevance of the items, and without extensive and potentially reactive awareness checks it is difficult to ascertain whether participants exert conscious influence over their responses. With this in mind, we included a second and more robust measure of automatic activation after the interview, based on a Stroop interference paradigm (cf. Wegner & Erber, 1992). Finally, we also were interested in seeing whether a concealed stigma would influence cognitive performance, and we wished to again check on its influence on social interaction performance (this time with video rather than only audio recording of the interaction).

Method

Overview

The design was the same as in Study 1. In addition, there were several tasks administered at certain points in the interview to examine the accessibility of ED-related thoughts and to see whether cognitive performance was affected by the experimental manipulations. At the end of the interview, participants completed a computerized Stroop-type measure to assess the accessibility of ED-related thoughts. Participants also completed post-experimental questionnaires following the role-play. Judges' ratings were made on the basis of videotapes from the interview for the same interpersonal dimensions as in Study 1, as well as some additional dimensions.

Participants

Female undergraduates were recruited as they were in Study 1. There were 74 participants, 28 of whom reported having ED characteristics

and 46 of whom did not. As in the prior study, participants were administered the Multidimensional Eating Disorder Inventory after the experimental session to verify the group difference in disordered eating behavior. The ED sample scored significantly higher than did the no-ED sample on the subscales of Drive for Thinness (M = 13.99 vs. 0.46), $F(1, 69)$ = 291.52, MSE = 10.61, $p < .01$; Bulimia (M = 6.23 vs. 0.54), $F(1, 69)$ = 100.21, MSE = 5.45, $p < .01$; and Body Dissatisfaction (M = 19.42 vs. 2.78), $F(1, 69)$ = 137.11, MSE = 34.06, $p < .01$.

Procedure and Accessibility Measures

The procedure followed that of the first study, with a few exceptions. The interview was videotaped and was expanded somewhat to allow for more substantial answers. Another change was that ED-relevant thought accessibility and cognitive task performance were measured at four points during the interview. At each point, the interviewer stopped the questions and gave the participant a small packet containing paper-and-pencil tasks, which were in a different randomized order for each of the segments of the interview. These tasks consisted of word completions, math problems, and a digit–symbol task.

To measure the accessibility of ED-related thought during the interview, we administered four word-completion tasks that were modeled on the accessibility measure devised by Pelham, Hetts, and Kuwano (1997). For each of these tasks, there were four word fragments, each repeated three times. Participants were asked to provide the missing first letter to create three different words for each fragment. The fragments were selected so that they could be completed with at least one letter that created a stigma-relevant word or with a letter that created a neutral word (e.g., _OUND, could be completed with the letter *P, S, M, H, R, W, F,* or *B,* with the *P* creating the target word). The fragments for the four tasks included _OOD, _AT, _ARD, _OUND, _INGE, _UN, _INE, _ARGE, _EAL, _OG, _OOK, _IG, _ASTING, _ATTY, _UB, and _HEW. For each fragment, it was possible to make at least three words other than a stigma-relevant word. Each target word could be created in any of the three serial positions or not at all. The accessibility of ED-related thoughts could then be measured by calculating the serial position of the target word that corresponded to each word fragment. An accessibility score of 4 was assigned when the target was in the first position, 3 when it was in second position, 2 when it was in the third position, and 1 if it was not mentioned, and the overall accessibility for that set of completions was the mean score across the four items. The order of the four word-completion tasks was counterbalanced across participants.

A second task, also administered at these four points in the interview, consisted of mathematical problems from the Wechsler Adult Intelligence Scale—Revised (Wechsler, 1981) and served as a measure of cognitive performance. Participants were given 1 min to complete this part and 30 s to complete the last task, a digit–symbol task that also was used as a measure of performance. This task required participants to fill in 25 numbered blanks with symbols associated with each number on an accompanying legend.

Following the interview, participants completed a computerized Stroop-type color-naming measure. This assessed key-press reaction time (RT) for naming colors (red or blue) of words appearing on the monitor. As in past research, the latency of naming colors of target-related words (in this case, ED-related words) under cognitive load was taken as a measure of the accessibility or automatic activation of the target (Bargh & Pratto, 1986; Wegner & Erber, 1992). The measure was computer administered, as it was by Wegner et al. (1993; see also Lane & Wegner, 1995, Experiment 1). On a 17-inch (43.18-cm) IBM-compatible VGA color monitor, individual words were shown in the standard 24- × 80-character screen font. The computer was calibrated to record RT in Microsoft Quickbasic 4.5 through a timing program created by Creeger, Miller, and Paredes (1990).

At the start of the task, participants read instructions on the monitor explaining that they were to respond quickly and accurately to a series of words, indicating whether each word was shown in red or blue by pressing one of the keys on the keyboard. Before each word appeared, either a two-digit number (low cognitive load) or a seven-digit number (high cognitive load) appeared on the screen. Participants were instructed to remember this number while they were identifying the color of the word that followed. Before the word appeared, there was a 3-s pause followed by the appearance of a black asterisk on the white screen for 2 s. Then, the word appeared in either red or blue and remained until the participant pressed a key or 5 s elapsed. Next, participants were asked to verbalize the number into a tape recorder. After 10 practice trials, participants performed 72 trials for the task. There were 20 stimulus words, each repeated three or four times in random order. Word presentation order was counterbalanced across participants. The 6 target words—3 body-related words (*thighs, fat,* and *flabby*) and 3 diet-related words (*food, calories,* and *diet*)—each appeared on the screen four times. Target-unrelated words (*shelf, bird, basket, chestnut, letter, rocket, flower, tape, key, radio, golf, telephone, car,* and *newspaper*) each appeared on the screen three or four times. Color was balanced so that 36 words were red and 36 words were blue, with target words appearing half the time in each color.

After the Stroop task, participants completed their self-reports of thought intrusion, thought suppression, and projection, as in the prior study. The confidentiality precautions, postexperimental inquiry, debriefing, and follow-up call also followed the prior protocol.

Social Interaction Ratings

Three independent female judges naive to experimental condition rated each participant on the basis of the videotaped interviews. In addition to the dimensions used to rate the interviewees in Study 1, Study 2 participants were also rated on positive emotion (How much positive emotion did she express?), negative emotion (How much negative emotion did she express?), amount of information revealed (How much ED information did she reveal beyond the paragraph that was read to her?), and intelligence (How intelligent do you think she is?).

Results and Discussion

Preoccupation Measures

Secrecy. Ratings of keeping ED thoughts secret during the interview showed a significant main effect of ED status, $F(1, 70)$ = 21.88, MSE = 3.22, $p < .001$. Women with actual EDs reported more secrecy (M = 4.89) than did those without EDs (M = 2.86). There was also a reliable interaction between actual ED and role-play ED, $F(1, 70)$ = 8.48, $p < .005$, and significant simple effects showed that among participants role-playing no ED, those with an actual ED reported greater secrecy (M = 5.37) than did those without an ED (M = 2.09), $F(1, 71)$ = 33.32, $p < .001$ (see Table 2). Among no-ED participants, role-playing ED increased secret thinking about it (M = 2.09 vs. 3.65 for no-stigma vs. stigma role-play), $F(1, 71)$ = 6.75, $p < .05$, as might be expected in view of the deception they were perpetrating. In contrast, among actual ED participants, role-playing the disorder tended to decrease secret thinking about it (M = 5.37 vs. 4.42 for no-stigma vs. stigma role-play), $F(1, 71)$ = 2.90, $p < .10$.

Thought suppression. The self-reported suppression of ED-relevant thoughts had a significant main effect for actual ED, $F(1, 70)$ = 8.76, MSE = 3.56, $p < .01$. Those participants who actually had an ED reported more thought suppression (M = 4.76) than did those who did not have an ED (M = 3.41). There was also a significant interaction between actual ED and role-play ED, $F(1, 70)$ = 5.85, $p < .05$ (see Table 2). For participants role-playing no

Table 2
Preoccupation Measures in Study 2

Measure	Actual stigma		Actual no stigma	
	Role-play stigma (n = 12)	Role-play no stigma (n = 16)	Role-play stigma (n = 23)	Role-play no stigma (n = 23)
Secrecy	4.42	5.37	3.65	2.09
Thought suppression	4.33	5.19	4.09	2.74
Thought intrusion	0.58	0.60	0.57	0.50
Projection	9.75	11.63	10.48	11.70

ED, those with an ED reported more thought suppression (M = 5.19) than did those without an ED (M = 2.74), $F(1, 71) = 16.82, p < .001$. Among no-ED participants, role-playing an ED increased thought suppression about it (M = 2.74 vs. 4.09 for no-stigma vs. stigma role-play), $F(1, 71) = 5.29, p < .05$, perhaps in service of their deception task. For ED participants, in turn, role-playing an ED tended to decrease thought suppression about it, (M = 5.19 vs. 4.33 for no-stigma vs. stigma role-play), although not significantly so, $F(1, 71) = 2.11, p < .15$.

Thought intrusion. An ANOVA was performed on the intrusive thoughts measure, and a significant main effect of actual ED was found, $F(1, 70) = 4.77$, $MSE = .01, p < .05$. Participants with actual EDs reported more intrusive thought (M = .59) than did those without EDs (M = .53). A marginally significant interaction was found, $F(1, 70) = 3.08$, $p = .08$, and a significant simple effect revealed that among participants role-playing no ED, those with an actual ED reported more intrusion (M = .60) than did those without (M = .50), $F(1, 71) = 9.24, p < .01$ (see Table 2). Among actual ED participants, role-play condition did not significantly affect self-reported thought intrusion.

Projection. For the measure of projection, the main effect of role-play condition was significant, $F(1, 70) = 6.80$, $MSE = 6.04$, $p < .05$. Participants role-playing no ED were more inclined to perceive ED characteristics in their interviewer (M = 11.66) than were those role-playing ED (M = 10.11). No significant interaction was found. In this study, then, pretending not to have an ED did not especially enhance projection among ED participants, as compared with those without an ED (see Table 2).

Correlations. As in the prior study, secrecy was correlated with thought suppression, $r(74) = .49, p < .001$, and with intrusiveness of ED thoughts, $r(74) = .46, p < .001$. Thought suppression and thought intrusion were related as well, $r(74) = .30, p < .01$. Projection was not correlated significantly with these measures in this study.

Performance Measures

The performance measures—the math problems and digit–symbol task—did not vary reliably as a function of condition or time of administration during the interview.

Accessibility Measures

Word completion during interview. The word-completion accessibility scores were examined as repeated measures in a mixed ANOVA (see Figure 1), and this analysis revealed a significant main effect for role-playing condition, $F(1, 70) = 14.25$, $MSE = .61$, $p < .001$. Participants role-playing an ED showed higher ED-related word accessibility overall (M = 2.18) than did those role-playing no ED (M = 1.83). It makes sense that the attempt to emulate someone with an ED would prime ED-relevant thoughts during the role-play session, as the person playing the role would be likely to bring these to mind intentionally and repeatedly during the interview.

There was also a significant main effect of time across the four accessibility measurements in the interview, $F(3, 210) = 5.09$, $MSE = 0.35$, $p < .05$. A polynomial trend analysis showed that this effect was linear, $F(1, 70) = 20.03, p < .001$, with other trend components proving to be nonsignificant (Fs < 1). Accessibility of ED words increased progressively over the course of the interview (M = 1.80, 1.90, 2.08, and 2.14, respectively), as might be expected given the ED-related content of the interview questions and answers. Although the interaction of ED status, role-play condition, and time was not significant in this analysis, an interesting trend effect was observed. As can be seen in Figure 1, accessibility of ED-related thoughts increased more steeply in the concealed-stigma group (actual ED participants role-playing no ED) than in the other groups. Indeed, this pattern was reliable, as revealed by a contrast of the linear trend in the concealed-stigma group with the linear trend in the other three conditions combined, $F(1, 72) = 4.39, p < .05$.

The picture of accessibility within the interview, then, supports our ideas about how mental control yields preoccupation. Whereas the thoughts of EDs became more accessible over time for all participants, and those people specifically trying to role-play an ED also had higher levels of accessibility overall, the concealed-stigma group showed a unique pattern. They started out with ED thoughts being relatively inaccessible, but the accessibility then increased over the course of the interview at a rate outpacing that of the balance of the participants in the study. Trying not to look stigmatized when one knows one is stigmatized appears to thrust stigma-relevant thoughts into mind.

Stroop accessibility after the interview. The measure of accessibility following the interview was RT for correct responses on the Stroop task. Separate mean RTs were computed for body-relevant words, diet-related words, and neutral words. To examine effects for body-related vs. neutral words, we ran a mixed design ANOVA with actual ED and role-play ED as between-participant variables and word type (body-relevant or neutral) and cognitive load (low or high) as within-participant variables. Significant main effects were found for word type, $F(1, 62) = 7.45$,

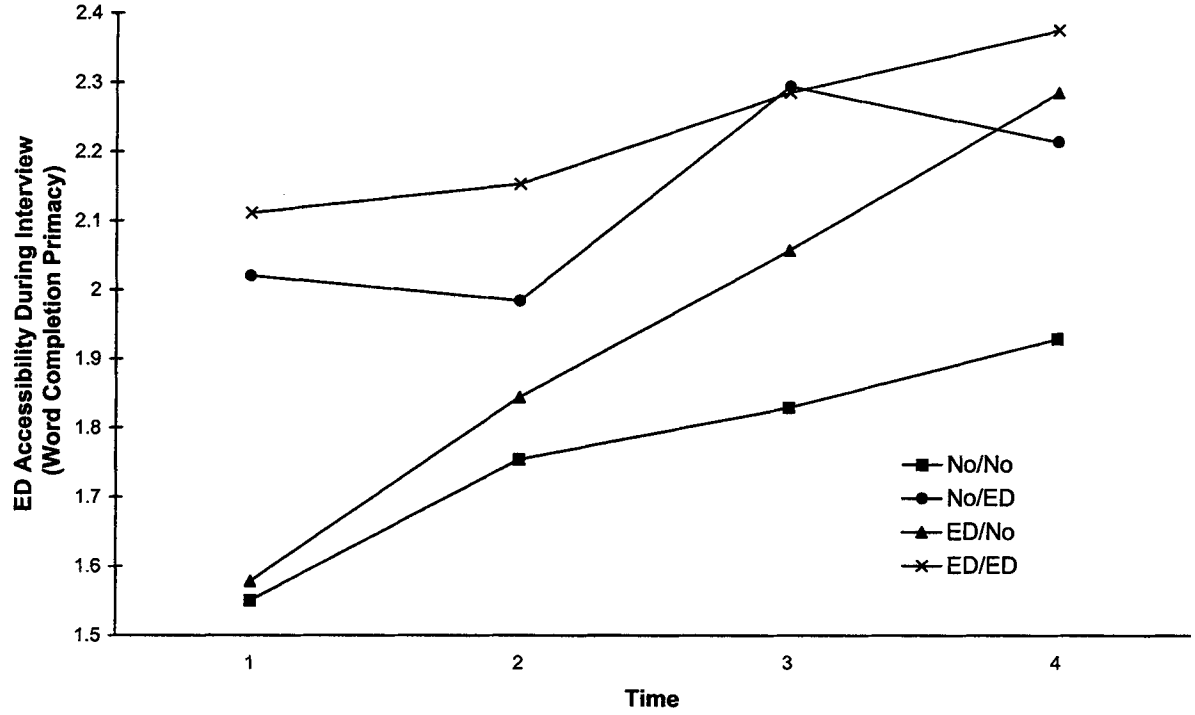

Figure 1. Accessibility of eating disorder (ED)-related words (word-completion measure) at four points during the interview for participants with or without an actual ED who role-played an ED or role-played no ED. ED/ED = actual ED, role-playing having an ED; ED/No = actual ED, role-playing no ED; No/ED = no actual ED, role-playing having an ED; No/No = no actual ED, role-playing no ED.

MSE = 5,811.19, $p < .01$, and for cognitive load, $F(1, 62) = 35.28$, *MSE* = 7,470.83, $p < .01$. Overall RTs were slower for body-relevant words (M = 729 ms) than for neutral words (M = 704 ms), suggesting a somewhat heightened level of accessibility for this topic relative to neutral topics across all participants. Under high load, participants had slower RTs (M = 749 ms) than when under low load (M = 684 ms).

Stroop color-naming interference is a particularly telling measure of accessibility under high cognitive load (cf. Wegner & Erber, 1992; Wegner et al., 1993), so these trials were of special interest. Although the four-way interaction was not significant, $F(1, 62) = 1.05$, $p = .31$, our specific hypothesis that body-relevant words would be accessible under high cognitive load in the concealed-stigma condition was tested through simple main effects analysis. The simple main effect was significant in the expected direction for body-relevant words versus neutral words under high load, $F(1, 65) = 7.29$, $p < .01$; under high load, participants who had an ED and were role-playing no ED had a slower RT to the body-relevant words (M = 831 ms) than they did to the neutral words (M = 759 ms). The comparison of body-relevant and neutral words was not significant when these participants were under low load, $F(1, 65) < 1$. Also, this pattern was not observed in any other condition; no significant simple main effect of body-relevant versus neutral word under high load was observed for participants with no ED or for participants with an ED who were role-playing an ED (all $ps > .10$). These data indicate that participants who were keeping their stigma a secret under high load showed increased accessibility of body-relevant thoughts, whereas those who were not keeping their stigma a secret or those who did not have a stigma did not have this increased accessibility.

A parallel ANOVA for diet-relevant versus neutral words did not exhibit significant evidence of this pattern. The Stroop results, in sum, were suggestive but not conclusive. They revealed a significant level of accessibility for body-relevant words in the concealed-stigma condition and no such significant effect in the remaining conditions, but they did not yield not a significant interaction indicating a reliable difference between the concealed-stigma condition and the other conditions.

Social Interaction Ratings

The effective reliability for the ratings of the participant's social interaction during the interview ranged from .35 to .71. Dimensions for which the judges did not reach an acceptable level of effective reliability (.60 or greater) were excluded from the analyses. The ANOVAs indicated there was a general pattern of more effective social interaction on the part of participants who were not role-playing an ED and a lesser trend for actual ED participants to be viewed as anxious regardless of their role-play condition.

Playing the role of having an ED increased the degree to which participants were perceived as showing negative emotion (M = 3.35 vs. 2.28, role-play ED vs. role-play no ED, respectively), $F(1, 68) = 42.84$, *MSE* = 0.46, $p < .01$; decreased their apparent positive emotion (M = 3.78 vs. 4.70), $F(1, 68) = 20.49$, *MSE* = 0.68, $p < .01$; increased their rated anxiousness,

(M = 3.53 vs. 2.95), $F(1, 68) = 6.13$, $MSE = 0.67$, $p < .05$; decreased the rated amount of information revealed (M = 2.85 vs. 4.29), $F(1, 68) = 67.77$, $MSE = 0.51$, $p < .01$; increased the rated amount of information concealed (M = 3.55 vs. 2.11), $F(1, 68) = 79.43$, $MSE = 0.44$, $p < .01$; decreased their likeableness (M = 4.25 vs. 4.78), $F(1, 68) = 20.66$, $MSE = 0.20$, $p < .01$; made them seem more uncomfortable (M = 3.52 vs. 2.78), $F(1, 68) = 16.04$, $MSE = 0.57$, $p < .01$; made them seem more defensive (M = 3.49 vs. 1.97), $F(1, 68) = 94.70$, $MSE = 0.41$, $p < .01$; increased their apparent neuroticism (M = 2.97 vs. 1.52), $F(1, 68) = 68.27$, $MSE = 0.52$, $p < .01$; and made them appear more hesitant (M = 3.69 vs. 3.25), $F(1, 68) = 4.99$, $MSE = 0.65$, $p < .05$.

Significant main effects for actual ED status showed that those with an actual ED appeared more anxious (M = 3.48) than did those who did not have an ED (M = 2.99), $F(1, 68) = 8.34$, $p < .01$, and they also seemed more uncomfortable (M = 3.33) than did those who did not have an ED (M = 2.96), $F(1, 68) = 3.99$, $p = .05$.

There were no significant interactions of actual ED status and role-played ED. As in the case of the prior study, then, the impressions conveyed by participants in this study did not reflect their self-reported concerns with suppression and secrecy. The condition of concealing a stigma did not carry over into observable social behavior. Rather, it appears that the judges were taken with the surface appearance, in that someone who role-plays a stigmatizing condition of ED is simply perceived as being less socially adept overall.

Summary

The results show the Study 2 participants had some of the same tendencies as those of the prior study; in particular, the ED participants who role-played not having an ED had more self-reports of secrecy, thought suppression, thought intrusion, and projection than did the ED participants who were role-playing having an ED. Cognitive performance was not affected by the role-play or actual ED condition. The word-completion and Stroop accessibility measures, in turn, provided support for the idea that trying to hide one's stigma may lead to the increased accessibility of thoughts related to the stigma. Finally, the social interaction ratings from the interview indicated, as in Study 1, that the women who concealed their stigmas were not socially impaired in the experimental interaction.

General Discussion

The results provide several insights into the consequences of having a concealable stigma. Taken together, the results suggest that people with concealable stigmas may appear at ease even in a social interaction that focuses on their stigma but that they are affected cognitively in several important ways. Thus, the preoccupation model of secrecy, although it was developed to account for the cognitive consequences of secrecy in general, has much to offer in terms of insights pertaining to the specific effects of keeping a stigma secret from others.

Preoccupation Effects

The preoccupation model of secrecy predicts that the first step in trying to conceal a stigma would be to suppress thoughts about the stigma. In both studies, we found evidence in self-reports by the actual ED participants of their attempt to suppress thoughts of their ED when asked to play the role of not having an ED. It is important to note that these participants were not given any explicit instructions to suppress their stigma-related thoughts. This appears to be a strategy that those with concealable stigmas perceive as being effective in trying to maintain secrecy. It is interesting, too, that participants without an ED who played the role of someone without an ED reported low levels of suppression. For people who have no stigma, the attempt to appear normal does not engage attempted thought suppression.

To some extent, it seems that people would need to think about, rather than suppress, their secret so they might keep track of what was said when and to whom. We can infer from our findings that people try to make their secret cognitively accessible only to the extent that it serves the function of further maintaining the secrecy (e.g., preventing oneself from inadvertently revealing the stigma). To focus too much on thoughts of the stigma makes concentrating on strategies for secrecy maintenance difficult, if not impossible. There is evidence that people may be motivated to spontaneously suppress their own recurrent intrusive thoughts, and this motivation may make them better at the suppression of these thoughts than at the suppression of other, irrelevant thoughts (Kelly & Kahn, 1994; Wegner & Gold, 1995; Wegner & Smart, 1997). Our research shows those with stigmas do not report higher levels of intentional efforts to think of their stigma when they are keeping it secret versus when it is conspicuous. Instead, when those with a stigma are concealing their stigma, they respond to thoughts of their stigma by actively trying to suppress such thoughts.

Increased thought accessibility is the next stage of the secrecy cycle. In Study 2, two surreptitious measures of thought accessibility were administered: a word-completion task and a Stroop-type task. The word-completion task showed that across the interview, ED thoughts were more accessible for participants role-playing an ED, but that the degree of accessibility of such thoughts increased more rapidly for ED participants role-playing not having an ED. Wegner and Smart (1997) have suggested that activation of thoughts may occur both intentionally, as when people want to think about the stigma so they may role-play it in the interaction, and ironically, as when people find the thoughts come to mind as a result of attempts to suppress them. The present findings exhibit both processes.

For the Stroop task, the participants in the concealed-stigma condition did have a slower RT to body-relevant words than to neutral words under high mental load. This did not happen for actual ED participants who were role-playing having an ED or for participants with no ED. This indicates that trying to hide their EDs led to an increased unconscious accessibility of these thoughts. This effect was not observed for diet-related words, suggesting that perhaps such words were not as likely to be suppressed during the course of the ED-related interview. This may be due to the diet words not being as relevant to the self as the body words (e.g., compare the diet-related words—food, calories, and diet—with the body-related words—thighs, fat, and flabby). Those with concealed stigmas may have become more focused on what they think about themselves in relation to their ED than on ways in which the ED is manifested (i.e., compulsively concentrating on food, calories, and diet).

The mean differences for the self-reported measure of thought intrusion also provide support for the preoccupation model of secrecy. In Study 1, the women who had an ED but played the role of not having one reported the highest amount of thought intrusion about their ED. In Study 2, the trend was in the same direction.

We also examined projection as one of the consequences of being in a state of preoccupation with one's secret. Such projection was observed in Study 1 both as a main effect of role-playing no stigma and as a specific effect of role-playing no stigma while in fact having that stigma; in Study 2, projection was only a main effect of role-playing no stigma, regardless of the participant's personal stigma status. In this sense, projection as observed here may be seen as not so much a defense mechanism that protects individuals from unfavorable views of themselves as an ironic effect of trying not to think about a personality characteristic, whether one has that characteristic or not.

In studies by Newman, Baumeister, and Duff (1997), evidence was found for a *defensive projection.* Their model suggests that when participants are faced with threatening information about themselves (e.g., negative feedback about their personality), they will respond to this threat by avoiding or suppressing thoughts about it. Suppression should then result in either a belief that they do not have the unwanted traits or chronic accessibility of the trait concepts that are being suppressed. The result of this defense process is that threatening traits are projected onto others. Our data are only partially supportive of this possibility in the case of concealed stigma and instead suggest a more general response of projection as a way of trying not to think of undesirable traits that people may or may not possess.

Cognitive Performance

We expected that when participants were hiding their stigmas, their cognitive functioning on the various tasks that were administered in Study 2 would be impaired. This effect was not found. One possibility is that the cognitive tasks were less a measure of performance than they were a welcome distraction, particularly for the participants in the secrecy condition. During the interview, they may have been so focused on how they were responding to the questions and the thought intrusions they were having that the cognitive tasks may have been a relief that enabled them to be distracted from this threatening situation. The possibility that attention could switch to these as primary tasks, and so reduce their effectiveness as measures of cognitive impairment, is a possibility often encountered in dual-task paradigms (Pashler, 1994). This may account for the thought intrusion and projection effects that were marginally significant in Study 2 but were significant in Study 1, where there were no potential distractors during the interview.

Another possibility is that the women with actual EDs in this study were so practiced at secrecy that their cognitive functioning was not influenced by their high level of preoccupation with the stigma. This possibility is consistent with the finding that social performance, like cognitive performance, was not disturbed by the task of concealing the ED stigma.

Social Interaction Performance

The results from the judges' ratings of the interviews show that across both studies, people who were keeping their EDs a secret did not appear to be interpersonally awkward or lacking in social skills. There was even an indication in Study 1 that ED participants playing the role of not having an ED appeared more comfortable than did participants with no ED playing the same role. Although they were perceived in Study 2 as being a bit more anxious than their peers overall, the actual ED participants did not display any special tendency toward poor social skills when they were role-playing not having the stigma. The inner struggles of thought suppression and thought intrusion in the ED participants were not evident in their outward appearances.

There are several potential explanations for this discrepancy between the inability to keep stigma-related thoughts out of mind and apparent ease in social interaction. One possibility is that the actual ED women in the secrecy condition had kept the secret about their ED for so long that it was second nature for them to pretend they did not have one in this interview situation. Working to conceal their stigma and pass for normal may be the story of their lives, and they may have become very good at it. The development of expertise in self-presentation may be particularly pressing for those whose self-presentation requires constant attention. This self-presentation performance could be particularly important to people who have EDs, for, after all, they are individuals who have been so motivated to gain social approval for their body appearance that they risk the consequences of a serious behavior disorder. A life of constant concealment may promote the automatization of behavioral and mental strategies to engineer smooth social encounters, particularly when those encounters may touch, in some way, the topic of the stigma (Wegner, 1994; Wegner & Erber, 1993). Indeed, the fear of being stigmatized could even serve as a motive for developing deception skills that surpass those of people who are not so strongly motivated. This lack of impairment for both social and cognitive functioning suggests that it is important to examine more broadly the skills that people may develop as a result of having to conceal their stigmatized identities. In future studies, it could be important to assess the length of time that the people have been concealing their stigma, as this may be a factor in understanding how they have learned to function with it.

Another potential explanation of this effect is worth noting. The judges of social skills in both studies appeared to focus on the surface, evaluating participants more negatively if they role-played an ED than if they role-played not having an ED. It is possible that this highly salient cue drew the judges' attention and made them less sensitive to variations in social skill that might have been evident within the ED or no-ED role-playing groups had they been considered separately. This tendency of the judges to base their social evaluations on whether the participant "admitted" having an ED is also an interesting indication of the overall stigma associated with having an ED.

One final way of viewing the absence of social impairment in those concealing a stigma in the lab is to suggest that such impairment might only be evident in longer term relationships. Having a concealable stigma is likely to affect even the types of social relationships in which people with these kinds of stigmas choose to become involved. Hiding their stigma allows them to assimilate into mainstream community life. At the same time, one of the consequences is that they avoid associating with other similarly stigmatized people. In doing so, they deprive themselves of many of the benefits—the social support, social services, and social relationships—that come with being open about the stigma

(Gibbons, 1986). In addition, they are unable to engage in downward social comparison because they are likely to want to avoid others who may be more stigmatized than they are in an effort to avoid being associated with the stigma and possibly implicated in also possessing it (Crocker et al., 1998).

Role-Playing Paradigm

Is playing a role a different experience than actually being oneself and talking about or hiding one's ED? Responses provided by the participants during the debriefing sessions for both studies suggest that playing a role provided a layer of protection for them. It seemed to buffer them from feeling as if they were revealing more than they wanted to about themselves, as they felt that their responses could later be disavowed. Further feedback from the follow-up calls revealed the general sentiment (for those who actually had EDs) of feeling uncomfortable talking about those issues but not feeling disturbed or upset after the experiment because, as several participants said, "I was just playing a role." This sort of response would seem to call into question the realism of this role-playing design. The preoccupation results contradict this notion, though, as they highlight a variety of very real psychological effects of the role-played situation. Our concern for the comfort of our study participants led us to this paradigm, and it appears that the situation does create noteworthy effects of concealing a stigma without leading to undue distress.

Making the Concealed Conspicuous

Under certain conditions, as in the presence of a safe and supportive audience or when one is able to preserve anonymity, making a concealed stigma conspicuous may be highly beneficial. The health benefits of disclosing traumatic experiences have been researched extensively by Pennebaker (1990). In one such study, (Pennebaker, Kiecolt-Glaser, & Glaser, 1988), participants wrote in detail about events (many of which were potentially stigmatizing, e.g., incest victimization, perpetration of violence, spousal suicide) that they had not talked about with others. It was found that people who wrote about concealed events more (high disclosers) showed an improved immunological response relative to low disclosers and to controls. Advancing technology may provide additional ways to reveal one's stigma. There is some evidence that the Internet may be a valuable resource for the identity demarginalization of people with concealable stigmas. McKenna and Bargh (1998) found that becoming a member of a newsgroup related to a marginalized aspect of one's identity led to greater self-acceptance, as well as an increased likelihood of revealing the concealable stigma to family and friends.

Conclusions

There are many disorders, behaviors, and medical conditions that are potentially stigmatizing in this society. A common strategy for those who have these stigmas is to attempt to keep this information about themselves hidden and thus avoid the questions and judgments of others as much as possible. The present research suggests that people who conceal their stigmas may be struggling a great deal more than it appears. Although they may escape the immediate damage of negative social behavior and evaluation, they may bring the conflict into their own minds, as it were, and thus become preoccupied with covering up what no one can see.

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