

in press, *Communication Methods and Measures*

Validating the Willingness to Self-Censor Scale II:
Inhibition of Opinion Expression in a Conversational Setting

Andrew F. Hayes

The Ohio State University

School of Communication

Brian Uldall

University of Hawaii

Department of Psychology

Carroll J. Glynn

The Ohio State University

School of Communication

Validating the Willingness to Self-Censor Scale II:
Inhibition of Opinion Expression in a Conversational Setting

Abstract

Hayes, Glynn, & Shanahan (2005a) introduced the Willingness to Self-Censor Scale as a measure of the extent to which a person uses cues about the climate of opinion when deciding whether to publicly voice opinions. The study reported here provides new validation evidence, collected during actual rather than hypothetical discussions. Each participant interacted with two confederates about a controversial topic who were trained to produce a discussion climate that was either consistent or inconsistent with the participant's own opinion on the topic. The manipulation of the climate of opinion affected opinion expression only among dispositional self-censors (i.e., those scoring relatively higher on the scale), even after controlling for dispositional shyness. As expected, people who scored relatively low were unaffected by information about the climate of opinion. These results further attest to the construct validity of the Willingness to Self-Censor Scale.

Validating the Willingness to Self-Censor Scale II:

Inhibition of Opinion Expression in a Conversational Setting

The open expression of opinions is functional, even essential for personal relationships and organizations (Perlow, 2003) and society at large (Sunstein, 2003). Managers are urged to avoid the Abilene paradox (Harvey, 1974; Harvey, Novicevic, Buckley, & Halbesleben, 2004) and groupthink (Janis, 1982), where employees fail to disclose their dissent to organizational decisions and strategy. People (especially women) who suppress expression of their opinions to significant others tend to be more depressed (Jack, 1991) and poorly adjusted in those relationships (Thompson, 1995). And so important is a society's need for open dialog and debate on matters of consequence to its citizens that protection of speech has been legally formalized in numerous countries throughout the world.

Of course, the right to free expression and actually practicing it are different matters entirely. When people are asked to explain why they have failed to provide their opinions in such contexts as work, the classroom, or around family, neighbors, or friends, reasons such as concern about hurting others' feelings, being socially ridiculed, and not wanting to start trouble are commonly given (Hyde & Ruth, 2002; Milliken, Morrison, & Hewlin, 2004; Wyatt, Katz, Levinsohn, & Al-Haj, 1996). Such reticence to practice free expression is understandable, especially when the surrounding opinion climate is perceived to be hostile to a particular expression. Few like a nay-sayer or know-it-all or enjoy being told they are wrong, and confronting others with dissent can be perceived as a violation of the rules of polite conversation (Brown & Levinson, 1987; Gilovich, 1990). The public articulation of opinions likely to be met with resistance by others can have negative personal consequences, such as social rejection, professional demotion or termination, discord in important relationships, and even physical violence.

Day to day and situation to situation, we frequently attempt to balance the sense of desire, duty, or need to freely express our minds with the knowledge that self-expression may not be worth

the risk interpersonally, professionally, or otherwise. People often straddle the fence between self-censorship and self-expression, ending up on whichever side the context dictates is prudent in a particular situation. But research on personality differences in conformity (e.g., Barron, 1953; Crutchfield, 1955), “need to individuate” (Maslach, Stapp, & Santee, 1985), and “need for uniqueness” (Snyder & Fromkin, 1977) suggests that some people will end up on one side of the fence more frequently than the other side, and this is an individual difference that is both measureable and consequential. The study reported here provides new evidence that a recently introduced measure designed to tap into this individual difference, the Willingness to Self-Censor Scale (Hayes, Glynn, & Shanahan, 2005a), is a construct-valid measure of this individual difference.

Willingness to Self-Censor

The Willingness to Self-Censor Scale (WTSCS) came into being in response to a recent meta-analysis of survey studies testing Noelle-Neumann’s (1974, 1993) spiral of silence theory of public opinion. This meta-analysis showed that the relationship between perceptions of the opinion climate and willingness to publicly express one’s opinion is surprisingly weak (Glynn, Hayes, & Shanahan, 1997). Hayes et al. (2005a) proposed that the relationship is weak in part because researchers have treated people as if they are equally susceptible to the social forces that can lead to inhibition of opinion expression, thereby ignoring the possibility that the climate of opinion may have a large effect on some people, but little to no effect on others.

The WTSCS was designed to measure this individual difference. It is an eight-item self-report instrument that includes such statements as “There have been many times when I thought others around me were wrong but I didn’t let them know,” and “It is difficult for me to express my opinion if I think others won’t agree with what I am going to say,” to which respondents express their level of agreement on a 5-point response scale (see Appendix). A person’s willingness to self-

censor is quantified as his or her average response across the eight items, with higher scores reflecting a greater willingness to self-censor.

Evidence to date shows that the scale produces reliable data, and confirmatory factor analyses indicate that the data it yields are statistically distinguishable, albeit related, from data from measures of related constructs, such as shyness, argumentativeness, and fear of negative evaluation (Hayes et al., 2005a). Relative to low scorers, high scorers tend to be more shy and apprehensive about communication and are more socially anxious. They are more concerned about their image in the public eye, as reflected in higher scores on measures of fear of negative evaluation and public self-consciousness. They are more likely to use information about the behavior of others as a guide to how they should behave in a given situation. They tend to have lower self-esteem and experience more negative and fewer positive emotions in the course of their daily lives. They tend to be more conservative politically, less educated, and less open to new experiences. They try to avoid arguments, and they are slower to express their opinions or otherwise say what is on their mind (Hayes, Glynn, Shanahan, & Uldall, 2003; Hayes et al., 2005a; Hayes, Scheufele, & Huge, 2006; Reineke, 2005).

Research since the publication of the WTSCS has focused on some of the consequences of self-censorship. Hayes et al. (2006) found that high scorers are less likely than low scorers to engage in various forms of political expression even after numerous statistical controls. There is also evidence that a tendency to self-censor can manifest itself as a reticence to expose others to controversial expression. Reineke (2005) reported a positive correlation between willingness to self-censor and willingness to censor *others*. And in a study of high school newspaper advisors, Filak, Reinardy, and Maksl (2008) found that advisors who scored relatively higher on the WTSCS were relatively less comfortable publishing topics in their school newspaper on controversial topics such as sex, substance abuse, and student misconduct.

To date, only one study has been conducted that attempts to experimentally validate the WTSCS. Hayes et al. (2005b) presented participants with a hypothetical discussion scenario in which a climate of opinion manipulation was imbedded. Whether the opinion climate was described as hostile or friendly to the participant's opinion affected the person's willingness to express his or her opinion, with opinion expression rated as more likely in the friendly than the hostile condition, but this difference was more pronounced among those who scored relatively higher on the WTSCS.

Although suggestive of construct validity, these results are not compelling because they describe hypothetical behavior. A rigorous test of the validity of the WTSCS requires that people interact in a conversational setting to see what they actually do while the researcher exerts control over the climate of opinion experimentally. In this study, that is just what we did. Prior to participating in a study on group discussion, participants completed the WTSCS and a measure of dispositional shyness. Several weeks later, the participants were placed into a social situation with a group of confederates who enacted a script expressing opinions consistent or inconsistent with the opinion the participant expressed privately on a form he or she was given at the beginning of the study. We predicted that among those scoring relatively high on the scale, opinion expression during the procedure would be more likely in the friendly opinion climate than in the hostile climate. But the manipulation of the climate of opinion should have little or no effect on opinion expression among those relatively low in willingness to self-censor.

Method

Participants

Seventy students from a Midwestern university participated in exchange for extra course credit. Of these 70, the data from six were excluded from the analysis. Five provided responses on a manipulation check question that suggested they did not accurately perceive the climate of opinion

as manipulated during the procedure, and one did not respond to all measures obtained during the administration of the study, leaving 64 participants (40 females, 24 males, $M_{\text{age}} = 21.6$ years).

Procedure

Students enrolled in a research methods course completed a pretest questionnaire that included the WTSCS ($M = 2.63$, $SD = 0.59$, Cronbach's $\alpha = .79$) and Cheek and Buss's (1981) 13-item Shyness scale ($M = 2.32$, $SD = 0.61$, Cronbach's $\alpha = .86$). Shyness was included in the instrument to disentangle the effects of willingness to self-censor on opinion expression from dispositional shyness, two variables that are known to be correlated (Hayes, 2005a). Indeed, consistent with prior research, participants who scored relatively higher on the WTSCS did report greater shyness, $r = .65$, $p < 0.001$.

Several weeks later, a researcher (the "experimenter") came to the class to recruit participants for a study on group discussion. Neither the experimenter nor the confederates (described below) were provided the participants' responses to the pretest, thus ensuring that they were all blind to the participants' WTSCS scores. Each participant arrived at the lab to find the door closed with a sign on it stating that he or she should wait outside. Two other students (a male and a female) were sitting in chairs near the door ostensibly waiting for the study but were actually confederates of the experimenter. After a brief waiting period, they were invited inside and instructed to sit on a sofa and chairs distributed around a table. The confederates strategically sat such that the participant would have to choose a seat between them. Once seated, they were handed a consent form and told they would be asked to engage in a discussion while attached to a machine that would record their physiological responses during the discussion. After collecting consent forms, the experimenter addressed the participant directly, instructing him or her as to how to properly attach a set of electrodes to his or her fingers. After this explanation, the participants

attached the electrodes, with assistance if necessary. The experimenter then instructed one of the confederates on this same procedure and assisted him in attaching the electrodes.¹

Next, the experimenter asked the participant and the confederates to fill out a form that solicited their opinions about a topic to be discussed during the study. Everyone was handed a form that described a computerized screening system that the university was ostensibly being asked to incorporate into its computer system by the Department of Homeland Security. The description read:

Several of the terrorists that attacked the World Trade Center on September 11, 2001, were in the United States on student visas. The Homeland Security Department is concerned that terrorists may enter the United States, attend universities for a period of time, and then carry out terrorist activities once they feel that they have gone undetected by U.S. immigration authorities. The Homeland Security Department has requested universities throughout the country, on a voluntary basis, to install “terror screening” software on their university networks. This software would monitor the contents of all electronic communications (email, search engine activity, etc.) for evidence of terrorism-related activity. Information of a “suspicious nature” would be forwarded to the Department of Homeland Security for investigation. Scholars on democracy, freedom of expression and privacy have had mixed reactions to this proposal (*Chronicle of Higher Education*, 2002, v. 23, p. 102). Some argue that this constitutes a serious invasion of privacy, whereas others acknowledge that in times such as these, we must be willing to accept limited freedoms in exchange for increased security.

Below this description, the participants were asked to indicate whether they support this policy by checking one of two boxes (support or don’t support). The instructions read:

Spend a few minutes thinking about this issue, and then indicate below whether you would support such a terror screening system at the university if it were implemented next year. Do you think it is a good idea? Would you support such a policy, or would you not support it?

Although the university was not considering such a policy, this topic was chosen because it was socially and personally relevant to students as well as controversial and plausible. Roughly 56% of the participants stated they supported the screening system, with the remaining individuals indicating they did not.

While collecting the responses to this form, the experimenter noted to himself which of the two boxes the participant checked, such that he had knowledge of the participant's privately-articulated opinion. With this knowledge, he then manipulated the opinion climate as either hostile or friendly to the participant's opinion (by a predetermined random assignment procedure) by surreptitiously cueing the confederates to enact a script expressing attitudes either in favor or against the terror screening system. Once the experimenter collected the forms, he exclaimed, "Oops! I forgot to get the new package of contact tapes. Sorry . . . I will be right back" at which point he then left the room for 2 more minutes. The purpose of this was to give the experimenter an excuse for leaving the room while the confederates delivered the opinion climate manipulation. As the experimenter left, he gave a subtle signal to the confederates to inform them of which of two experimental scripts they were to enact. If the confederates heard the jiggling of the experimenter's keys as he was leaving the room, they were to enact a "pro-terror screening" script. If the experimenter's keys were not audible, then they were to enact the "anti-terror screening" script. The confederates were not provided any information about the participant's opinion about the terror screening system, and thus were blind to experimental condition.²

Once the experimenter exited the room, the confederates provided information to the participant about their own opinions about the terror screening system that they were told they would be discussing when the study started. About 10 seconds after the experimenter closed the door to the room, one confederate, designated to speak first, made a remark either supporting (“sounds like a good idea . . .”), or degrading (“sounds like a terrible idea . . .”) the terror screening system. Allowing a few moments of silence for the participant to respond if he or she desired, the second confederate then made a statement agreeing with the first confederate (“yeah, this sort of thing should / shouldn’t be happening . . .”). Another moment of silence followed, allowing the participant an opportunity to respond. If no response was forthcoming after a few seconds, the first confederate directly asked the participant what he or she believed by asking him or her “What do you think about this?” If the participant responded or began a discussion at any time during the scripted interaction, the confederates were allowed to speak as they felt most appropriate while still preserving and expressing their scripted opinion on the issue. After a few minutes, the experimenter returned, announced that the study was over, administered a manipulation check (described below in the results section), and debriefed the participant.

Operationalization of Opinion Climate and Timing of Opinion Expression

For participants who reported in the questionnaire given at the beginning of the study that they supported the terror screening system, the confederates had created a hostile opinion by stating they did not support it, or a friendly climate by stating that they did. Conversely, for participants who reported they did not support the terror screening system, this manipulation produced a hostile climate if the confederates claimed they did support it or a friendly climate if they claimed they did not.

The analytical method described later requires a measure of whether or not the participant expressed his or her opinion to the participants during the interaction and, if so, when. We used

information provided by the confederates about their immediate recall of what each participant said at different stages of the experimental procedure to determine when the participant first expressed his or her opinion about the terror screening system. While each participant was being debriefed, the confederates independently completed a questionnaire assessing their perceptions of the behavior of the participant during the study. This questionnaire asked the confederates to provide their perceptions of the opinion of the participant, *based only on the things he or she did or said*, during three critical periods in the procedure: after the first confederate expressed his opinion but before the second confederate did (period 1), after the second confederate expressed her opinion (period 2), and, if further probing was needed to solicit the opinion of the participant, after the participant was directly asked what he or she thought about the terror screening system (period 3). The confederates were asked to indicate whether the participant either supported or did not support the terror screening system or whether it was impossible to tell (e.g., because the participant remained silent or made comments that were not informative about his or her opinion).

From the confederates' responses to these questions, we derived when the participant expressed his or her opinion during the interaction. We considered the participant to have expressed his or her opinion during period t of the procedure if *either* of the confederates' perceptions of the opinion the participant expressed in period t was consistent with the opinion the participant actually did express at the beginning of the study on the first form they were given. In period 1, the confederates perceptions of the participant's behavior agreed 80% of the time (which corresponded to reliability of .67 when corrected for chance using Krippendorff's α), with 34 of the participants (54%) expressing their opinion. This procedure was repeated using the confederates' judgments of the behavior of the participants in period 2 who had not yet expressed their opinion. Confederate judgments of participant responses during period 2 agreed 83% of the time (corresponding to Krippendorff's α of .61), with 8 of the participants expressing their opinion for the first time during

this period. The procedure was repeated for participants who had not yet expressed their opinion by the beginning of period 3. The confederates agreed 88% of the time (corresponding to Krippendorff's α of .82) on their judgments of the opinion expression of these participants during the third period, with 13 participants being scored as having expressed their opinion for the first time. The remaining 9 were classified as having never expressed their opinion.³

Results

Manipulation Check

During the debriefing, the experimenter asked each participant what he or she believed the confederates thought about the terror screening system. His or her response was categorized by the experimenter as expressing a belief that (a) the confederates agreed with his or her opinion, (b) the confederates disagreed with his or her opinion, (c) he or she didn't know what the confederates thought, or (d) the confederates seemed inconsistent in their beliefs. Ninety-two percent of the participants correctly perceived the climate of opinion as manipulated. Five participants were discarded from all analyses whose response to this manipulation check revealed that he or she did not accurately detect the opinion climate.⁴

Analysis

The goal of this study was to assess whether the effect of the climate of opinion on opinion expression is moderated by willingness to self-censor. To answer this question, we conducted a survival analysis in discrete time (Allison, 1984; Snyder, 1991; Snyder & O'Connell, 2008). Because this method is rarely used in the communication literature, some explanation is warranted.

It would be tempting to analyze these data by building a regression model treating when the participants expressed his or her opinion (i.e., which period during the procedure) as the outcome variable. The problem with this approach is the ambiguity in how to assign a value on the outcome variable to people who never expressed their opinion. In the language of survival analysis, such

people are *censored*. By the time the study ended, several of the participants had not yet expressed any opinion whatsoever. Eventually, they may have expressed their opinion, but we can't say for certain if so. We cannot just treat everyone such as this who is censored equally by assigning them some constant and arbitrary value on the outcome variable without biasing the results of the analysis in unknown and unpredictable ways. Nor can they be excluded from the analysis entirely, for that too would bias the results.

A second problem is that some of the participants in this study are *lost to follow up*—a form of censoring. In a longitudinal study people are lost to follow up when they cannot be contacted for follow-up measurement. The researcher cannot measure the outcome variable for such cases but they cannot just be discarded for analyses as this may potentially bias the analysis in uncertain ways. Three of the cases in this study were lost to follow up because they expressed an opinion early on but it wasn't their opinion as stated on the questionnaire they were given at the beginning of the study. As a result, the third observation period never occurred because the first confederate was instructed to probe the participant for his or her opinion only if the participant hadn't yet disclosed *any* opinion by the end of the second period. So these participants had their chances to express an opinion consistent with their privately-stated opinion cut short, and we cannot know if these participants would have eventually expressed that opinion. Another two participants were lost to follow up because, in spite of having not yet disclosed an opinion by the end of the 2nd period, the first confederate simply did not probe the participant for his or her opinion, likely because, in his judgment, the participant had already done so and so no probing was deemed necessary.

In a survival analysis, the goal is to model the probability of the event of interest while incorporating the effect of censoring into the estimation process. In this case, the event of interest is the participant expressing his or her opinion to the confederates. We used the logit modeling approach described in Allison (1984) and Singer and Willet (1991). With this approach, the model is

estimated using ordinary logistic regression. The outcome variable is dichotomous, set to 1 if the event occurs at time t and 0 otherwise, but each participant in the study contributes multiple records (i.e., rows) to the data file, with the number depending on how many time periods the participant is “at risk” for the event occurring. A participant is considered at risk at time period t if the participant had not yet expressed his or her opinion before time t . At period 1, all participants are at risk, but at period 2, only those participants who had not expressed their opinion during time 1 are at risk. Similarly, only those participants who had not expressed their opinion in period 1 or 2 are at risk in period 3. So everyone gets a single record in the data file with the outcome variable set to 1 if the participant expressed his or her opinion during the first time period, 0 otherwise. The predictor variables are set to the values as measured using the procedures described in the Measurement section above. Only those participants who are at risk in period 2 get a second record, with the predictor variables copied from the first record, and the outcome variable set to 1 if the participant expressed his or her opinion in the second period, zero otherwise. A similar procedure is followed for those still at risk going into the third period. Participants who are censored because they never expressed their opinion are recorded with zeros on the outcome variable for all of their records. Cases lost to follow up are represented with zeros on the outcome on all records up to the point they were lost. Although it would seem that this data structuring procedure would violate the independence assumption of logistic regression, it turns out that coefficients and standard errors are unbiasedly estimated in spite of each participant being represented in the data multiple times.

With the data file set up this way, the analysis proceeds as it does for any logistic regression analysis. In this case, the dichotomous variable coding opinion expression (0 = didn't express opinion in period t , 1 = did express opinion in period t) was the outcome variable. Opinion expression was first regressed on a dummy variable coding experimental condition (0 = hostile climate, 1 = friendly climate) as well as on dispositional shyness. This analysis revealed that

participants in the friendly climate condition were more likely to express their opinion than those in the hostile climate condition, but this effect was only marginally significant, $b = 0.619, p = .057$, one tailed. At any given time period, the estimated probability of opinion expression for those in the hostile climate condition was .42, compared to .57 in the friendly climate condition (setting shyness to the sample mean in the model). Shyness was negatively related to opinion expression, but this effect was also only marginally significant, $b = -0.621, p = .084$ two tailed.

More important to the goal of this study, the effect of the climate of opinion should vary between people as a function of willingness to self-censor. Relatively low scorers should be less affected by the climate of opinion than relatively high scorers. To test this, we added willingness to self-censor and the interaction between willingness to self-censor and the climate of opinion into the prior model, with the interaction quantified as the product of the dummy variable coding climate of opinion and scores on the WTSCS. As expected, the interaction was statistically significant and in the direction predicted, $b = 1.225, p = .040$ one-tailed. This interaction is represented in Figure 1.

Using national norms on the WTSCS (Hayes et al., 2005a), we probed this interaction by estimating the effect of the climate of opinion at normatively low (25th percentile = 2.13), average (50th percentile = 2.50), and high (75th percentile = 3.00) values of willingness to self-censor using the pick-a-point procedure described by Bauer and Curran (2005) and Hayes (2005). This analysis revealed that for those normatively low in willingness to self-censor, the climate of opinion did not affect opinion expression, $b = -0.050$, n.s. But opinion expression was relatively more likely in the friendly than the hostile climate among those who were average ($b = 0.710, p = .041$ two tailed) or normatively high in willingness to self-censor ($b = 1.016, p = .015$ two tailed).⁵

Discussion

In this study, we found that the climate of opinion did not affect the participants' decision to self-censor equally, as the effect of the climate opinion manipulation was contingent on the

participants' willingness to self-censor, even when controlling for dispositional shyness. Those who scored relatively low on the WTSCS seemed less inclined to use information about the climate of opinion when deciding whether to speak out. Instead, it was only among those who had relatively moderate or high scores on the WTSCS that opinion expression depended on the climate of opinion. These findings give credence to our claim that the WTSCS is a construct-valid measure of this individual difference.

These results do not provide insight into the reasons why some participants chose silence over self-expression. The WTSCS was designed to measure a person's willingness versus reticence to voice an opinion in a hostile opinion climate without tapping into the motivation underlying that decision. Research has suggested many reasons for self-censorship, such as a desire to avoid an argument, to minimize the likelihood of offending others, to avoid physical harm, or to present oneself positively or avoid negative evaluations by others. No doubt just as there are individual differences in the use of information about the climate of opinion when deciding whether to speak out, there are also individual (as well as situational) differences in the what motivates people to choose self-censorship over self-expression.

Our results are also silent on the cognitive processes that underlie the lack of susceptibility of lower scorers to the climate of opinion manipulation. Is it that such people are less likely to notice what the climate of opinion is? Our data suggest not, as people who were discarded from the analysis because they did not accurately identify the climate of opinion did not differ from those retained on their willingness to self-censor. Did they notice it but simply did not deem the information relevant, or did they realize the implications of voicing a minority opinion but simply do not care about the potential consequences?

Our findings have substantive implications beyond the assessment of the construct validity the WTSCS. For instance, in spite of the dozens of published studies on the spiral of silence, in only

a few instances have investigators tested it in anything other than hypothetical discussion situations. Our study joins McDevitt, Kiouisis, and Wahl-Jorgensen (2003) as one of the few studies that has looked at how people respond to variations in the opinion climate in a real discussion situation. We found (unlike McDevitt et al.) that opinion expression was more likely when the opinion climate was friendly rather than hostile to the participant's opinion. But more importantly, this study illustrates the value of considering individual differences in spiral of silence phenomena. Our argument, supported by these data, is that many individual differences should be conceptualized not as main effects or mediators, as researchers traditionally have (e.g., Huang, 2005; Lasorsa, 1991; Petrič & Pinter, 2002; Wilnat, Lee, & Detenber, 2001), but as *moderators*. That is, individual differences are interesting in the study of spiral of silence processes insofar as they distinguish people from each other with respect to how they respond to the situation they are in. Here we have provided evidence that people do differ in how they respond to the climate of opinion, and we have provided a construct-valid measure of this individual difference. But as noted above, we are not informed by our data as to just what motivates the choice to speak out or remain silent as a function of the climate of opinion. Future research will perhaps better answer this question.

Willingness to Self-Censor has application beyond spiral of silence research (several applications not discussed below are outlined in Hayes et al., 2005a). For example, silence in the workplace can be symptomatic of low employee morale, fosters resentment, and facilitates the production and implementation of poor organizational decisions (Perlow, 2003). How do self-censors (i.e., those relatively high on the WTSCS) contribute to organizational climate and decision quality? Do those without some inclination to self-censor when silence may actually be more appropriate negatively affect organizational climate, employee satisfaction, or decision quality? Do groups function more effectively when dissent is free-flowing and abundant (e.g., a group stacked

with low self-censorers) or is there an optimal balance of self-censors and self-expressors that leads to more creative decisions that are made more quickly and are higher in quality?

The WTSCS could also be used as a means of better understanding the ubiquitous problem of nonresponse and “middle-of-the-road” responding in public opinion polling and survey research. As Berinsky (2004) noted, telephone and face-to-face interviews are social interactions and guided by many of the same rules of ordinary conversation. Many respondents think about the impressions they convey to the interviewer by providing certain responses to questions, just as they do when they engage in ordinary conversation. During the opinion expression stage of survey response, participants who believe their responses are unusual or might convey a negative impression may be hesitant to provide a response honestly and instead opt to self-censor with a “don’t know” response or one that conveys a lack of commitment to a particular position, such as “neutral,” “it depends” or “neither agree nor disagree.” Our results suggest that such responses, a form of self-censorship, would be more likely among those higher in willingness to self-censor when their opinions or attitudes are perceived as atypical. As a result, the response distribution would be biased in systematic ways as a function of which position was perceived as the minority one, but only among certain types of respondents (i.e., those relatively high in willingness to self-censor). The inclusion of the WTSCS in public opinion polls and other surveys would facilitate the testing of such questions and could lead to a means of reweighting responses so as to get a more accurate representation of the distribution of public opinion if people did not self-censor.

References

- Allison, P. D. (1984). *Event history analysis: Regression for longitudinal event data*. Thousand Oaks, CA: Sage
- Barron, F. (1953). Some personality correlates of independence of judgment. *Journal of Personality*, *21*, 287-297.
- Bauer, D. J., & Curran, P. J. (2005). Probing interactions in fixed and multilevel regression: Inferential and graphical techniques. *Multivariate Behavioral Research*, *40*, 373-400.
- Berinsky, A. J. (2004). *Silent voices: Public opinion and political participation in America*. Princeton, NJ: Princeton University Press.
- Brown, P., & Levinson, S. C. (1987). *Politeness: Some universals in language usage*. Cambridge, UK: Cambridge University Press.
- Cheek, J. M., & Buss, A. H. (1981). Shyness and sociability. *Journal of Personality and Social Psychology*, *41*, 330-339.
- Cohen, J. (1978). Partialled products are interactions; partialled products are curve components. *Psychological Bulletin*, *85*, 858-866.
- Cronbach, L. J. (1987). Statistical tests for moderator variables: Flaws in analyses recently proposed. *Psychological Bulletin*, *102*, 414-417.
- Crutchfield, R. S. (1955). Conformity and character. *American Psychologist*, *10*, 191-198.
- Dunn, E. W., Biesanz, J. C., Human, L. J., & Finn, S. et al. (2007). Misunderstanding the affective consequences of everyday social interactions: The hidden benefits of putting one's best face forward. *Journal of Personality and Social Psychology*, *92*, 990-1005.
- Filak, V., Reinardy, S., & Maksl, A. (2008, August). Expanding and validating the willingness to self-censor scale: Self-censorship and media advisors' comfort level with controversial topics.

Paper presented at the annual meeting of the Association for Education in Journalism and Mass Communication, Chicago, IL.

- Gilovich, T. D. (1990). *How we know what isn't so: The fallibility of human reason in everyday life*. New York: Free Press.
- Glynn, C. J., Hayes, A. F., & Shanahan, J. (1997). Perceived support for one's opinion and willingness to speak out: A meta-analysis of survey studies on the spiral of silence. *Public Opinion Quarterly*, *61*, 452-463.
- Harvey, J. (1974). The Abilene paradox: The management of agreement. *Organizational Dynamics*, *3*, 63-80.
- Harvey, M., Novicevic, M. M., Buckley, M. R., & Halbesleben, J. R. B. (2004). The Abilene paradox after thirty years: A global perspective. *Organizational Dynamics*, *33*, 215-226.
- Hayes, A. F. (2005). *Statistical methods for communication science*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Hayes, A. F., Glynn, C. J., & Shanahan, J. (2005a). Willingness to self-censor: A construct and measurement tool for public opinion research. *International Journal of Public Opinion Research*, *17*, 298-323.
- Hayes, A. F., Glynn, C. J., & Shanahan, J. (2005b). Validating the willingness to self-censor scale: Individual differences in the effect of the climate of opinion on opinion expression. *International Journal of Public Opinion Research*, *17*, 443-455.
- Hayes, A. F., Glynn, C. J., Shanahan, J., & Uldall, B. (2003, May). *Individual differences in willingness to self-censor*. Paper presented at the annual meeting of the American Association for Public Opinion Research, Nashville, TN.
- Hayes, A. F., Scheufele, D. A., & Huge, M. E. (2006). Nonparticipation as self-censorship: Publicly-observable political activity in a polarized opinion climate. *Political Behavior*, *28*, 259-283.

- Huang, H. (2005). A cross-cultural test of the spiral of silence. *International Journal of Public Opinion Research, 17*, 324-345.
- Hyde, C. A., & Ruth, B. J. (2002). Multicultural content and class participation: Do students self-censor? *Journal of Social Work Education, 38*, 241-256.
- Jack, D. C. (1991). *Silencing the self: Women and depression*. Cambridge, MA: Harvard University Press.
- Janis, I. L. (1982). *Groupthink: Psychological studies of policy decisions and fiascos* (2nd ed). New York: Haughton-Mifflin.
- Jacard, J., & Turrisi, R. (2003). *Interaction effects in multiple regression* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- Kromrey, J. D., & Foster-Johnson, L. (1998). Mean centering in moderated multiple regression: Much ado about nothing. *Educational and Psychological Measurement, 58*, 42-67.
- Lasorsa, D. L. (1991). Political outspokenness: Factors working against the spiral of silence. *Journalism Quarterly, 68*, 131-140.
- McDevitt, M., Kiouisis, S., & Wahl-Jorgensen, K. (2003). Spiral of moderation: Opinion expression in computer mediated discussion. *International Journal of Public Opinion Research, 15*, 454-470.
- Maslach, C., Stapp, J., & Santee, R. T. (1985). Individuation: Conceptual analysis and assessment. *Journal of Personality and Social Psychology, 49*, 729-738.
- Milliken, F. J., Morrison, E. W., & Hewlin, P. F. (2003). An exploratory study of employee silence: Issues that employees don't communicate upward and why. *Journal of Management Studies, 40*, 1453-1476.
- Noelle-Neumann, E. (1974). The spiral of silence: A theory of public opinion. *Journal of Communication, 24* (2), 43-51.
- Noelle-Neumann, E. (1993). *The spiral of silence: Public opinion—our social skin* (2nd ed). Chicago: University of Chicago Press.

- Perlow, L. A. (2003). *When you say yes but mean no: How silencing conflict wrecks relationships and companies . . . and what you can do about it*. New York: Crown.
- Petric, G., & Pinter, A. (2002). From social perception to public expression of opinion: A structural equation modeling approach to the spiral of silence. *International Journal of Public Opinion Research, 14*, 37-53.
- Plaks, J. E., & Stecher, K. (2007). Unexpected improvement, decline, and stasis: A prediction confidence perspective on achievement success and failure. *Journal of Personality and Social Psychology, 93*, 667-684.
- Reich, D. A., Green, M. C., Brock, T. C., & Tetlock, P. E. (2007). Biases in research evaluation: Inflated assessment, oversight, or error-type weighting. *Journal of Experimental Social Psychology, 43*, 633-640.
- Reineke, J. (2005, November). *Doing unto others as one does unto one's self: Exploring the relationship between support for public censorship and self-censorship*. Paper presented at the annual meeting of the Midwestern Association for Public Opinion Research, Chicago, IL.
- Singer, J. D., & Willet, J. B. (1991). Modeling the days of our lives: Using survival analysis when designing and analyzing longitudinal studies of duration and the timing of events. *Psychological Bulletin, 110*, 268-290.
- Snyder, C. R., & Fromkin, H. L. (1977). Abnormality as a positive characteristic: The development and validation of a scale measuring need for uniqueness. *Journal of Abnormal Psychology, 86*, 518-527.
- Snyder, L. B. (1991). Modeling dynamic communication processes with event history analysis. *Communication Research, 18*, 464-486.

- Snyder, L. B., & O'Connell, A. A. (2008). Event history analysis for communication research. In A. F. Hayes, M. D. Slater, & L. Snyder (Eds.), *The SAGE sourcebook on advanced data analysis methods for communication research* (pp. 125-158). Thousand Oaks, CA: Sage Publications.
- Sunstein, C. (2003). *Why societies need dissent*. Cambridge, MA: Harvard University Press.
- Thompson, J. M. (1995). Silencing the self: Depressive symptomology and close relationships. *Psychology of Women Quarterly*, 19, 337-353.
- Wilnat, L., Lee, W., & Detenber, B. H. (2001). Individual-level predictors of public outspokenness: A test of the spiral of silence theory in Singapore. *International Journal of Public Opinion Research*, 14, 391-412.
- Wyatt, R. O., Katz, E., Levinsohn, H., & Al-Haj, M. (1996). The dimensions of expression inhibition: Perception of obstacles to free speech in three cultures. *International Journal of Public Opinion Research*, 8, 229-247.

Footnotes

¹The electrodes were connected to a device that recorded the participants' electrodermal response during the procedure, but these data are not pertinent to the purpose of this paper and are not discussed further.

²It is unlikely that the experimenter could have destroyed confederate blindness by subtly and/or unconsciously communicating to the confederates the condition the participant was assigned to. Very little time elapsed between when the experimenter glanced at the participant's response to the question and when he left the room so the confederates could deliver their scripts, and he cued them as to which script to enact when he was out of sight of the confederates. Regardless, because both the confederates and the experimenter were blind to the participants' scores on the WTSCS, there is no way any kind of subtle communication of experimental condition to the confederates could artifactually produce an interaction between willingness to self-censor and the climate of opinion, the central test of the construct validity of the WTSCS.

³It is important to note that expression of an opinion counter to the opinion the participant privately expressed at the beginning of the study (on the questionnaire) was not considered opinion expression for the purpose of our analysis. Publicly expressing an opinion inconsistent with a privately held belief but consistent with the opinion of those toward whom the expression is directed is *conformity* and is treated here as a form of self-censorship (cf., Hayes, 2005a). In this study, we cannot distinguish between a conformity response and expression of an opinion that reflects real attitude change. We did ask all respondents during the debriefing whether they still believed what they said they believed about the terror screening system at the beginning of the study. Fifty nine (92%) of the participants said they had not changed their minds. Of those 5 who said they changed their opinion, four nevertheless expressed opinions consistent with their privately

stated beliefs the first opportunity they were given during the procedure. The remaining participant never publicly expressed any opinion whatsoever.

⁴The exclusion of participants who fail a manipulation check is a fairly common procedure in experimental studies (for recent examples, see Dunn, Biesanz, Human, & Finn, 2007; Plaks & Stecher, 2007; Reich, Green, Brock, & Tetlock, 2007). Although it is tempting try to salvage the data from these five by using their *perceptions* of the opinion climate rather than which condition they were assigned to, doing so would eliminate the interpretational advantages afforded by random assignment. These five participants would have essentially self-selected into a condition, so we couldn't be sure that any effect of the manipulation wasn't due in part to other factors correlated with perceptions, rendering this a purely correlational study with all the interpretational ambiguities inherent in such a study. Furthermore, that these five could not correctly identify the opinion climate when 92% percent of the participants could suggests that they may have been distracted or were not attentive during the procedure, which leads us to question the quality of their data. We did rerun the analysis including these participants and found the results were not substantively affected by their exclusion.

⁵We reconducted the analysis substituting an interaction between shyness and opinion climate for the interaction between WTSC and opinion climate. This interaction was not significant, suggesting that the differential effect of the climate of opinion manipulation as a function of WTSC did not also occur for shyness. This result compliments the existing literature (e.g., Hayes, 2005a, 2005b) attesting to the discriminant validity of the WTSC scale.

Appendix

Items on the willingness to self-censor scale (Hayes et al., 2005a). Responses are made on a 1 (strongly disagree) to 5 (strongly agree) scale, anchored in the middle by “neither agree nor disagree.” Responses are averaged after reverse scoring, such that higher scores reflect a greater willingness to self-censor.

- (1) It is difficult for me to express my opinion if I think others won't agree with what I say.
- (2) There have been many times when I have thought others were wrong but I didn't let them know.
- (3) When I disagree with others, I'd rather go along with them than argue about it.
- (4) It is easy for me to express my opinion around others who I think will disagree with me. (R)
- (5) I'd feel uncomfortable if someone asked my opinion and I knew he or she wouldn't agree with me.
- (6) I tend to speak my opinion only around friends or other people I trust.
- (7) It is safer to keep quiet than publicly speak an opinion that you know most others don't share.
- (8) If I disagree with others, I have no problem letting them know it (R)

R = reverse scored

Figure Captions

Figure 1. Probability of Expressing One's Opinion as a Function of the Climate of Opinion and Willingness to Self-Censor

