The illusion of transparency and the alleviation of speech anxiety ☆

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Abstract

Individuals often believe their internal states are more apparent to others than is actually the case, a phenomenon known as the *illusion of transparency*. In the domain of public speaking, for example, individuals who are nervous about delivering a public speech believe their nervousness is more apparent to their audience than it actually is, a finding we document in Study 1. We contend that the illusion of transparency can play a role in the self-exacerbating nature of speech anxiety, and show in Study 2 that an awareness of the illusion can improve the quality of a speaker's performance, from both the speaker's own perspective and in the eyes of observers. Discussion focuses on the application of these findings to the treatment of speech anxiety and other forms of social anxiety.
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I turn pale at the outset of a speech and quake in every limb and in all my soul.

Cicero, *De Oratore*

Individuals often wish to conceal their internal states. Anxiety over approaching a potential romantic partner, feelings of disgust over a disagreeable entrée served at a dinner party, or nervousness over delivering a public speech—all are internal states one may wish, for a variety of reasons, to keep private.

How well can people conceal their internal states, and how well do they believe they can do so? Research suggests that individuals are typically better at disguising their internal states than they believe—i.e., people are prone to an *illusion of transparency*, or a belief that their thoughts, feelings, and emotions are more apparent to others than is actually the case (Gilovich, Savitsky, & Medvec, 1998; Miller &

McFarland, 1987, 1991; Vorauer & Ross, 1999). This illusion derives from the difficulty people have in getting beyond their own phenomenological experience when attempting to determine how they appear to others. The adjustment one makes from the "anchor" of one's own phenomenology, like adjustments to anchors generally, tends to be insufficient (Chapman & Johnson, 2002; Epley & Gilovich, 2001, 2003; Jacowitz & Kahneman, 1995; Savitsky & MacIntosh, 2003). As a result, people exaggerate the extent to which their internal states "leak out" and overestimate the extent to which others can detect their private feelings.

The illusion of transparency has been documented in a variety of domains and across a number of procedural variations (Gilovich & Savitsky, 1999). In one study, participants who were asked to tell lies believed they had leaked more cues to their deception than they actually had and overestimated the extent to which others could detect their falsehoods. In another study, participants who sampled foul-tasting drinks in view of an observer believed that their disgust was more apparent than was actually the case (Gilovich et al., 1998). Other research has demonstrated that individuals overestimate the extent to which their internal states are apparent to others in contexts as varied as negotiations (Van Boven, Gilovich, & Medvec, in press; Vorauer & Claude, 1998),

police interrogations (Kassin & Fong, 1999), and potential emergencies (Gilovich et al., 1998).

One purpose of the present investigation is to expand further the range of situations to which the illusion of transparency applies by investigating a domain in which such a misconception can be both profound and consequential: public speaking. Many individuals report experiencing significant anxiety when called upon to speak in public (Leary & Kowalski, 1995; McCroskey, 1970, 1977)—anxiety that can interfere with one's social life and education, lead to job absenteeism, and even force one to change careers (Hohenstein, 1986; Monroe, Borzi, & Burrell, 1992; Stein, Walker, & Forde, 1996). These individuals may anchor on their internal sensations of anxiety, correct insufficiently for the fact that others are less privy to those sensations than they are themselves, and consequently overestimate the extent to which their anxiety is apparent to onlookers. As Miller and McFarland (1991) note, "in anxiety-provoking situations, it is often very difficult for people to believe that, despite feeling highly nervous, they do not appear highly nervous" (p. 310).

Indeed, the literature on speech anxiety provides some evidence consistent with this possibility. In particular, several studies have shown discrepancies between speakers' self-ratings and ratings provided by others. Behnke, Sawyer, and King (1987) found that public speakers felt more nervous than audience members believed they did, and Rapee and Lim (1992) found that participants evaluated their own speeches more negatively than they were evaluated by their audience. In the only existing study that reports the key comparison between how speakers *thought* they would be evaluated by others and how others actually evaluated them, Mansell and Clark (1999) found that socially anxious individuals did indeed overestimate how anxious they appeared during an extemporaneous speech performance, relative to the judgments of observers. Unfortunately, however, their report does not permit an assessment of whether this effect held true for their sample as a whole.

Given the uncertain nature of the existing evidence on this issue, our first goal in the present investigation was to collect unambiguous evidence of an illusion of transparency in the domain of public speaking. Our second goal was to explore a significant implication of the illusion of transparency—how it can exacerbate the intensity of speech anxiety, and, more important, how an awareness of the illusion (that is, an appreciation that one's anxiety is typically not as apparent to others as one suspects) can help alleviate that anxiety. Many people report that one component of their fear of public speaking is the concern that they will "tremble, shake, or show some other signs of anxiety" (Stein et al., 1996, p. 172). In other words, people are often nervous about looking nervous. If public speakers are prone to an illusion of transparency, their anxiety can become self-perpetuating. An individual who experiences some anxiety while giving a speech may believe it is more apparent to the audience than is actually the case. This thought—that the audience is aware of just how nervous he or she feels—may ironically serve to make the speaker all the more nervous. The speaker may then believe that this newfound nervousness is itself apparent to others, leading to still more nervousness, concerns about leakage, and so on.[1]

Speech anxiety may thus be an example of what Storms and McCaul (1976) have termed a "self-exacerbating syndrome." They note that the experience of certain conditions, such as stuttering, insomnia, or writer's block, can lead to an ironic increase in those very conditions (cf., Ascher & Schotte, 1999; Wegner, 1997; Wegner, Broome, & Blumberg, 1997). We believe the illusion of transparency may lend a similar self-exacerbating quality to speech anxiety. At the same time, however, the realization that one's nervousness is less apparent than one thinks may be useful in alleviating speech anxiety: If individuals can be convinced that their internal sensations are not manifested in their external appearance, one source of their anxiety can be attenuated, allowing them to relax and even improving the quality of their performance. Thus, speakers who know about the illusion of transparency may tend to give better speeches than speakers who do not.

We put this speculation to empirical test in Study 2, examining whether knowledge of the illusion of transparency can alleviate speech anxiety. But first we seek, in Study 1, to document the illusion of transparency in the domain of public speaking.

Study 1

Participants delivered extemporaneous speeches in pairs. Each speaker then rated the degree to which he or she appeared nervous during his or her speech, as well as the extent to which his or her counterpart appeared nervous. We expected speakers to overestimate the

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[1] In fact, an individual need not even experience any bona fide nervousness to set this cycle in motion. Normal preparatory arousal, stemming from the simple need to "get with it" and mobilize whatever cognitive and motor programs are required to perform the task at hand, may be misattributed to pangs of anxiety and self-doubt. As Olson (1988) notes, "the distinction between arousal caused by 'gearing up for a speech' and arousal caused by 'speech anxiety' is subtle" (p. 766). Thus, the individual may reason heuristically and conclude, "If I am feeling these feelings of arousal, I must be nervous about giving this speech" (Savitsky, Medvec, Charlton, & Gilovich, 1998). The concern that such feelings are apparent to others, then, may give rise to a more genuine experience of anxiety, which the individual may think is also leaking out, and so on.

extent to which their nervousness was apparent, and thus to rate themselves as having appeared more nervous, on average, than they were rated as having appeared.

Method

Participants

Forty Cornell University students participated in pairs.

Procedure

The experimenter explained that the study was concerned with extemporaneous public speaking. In turns (determined by coin flip), each participant was asked to stand at a podium at the front of the room and was handed an index card containing a speech topic. All participants were asked to begin immediately and speak for 3 min on one of two topics—*The Best and Worst Things About Life Today* and *The Most Important Moral Lessons to Teach One's Children*. The participants within each pair always spoke on different topics with topic order counterbalanced across pairs.

After both participants spoke, they were escorted to separate cubicles to complete a questionnaire containing the dependent measures. Participants rated the degree to which they felt anxious or nervous while delivering their speech, the degree to which they believed they had appeared anxious or nervous, and the degree to which their counterpart had appeared anxious or nervous. All judgments were made on scales ranging from 0 (*not at all*) to 10 (*very*). Finally, participants were asked to check one of the following two statements: (a) *I appeared more nervous than the other participant* or (b) *The other participant appeared more nervous than I did*.

Results

Participants indicated that they did indeed feel somewhat nervous as they delivered their speech ($M = 5.95$). As expected, however, participants rated themselves as having appeared more nervous ($M = 6.55$)[2] than they were rated by their counterparts as having appeared ($M = 5.25$). To examine the statistical significance of this effect, we performed a 2 (speaker

order: first vs. second) $\times$ 2 (target: self vs. other) repeated-measures analysis of variance (ANOVA), which revealed only the predicted main effect of target, $F(1, 19) = 16.38$, $p < .001$. Speakers overestimated how nervous they appeared to observers.

This result was echoed in participants' responses to the final item. As anticipated, a majority of the participants (27 of 40; 67.5%) indicated that they had appeared more nervous than their counterpart, $p < .05$ by the binomial test. Indeed, in eight pairs, *both* participants felt they appeared more nervous than the other speaker; in only one pair did both feel the other speaker had appeared more nervous than they had.

Discussion

Together with previous findings, these results establish an illusion of transparency in the domain of public speaking. Individuals asked to deliver extemporaneous speeches overestimated the extent to which their nervousness was apparent, rating themselves as having appeared more nervous, on average, than they actually appeared to another participant in the same experimental session. Indeed, in many cases, *both* participants believed they had appeared more nervous than their counterpart (cf., Miller & Prentice, 1994).

Readers may take issue with one element of the procedure used in Study 1, however. Rather than rely on passive observers, we had speakers evaluate their appearance vis-à-vis the impressions they made on another speaker. Thus, it could be argued that the speakers in Study 1 made poor observers because they were unduly focused on their own upcoming (or recently delivered) speech (Gilbert, Pelham, & Krull, 1988).

To address this possibility, we replicated Study 1, using observers who did not themselves serve as speakers, and who were therefore free to devote their full attention to speakers' presentations. We recruited 42 Williams College students, 17 of whom served as speakers and the rest as observers. Speakers reported to the laboratory individually, were videotaped as they delivered an extemporaneous speech on *The Best and Worst Things About Life Today*, and rated the degree to which they believed they had appeared nervous on a scale from 0 (*not at all*) to 10 (*very*). Groups of five observers then viewed the speakers' videotapes and rated the degree to which the speakers appeared nervous. Each group of observers viewed the speeches of three or four speakers. We collapsed observers' ratings of each speaker into a single measure and compared the resulting index to speakers' own ratings. As expected, speakers believed they appeared more nervous ($M = 5.71$) than they actually appeared to the observers ($M = 4.24$), $t(16) = 2.94$, $p < .01$.

Once again, some readers may find fault with this procedure. Specifically, the fact that observers viewed

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[2] That speakers indicated they appeared somewhat more nervous than they felt runs counter to the anchoring-and-adjustment mechanism and the phenomenology of "leakage" that we have argued lie at the heart of the illusion of transparency—and diverges from previous findings, in which participants typically report experiencing phenomenological states more intensely than they believe they are manifested externally (Gilovich et al., 1998). We suspect that the anomalous finding here stems from the fact that nervousness is a widely acknowledged component of the public-speaking "script"—a script speakers may have expected observers to be over-zealous in applying to their performance.

several speeches may have encouraged them to use the response scale in a comparative fashion that differed from the way speakers used it. Nevertheless, it is noteworthy that the results from two divergent procedures, each with its own advantages and disadvantages, converge on the same finding: Individuals who deliver public speeches are subject to an illusion of transparency and overestimate the extent to which their nervousness is apparent to others.

Study 2

Our goal in Study 2 was to explore the role of the illusion of transparency in the exacerbation of speech anxiety. Since a portion of some individuals' nervousness over public speaking stems from the fear that their nervousness will be detected by others (Stein et al., 1996), the conviction that they are transparent (even if they are not) can cause them considerable anxiety—anxiety they may believe is itself apparent to their audience, and so on. This implies that disabusing individuals of the notion that their nervousness is "written all over their face" may forestall the spiral of anxiety described above. This, in turn, may improve the quality of individuals' speeches—both in their own eyes and in the eyes of others.

Method

Participants

One hundred seventeen Cornell University students served as participants, 77 as speakers and 40 as observers. A portion of the data from 9 of the speakers was inadvertently misplaced; some analyses were therefore conducted on data from all 77 speakers and some on data from 68 speakers.

Procedure

Speakers reported to the laboratory individually, where they were informed that they would deliver a 3-min speech on race relations at Cornell. Speakers were randomly assigned to one of three conditions and were given 5 min to prepare. Those in the control condition ($n = 20$) were given no additional instructions. To those in the other two conditions, the experimenter remarked:

> I realize you might be anxious. It's perfectly natural to be anxious when confronted with a public speaking task. Many people become anxious not only because they're concerned about whether or not they'll do well, but also because they believe they will appear nervous to those who are watching. They're nervous about looking nervous.

For participants in the informed condition ($n = 39$), the experimenter continued by saying:

> I think it might help you to know that research has found that audiences can't pick up on your anxiety as well as you might ex-

pect. Psychologists have documented what is called an "illusion of transparency." Those speaking feel that their nervousness is transparent, but in reality their feelings are not so apparent to observers. This happens because our own emotional experience can be so strong, we are sure our emotions "leak out." In fact, observers aren't as good at picking up on a speaker's emotional state as we tend to expect. So, while you might be so nervous you're convinced that everyone can tell how nervous you are, in reality that's very rarely the case. What's inside of you typically manifests itself too subtly to be detected by others. With this in mind, you should just relax and try to do your best. Know that if you become nervous, you'll probably be the only one to know.[3]

For speakers in the reassured condition ($n = 18$), the experimenter provided verbal reassurances but did not inform them about the illusion of transparency:

> I think it might help you to know that you shouldn't worry much about what other people think. Psychologists have found that you don't need to be concerned about other people's impressions. This is hard to do because our own emotional experience of anxiety can be so strong, but past research has shown that we shouldn't be worried about this. With this in mind, you should just relax and try to do your best. Know that if you become nervous, you probably shouldn't worry about it.

This condition was included to control for the possibility that any differences in the speeches of those in the informed and control conditions might stem not from whether or not speakers possessed an appreciation of the illusion of transparency, but from the implicit suggestion that one should not be concerned with appearing nervous that the instructions in the informed condition provided.

Speakers then delivered their speeches in front of a videocamera in the presence of a second experimenter who was unaware of their condition. In addition, speakers were told that other members of the research team were stationed behind a one-way mirror; in reality, there were no observers behind the mirror. When finished, speakers completed a questionnaire containing the dependent measures. Unless otherwise specified, all ratings were made on scales from 1 (*not at all*) to 7 (*very*). First, speakers rated the overall quality of their speech on a scale from 1 (*very poor quality*) to 7 (*very high quality*), along with their effectiveness as a speaker and how expressive they had been. Next, speakers rated the extent to which they were relaxed before giving their speech, and the extent to which they were nervous during their speech. Speakers were then asked to anticipate how an observer who viewed their speech would rate its overall quality (on the same 1–7 scale), how expressive an observer would rate them as having been,

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[3] Approximately half of the participants assigned to the informed condition were given these instructions before they prepared their speech; the others were given these instructions after the 5-min preparation period but before they delivered their speech. Because there were no significant differences between these two conditions on any of the dependent measures, we collapsed across them.

and how anxious they thought they appeared to observers. Finally, speakers indicated the extent to which they had discussed the assigned topic prior to the experiment, and how comfortable they usually were in public speaking situations.

In the second phase of the experiment, speakers' videotaped speeches were viewed by observers. First, to familiarize observers with the task and give them an idea of the range they could expect to see in the speeches, each observer was shown a pair of speeches that varied widely in overall quality. Observers then viewed 8–10 speeches and rated how relaxed the speakers appeared before giving their speech, how composed they appeared during their speech, how expressive they were, and how effective they were as a speaker. These ratings were made on scales from 1 (*not at all*) to 7 (*very*). In addition, observers rated the quality of each speaker's speech, both stylistically and substantively, on scales from 1 (*very low quality*) to 7 (*very high quality*).

Observers made their ratings individually or in groups of two or three. When more than one observer was present, dividers were placed between them so that they were unable to view one another's responses. Each speech was rated by five observers and the experimenter who oversaw these sessions was unaware of each speaker's condition.

Results

First, it is reassuring that neither the extent to which speakers had previously discussed the assigned topic nor their typical comfort with public speaking differed across conditions, $Fs(2, 65) = 0.95$ and 1.61, respectively, *ns*. But did our manipulation have an effect on participants' speech performance during the experiment itself? To find out, we examined observers' evaluations of speakers, as well as speakers' evaluations of their own performance (see Table 1). Because our hypotheses centered around a comparison of speakers informed about the illusion of transparency and those in the other two conditions, and because preliminary analyses revealed no significant differences between the control and reassured conditions on any of the dependent measures, we used planned contrasts with the error terms from one-way ANOVAs to analyze the data. In each case, the contrasts assigned weights of +2 to the informed condition and −1 to the control and reassured conditions.

Speakers' self-ratings

Speakers' ratings of the quality of their speech, their effectiveness as a speaker, and the extent to which their speech was expressive were highly correlated (mean $r = .71$), as were speakers' ratings of how relaxed they were before giving their speech and how nervous they were during their speech ($r = -.70$). We therefore col-

Table 1
Mean ratings of speeches by speakers and observers, Study 2

Type of rating	Condition		
	Informed	Control	Reassured
Speakers' self-ratings			
Speech quality	3.50*	3.04	2.83
How relaxed	3.94	3.47	3.25
Anticipated quality	3.54†	3.00	3.15
Relaxed appearance	4.20****	3.35	2.69
Observers' ratings			
Composed appearance	4.65***	3.90	3.94
Speech quality	4.23**	3.50	3.62

Note. Scores could vary from 1 to 7. Some items have been reverse-scored such that higher numbers indicate more favorable ratings on all measures. Significance tests refer to planned contrasts that assign a weight of +2 to the informed condition and weights of −1 to both the control and reassured conditions.

* $p < .05$.
** $p < .01$.
*** $p < .005$.
**** $p < .001$.
† $p < .06$.

lapsed the first three measures into an index of self-rated speech quality and the latter two (after appropriate reverse-scoring) into an index of the degree to which speakers were relaxed. Speakers informed about the illusion of transparency evaluated their speeches more positively than did speakers in the control or reassured conditions, $F(1, 65) = 4.47$, $p < .05$. On the other hand, although speakers in the informed condition rated themselves as somewhat more relaxed than speakers in the other two conditions, this difference fell short of significance, $F(1, 65) = 2.43$, *ns*.

How did speakers believe they appeared in the eyes of observers? Speakers' predictions of how observers would rate the quality of their speech were correlated with their predictions of how expressive observers would rate them ($r = .61$), so we collapsed the two variables into an index of anticipated ratings of speech quality. Analysis of this index revealed that speakers in the informed condition expected their speech to be rated more positively than did speakers in the control or reassured conditions, $F(1, 65) = 3.70$, $p < .06$. In addition, analysis of speakers' predictions of how anxious they thought they appeared to observers (reverse-scored so that higher numbers indicate less anxiety) revealed, as expected, that speakers in the informed condition thought they appeared significantly more relaxed than did speakers in the other two conditions, $F(1, 65) = 12.30$, $p < .001$.

Observers' ratings

Recall that observers evaluated speakers' performance on six dimensions. We grouped two of these—how relaxed speakers appeared before their speech and how composed they appeared during their speech—into an index of how composed speakers appeared ($r = .89$).

The remaining items—how expressive speakers were, how effective they were, the quality of their speech on a stylistic basis, and the quality of their speech on a substantive basis—were grouped into an index of overall speech quality (mean $r = .86$). Analyses of these indexes revealed strong support for our hypothesis. First, speakers informed about the illusion of transparency, who were freed from worry that their nervousness would be apparent to observers, appeared significantly more composed than did speakers in the control or reassured conditions, $F(1, 74) = 9.49$, $p < .005$. Moreover, speakers in the informed condition were rated as having delivered better speeches than their counterparts in the other two conditions, $F(1, 74) = 7.94$, $p < .01$.[4]

Discussion

These results demonstrate that speakers informed about the illusion of transparency evaluate their speeches more positively, and expect observers to evaluate their speeches more positively (and them as more relaxed), than speakers not so informed. Moreover, the benefits of being informed about the illusion of transparency carry over to the actual evaluations of their speeches by impartial observers. Informed speakers were seen as more composed by observers, and their speeches were evaluated more positively, than those not informed of the illusion. The same benefits were not obtained from a simple reassurance and instructions not to worry about what others think, suggesting that the instructions in the informed condition were effective because they allowed participants to escape the spiral of nervousness and concern over the leakage of that nervousness that

can plague individuals experiencing speech anxiety. Knowing about the illusion of transparency, in other words, allows speakers to be better speakers.

General discussion

When individuals are called upon to speak in public, they do not appear as nervous as they think they do. In Study 1, participants who gave extemporaneous speeches overestimated the extent to which their nervousness was apparent to others. This result extends the illusion of transparency to the domain of public speaking.

The results of Study 2 suggest that the illusion of transparency can play a role in the exacerbation of speech anxiety, and point to one way that such anxiety can be circumvented. Public speakers are often nervous over the (largely illusory) prospect that their nervousness is apparent to their audience—a concern that serves, ironically, to increase their nervousness. Speakers who were informed that their nervousness was not as apparent as they thought (but not participants who were merely reassured by the experimenter) were able to escape this spiral of nervousness and concern over leakage. As a result, they delivered speeches that were rated more positively than the speeches of those not so informed. Our results thus lend credence to the notion that "the truth can set you free": Knowing the truth about the illusion of transparency set participants free from the cycle of anxiety that can plague those who engage in public speaking—and helped them deliver better speeches.

Because speech anxiety can be so consequential for some people, there is interest in developing effective treatment techniques. Might the technique used in the present research—informing individuals about the illusion of transparency—be useful in clinical settings for treating speech anxiety and other forms of social anxiety? Our findings suggest that it might be. Simply informing participants that their nervousness was less apparent to others than they thought improved the quality of their speeches not only in their own eyes, but in the eyes of observers. The literature on the use of "cognitive modification" reinforces the view that altering individuals' beliefs in this way can be an effective treatment for speech anxiety (Allen, Hunter, & Donohue, 1989). Moreover, it is particularly tempting to consider our approach since, unlike the use of misattribution techniques to alleviate speech anxiety (i.e., encouraging individuals to attribute their anxiety about public speaking to "subliminal noise" or other illusory sources; Olson, 1988; Olson & Ross, 1988), our manipulation does not require deception—indeed, it involves the disclosure of actual research findings—and so does not raise ethical concerns when applied to a patient population.

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[4] At first glance, one might expect participants informed about the illusion of transparency to display it less than those not informed. If informed participants take their instruction to heart, they are likely to lower their estimates of how apparent their nervousness is to others. But note that because informing participants about the illusion succeeded in reducing their anxiety, the judges' ratings and the speakers' estimates of the judges' ratings are likely to be lowered in lock-step.

Accordingly, we did not design this study with the goal of tracking the magnitude of the illusion of transparency across conditions. Indeed, the dependent measures completed by speakers and observers were not parallel, making comparison dubious (speakers indicated how *anxious* they thought they appeared whereas observers rated how *relaxed* speakers appeared). Nevertheless, because speakers' ratings were reverse-scored in Table 1, readers may be tempted to compare them with observers' ratings. To formalize this comparison, we conducted a 2×3 mixed-model ANOVA, comparing how anxious speakers believed they appeared to observers (reverse-scored) with observers' ratings of how composed speakers appeared during their speeches, across the three conditions. Although the discrepancy between predicted and actual ratings was smaller in the informed condition ($M = 0.36$) than the control or reassured conditions ($Ms = 0.78$ and 1.22), the interaction was not significant, $F(2, 65) = 1.74$, *ns*. As expected, informing participants about the illusion of transparency did not reduce its magnitude significantly.

But there are (as always) reasons to be cautious in applying the present laboratory findings to a clinical setting. For one thing, informing individuals about the illusion of transparency would be expected to decrease anxiety only in individuals who are made nervous by the belief that their nervousness is apparent to others. Although this fear is sufficiently common for our manipulation to have been effective, there are undoubtedly some individuals who suffer from speech anxiety for whom this is not a part of their concern (Stein et al., 1996). Moreover, note that the speeches delivered by participants in Study 2 followed closely on the heels of the manipulation. We have no way of knowing whether the effects of our manipulation would have endured beyond the confines of the experimental session, as one would desire in a therapeutic intervention. It thus remains for future research to determine if the effects of informing individuals about the illusion of transparency can be of use to a clinical population.

Do the present findings apply beyond the domain of speech anxiety, to other varieties of social anxiety? We chose to focus on speech anxiety in part because so many otherwise well-adjusted people report significant anxiety about public speaking (Leary & Kowalski, 1995). Nevertheless, what distinguishes speech anxiety from other forms of social anxiety is little more than the context in which it occurs. Indeed, one can readily imagine the same processes described in this article plaguing, say, an individual who is chronically nervous about approaching potential romantic partners. Here again, concerns that one's nervousness is visible may give rise to more nervousness, heightened fears of leakage, and so on. And again, the realization that one's nervousness is largely concealed may go a long way towards quelling one's anxiety and improving one's "performance."

In general, then, we suggest that any time people are nervous over the very prospect of appearing nervous, the illusion that they are more transparent than they actually are can add fuel to the fires of their anxiety. An appreciation of the illusion of transparency may help to dampen the flames.

References

Allen, M., Hunter, J. E., & Donohue, W. A. (1989). Meta-analysis of self-report data on the effectiveness of public speaking anxiety treatment techniques. *Communication Education, 38*, 54–76.
Ascher, L. M., & Schotte, D. E. (1999). Paradoxical intention and recursive anxiety. *Journal of Behavior Therapy and Experimental Psychiatry, 30*, 71–79.
Behnke, R. R., Sawyer, C. P., & King, P. E. (1987). The communication of public speaking anxiety. *Communication Education, 36*, 138–141.
Chapman, G. B., & Johnson, E. J. (2002). Incorporating the irrelevant: Anchors in judgments of belief and value. In T. Gilovich, D. Griffin, & D. Kahneman (Eds.), *Heuristics and biases: The psychology of intuitive judgment* (pp. 120–138). Cambridge, England: University Press Cambridge.
Epley, N., & Gilovich, T. (2001). Putting adjustment back in the anchoring and adjustment heuristic: Differential processing of self-generated and experimenter-provided anchors. *Psychological Science, 12*, 391–396.
Epley, N., & Gilovich, T., (2003). Are adjustments insufficient? Harvard University, manuscript submitted for publication.
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.
Gilovich, T., & Savitsky, K. (1999). The spotlight effect and the illusion of transparency: Egocentric assessments of how we are seen by others. *Current Directions in Psychological Science, 8*, 165–168.
Gilovich, T., Savitsky, K., & Medvec, V. H. (1998). The illusion of transparency: Biased assessments of others' ability to read our emotional states. *Journal of Personality and Social Psychology, 75*, 332–346.
Hohenstein, R. D. (1986). Communication apprehension and its effect on job absenteeism, turnover, satisfaction, and promotion. Unpublished doctoral dissertation, University of Oregon.
Jacowitz, K. E., & Kahneman, D. (1995). Measures of anchoring in estimation tasks. *Personality and Social Psychology Bulletin, 21*, 1161–1166.
Kassin, S. M., & Fong, C. T. (1999). "I'm innocent!": Effects of training on judgments of truth and deception in the interrogation room. *Law and Human Behavior, 23*, 499–516.
Leary, M. R., & Kowalski, R. M. (1995). *Social anxiety*. New York: Guilford.
Mansell, W., & Clark, D. M. (1999). How do I appear to others? Social anxiety and processing of the observable self. *Behaviour Research and Therapy, 37*, 419–434.
McCroskey, J. C. (1970). Measures of communication-bound anxiety. *Speech Monographs, 37*, 269–277.
McCroskey, J. C. (1977). Oral communication apprehension: A summary of recent history and research. *Human Communication Research, 4*, 78–96.
Miller, D. T., & McFarland, C. (1987). Pluralistic ignorance: When similarity is interpreted as dissimilarity. *Journal of Personality and Social Psychology, 53*, 298–305.
Miller, D. T., & McFarland, C. (1991). When social comparison goes awry: The case of pluralistic ignorance. In J. Suls, & T. Wills (Eds.), *Social comparison: Contemporary theory and research* (pp. 287–313). Hillsdale, NJ: Erlbaum.
Miller, D. T., & Prentice, D. A. (1994). Collective errors and errors about the collective. *Personality and Social Psychology Bulletin, 20*, 541–550.
Monroe, C., Borzi, M. G., & Burrell, R. D. (1992). Communication apprehension among high school dropouts. *School Counselor, 39*, 273–280.
Olson, J. M. (1988). Misattribution, preparatory information, and speech anxiety. *Journal of Personality and Social Psychology, 54*, 758–767.
Olson, J. M., & Ross, M. (1988). False feedback about placebo effectiveness: Consequences for the misattribution of speech anxiety. *Journal of Experimental Social Psychology, 24*, 275–291.
Rapee, R. M., & Lim, L. (1992). Discrepancy between self- and observer-ratings of performance in social phobics. *Journal of Abnormal Psychology, 101*, 728–731.
Savitsky, K., & MacIntosh, A. E. (2003). If you're happy and you know it, will your face surely show it?: The illusion of transparency in facial expressions of emotion. Williams College, manuscript submitted for publication.
Savitsky, K., Medvec, V. H., Charlton, A. E., & Gilovich, T. (1998). "What, me worry?": Arousal, misattribution, and the effect of temporal distance on confidence. *Personality and Social Psychology Bulletin, 24*, 529–536.

Stein, M. B., Walker, J. R., & Forde, D. R. (1996). Public-speaking fears in a community sample: Prevalence, impact on functioning, and diagnostic classification. *Archives of General Psychiatry, 53*, 169–174.

Storms, M. D., & McCaul, K. D. (1976). Attribution processes and emotional exacerbation of dysfunctional behavior. In J. H. Harvey, W. J. Ickes, & R. F. Kidd (Eds.), *New directions in attribution research* (Vol. 1, pp. 143–164). Hillsdale, NJ: Erlbaum.

Van Boven, L., Gilovich, T., & Medvec, V. H. (in press). The illusion of transparency in negotiations. *Negotiation Journal.*

Vorauer, J. D., & Claude, S.-D. (1998). Perceived versus actual transparency of goals in negotiation. *Personality and Social Psychology Bulletin, 24*, 371–385.

Vorauer, J. D., & Ross, M. (1999). Self-awareness and feeling transparent: Failing to suppress one's self. *Journal of Experimental Social Psychology, 35*, 415–440.

Wegner, D. M. (1997). When the antidote is the poison: Ironic mental control processes. *Psychological Science, 8*, 148–150.

Wegner, D. M., Broome, A., & Blumberg, S. J. (1997). Ironic effects of trying to relax under stress. *Behaviour Research and Therapy, 35*, 11–21.