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# Let It Go: How Exaggerating the Reputational Costs of Revealing Negative Information Encourages Secrecy in Relationships

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**Abstract**

Keeping negative interpersonal secrets can diminish wellbeing, yet people nevertheless keep negative information secret from friends, family, and loved ones to protect their own reputations. Twelve experiments suggest these reputational concerns are systematically miscalibrated, creating a misplaced barrier to honesty in relationships. In hypothetical scenarios (Experiments 1, S1, & S2), laboratory experiments (Experiments 2 & 6), and field settings (Experiments 3 & 4), those who imagined revealing, or who actually revealed, negative information they were keeping secret expected to be judged significantly more harshly than recipients expected to judge, or actually judged, them. We theorized that revealers' pessimistic expectations stem not only from the cognitive accessibility of negative information (Experiment S3), but also from a perspective gap such that the negative outcomes of disclosing this information, compared to positive outcomes, are more accessible for prospective revealers than for recipients. Consistent with this mechanism, revealers' expectations were better calibrated when directed to focus on positive thoughts, or when they considered revealing positive information (Experiments 5, 6, & S4). Revealers' miscalibrated expectations matter because they can guide decisions about whether to reveal information or conceal it as a secret (Experiment S5). As predicted, calibrating revealers' expectations increased their willingness to reveal negative information to others (Experiment 7), suggesting that miscalibrated fears of others' judgment create a misplaced barrier to honesty in relationships. Overestimating the reputational costs of disclosing negative information might leave people carrying a heavier burden of secrecy than would be optimal for their own wellbeing.

*Keywords*: secrets, forgiveness, accuracy, social cognition, self-disclosure

Word Count: 245

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"You are in a pitiable condition when you have to conceal what you wish to tell."

—Publilius Syrus (~100 BC/1922, p. 696)

According to the ancient Greek myth "Midas and the Donkey Ears," King Midas received a pair of donkey ears as punishment for slighting a powerful Greek deity. Midas wore scarves, hats, and helmets to conceal his misshapen ears, sharing his appearance with only his barber. Concerned for his reputation, Midas forbade his barber from revealing the secret to the rest of the kingdom. The barber felt so burdened by his secret that he found himself in the pitiable condition of climbing to the top of a mountain, digging a hole in the ground and whispering, "Midas has an ass's ears!"

Receiving donkey ears from an angry god may be unusual, but keeping negative information secret to protect one's reputation is not. New relationships rarely begin with people revealing the most negative facts about their lives. Survey research even indicates that the average person may carry roughly five secrets that they have never shared with anyone (Pennebaker et al., 1989; Slepian et al., 2017; Smyth, 1998). Concealing negative information may stem from a desire to protect one's image in the eyes of others, but it also creates a psychological burden that increases stress, anxiety, depression, regret, and feelings of inauthenticity (Larson & Chastain, 1990; Maas et al., 2012; McDonald et al., 2019; Pennebaker et al., 1989). Stress produced by secrecy can compromise immune function and increase susceptibility to physical illness (Pennebaker et al., 1987; Pennebaker et al., 1988). Revealing one's secrets, whether by writing about them or by sharing them verbally with others (i.e., the

"talking cure"), can therefore mitigate some of these negative consequences of concealing secrets (Pennebaker, 1997; Slepian & Moulton-Tetlock, 2019).

This tension between the negative costs of concealing information from others and the positive outcomes of honest self-disclosure raises two important questions about the impact of social cognition on interpersonal relationships. First, to what extent do people conceal negative information as a secret due to concerns about how they will be judged by others? Second, are these concerns about others' reactions well-calibrated to others' actual reactions? These questions are broad because people can withhold a seemingly infinite range of information from a wide range of others. To make empirical progress, we focused on one context in which another person's impression is likely to be especially important: in interpersonal relationships. From spouses to new acquaintances, people may conceal personal information that is presumed harmful to their relationship.

We hypothesize that people's reputational concerns are systematically miscalibrated. Whether people consider revealing something negative that they did just moments earlier, or consider revealing information they have kept secret from others for some time, we suggest that people are likely to overestimate how harshly they will be judged for revealing this negative information, thereby creating a somewhat misplaced psychological barrier to transparency in relationships. People's miscalibrated expectations may then unwisely lead them to carry a heavier burden of secrecy than would be optimal for their own wellbeing.

We base these predictions on existing theories of social motivation and social judgment. People care deeply about maintaining their interpersonal relationships due to a deep-seated need for belonging (Baumeister & Leary, 1995), and are therefore motivated to avoid threats in their relationships. Revealing negative personal information creates the potential threat of negative

evaluation (Afifi & Steuber, 2009; Cowan, 2017; Omarzu, 2000). This risk can create different costs at different stages of relationship development, from being reluctant to start a relationship with a new acquaintance to abandoning a relationship with a long-term partner (Denrell, 2005; Lott & Lott, 1972). People consequently shy away from disclosing intimate information when initially getting to know another person (Altman & Taylor, 1973; Derlega et al. 1976; Jones & Pittman, 1982; Kardas et al., 2022; Leary & Kowalski, 1990; Morton, 1978). As a relationship progresses, people become more dependent on a relationship partner for approval and support (Murray et al., 2008; Murray et al., 2006; Reis & Shaver, 1988), thereby increasing the potential harm from being rejected after revealing negative information (Love et al., 2018; Luciano & Orth, 2017; Wade & Pevalin, 2004). People's decisions to open up to both distant and close relationship partners should therefore be guided by how they expect to be judged by their partners.

However, accurately anticipating another person's impression is inherently challenging because others' mental states cannot be directly observed but instead must be indirectly inferred. People tend to use their own perspective as a guide to others' mental states, creating egocentric biases in judgment (Epley, Keysar, et al., 2004; Epley, Morewedge, & Keysar, 2004; Hoch, 1987; Krueger, 1998). Miscalibrated expectations can therefore arise whenever perspectives diverge. We predict that revealing negative information can create a perspective gap because it communicates negative content about the revealer as well as positive traits of trust and vulnerability through the revelation of this content, each of which could be evaluated differently by revealers versus recipients. Revealers may be attentive to aspects of the revelation that could threaten their relationship with the recipient, such that revealers focus largely on the negative content of the disclosure itself or the manner in which they will reveal the negative information.

Recipients, on the other hand, may be attentive to the meaning of the revelation for the revealer's character, such that recipients focus more broadly on both the negative content being revealed and the positive context of trust and vulnerability conveyed by the decision to reveal this information (Abele & Wojciszke, 2007). The recipients' broader perspective could also lead them to consider mitigating situational circumstances surrounding a transgression (Epley et al., 2002; Van Boven et al., 1999), leading them to forgive a past transgression (McCullough, 2001) more readily than expected. As a result, we predict that revealers will overestimate how harshly they will be judged by recipients after revealing negative information, creating a potentially unwarranted psychological barrier to transparency in relationships.

Our hypotheses build on several existing findings. In one series of experiments, those who engaged in an embarrassing blunder tended to overestimate how harshly they would be judged by observers (Savitsky et al., 2001). Shifting people's attention to more positive situational information led to more calibrated predictions of an observer's impressions, consistent with the possibility that those revealing negative information might be more attentive to the negative implications of their disclosure than recipients are. These experiments, however, were conducted between strangers who were never part of any relationship. These experiments also did not examine cases in which one person was actively withholding information from another person that could potentially threaten their relationship. Most important, this research did not examine how miscalibrated expectations could encourage people to keep negative information secret, thereby creating a potentially unwarranted barrier to transparency in relationships.

More recent research indicates that people may underestimate how negatively others will judge them for transparently concealing information from others (John et al., 2016). Participants

in one experiment were asked to imagine that they had smoked marijuana and then considered how to answer the question, “Have you ever done drugs?” on a job application. Participants were prompted to select either “Yes” or “Choose not to answer.” The majority of participants (71%) selected “Choose not to answer,” but participants who imagined being prospective employers indicated somewhat more interest in hiring a person who selected “Yes.” Giving participants the explicit goal of appearing honest and trustworthy decreased the percentage who actively concealed potentially negative information. Although these results do not directly test the degree to which people might overestimate how harshly they will be judged for revealing negative information, they do suggest that people do not fully recognize the interpersonal costs of obvious secrecy. Our hypotheses focus on the consequences of revealing negative information that a relationship partner does not know is being concealed.

Finally, recent research suggests that people may be overly concerned about showing vulnerability by revealing their personal fears and insecurities to others. In one study (Bruk et al., 2018; Study 1), participants imagined that either they or another person confessed their love for their best friend. People rated these confessions of love to be more courageous, and less as a sign of weakness, when they imagined another person’s confession than their own. In another study (Gromet & Pronin, 2009; Study 3), pairs of participants shared both one negative and one positive quality about themselves with one another. Participants underestimated how much their partners would like them for both their negative and positive disclosures, but underestimation was larger for negative disclosures.

We extend this work in three important ways. First, we examine both negative information that people have not tried to conceal from others and negative secrets that people have actively concealed out of a fear of being judged harshly by others. This negative

information is potentially relationship-threatening, and hence comprises a uniquely interesting category of information. Concealing negative information as a secret may also be burdensome, harming wellbeing by creating shame or guilt for withholding information from a relationship partner. Second, we study the consequences of revealing negative information across relationship types ranging from strangers to romantic partners, predicting consistent miscalibrated expectations across relationship types. Third, we test whether people's miscalibrated beliefs encourage them to keep negative information secret from others, such that calibrating people's expectations would encourage transparency and openness in relationships.

We test our primary hypotheses that people overestimate how negatively they will be judged for revealing negative information using three different methodological approaches, each with unique strengths and weaknesses. In hypothetical scenarios (Experiments 1, S1, & S2), participants adopt the perspective of a revealer or recipient. Revealers report how they expect to be judged by the recipient, whereas recipients report how they think they would judge the revealer. Although these scenarios rely on people's imagination for events rather than their actual behavior, and therefore can document perspective gaps but cannot identify which perspective might be miscalibrated, they do allow us to examine the kinds of significant experiences people encounter in their daily lives. In controlled laboratory experiments (Experiments 2 & 6), participants perform some negative behavior during the ongoing experiment, or they write down a negative piece of information about themselves, that is unknown to another participant. Participants then reveal this negative information later in the experiment. Although these experiments involve unique situations created for the purposes of an experiment, they involve real interactions that enable a clear comparison between expected and actual evaluations. In field experiments (Experiments 3 & 4), we ask one person to write down and then reveal a negative

secret they have been keeping from a relationship partner in their daily life. These field experiments cannot systematically control the secrets being revealed, but they can provide ecologically valid tests of the consequences of revealing genuine secrets in everyday life. Convergence across these methodological approaches provides a more comprehensive test of our hypotheses.

We suggest that people may systematically overestimate how harshly they will be judged by others because negative thoughts about the disclosure are more highly accessible to revealers than to recipients. We test this hypothesis by manipulating the accessibility of positive versus negative thoughts among revealers in Experiments 5 and S4, and by having participants reveal both positive and negative information about themselves in Experiment 6. We also test whether miscalibrated expectations stem from the content of negative information that people might choose to conceal from another person, or from the actual act of concealing that information as a secret, in Experiment 6. Finally, we test the degree to which miscalibrated expectations of others' evaluations act as psychological barriers to being more forthcoming in one's relationships in Experiments S5 and 7.

## Experiment 1: Imagined Revelations

Participants read one of five scenarios, each describing a unique context in which negative information had been kept secret but could be revealed, either from the perspective of the person revealing a secret or the person receiving a secret. To ensure that the scenarios would describe negative information that people commonly conceal from others in everyday life, we derived them from contexts that participants recruited from Amazon Mechanical Turk described to us in a pretest (see Supplemental Material for details about the pretest).

The revealer in each scenario had done something negative or acted in a way that could harm the recipient—the kind of information that revealers might be reluctant to share based on how they would be judged by recipients. Revealers then indicated how they believed a recipient would evaluate them whereas recipients reported how they believed they would actually evaluate the revealer. We predicted that revealers would expect to be judged more negatively by recipients than the recipients themselves would expect, and that revealers' preference for keeping the information secret would be correlated with how harshly they expected to be judged by the recipient.

## Method

**Transparency and openness.** Because our experiments are among the first to study the expected versus actual reputational consequences of revealing negative information that has been kept secret, we had no data available to conduct a priori power analyses. We therefore targeted 50 participants or pairs per condition after data exclusions for each experiment (Simmons et al., 2018). We preregistered all experiments except Experiment S2, which we conducted before this practice became commonplace. We report all measures, manipulations, and data exclusions throughout the manuscript. We analyzed all data using R, version 3.6.2 (R Core Team, 2019). We report all analyses without data exclusions in the Supplemental Materials. The surveys, data, analysis code, Supplemental Materials, and preregistrations are available at https://osf.io/jf94s/?view_only=3c2e21363f274fed8857d0ea2e1e6325.

Our research follows the APA's journal article reporting standards for quantitative research in psychology (Appelbaum et al., 2018). All experiments were approved by the university's Institutional Review Board. We obtained informed consent from all participants.

**Participants.** Participants from Amazon Mechanical Turk ($N$ = 527; $M_{age}$ = 36.28; $SD_{age}$ = 10.76; 49.53% female, 49.91% male, 0.57% other gender; 77.23% White, 7.40% Black, 4.93% Hispanic, 5.31% Asian, 0.38% American Indian, 4.74% other ethnicity) completed the experiment in exchange for $0.50. We excluded 19 additional participants for failing the attention check described below. In this and the following experiments, we performed sensitivity power analyses using G*Power 3.1.9.4 (Faul et al., 2007) to estimate the minimum effect size that our sample could detect with 80% probability. Our final sample in Experiment 1 provided about 80% power to detect a minimum effect of size $\eta_p^2$ = .01 between Revealer expectations and Recipient evaluations, combined across the five scenarios.

**Procedure.** Participants were randomly assigned to one cell in a 2 (role: Revealer, Recipient) × 5 (scenario: romantic relationships, past behavior, life circumstances, differences of opinion, rule breaking; see Appendix) between-participants design. To make the scenarios more realistic, we asked participants to think of a specific person who fit the relationship role depicted in the scenario and to write down that person's initials. Depending on the scenario, this person was a friend, family member, or romantic partner.

Participants then read the assigned scenario containing the first and last initials they had just reported. For example, participants assigned to the romantic relationships scenario read:

> You're in a romantic relationship with X and have been in this relationship for nearly three years. Most of the time your relationship with X is very strong and you communicate openly. However, two weeks ago you got into a fight with X and temporarily doubted your relationship [X temporarily doubted the relationship]. Later that same day you [X] flirted with somebody else over lunch. Although you resolved your fight with X [X resolved the fight with you] later that evening and your relationship

with X continues to be very strong, you never revealed to X that you [X never revealed to you that he/she] flirted with somebody else that day over lunch.

The other four scenarios described a playwright who chooses not to invite family members to a play that incorporated themes at odds with the family's religious views (differences of opinion), a person who accrues serious credit card debt and stops paying bills without telling family (life circumstances), a person who smokes cigarettes for nearly a year without telling one's partner (past behavior), and a roommate who steals food from another roommate's cabinets almost every night for a month (rule breaking). In each scenario, participants read that the revealer concealed what happened from the recipient.

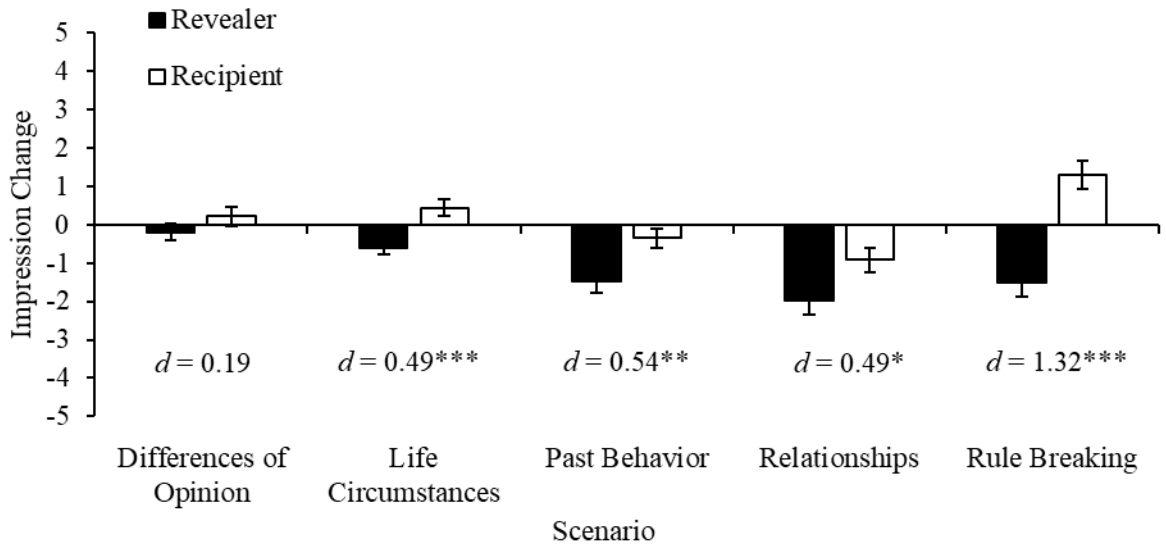
Participants then imagined that the revealer explained what happened to the recipient and completed three dependent measures either from the perspective of the revealer or recipient: how revealing this secret would influence the recipient's impression of the revealer (-5 = *They'd think much less of me [I'd think much less of them]*, 0 = *They'd think no differently of me [I'd think no differently of them]*; +5 = *They'd think much more of me [I'd think much more of them]*); how long it would take for the recipient to forgive following the revelation (0 = *Immediately*, 1 = *A few seconds*, 2 = *A few minutes*, 3 = *A few hours*, 4 = *A few days*, 5 = *A few weeks*, 6 = *A few months*, 7 = *A few years*, 8 = *A few decades*, 9 = *Almost the rest of his/her [my] life*, 10 = *Never*); and to what extent they would prefer that the revealer share the secret (0 = *Definitely not reveal*, 10 = *Definitely reveal*).

Participants then responded to an attention check by reporting whether they were the revealer or the recipient in the scenario. Finally, participants provided demographic information.

**Results**

**Revealer versus recipient evaluations**. As shown in Figure 1, revealers believed that recipients would judge them more harshly than the recipients expected they would judge the revealers. We performed a 2 (role: revealer, recipient) × 5 (scenario) ANOVA on the impression-change measure, with both role and scenario coded as categorical variables. We used White corrections to account for unequal variances across conditions. This analysis yielded a main effect of role, $F(1, 517) = 47.65$, $p < .001$, $\eta_p^2 = .09$, indicating that revealers expected recipients' impressions to change more negatively than recipients reported. We also found a main effect of scenario, $F(4, 517) = 9.58$, $p < .001$, $\eta_p^2 = .07$, and a role × scenario interaction effect, $F(4, 517) = 3.57$, $p = .007$, $\eta_p^2 = .04$. The same ANOVA on the time-to-forgive measure yielded a main effect of role, $F(1, 517) = 18.16$, $p < .001$, $\eta_p^2 = .03$, indicating that revealers expected recipients to take longer to forgive them than the recipients reported, and a main effect of scenario, $F(4, 517) = 22.15$, $p < .001$, $\eta_p^2 = .14$. The role × scenario interaction effect was not significant, $F(4, 517) = 0.33$, $p = .861$, $\eta_p^2 = .003$. Finally, the same ANOVA on the desire-to-reveal measure yielded a main effect of role indicating that revealers expressed weaker preferences for revealing the secret than recipients, $F(1, 517) = 98.15$, $p < .001$, $\eta_p^2 = .16$, a main effect of scenario indicating that some scenarios yielded lower desire for the secret to be revealed than others, $F(4, 517) = 11.02$, $p < .001$, $\eta_p^2 = .10$, and a role × scenario interaction effect, $F(4, 517) = 2.42$, $p = .048$, $\eta_p^2 = .02$. The role × scenario interaction on the impression-change measure indicates that we observed a statistically significant effect of role in all but the differences-of-opinion scenario (see Supplemental Material for separate analyses of each scenario). We made no predictions about how a given scenario might moderate the impact of role, and so are reluctant to speculate about this result on the impression-change measure.

To better understand the main effects of role on the impression-change measure, we combined our data across scenarios and examined revealer and recipient evaluations separately. Revealers generally expected that recipients' impressions would become more negative after the revelation ($M$ = -1.15, $SD$ = 2.29), *one-sample* $t(198.19) = -8.51$, $p < .001$, 95% CI [-1.41, -0.88], $d$ = -0.50, whereas recipients did not expect their impressions to change ($M$ = 0.14, $SD$ = 2.14), *one-sample* $t(219.92) = 1.11$, $p = .268$, 95% CI [-0.11, 0.39], $d$ = 0.06. Revealers thought their revelations would generally be viewed negatively, whereas Recipients' evaluations were not systematically negative (e.g., John et al., 2016).



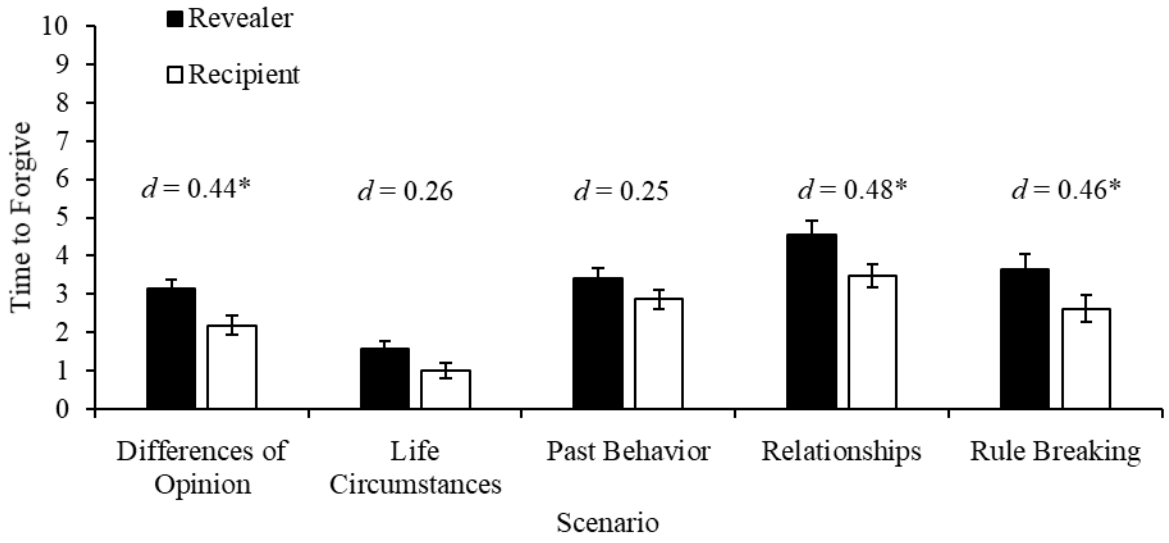



*Figure 1*. Mean impression change (upper panel) and time to forgive (lower panel) across role (revealer, recipient) and scenario in Experiment 1. Asterisks denote significant simple effects of role (revealer vs. recipient) within each scenario (*$p$ < .050, **$p$ < .010, ***$p$ < .001). Error bars ±1 *SE*.

**Desire to reveal**. Finally, people's expectations about others' reactions matter because they are likely to guide decisions about whether to reveal or conceal information. We therefore predicted that revealers' expectations of the recipients' judgments would be correlated with their preference for revealing the information they had kept secret, such that believing one would be judged harshly would serve as a psychological barrier for revealing the information. Across the five scenarios, revealers' desire to reveal correlated positively with beliefs about impression change ($r$ = .42), $t$(269) = 7.65, $p$ < .001, 95% CI [.32, .52], and negatively with beliefs about time to forgive ($r$ = -.42), $t$(269) = -7.56, $p$ < .001, 95% CI [-.51, -.32]. These correlations are notably smaller among recipients, with recipients' preference for learning the secret more modestly correlated with impression change ($r$ = .21), $t$(254) = 3.42, $p$ < .001, 95% CI [.09, .32], and non-significantly with time to forgive ($r$ = -.09), $t$(254) = -1.52, $p$ = .130, 95% CI [-.21, .03].

## Discussion

Across a broad range of secrets, people assigned to imagine revealing negative information they had kept secret expected to be judged more negatively than those who imagined receiving negative information about someone else. In particular, Revealers consistently expected that others' impressions of them would become more negative after hearing the information, whereas Recipients' impressions were less negative than the Revealers expected. In fact, although Recipients reported that their impressions would become more negative or would not change significantly in three of the five scenarios, they reported that their impressions would become significantly more positive in the remaining two scenarios (see Supplemental Material for separate analyses of each scenario). Revealing negative information can convey positive traits of openness and honesty that may offset the negative content of the disclosure itself (John et al., 2016; Levine et al., 2018).

One concern about these scenarios could be that people's fears of harsh evaluation would be justified if we examined the consequences of revealing more severe negative information that one might keep secret. Although we expect that recipients would indeed be sensitive to the magnitude of negative information revealed, we expect that revealers' expectations would also be somewhat sensitive to the magnitude of negative information, thereby maintaining the perspective gap between recipients and revealers across varying degrees of negative information.

As one test of this possibility, we conducted a supplemental experiment in which we manipulated the severity of negative information in a secret using the "relationships" scenario ($N$ = 207; see Supplemental Experiment S1 for the detailed method and results). We chose this scenario because we felt it was the most straightforward to make more extreme with the fewest modifications. Participants in the low-severity condition read an adapted version of the scenario

above in which one person flirts with someone and then conceals it from their partner. Participants in the high-severity condition read the same scenario except that one person sleeps with someone else. Participants then completed the same measures as in Experiment 1, from the role of revealer or recipient. As predicted, revealers expected to be evaluated significantly more negatively than recipients reported on measures of impression change, $F(1, 203) = 6.59$, $p = .011$, $\eta_p^2 = .03$, and time to forgive, $F(1, 203) = 6.00$, $p = .015$, $\eta_p^2 = .03$. Although recipients reported forming relatively negative impressions upon receiving either secret, $t$s$(203) \geq 2.25$, $p$s $\leq .025$, $d$s $\geq 0.32$, these impressions were less negative than revealers expected. For time to forgive, differences between revealer expectations and recipient evaluations were qualified by a significant role × severity interaction effect, $F(1, 203) = 6.28$, $p = .013$, $\eta_p^2 = .03$, such that the gap between revealers and recipients was *even larger* for the high-severity secret. This result suggests that the perspective gap between revealers' expectations and recipients' evaluations would not narrow as the content being concealed becomes more negative and serious. If anything, these results suggest it could increase the gap.

## Experiment 2: Live Revelations

Experiment 1 suggests that the perspective people adopt affects the anticipated consequences of revealing negative information kept secret across a wide range of scenarios, but these scenarios involved hypothetical judgments. To test our hypotheses in a live social interaction that can more clearly determine whether or not revealers' expectations are miscalibrated compared to recipients' actual evaluations, we created a laboratory context in which one participant lied to another, concealed this lie from the other person, and then later revealed the information they had concealed. We predicted that participants would overestimate how negatively they would be judged after revealing the information they had concealed.

## Method

**Participants.** We recruited 50 pairs of strangers from a university's participant pool ($N$ = 100 individuals, $M_{age}$ = 28.85, $SD_{age}$ = 12.13; 53.00% female, 47.00% male; 24.00% White, 6.00% Black, 6.00% Hispanic, 56.00% Asian, 1.00% American Indian, 7.00% other ethnicity) to complete an experiment in the Virtual Lab coordinated by a university research center in exchange for $9. We excluded an additional 19 pairs from analyses based on criteria in our pre-registration: In 15 pairs, either the Revealer or the Recipient indicated that the Revealer did not reveal that they had lied as instructed, and in 4 pairs, participants experienced technical difficulties with the video conferencing technology that prevented them from hearing each other. Our final sample provided about 80% power to detect a minimum effect of size $\eta_p^2$ = .08 between revealers' expectations about revealing the secret and recipients' actual evaluations.

**Procedure.** In each session, 2-10 participants connected to the video conference from their personal computers. The experimenter verified that none of the participants knew each other, arranged the participants in pairs, and randomly assigned one participant in each pair to the role of Revealer and the other to the role of Recipient. Participants were not informed that their role assignments differed. They then received a personalized survey link corresponding to their role assignment and consented to participate in the study.

The experimenter then explained that participants would play a "sharing game" with another person they had not met before in which they would both answer and discuss a series of five questions. To prepare for this interaction, participants would first read the discussion questions and jot down notes about how they would respond.

Participants read the discussion questions, which were a modified version of the fast-friends paradigm in order to make them feel more connected to each other and to provide a

context for creating a negative secret (Aron et al., 1997). Participants assigned to the role of Revealer first read the following instructions:

> "For the purposes of the experiment, it is important that you lie to your study partner when providing your response to Question #5. We want you to completely make up your answer to this question but to try your best to be as believable as possible. Please tell the truth when responding to questions 1, 2, 3, and 4. Note that your study partner has not been given these instructions and will be responding honestly to all five questions. He or she does not know that you have been told to do this and we'd like you to keep this as a secret from them. The notes you write to yourself for Question 5 should help you with this task. That is, they should include the details of the lie you are about to tell."

Participants assigned to the role of Recipient did not receive this instruction. All participants then read the following five questions:

- QUESTION 1: What would constitute a perfect day for you?
- QUESTION 2: Is there something you've dreamed of doing for a long time? Why haven't you done it?
- QUESTION 3: What is one of your favorite memories?
- QUESTION 4: What is one of the more embarrassing moments in your life?
- QUESTION 5: Can you describe a time you cried in front of another person?

Below the fifth question, Revealers reread the instructions to lie in response to this question and to keep this lie as a secret from the other person. Participants jotted down notes about how they would respond to each of the questions and then discussed them in a spoken conversation with their study partner. For questions 1, 3, and 5, the Recipient read the question

aloud, answered the question, and listened to the Revealer's response to the same question. This order was reversed for questions 2 and 4. Each pair discussed the questions in a private video conferencing room to ensure that they could not hear other participants' discussions.

***Pre-revelation dependent measures***. After finishing their discussions, recipients completed a short questionnaire about their initial evaluations: They reported their overall impression of their study partner (-4 = *very negative*, 4 = *very positive*), how honest they believed their partner was (-4 = *very dishonest*, 4 = *very honest*), how trustworthy they believed their partner was (-4 = *very untrustworthy*, 4 = *very trustworthy*), and how the recipient currently felt themselves (-4 = *very bad*, 4 = *very good*).

Revealers, in contrast, reported how they expected the recipients to rate them on the same scales. Revealers were then informed that they and their partner would continue talking for another five minutes without conversation questions, and were asked to imagine that during this discussion they revealed that they lied in response to Question #5 and kept it secret. Revealers then reported how they expected the Recipient to evaluate them after the revelation on the same measures described earlier (impression, honesty, trustworthiness, and Recipient mood). Revealers then reported their attitudes toward revealing the information they had kept secret: their preference for revealing or not revealing the secret (-4 = *strongly prefer NOT REVEALING my secret*, 4 = *strongly prefer REVEALING my secret*), and their preference to reveal the secret themselves or have the experimenter reveal it (-4 = *strongly prefer that THE EXPERIMENTER reveal my secret*, 4 = *strongly prefer that I reveal the secret myself*). Finally, revealers reported how they felt right now (-4 = *very bad*, 4 = *very good*).

***Secret revelation.*** Revealers then received the instruction to reveal their secret that they had lied, analogous to the instructions they had received when reporting their expectations:

> "In the next part of the experiment, you and your study partner will continue talking for another five minutes without conversation questions. For purposes of the experiment, please reveal your secret to your study partner that you were lying. That is, during this next conversation, please tell your study partner your secret that you lied in your response to Question #5."

After reading this instruction, pairs continued speaking for five minutes in private video conferencing rooms, with one person revealing that they had lied and kept it secret.

***Post-revelation dependent measures.*** After revealing the secret, Recipients reported their actual evaluations on the same measures on which Revealers had reported their expectations (impression, honesty, trustworthiness, and Recipient mood). We predicted that Recipients' evaluations would be less negative than Revealers anticipated before the revelation. In addition, Revealers again reported their expectations of the Recipient's impressions on the same four measures. We measured Revealers' expectations about the revelation both before and after revealing the secret to assess whether revealing the secret and seeing their partner's reaction would lead to more calibrated beliefs about how they were evaluated. Revealers also indicated how they felt "right now" (-4 = *very bad*, 4 = *very good*).

To determine whether Revealers actually revealed their secret that they had lied as instructed, participants completed additional measures. Revealers indicated whether they revealed the information during the second conversation (*yes, I revealed my secret that I had lied* vs. *no, I did not reveal my secret that I had lied* vs. *other / not sure (please explain)*). If they indicated that they revealed the information, they then completed an exploratory measure indicating whether they also revealed that the researchers had instructed them to lie and to keep this lie as a secret (*yes, I revealed that the researchers had INSTRUCTED me to lie and to keep*

*this lie as a secret* vs. *no, I did not reveal that the researchers had INSTRUCTED me to lie and to keep this lie as a secret* vs. *other / not sure (please explain)*). After reporting all time 2 evaluations, Recipients likewise read that the researchers had instructed their study partner to lie in response to Question #5 and to keep this lie as a secret. Recipients then indicated whether their study partner revealed their secret during the second conversation, and if so, whether their study partner revealed that the researchers had instructed them to lie. As pre-registered, we excluded pairs in which either the Revealer or Recipient indicated that the Revealer did not reveal the secret that they had lied.

Finally, both participants reported demographic information.

***Two-week follow-up survey***. We also assessed whether miscalibration between Revealers and Recipients would change over time after the experimental session. We emailed participants a link to a follow-up survey two weeks after each session and then sent a reminder one week later to those who had not completed the survey. To increase participation, we explained that one randomly selected participant who completed the follow-up survey would receive a $100 gift card.

After clicking the link to the follow-up survey, participants reread the five conversation questions from the original session and were reminded that they discussed these questions with another person and then continued speaking for another five minutes. Participants were instructed to take a moment to remember their study partner, but were not reminded that the Revealer was asked to lie and to conceal this lie as a secret, nor that the Revealer later revealed their secret.

Revealers then indicated how they expected their study partner to evaluate them currently—that is, the evaluations that their study partner would report upon completing the

follow-up survey. They reported their expectations of how the other person would currently rate their overall impression of the Revealer (-4 = *very negative*, 4 = *very positive*), the Revealer's honesty (-4 = *very dishonest*, 4 = *very honest*), and the Revealer's trustworthiness (-4 = *very untrustworthy*, 4 = *very trustworthy*). We omitted the Recipient mood measure because Recipients' mood two weeks after the laboratory session was likely to vary widely for reasons unrelated to their evaluations of the Revealer. Recipients reported their current evaluations of the Revealer on the same scales.

After completing the survey, participants viewed a debriefing form explaining the purpose of the laboratory experiment and follow-up survey.

**Results**

As noted earlier, we excluded 15 pairs from analyses because one or both participants indicated that the Revealer did not reveal their secret as instructed. However, revealers who did not reveal their secret did not differ from those that were included in our final analyses in terms of expected changes in impression upon revealing the secret, $F(1, 63) = 3.51$, $p = .066$, $\eta_p^2 = .05$, expected changes in honesty, $F(1, 63) = 1.82$, $p = .182$, $\eta_p^2 = .03$, or expected changes in recipient mood, $F(1, 63) = 0.003$, $p = .957$, $\eta_p^2 = .00005$. The one exception was trustworthiness, in that revealers who did not reveal their secret expected significantly smaller declines in trustworthiness upon revealing their secret than those who revealed their secret, $F(1, 63) = 4.60$, $p = .036$, $\eta_p^2 = .07$. Including these pairs in analyses does not meaningfully alter our results (see Supplemental Material).

**Expected versus actual evaluations.** We predicted that revealers would overestimate how negatively they would be judged by recipients after revealing that they had lied to their partner and kept it secret. We tested this in a series of 2 (role: revealer, recipient) × 2 (time: 1, 2)

ANOVAs on the primary measures. In these ANOVAs, the revealer measures refer to revealers' pre-revelation beliefs about how they were currently judged by recipients at time 1 and their pre-revelation beliefs about how they would be judged upon revealing the secret at time 2. The recipient measures refer to recipients' pre-revelation evaluations of the revealer at time 1 and their post-revelation evaluations after hearing the secret at time 2. As shown in Figure 2, revealers significantly overestimated how negatively recipients' evaluations would change from time 1 to time 2 on all measures: overall impression, $F(1, 49) = 26.35$, $p < .001$, $\eta_p^2 = .35$, honesty, $F(1, 49) = 27.39$, $p < .001$, $\eta_p^2 = .36$, trustworthiness, $F(1, 49) = 42.86$, $p < .001$, $\eta_p^2 = .47$, and Recipient mood, $F(1, 49) = 27.13$, $p < .001$, $\eta_p^2 = .36$. Likewise, revealers underestimated the positivity of the Recipients' time 2 evaluations on all measures, $F$s $\geq 31.38$, $p$s $< .001$, $\eta_p^2$s $\geq .32$ (see Figure 2). As in Experiment 1, revealers overestimated how negatively they would be judged after revealing a negative secret.

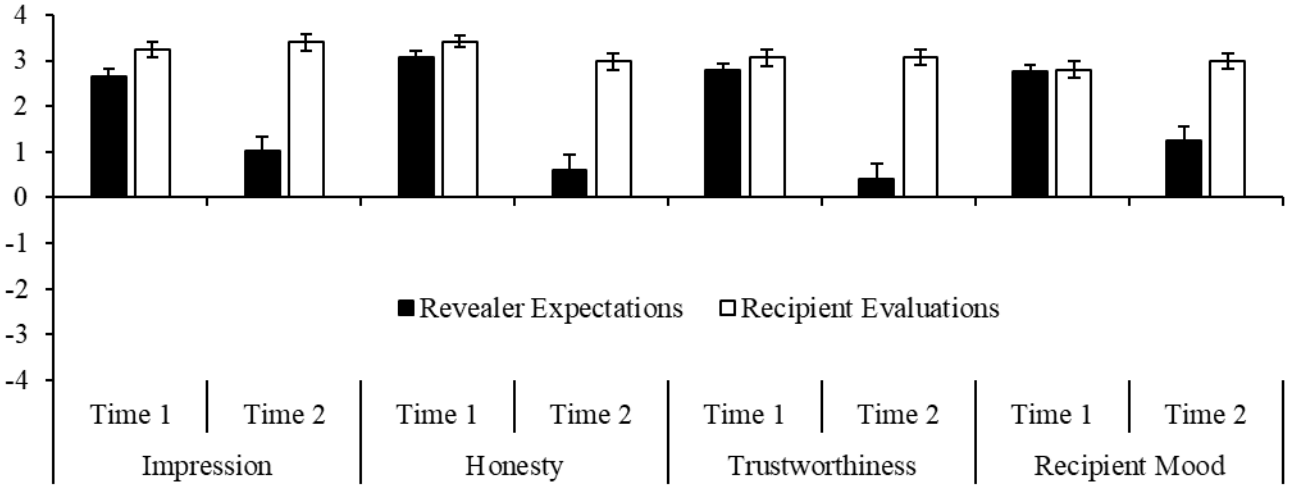



*Figure 2*. Mean Revealer expectations and Recipient evaluations at time 1 and time 2 in Experiment 2. Time 2 ratings refer to Revealers' pre-revelation expectations about revealing the secret and Recipients' post-revelation evaluations. Error bars ±1 *SE*.

**Calibration before versus after revealing**. We also hypothesized that revealing the secret would help to calibrate Revealers' beliefs about the recipients' evaluations, such that Revealers would expect to be judged less harshly after having actually revealed the secret because they would be able to observe their recipient's actual reaction. Consistent with this possibility, Revealers believed they were evaluated more positively after revealing their secret on all measures: overall impression (*M*s = 1.02 vs. 2.40, *SD*s = 2.28 vs. 1.31), *paired t*(49) = -4.30, $p < .001$, 95% $CI_{difference}$ [-2.02, -0.74], $d = -0.72$, honesty (*M*s = 0.60 vs. 2.00, *SD*s = 2.50 vs. 1.70), *paired t*(49) = -4.08, $p < .001$, 95% $CI_{difference}$ [-2.09, -0.71], $d = -0.64$, trustworthiness (*M*s = 0.40 vs. 1.78, *SD*s = 2.36 vs. 1.63), *paired t*(49) = -4.14, $p < .001$, 95% $CI_{difference}$ [-2.05, -0.71], $d = -0.67$, and Recipient mood (*M*s = 1.26 vs. 2.16, *SD*s = 2.11 vs. 1.49), *paired t*(49) = -3.09, $p = .003$, 95% $CI_{difference}$ [-1.49, -0.31], $d = -0.48$. Revealers still significantly underestimated how positively recipients evaluated them after revealing that they had lied on all measures, *paired ts*(49) $\geq 2.95$, *p*s $\leq .005$, *d*s $\geq 0.61$, but did so to a lesser extent than before the revelation.

**Secondary measures**. As in Experiment 1, revealers who expected to be judged less harshly after revealing that they had lied also reported being more interested in revealing this information that they had kept secret. In particular, revealers' desire to reveal was positively correlated with expecting more positive changes in impression ($r = .47$), $t(48) = 3.68$, $p < .001$, 95% CI [.22, .66], honesty ($r = .41$), $t(48) = 3.11$, $p = .003$, 95% CI [.15, .62], trustworthiness ($r = .37$), $t(48) = 2.77$, $p = .008$, 95% CI [.10, .59], and Recipient mood ($r = .45$), $t(48) = 3.47$, $p = .001$, 95% CI [.19, .65]. People may be more inclined to reveal negative information they have kept secret to the extent that they do not expect to be evaluated harshly by their recipients.

We also examined whether revealing that they had lied and kept it secret would relieve any of the psychological burdens of secrecy. Consistent with this possibility, revealers reported feeling significantly more positive after revealing ($M$ = 2.22, $SD$ = 1.64) than before revealing ($M$ = 1.38, $SD$ = 1.89), *paired* $t(49) = -3.11$, $p = .003$, 95% $CI_{difference}$ [-1.38, -0.30], $d = -0.47$.

**Follow-up survey responses**. As described earlier, we contacted participants two weeks after the experimental session for a follow-up survey. Nearly all Revealers and Recipients (96% & 98%, respectively) completed this survey. Recipients reported significantly less positive evaluations in the follow-up survey than they did immediately after hearing the negative information on the measures of overall impression ($M$s = 3.41 vs. 2.86, $SD$s = 1.31 vs. 1.10), *paired* $t(48) = 3.45$, $p = .001$, 95% $CI_{difference}$ [0.23, 0.87], $d = 0.45$, and trustworthiness ($M$s = 3.10 vs. 2.55, $SD$s = 1.18 vs. 1.37), *paired* $t(48) = 2.95$, $p = .005$, 95% $CI_{difference}$ [0.18, 0.93], $d$ = 0.43, and marginally less positive evaluations for honesty ($M$s = 2.98 vs. 2.65, $SD$s = 1.28 vs. 1.39), *paired* $t(48) = 1.97$, $p = .055$, 95% $CI_{difference}$ [-0.01, 0.66], $d = 0.24$. These changes in Recipient evaluations could reflect a tendency to judge the revealer's behavior more negatively over time, or could simply indicate that evaluations regressed toward more moderate evaluations as Recipients forgot details of their positive impressions of the Revealers. Notably, however, Revealers' pre-revelation beliefs in the original session underestimated not only how positively they were judged immediately after revealing the secret, as described earlier, but also significantly underestimated how positively they were judged by Recipients two weeks after the revelation on each measure, *paired* $ts(48) \geq -4.68$, $ps < .001$, $ds \geq 1.01$. These longer-term evaluations suggest that Revealers overestimate how harshly they will be judged upon revealing negative information, not merely how soon they will be judged harshly.

Finally, Revealers' beliefs about how they would be evaluated by Recipients did not change significantly between the laboratory session and the follow-up survey on any measures, *paired t*s(47) $\leq$ 0.92, *p*s $\geq$ .361, *d*s $\leq$ 0.13. As a result, Revealers' beliefs after the laboratory session underestimated the positivity of Recipients' overall impressions (*M*s = 2.19 vs. 2.87, *SD*s = 1.53 vs. 1.12), *paired t*(46) = -2.46, *p* = .018, 95% $CI_{difference}$ [-1.24, -0.12], *d* = -0.51, and ratings of honesty (*M*s = 1.98 vs. 2.64, *SD*s = 1.67 vs. 1.42), *paired t*(46) = -2.06, *p* = .046, 95% $CI_{difference}$ = [-1.31, -0.01], *d* = -0.42, and marginally underestimated Recipients' ratings of trustworthiness (*M*s = 1.91 vs. 2.53, *SD*s = 1.61 vs. 1.40), *paired t*(46) = -1.87, *p* = .068, 95% $CI_{difference}$ = [-1.28, 0.05], *d* = -0.41, similar to the miscalibration documented shortly after revealing that they had lied in the original laboratory session.

**Discussion**

People asked to reveal that they had just lied to another person and kept it secret in a live interaction overestimated how harshly they would be judged by the recipient of this secret, suggesting that exaggerated fears of harsh evaluations after revealing a negative secret are not limited to people's imaginations. Moreover, revealers underestimated how positively they would be judged by recipients both immediately after revealing that they had lied and two weeks later. Revealing a negative secret may create less reputational damage than people anticipate.

## Experiment 3: Revealing Real Secrets in Close or Distant Relationships

To provide another test of our hypotheses in a more ecologically valid context, we asked revealers in Experiment 3 to write down a genuine negative secret that they had not revealed to others, to report how they expected to be judged after sharing it with their recipient, and then to actually reveal it to the recipient.

To test whether revealers' expectations might be miscalibrated across a wider range of relationship types, we manipulated whether participants revealed their negative secret to a stranger or a closer acquaintance (e.g., friend, family member, relationship partner). Our proposed mechanism—that revealers focus inordinately on the negative content of information without considering positive characteristics implied by revealing this content—is not restricted to a particular relationship type and hence we expected that revealers would overestimate how negatively they would be judged in both distant and close relationships. We found initial support for this possibility in a supplemental scenario study in which participants imagined a revelation between two individuals described as having either a weak or strong relationship. Revealers overestimated how negatively they would be judged across the weak and strong conditions, $F$s $\geq$ 32.29, $p$s < .001, $\eta_p^2$s $\geq$ .15, with no significant differences across conditions in miscalibration for changes in impression, $F(1, 187) = 3.57$, $p = .060$, $\eta_p^2 = .02$, or forgiveness, $F(1, 187) = 0.03$, $p = .874$, $\eta_p^2 = .0001$ (see Supplemental Materials, Experiment S2). Experiment 3 tests this hypothesis in live interactions with people revealing genuine negative information they have kept secret.

## Method

**Participants.** We began this experiment intending to recruit pairs of participants from public parks and transit stations for in-person study sessions. We recruited four pairs just before the onset of the COVID-19 pandemic made in-person experiments of this kind impossible. We then recruited another 97 pairs through two academic institutions for remote study sessions conducted through video conferencing software. We recruited a total of 101 pairs after data exclusions ($N$ = 202 individuals; $M_{age}$ = 23.69; $SD_{age}$ = 7.42; 65.84% female, 33.66% male, 0.50% other gender; 20.30% White, 8.42% Black, 13.86% Hispanic, 47.52% Asian, 9.90% other

ethnicity) to complete the study in exchange for $5 or $10 depending on the study location. We also excluded an additional 19 pairs of participants, 14 in which the revealer wrote down a secret that they rated to be neutral or positive, three in which the revealer indicated that they did not reveal the secret to the recipient, one in which a participant completed a related experiment that should have disqualified the person from completing this experiment, and one due to technical difficulties with video conferencing software. Our final sample provided about 80% power to detect a minimum effect of size $\eta_p^2 = .07$ between revealers' expectations and recipients' actual evaluations, separately for distant and close others.

**Procedure.** We recruited two pairs of friends, family members, or partners for each experimental session, and randomly assigned each session to either the close other condition in which people were paired with their relationship partner or to the distant other condition in which people were paired with one of the two participants they had never met before (i.e., a stranger). We then randomly assigned one participant in each pair to be the revealer and the other to be the recipient. Participants in the close-other condition reported how close and connected they felt to their study partner (0 = *not at all close and connected*, 10 = *extremely close and connected*), and the nature of their relationship (*acquaintances*, *friends*, *colleagues*, *family members*, *dating partners*, or *spouses*).

Participants in both conditions then read three conversation questions that they would discuss for five minutes with their study partner to ensure that pairs in the distant other condition had a baseline impression of each other:[1]

[1] The four pairs that completed the study in public parks and transit stations discussed slightly different questions: (1) "What do you like about this part of [city name]?"; (2) "What do you dislike about this part of [city name]?"; (3) "If there was anything you could change about this part of [city name], what would it be?" After transitioning to video conferencing, we modified these questions because many participants were not in the same geographic location.

(1) What do you like about the neighborhood you live in?

(2) What do you dislike about the neighborhood you live in?

(3) If there was anything you could change about your neighborhood, what would it be?

Participants then discussed the questions with the other person for five minutes. Pairs were physically separated in the in-person sessions, or placed into private breakout rooms in the video conferencing sessions, ensuring that they could not hear the other pair's conversation.

After the conversation, revealers reported how they expected their recipient to evaluate them in terms of honesty (0 = *not at all honest*, 10 = *extremely honest*), trustworthiness (0 = *not at all trustworthy*, 10 = *extremely trustworthy*), overall impressions (-5 = *very negative*, 5 = *very positive*), and the recipient's current mood (-5 = *very bad*, 5 = *very good*). Recipients reported their actual evaluations on the same measures.

Revealers then thought of a negative secret that they had not shared with any of the other participants in the study session. Specifically, they read:

> There are certain times in our lives when we've concealed something negative about ourselves from others as a secret. Here are some secrets that people may conceal in everyday life:
>
> - Having done something embarrassing or that they're not proud of
> - Some behavior they regret
> - Some action they wish they could undo from their youth
> - Some thought that they've had that they're not proud of
> - Some temptation they've had that they wish they did not have

> In this survey, we would like you to think of a negative secret that you have not yet shared with any of the people participating in the current Zoom call[2], but would be willing to share with them. This could be a secret that has been weighing on you and that you would like to get off your chest, or it could just be an aspect of your life that you have not shared yet. This could be something which you have meant to reveal to others in your life but which, for whatever reason, you haven't had the opportunity to share with them yet.[3]

Revealers read that their response to this item would not be shared directly with their study partner and then wrote down the secret in free-response format. Revealers rated the valence (-5 = *very negative*, 5 = *very positive*) and seriousness (0 = *not at all serious*, 10 = *very serious*) of the secret. They then reported how heavy and burdensome the secret felt (0 = *not at all heavy and burdensome*, 10 = *very heavy and burdensome*) and their current mood (-5 = *very bad*, 5 = *very good*).

Revealers then read that they would have five minutes to continue speaking with the other person and that they should reveal their secret during this conversation. Revealers were informed that their study partner was not receiving the same instruction and would not be expected to share a secret with them. Revealers then completed a comprehension check item in which they indicated whether they should reveal or conceal the secret during the conversation.

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[2] For the four pairs recruited in field settings, this phrase read, "any of the people that you're here with today."

[3] The Institutional Review Board of one academic institution required us to add the following statement at the end of this instruction: "Please do not reveal a secret that could damage your relationship, such as cheating or stealing from your partner, or illegal behavior that could damage your reputation in the community, such as drug dealing or child abuse." Neither the valence, $F(2, 98) = 2.58$, $p = .081$, $\eta_p^2 = .05$, nor the seriousness, $F(2, 98) = 2.98$, $p = .055$, $\eta_p^2 = .06$, of the secrets varied significantly across participant pools. As noted earlier, we excluded any pairs in which the revealer rated their secret to be neutral or positive.

Revealers who answered incorrectly received feedback indicating that they should reveal the secret but were permitted to continue the study.

Revealers then reported their expectations for the upcoming conversation, beginning with two measures of the other person's expected reactions: how considerate and understanding the person would be (0 = *not at all considerate and understanding*, 10 = *very considerate and understanding*) and how disapproving and judgmental the person would be (0 = *not at all disapproving and judgmental*, 10 = *very disapproving and judgmental*). We included these measures to assess whether Revealers would anticipate less favorable reactions before the conversation than the Revealers themselves would report after the conversation. Revealers then reported how they expected the recipient to rate their honesty, trustworthiness, and their overall impression at the end of the conversation, and also how the recipient would feel after the conversation, on the same scales used before the conversation. Revealers also reported the extent to which they preferred to reveal their secret to the other person (0 = *not at all*, 10 = *very much*).

After this second conversation in which the secret was revealed, revealers reported how considerate and understanding, and how disapproving and judgmental, the other person was during the conversation. To assess whether revealing the secret relieved any psychological burden, revealers rated how heavy and burdensome the secret felt, and their current mood, on the same scales described earlier. Finally, revealers reread their secret and reported whether they actually revealed it during the conversation. Meanwhile, recipients reported their perceptions of the revealer's honesty and trustworthiness, their overall impression of the revealer, and their current mood on the same measures described earlier. To verify that the revealer disclosed the secret, recipients then wrote down the person's secret in free-response format. Participants in the

video conferencing sessions also indicated whether they had trouble seeing or hearing the other person during their conversation.

Finally, participants completed demographic information, were thanked, and were debriefed.

**Results and Discussion**

As we will describe below, the results of the experiment supported our hypotheses. However, for 40 pairs recruited through one academic institution, we mistakenly posted two sentences about the procedure and hypothesis of the experiment in text that was visible to participants in the online sign-up system. These sentences were embedded among other information including the study name, study location, amount of compensation, study duration, general purpose of the study, pre-screen link, sign-up password, researcher contact information, and sign-up and cancellation deadlines. The sentences read, "People reveal a negative secret to a close friend, family member, or partner or to a distant stranger. In each relationship context, we predict that people overestimate how harshly others will judge them after hearing this negative secret." Participants for whom these sentences were visible signed up, on average, 12.68 hours (*SD* = 11.43 hours) before the start of the session. Notably, we found significant miscalibration between expected and actual evaluations on all measures whether we analyzed all 101 pairs or restricted analyses to the 61 pairs who could not have read this information while signing up. None of these analyses were qualified by a significant interaction effect with whether the error was present or absent at the time of each experimental session, $F$s $\leq$ 2.37, $p$s $\geq$ .127, $\eta_p^2$s $\leq$ .02, suggesting either that learning the procedure and hypothesis had little effect on people's judgments, that participants did not read very carefully when signing up for this experiment and hence did not notice this, or that participants did not remember this text by the time they actually

participated in the experiment. As we will describe below, the experiment also produced significant differences between relationship contexts that were not described in this text. Although we found no evidence that this error affected our results, and see no reason to believe that participants noticed or were affected by this mistake, we nevertheless report analyses of the 61 pairs who could not have seen the hypothesis in the main text at the suggestion of anonymous reviewers to address any skepticism among readers. We report analyses of all 101 pairs in the Supplemental Material.[4]

Neither valence nor seriousness of the secrets differed significantly between the distant and close conditions, *t*s < 0.95, *d*s < 0.25. Some were relatively minor (e.g., "I never learned to ride a bike"), whereas others were very serious (e.g., "That I had two abortions").

**Expected versus actual consequences of revealing.** Revealers generally expected to be evaluated more harshly by recipients than they actually were. A series of 2 (relationship context: distant other, close other) × 2 (time: 1, 2) × 2 (measurement type: revealer expectations, recipient evaluations) ANOVAs yielded significant time × measurement type interaction effects for honesty, trustworthiness, global impressions, and recipient mood, $F$s(1, 59) ≥ 9.76, $p$s ≤ .003, $\eta_p^2$s ≥ .14, indicating that revealers overestimated how much more negative recipients' judgments would become after revealing their secret. These two-way interactions were qualified by a significant three-way interaction with relationship context for honesty, $F(1, 59) = 7.76$, $p = .007$, $\eta_p^2 = .12$, and a marginally significant interaction for trustworthiness, $F(1, 59) = 3.55$, $p = .065$, $\eta_p^2 = .06$, indicating that revealers' expectations were somewhat more miscalibrated for

[4] The 61 pairs (122 individuals) in the main text reported the following demographic information: $M_{age} = 22.98$; $SD_{age} = 7.12$; 64.75% female, 34.43% male, 0.82% other gender; 17.21% White, 8.20% Black, 19.67% Hispanic, 42.62% Asian, 12.30% other ethnicity. This sample of 61 pairs provided about 80% power to detect a minimum effect of size $\eta_p^2 = .10$ between revealers' expectations and recipients' actual evaluations, separately for distant and close others.

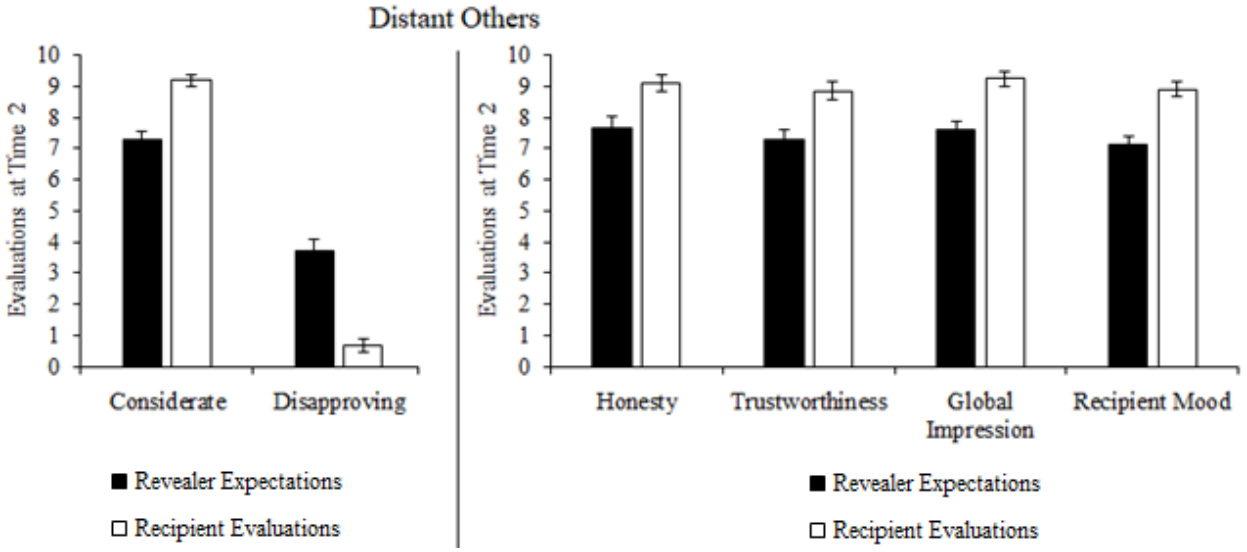
strangers (see Figure 3). The three-way interactions for recipients' global impressions and mood were non-significant, $F$s(1, 59) ≤ 0.61, $p$s ≥ .438, $\eta_p^2$s ≤ .01.

These gaps between Revealers' expectations and Recipients' actual evaluations emerged because Revealers expected to be judged more negatively after revealing their secret, whereas Recipients' actual evaluations were not meaningfully affected by learning the secret. Specifically, Revealers in the close condition expected to be seen as less trustworthy, $F$(1, 117.17) = 6.53, $p$ = .012, $\eta_p^2$ = .25, less positively overall, $F$(1, 117.87) = 21.09, $p$ < .001, $\eta_p^2$ = .29, expected the Recipient's mood to become more negative, $F$(1, 115.59) = 19.18, $p$ < .001, $\eta_p^2$ = .40, and expected to be seen as marginally less honest from time 1 to time 2, $F$(1, 116.38) = 3.21, $p$ = .076, $\eta_p^2$ = .15. Recipients' actual evaluations in the close condition did not change significantly from time 1 to time 2 on any measures, $F$s < 2.19, $p$s > .142, $\eta_p^2$ < .12. Revealers in the distant condition likewise expected to be seen as less honest, $F$(1, 116.38) = 16.33, $p$ < .001, $\eta_p^2$ = .29, less trustworthy, $F$(1, 117.17) = 16.18, $p$ < .001, $\eta_p^2$ = .20, less positively overall, $F$(1, 117.87) = 11.03, $p$ = .001, $\eta_p^2$ = .24, and expected the Recipient's mood to become more negative from time 1 to time 2, $F$(1, 115.59) = 12.76, $p$ = .001, $\eta_p^2$ = .24. Recipients' actual evaluations, in contrast, did not change on any measures after the secret was revealed, $F$s < 2.49, $p$s > .117, $\eta_p^2$ < .24, with the exception that recipients in the distant condition rated the revealer to be significantly *more* trustworthy after the secret was revealed, $F$(1, 117.17) = 4.05, $p$ = .047, $\eta_p^2$ = .11.

This pattern meant that Revealers underestimated how positively recipients actually judged them after revealing their secret. Specifically, Revealers significantly underestimated how considerate they would perceive the Recipient to be during the conversation, overestimated how disapproving they would perceive Recipient to be, underestimated how honest and trustworthy

they thought the Recipient would rate them to be, underestimated how positive they thought the Recipient would rate them, and also underestimated how positive the Recipient's mood would be at time 2, $F$s $\geq$ 14.50, $p$s < .001, $\eta_p^2$s $\geq$ .14. These main effects were qualified by significant interactions with relationship type for considerate and disapproving, $F$s $\geq$ 4.67, $p$s $\leq$ .035, $\eta_p^2$s $\geq$ .07, and a marginally significant interaction for honesty, $F(1, 104.43) = 3.10$, $p = .081$, $\eta_p^2 = .03$, but non-significant interaction effects for the other measures, $F$s < 2.50, $p$s > .117, $\eta_p^2$s < .03.

To understand these interaction effects with relationship type more clearly, we analyzed Revealers' expectations and Recipients' actual evaluations after learning the secret in the close and distant conditions separately. Revealers in the close condition underestimated how positively others would evaluate them on five of the six measures, $F$s $\geq$ 6.52, $p$s $\leq$ .012, $\eta_p^2$s $\geq$ .12, with the exception of honesty, $F(1, 104.43) = 2.06$, $p = .154$, $\eta_p^2 = .05$. Revealers in the distant condition underestimated how positively they would be evaluated on all measures, $F$s $\geq$ 15.77, $p$s < .001, $\eta_p^2$s $\geq$ .26, with (inconsistently) larger miscalibration in the distant condition than the close condition.



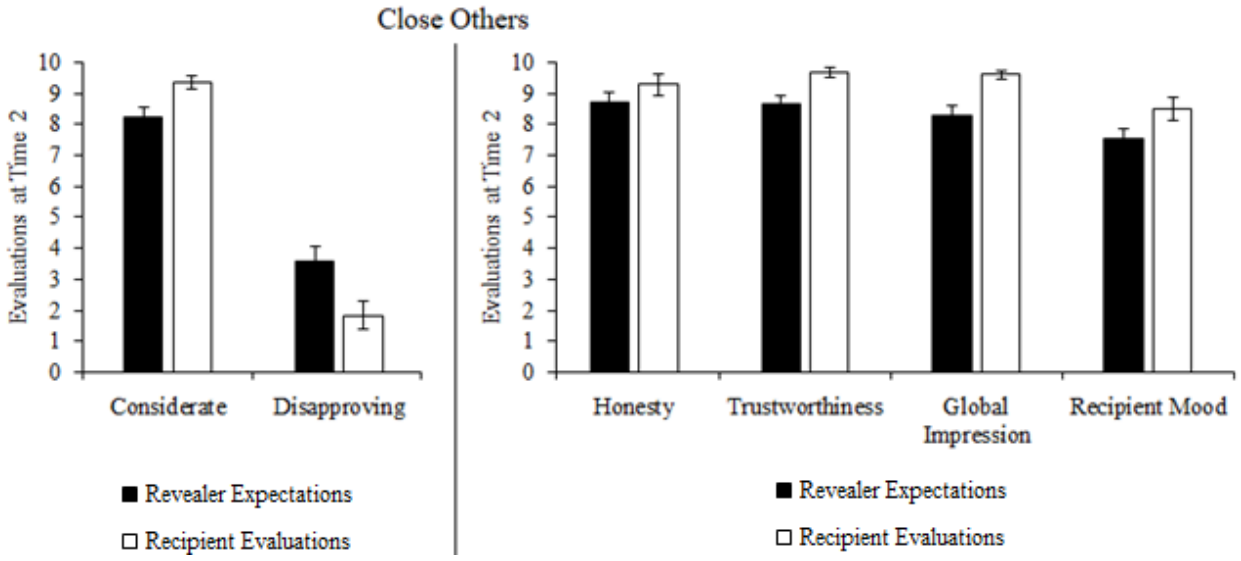



*Figure 3.* Mean expected and actual evaluations in the distant-other condition (upper panel) and close-other condition (lower panel) at time 2 in Experiment 3. We added five to the global impression and recipient mood measures in this figure so that they are reported on the same 0-10 scale as the other items. Error bars ±1 *SE*.

As can be seen in Figure 3, revealers were more miscalibrated in the distant-other condition primarily because of differences in revealers' expectations across relationship types rather than because of differences in the actual outcomes of the revelation. Specifically, Revealers in the distant-other condition expected to be evaluated as less considerate, less honest and trustworthy, and less positively overall, than did revealers in the close-other condition, $F$s $\geq$ 4.84, $p$s $\leq$ .029, $\eta_p^2$s $\geq$ .04. The two exceptions were that expected disapproval and expected recipient mood did not differ significantly between conditions, $F$s $\leq$ 1.11, $p$s $\leq$ .294, $\eta_p^2$s $\geq$ .02. In contrast, the actual outcomes of the revelation varied less consistently across relationship conditions, with only two statistically significant differences. First, recipients judged the revealer to be significantly more trustworthy in the close-other condition, $F(1, 187.22) = 5.32$, $p = .022$, $\eta_p^2 = .09$. Second, revealers seemed to experience the opposite between relationship types,

believing the recipients were significantly *less* approving after revealing their secret in the close condition than in the distant condition, $F(1, 89.63) = 4.57$, $p = .035$, $\eta_p^2 = .09$.

**Secondary measures.** Revealers in the close-other condition—who expected to be judged somewhat more favorably by recipients than those in the distant-other condition—reported being significantly more interested in revealing their secret (*M*s = 6.20 vs. 4.55, respectively; *SD*s = 2.31 vs. 2.67), $t(59) = -2.58$, $p = .012$, 95% $CI_{difference}$ [-2.93, -0.37], $d = -0.66$, consistent with our theory that revealers' expectations of the recipients' reactions guide their likelihood of keeping negative information secret from others. Within each condition, however, expected evaluations did not correlate significantly with revealers' interest in revealing the secret on any measure, $-.07 \leq rs \leq .24$, $ts \leq 0.78$, $ps \geq .442$, nor did expected changes in evaluations from time 1 to time 2 correlate with participants' interest in revealing the secret, $-.03 \leq rs \leq .21$, $ts \leq 1.14$, $ps \geq .265$. We provide a better test of this hypothesis in Experiment 7 by experimentally manipulating revealers' expectations and measuring their decisions to reveal or conceal negative information.

Finally, we tested whether revealing a negative secret would reduce some of the psychological burden of concealing negative information as a secret. Consistent with this possibility, revealers reported feeling more burdened by the secret before the conversation than after in the distant-other condition (*M*s = 4.29 vs. 2.10, respectively; *SD*s = 2.53 vs. 1.94), $F(1, 59) = 43.10$, $p < .001$, $\eta_p^2 = .54$, but not the close-other condition (*M*s = 4.60 vs. 4.03; *SD*s = 2.75 vs. 3.01), $F(1, 59) = 2.78$, $p = .101$, $\eta_p^2 = .11$. Notably, Revealers reported being in a less positive mood before revealing their secret than after in both the distant-other condition (*M*s = 0.94 vs. 3.06; *SD*s = 2.02 vs. 1.48), $F(1, 59) = 36.55$, $p < .001$, $\eta_p^2 = .48$, and the close-other condition (*M*s = 1.10 vs. 2.53 , *SD*s = 2.35 vs. 2.13), $F(1, 59) = 16.03$, $p < .001$, $\eta_p^2 = .45$.

Revealing a negative secret was a positive experience for revealers that did not lead to systematically more negative evaluations among recipients, in either close or distant relationships. Revealers did not fully anticipate this, expecting to be judged more harshly than they actually were. That this miscalibration was somewhat larger when revealing a negative secret to a stranger is an intriguing result that could arise because of the nature of the relationship, with people expecting that someone who knows a lot about them will be more forgiving than someone who knows very little (c.f. Savitsky et al., 2001), but it could also arise from differences in the kind of information that was revealed across relationship types. Future research can clarify this result by holding constant the information shared across relationship types. More central to the current research, however, is understanding whether people consistently overestimate the negative consequences of revealing negative information that is otherwise kept secret, in the kinds of relationships where concealing information is likely to be burdensome. We therefore continued testing the robustness of people's tendency to overestimate how harshly they will be judged after revealing negative information that is being concealed, in what is often a person's closest relationship: a romantic relationship.

## Experiment 4: Revealing Secrets in Romantic Relationships

Maintaining a romantic relationship requires balancing competing motives to reveal intimate information that might strengthen relationships and to withhold negative information about oneself that might lead to negative evaluations or rejection (Murray et al., 2006). We hypothesize that people overestimate how negatively they will be evaluated by their romantic partner after revealing negative information, thereby encouraging more secrecy than might optimal both for their own wellbeing and for building intimacy in relationships. We tested this possibility in Experiment 4 by recruiting pairs of romantic partners and instructing one person to

reveal an actual negative secret to their partner. Testing for miscalibrated expectations in romantic relationships is especially important in light of Experiment 3's result in which revealers' expectations were somewhat more calibrated in closer relationships.

To test more precisely whether people misunderstand the consequences of revealing negative information that they are keeping secret, compared to simply misjudging the outcomes of any conversation or underestimating how positively one is evaluated by others without revealing a negative secret (e.g., Boothby et al., 2018), we randomly assigned romantic couples to one of three conditions in Experiment 4. In the *reveal* condition, one participant wrote down a negative secret and later revealed it to their partner. In the *control* condition, neither participant wrote down or revealed a negative secret in the conversation. In the *conceal* condition, one participant wrote down a negative secret but then concealed it from their partner during the conversation. We hypothesized that revealers in the reveal condition would be especially likely to overestimate how harshly their partners would react and how unfavorably their partners would judge them after the discussion.

## Method

**Participants.** We conducted Experiment 4 at the same time as Experiment 3, and likewise initially recruited four pairs for in-person sessions through university and community participant pools. After the onset of the COVID-19 pandemic, we recruited another 147 pairs through these participant pools and two other academic institutions for remote study sessions conducted through video conferencing software. In total, we recruited 151 pairs after data exclusions ($N$ = 302 individuals; $M_{age}$ = 25.58; $SD_{age}$ = 10.18; 52.98% female, 45.70% male, 1.32% other gender; 33.44% White, 3.64% Black, 8.28% Hispanic, 43.05% Asian, 11.59% other ethnicity) to complete the experiment in exchange for $5 or $9 depending on the study location.

We excluded an additional 36 pairs based on criteria in our preregistration for this experiment: 19 pairs that included a neutral or positive secret, six pairs in which the revealer did not actually reveal the secret, 10 pairs in which the concealer actually shared the secret, and one pair in which one participant did not report initial expectations until after the conversation was finished. Our final sample provided about 80% power to detect a minimum effect of size $\eta_p^2 = .05$ between expected and actual evaluations after the secret was revealed, separately in the reveal, conceal, and control conditions.

**Procedure.** This procedure was similar to Experiment 3, with participants reporting expected or actual evaluations at multiple time points. At time 1, Revealers reported how they currently expected Recipients to evaluate them on measures of honesty, trustworthiness, overall impression, and the Recipient's mood using the same scales as Experiment 3. Recipients reported their actual evaluations on the same measures. Revealers then imagined speaking with the Recipient and reported their expectations of how considerate and disapproving the Recipient would be during the conversation, and then their expectations of how the Recipient would evaluate them after the conversation on measures of honesty, trustworthiness, overall impression, and the Recipient's mood. After the conversation, Revealers reported how considerate and how disapproving their Recipient actually was, and Recipients completed the same four evaluations they had reported at time 1.

The procedure of this experiment did, however, differ from Experiment 3 in several ways. First, we recruited pairs of romantic partners and assigned all participants to speak with their partner rather than a stranger during the study session. Second, immediately after providing their informed consent, participants reported how many months they had been in a relationship with their partner. Third, because these pairs of romantic partners were already well-acquainted

with one another, we did not instruct them to have an initial conversation before revealing their negative secret.

Fourth, and most important, we randomly assigned pairs to the reveal, control, or conceal conditions. One person in each pair in the reveal and conceal conditions was asked to write down a negative secret that they were keeping from their partner, whereas one person in each pair in the control condition was unknowingly designated as the "actor" but did not write down a secret. After writing the secret, revealers were informed that they would be asked to share their secret with their partner during an upcoming conversation, whereas concealers were informed that they would be asked to conceal their secret from their partner during the conversation. Actors were told that they would speak with their partner and could discuss anything they wanted. We did not ask actors to think about any negative information before the conversation because we wanted them to simply have natural conversations that could be compared against the conceal and reveal conditions. In their expectations about the conversation, Revealers thus anticipated how their partner would evaluate them after revealing a negative secret, whereas concealers anticipated how their partner would evaluate them after concealing a negative secret, and actors anticipated how their partner would evaluate them after simply having a conversation.

Finally, we also tested whether participants expected any lasting negative impact from revealing negative information they had been keeping secret. After reporting their expectations but before having the conversation, revealers, concealers, and actors were told that their partner would complete a short follow-up survey two weeks after the study session reporting their current evaluations of them. Revealers, concealers, and actors reported how honest they expected their partner to rate them to be two weeks from now (0 = *not at all honest*, 10 = *very honest*), how trustworthy (0 = *not at all trustworthy*, 10 = *very trustworthy*), how their partner would rate

their overall impression of them (-5 = *very negative*, 5 = *very positive*), and how much they personally expected to regret the upcoming conversation "two weeks from now." The pairs then had their conversations following the instructions received earlier. After their conversations, participants reported actual evaluations on the measures described earlier. At the end of the study session, concealers were reminded to continue concealing their secret for the next two weeks.

We then sent the follow-up survey to each participant by email two weeks after the study session, and sent another reminder a week later to anyone who had not completed the survey. In this follow-up survey, revealers, concealers, and actors reported their expectations of how honest they currently seemed to their partner, how trustworthy, and how their partner would rate their overall impression of them on the same scales described earlier. These participants then reported how much they regretted having their conversation during the original lab session (0 = *not at all*, 10 = *very much*) and indicated whether they were still in a romantic relationship with this person (*yes* vs. *no*). Concealers from the original study session also reported whether they had since revealed their secret to their partner (*yes* vs. *no*). Recipients reported their current evaluations of their partner on the same measures, reported the extent to which they regretted having the conversation, and reported whether or not they were still in a relationship with their partner from the experimental session.

**Results**

Neither the valence nor the seriousness of the secrets differed significantly between the reveal and conceal conditions, *t*s < 1.20, *d*s < 0.25. The information that participants were keeping secret ranged from not especially negative (e.g., "I eat chocolate at night after she goes to bed") to considerably more negative (e.g., "I have cheated in my previous relationships").

**Consequences of revealing.** Revealing negative information being kept secret did not cause recipients to judge their partners more harshly. In the reveal condition, recipients' judgments of their partners' honesty and trustworthiness, and their global impressions of their partner, did not change significantly from before to after revealing the secret , $F$s $\leq$ 0.28, $p$s $\geq$ .596, $\eta_p^2$s $\leq$ .01. Recipients in the reveal condition were also in a significantly more positive mood after the conversation than before, $F(1, 284.14) = 4.50$, $p = .035$, $\eta_p^2 = .06$.

Moreover, participants' experiences were no more negative in the reveal condition than in the conceal and control conditions. The revealers', concealers', and actors' post-conversation ratings of how considerate their partner was did not vary significantly across conversation types, $F(2, 238.64) = 1.35$, $p = .262$, $\eta_p^2 = .02$, nor did their ratings of their partners' disapproval, $F(2, 240.86) = 0.81$, $p = .447$, $\eta_p^2 = .01$. Recipients' post-conversation judgments of their partners' honesty and trustworthiness, their global impressions of their partners, and their own mood also did not vary significantly across conversation types, $F$s $\leq$ 1.62, $p$s $\geq$ .200, $\eta_p^2$s $\leq$ .03, nor did changes in these ratings from before to after their conversation, $F$s $\leq$ 0.72, $p$s $\geq$ .487, $\eta_p^2$s $\leq$ .03. As in Experiment 3, revealing a negative secret did not lead to significantly more negative evaluations by recipients.

**Expected versus actual consequences.** Participants in the reveal condition expected to be judged somewhat more harshly than they were by their partners. Although revealers did not significantly overestimate negative changes in recipients' judgments of their honesty, $F(1, 148) = 0.14$, $p = .707$, $\eta_p^2 = .003$, or trustworthiness, $F(1, 148) = 0.73$, $p = .394$, $\eta_p^2 = .01$, they significantly overestimated negative changes in their partners' overall impressions of them, $F(1, 148) = 18.64$, $p < .001$, $\eta_p^2 = .28$, and in their partners' mood, $F(1, 148) = 23.37$, $p < .001$, $\eta_p^2 = .28$. Many revealers' secrets concerned content unrelated to their honesty or trustworthiness,

potentially explaining why we found more miscalibration on the broader impression and mood measures than for honesty and trustworthiness.

Revealers also expected their partner to react more negatively upon hearing the secret than they reported after the conversation. Revealers underestimated how considerate they would perceive the recipient to be, $F(1, 148) = 13.74$, $p < .001$, $\eta_p^2 = .19$, and overestimated how disapproving their recipient would be, $F(1, 148) = 11.07$, $p = .001$, $\eta_p^2 = .22$. Revealers also underestimated how honest their partner would rate them to be, $F(1, 216.59) = 11.77$, $p < .001$, $\eta_p^2 = .17$, how trustworthy, $F(1, 215.69) = 13.64$, $p < .001$, $\eta_p^2 = .21$, how positive their partner's overall impression of them would be, $F(1, 227.96) = 49.70$, $p < .001$, $\eta_p^2 = .39$, and how positive their partner would feel at time 2, $F(1, 237.12) = 29.20$, $p < .001$, $\eta_p^2 = .34$.

As predicted, revealers were also significantly more likely than actors in the control condition to overestimate their partners' negative reactions (see Figure 4; see Supplemental Material for the full three-way ANOVAs). Revealers overestimated negative changes in their partners' evaluations from before versus after revealing their secret significantly more than did actors on the global impression, $t(148) = -2.04$, $p = .043$, 95% $CI_{difference}$ [-0.92, -0.01], $d = -0.41$, and recipient mood measures, $t(148) = -2.12$, $p = .036$, 95% $CI_{difference}$ [-1.64, -0.06], $d = -0.42$, but not on the honesty, $t(148) = -1.12$, $p = .264$, 95% $CI_{difference}$ [-0.93, 0.26], $d = -0.22$, or trustworthiness measures, $t(148) = -0.74$, $p = .460$, 95% $CI_{difference}$ [-0.80, 0.37], $d = -0.15$. We found similar patterns when analyzing expected evaluations before revealing the secret versus actual evaluations after hearing the secret. Specifically, Revealers were significantly more likely than actors to underestimate their partners' ratings on the trustworthiness, $t(215.69) = -2.10$, $p = .037$, 95% $CI_{difference}$ [-1.36, -0.04], $d = -0.46$, global impression, $t(227.96) = -3.37$, $p < .001$, 95% $CI_{difference}$ [-1.28, -0.34], $d = -0.60$, and recipient mood measures, $t(237.12) = -2.13$ $p = .034$, 95%

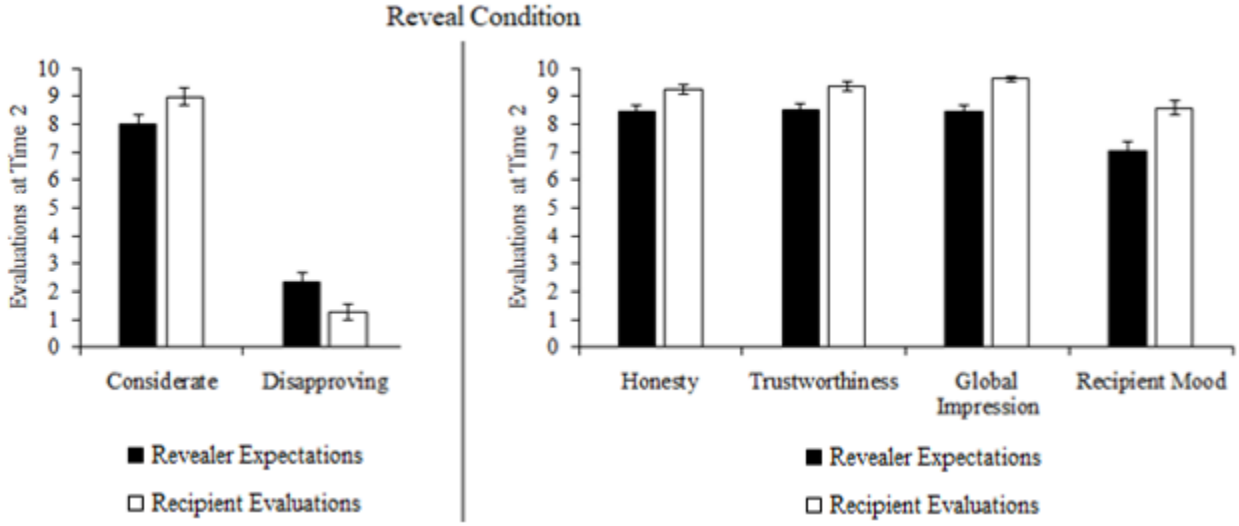
$CI_{difference}$ [-1.64, -0.06], $d$ = -0.44, but were similarly miscalibrated on the considerate, disapproving, and honesty measures, $t$s ≤ 1.51, $p$s ≥ .134, $d$s ≤ 0.30.

Because the significance of our findings varied slightly across highly correlated dependent measures, we performed exploratory analyses by collapsing the measures into a composite (reverse-scoring the "disapproval" item) and then analyzing the composite measure. For the four items measured both before and after revealing the secret—honesty, trustworthiness, global impression, and recipient mood ($\alpha_{expectations\text{-}T1}$ = .70, $\alpha_{experiences\text{-}T1}$ = .72, $\alpha_{expectations\text{-}T2}$ = .87, $\alpha_{experiences\text{-}T2}$ = .76)—revealers were significantly more likely than actors to overestimate negative changes in recipients' evaluations, $t(148) = 2.30$, $p$ = .023, 95% $CI_{difference}$ [0.07, 0.87], $d$ = 0.46. For the six items measured after revealing the secret—considerate, disapproving, honesty, trustworthiness, global impression, and recipient mood ($\alpha_{expectations}$ = .83, $\alpha_{experiences}$ = .68)—revealers were significantly more likely than actors to overestimate recipients' negative reactions, $t(148) = 2.73$, $p$ = .007, 95% $CI_{difference}$ [0.16, 0.99], $d$ = 0.54.

Contrary to our predictions, however, revealers' and concealers' expectations were similarly miscalibrated despite concealers being instructed *not* to reveal the secret they had written down (see Figure 4). Revealers overestimated negative changes in their partners' global impressions from time 1 to time 2 marginally more than did concealers, $t(148) = 1.66$, $p$ = .100, 95% $CI_{difference}$ [-0.07, 0.83], $d$ = 0.33, but overestimated negative changes in their partners' perceptions of their honesty significantly *less* than did concealers, $t(148) = 2.13$, $p$ = .035, 95% $CI_{difference}$ [0.05, 1.23], $d$ = 0.43. Expected versus actual changes in trustworthiness and recipient mood did not differ significantly between revealers and concealers, $t$s(148) ≤ 1.35, $p$s ≥ .181, $d$s ≤ 0.27. We also found mixed results when analyzing expected and actual time 2 evaluations. Although revealers underestimated how considerate their partner would be significantly more

than did concealers, $t(148) = -2.41$, $p = .017$, 95% $CI_{difference}$ [-1.64, -0.16], $d = -0.48$, and underestimated how positive their partners' global impressions of them would be marginally more than did concealers, $t(227.96) = -1.83$, $p = .069$, 95% $CI_{difference}$ [-0.91, 0.03], $d = -0.33$, revealers and concealers underestimated their partners' positive reactions to a similar extent on the disapproval, honesty, trustworthiness, and recipient mood measures, $t$s $\leq 1.14$, $p$s $\geq .255$, $d$s $\leq 0.24$.

Because the significance of our findings varied across dependent measures, we again performed exploratory analyses using the composite measures described earlier. Revealers and concealers did not differ in the extent to which they overestimated negative changes in their partners' judgments from before to after the conversation, $t(148) = -0.22$, $p = .826$, 95% $CI_{difference}$ [-0.45, 0.36], $d = -0.04$, nor in the extent to which they underestimated their partner's positive reactions after the conversation, $t(148) = 1.57$, $p = .118$, 95% $CI_{difference}$ [-0.09, 0.75], $d = 0.31$. We discuss this unexpected result in the conceal condition further in the Discussion of this experiment.



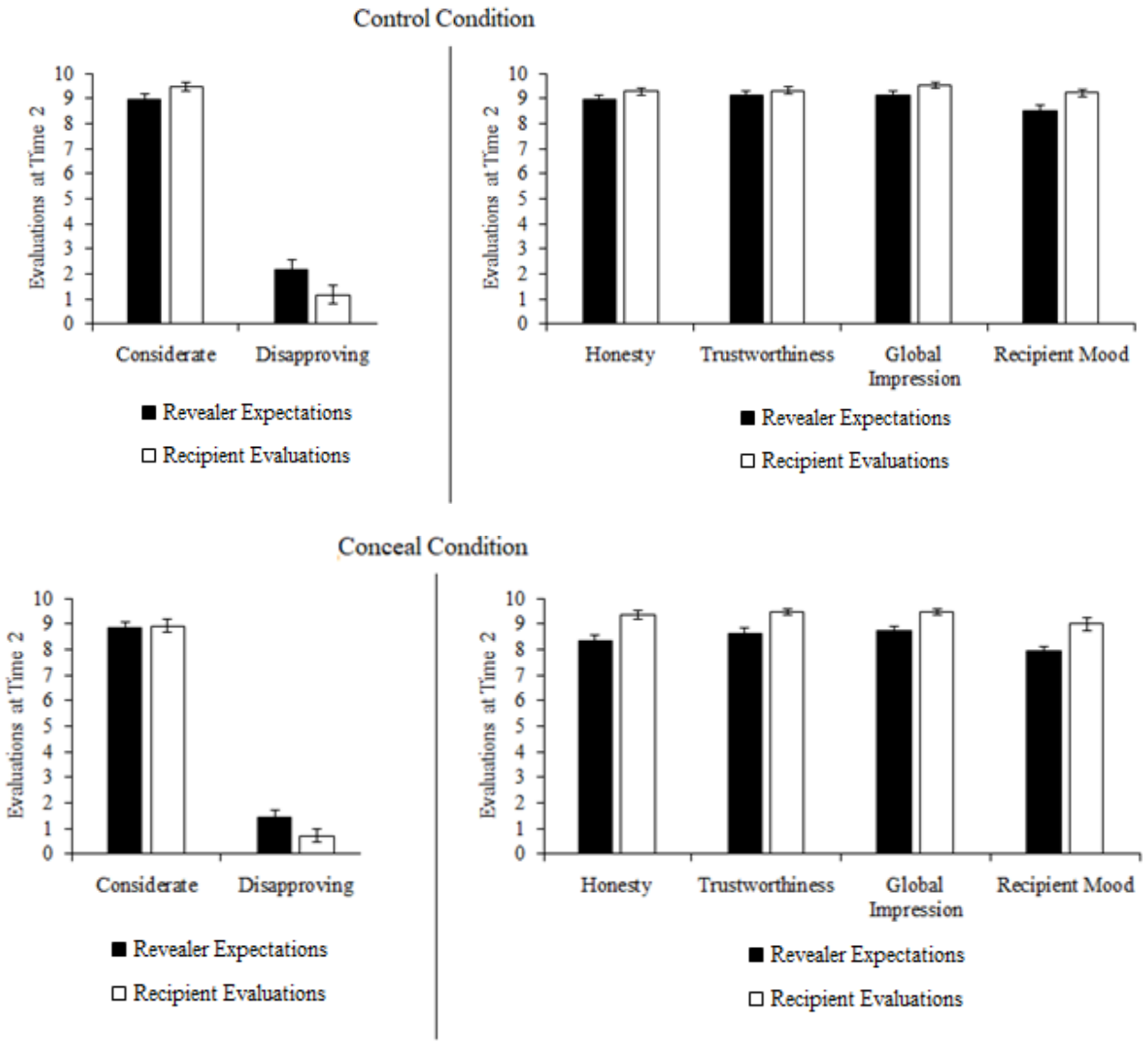



*Figure 4*. Mean expected and actual evaluations in the reveal condition (upper panel), control condition (middle panel), and conceal condition (lower panel) after the conversation in Experiment 4. We added five to the global impression and recipient mood measures in this figure so that they are reported on the same 0-10 scale as the other items. Error bars ±1 *SE*.

**Secondary measures.** As predicted, both revealers' and concealers' interest in revealing their secret was positively correlated with how considerate they expected their partner would be in the conversation, how honest they would seem, how trustworthy they would seem, how positive their partner's global impression of them would be, and how positive their partner would feel after the conversation, *r*s ≥ .24, *t*s ≥ 2.49, *p*s ≤ .014, but was negatively correlated with how disapproving they expected their partner's reaction to be, $r = -.28$, $t(98) = -2.50$, $p = .014$, 95% CI [-.42, -.05]. Their interest in revealing was non-significantly correlated with expected changes in trustworthiness from before to after revealing the secret, $r = .09$, $t(98) = 0.92$, $p = .359$, 95% CI [-.11, .28], but correlated positively with expected changes in perceived honesty, global impressions, and recipient mood, *r*s ≥ .29, *t*s ≥ 2.98, *p*s ≤ .004. These results support our hypothesis that people are more likely to conceal negative information to the extent that they expect to be judged harshly for it, meaning that exaggerating how negatively one would be judged for revealing negative information may create a needless barrier to transparency in close relationships.

We next tested whether revealing a negative secret relieved the psychological burden of concealing this information. As predicted, Revealers felt significantly more burdened by their secrets before versus after revealing them (*M*s = 3.60 vs. 2.40, respectively; *SD*s = 2.08 vs. 2.13), $F(1, 98) = 18.18$, $p < .001$, $\eta_p^2 = .22$, and experienced significantly less positive mood before revealing their secrets than after (*M*s = 1.20 vs. 2.46, respectively; *SD*s = 2.13 vs. 2.19), $F(1, 98) = 15.86$, $p < .001$, $\eta_p^2 = .21$. We observed a similar pattern among concealers on the measures of both psychological burden (*M*s = 3.48 vs. 2.90; *SD*s = 2.30 vs. 2.48), $F(1, 98) = 4.25$, $p = .042$, $\eta_p^2 = .11$, and mood (*M*s = 1.76 vs. 2.82, *SD*s = 2.04 vs. 2.05), $F(1, 98) = 11.23$, $p = .001$, $\eta_p^2 =$

.23. Unexpectedly, changes in the sense of burden and positive mood did not differ significantly between revealers and concealers, $F$s(1, 98) ≤ 2.43, $p$s ≥ .123, $\eta_p^2$s ≤ .02.

**Follow-up evaluations.** As described earlier, we contacted participants two weeks after their experimental session and asked them to complete a follow-up survey. We received completed surveys from 125 out of 151 revealers, concealers, or actors, and from 126 out of 151 recipients, with 109 complete pairs. Response rates for complete pairs did not vary significantly by conversation type (reveal vs. conceal vs. control), $F(2, 148) = 1.24$, $p = .291$, $\eta_p^2 = .02$. We analyzed responses from complete pairs in the following analyses.

Recipients' judgments of their partners' honesty and trustworthiness, and their overall impressions of their partner, did not change significantly from their post-conversation ratings during the study session to their follow-up evaluations two weeks later, $F$s ≤ 0.66, $p$s ≥ .418, $\eta_p^2$s ≤ .01, nor did these patterns of change differ significantly among the reveal, conceal, and control conditions, $F$s ≤ 1.54, $p$s ≥ .218, $\eta_p^2$s ≤ .05. Recipients' judgments of their partner two weeks after the study session did not vary across conversation types, $F$s ≤ 0.94, $p$s ≥ .391, $\eta_p^2$s ≤ .03, nor did the extent to which they reported regretting the conversation, $F(2, 106) = 0.19$, $p = .831$, $\eta_p^2 = .003$. All participants who completed the follow-up survey indicated that they were still in a relationship with the same partner with whom they participated in the experiment. Revealing at least a mildly negative secret to a romantic partner produced no immediate or lasting costs to the relationship that we could detect in this experiment.

More important for our current hypotheses, we also asked revealers, concealers, and actors before their conversation to report how they expected their partners to judge them two weeks later on the honesty, trustworthiness, and global impression measures. Revealers expected their partners to see them as significantly less honest, less trustworthy, and less positively overall

two weeks later than did concealers and actors, *t*s $\geq$ 2.20, *p*s $\leq$ .029, *d*s $\geq$ 0.41. Participants tended to underestimate how positively their partners would judge them two weeks later on these measures, *F*s $\geq$ 15.34, *p*s < .001, $\eta_p^2$s $\geq$ .14, and overestimated how much they would regret their conversations, $F(1, 106) = 13.05$, $p < .001$, $\eta_p^2 = .11$, but the amount of miscalibration on these measures did not differ significantly between revealers, concealers, and actors, *F*s $\leq$ 1.83, *p*s $\geq$ .163, $\eta_p^2$s $\leq$ .04.

**Discussion**

People keep negative information secret when they think it might lead their romantic partners to think negatively of them, but the results of Experiment 4 again suggest that people systematically overestimate how harshly they will be judged if they were to reveal this negative information instead. This finding emerged when people revealed actual secrets they were concealing from their romantic partners, suggesting that the miscalibration documented in this paper arises across a broad range of relationship types from strangers (Experiments 2-3) to intimate partners (Experiment 4). In contrast to revealers' expectations, recipients' impressions of their partners were no less positive in the reveal condition than the conceal and control conditions—either immediately after the conversation or two weeks later—indicating that the secrets our participants were willing to reveal had no negative impact on their romantic partner's impressions that we could detect experimentally.

As predicted, participants who revealed negative information they were keeping secret in Experiment 4 overestimated how negatively they would be judged after the revelation. Unexpectedly, those instructed to *conceal* their secret during a conversation also overestimated how negatively they would be judged immediately after the conversation to a similar extent. This is somewhat puzzling because concealers were instructed to conceal their negative secret and

hence should not have anticipated different evaluations than did actors in the control condition. It is possible that concealers experienced an "illusion of transparency" (Gilovich et al., 1998), expecting that their active concealment would be more obvious to their partners than it actually was (see also John et al., 2016). It is also possible that concealers anticipated doing a poor job of concealing their secret in the midst of the conversation, thereby creating an awkward or difficult conversation with their partner such that they believed their secret might actually leak out or become known during the conversation. Finally, it is also possible bringing to mind the negative secret led concealers to feel worse about themselves for concealing information from their partners, causing them to use these momentary self-perceptions as a guide to how they would be judged by their partner (Epley et al., 2004; Robbins & Krueger, 2005; Tamir & Mitchell, 2013). Indeed, after writing down the secret and before reading the manipulation, revealers ($M$ = 1.20, $SD$ = 2.13) and concealers ($M$ = 1.76, $SD$ = 2.04) reported being in a significantly less positive mood than did actors ($M$ = 3.33, $SD$ = 1.65), $t(148) = 5.53$, $p < .001$, 95% $CI_{difference}$ [1.19, 2.52], $d$ = 0.95, suggesting that both revealers and concealers felt somewhat bad about keeping negative information secret from their partner. We did not predict this effect.

Although our hypotheses have focused on the act of revealing negative information being kept secret, asking people to reveal this information also requires them to think about how they are withholding information from another person, thereby making it possible that simply thinking about a negative secret might be responsible for overestimating how negatively one will be judged in our experiments. We therefore conducted Experiment S3 to assess the extent to which revealers' negative expectations come from simply thinking about a negative secret versus actually revealing a negative secret (see Supplemental Material for the full method and results). In this experiment, participants currently in a romantic relationship were recruited from one of

the same participant pools as Experiment 4, with the restriction that participants who completed Experiment 4 were not eligible for the follow-up experiment. Participants were randomly assigned to one of four conditions, two of which were modeled after Experiment 4. Participants in the *reveal* condition wrote down a negative secret and then imagined revealing it to their partner during a five-minute conversation as part of a research study. They then reported how they expected their partner would rate them after the conversation on the impression, honesty, trustworthiness, and recipient mood measures from Experiment 4. Those in the *conceal* condition followed a similar procedure except that they imagined concealing their secret from their partner during the conversation. To test whether heightening the accessibility of a negative secret leads to similarly negative expectations as revealing or concealing it, participants in the *accessibility* condition wrote down their secret and immediately reported how they expected their partner would rate them at the time of the research study, without imagining a conversation. Participants in the *baseline* condition simply reported how they expected their partner would rate them at the time of the research study without writing down a secret or imagining a conversation.

This experiment produced three important results. First, supporting our hypotheses and in contrast to Experiment 4, participants expected to be judged significantly more negatively on measures of overall impression, trustworthiness, and recipient mood when they imagined revealing the secret than when they imagined concealing it, $t$s(196) $\geq$ 2.97, $p$s $\leq$ .003, $d$s $\geq$ 0.60. Expectations did not differ significantly for honesty, $t(196) = 0.81$, $p = .417$, 95% $CI_{difference}$ [-0.46, 1.10], $d = 0.16$, but exploratory analyses of a composite of the four dependent measures ($\alpha = .87$) found that participants expected to be judged more negatively overall after revealing a secret than after concealing it, $t(196) = 3.93$, $p < .001$, 95% $CI_{difference}$ [0.65, 1.96], $d = 0.79$. Second, participants also expected to be judged more negatively overall in the reveal condition

than in either the accessibility condition, $t(196) = 3.33$, $p = .001$, 95% $CI_{difference}$ [0.45, 1.75], $d = 0.66$, or the baseline condition, $t(196) = 6.03$, $p < .001$, 95% $CI_{difference}$ [1.34, 2.65], $d = 1.21$, suggesting that the act of revealing a negative secret leads people to anticipate more negative evaluations than simply thinking about the secret or considering their partner's evaluations. Third, participants in the conceal and accessibility conditions expected to be judged more negatively overall than participants in the baseline condition, $t$s(196) $\geq$ 2.07, $p$s $\leq$ .040, $d$s $\geq$ 0.42, suggesting that heightening the accessibility of a secret may lead people to anticipate at least somewhat more negative evaluations by others. Notably, these more negative expectations in the conceal and accessibility conditions than the baseline condition also suggest that negative secrets tend *not* to be chronically accessible for participants in our sample and lead to more negative expectations when explicitly brought to mind.

Supplemental Experiment S3 raises the possibility that revealers' miscalibrated expectations may stem from heightening the accessibility of a secret and from overestimating the reputational costs of revealing it. In everyday life, these processes are likely to operate in tandem to encourage secrecy, as contemplating whether to reveal negative information to someone else is likely to both heighten its momentary accessibility compared to baseline and raise fears of the reputational costs of revealing this information and thereby cause people to keep it as a secret. Two observations from our data, however, lead us to suspect revealers' miscalibrated expectations stem more from the reputational consequences of a revelation than from heightened accessibility. First, participants in Experiment S3 expected considerably more negative evaluations when they imagined revealing negative information they had been keeping secret than when they imagined concealing it or when they simply thought about their secret. Differences in expectations between the reveal and baseline conditions ($d = 1.21$) were more

than twice as large as differences between either the conceal and baseline conditions ($d$ = 0.42) or the accessibility and baseline conditions ($d$ = 0.54). Second, participants in Experiment 2 had relatively calibrated expectations immediately after telling a lie and concealing it from another person, the point at which their concealed lie was most highly accessible. Revealers' expectations were significantly more miscalibrated in Experiment 2 when they imagined actually revealing that they had lied, suggesting that miscalibration is not a constant feature of concealing negative information as a secret, but rather is a momentary misunderstanding that can arise when a person contemplates revealing it. We investigate this possibility more directly in Experiment 5 by testing whether revealers underestimate recipients' positive thoughts about the act of revealing negative information itself.

## Experiment 5: Mechanism of Miscalibration

Experiments 1-4 suggest that people overestimate the reputational costs of revealing negative information they are keeping secret across multiple contexts, involving revelations to strangers, friends, family, and romantic partners. We believe these results are robust because they reflect a reliable egocentric bias in evaluations between revealers and recipients. Specifically, we suggest that the act of revealing a negative secret conveys both negative and positive traits about the revealer. The content of information one has chosen to keep secret may be negative, and hence something that people have chosen to conceal because they anticipate being judged negatively if the information was revealed. However, the very act of revealing negative information to another person also conveys trustworthiness and warmth (John et al., 2016). If revealers are somewhat myopically focused on the negative aspect of the information itself while recipients are also attentive to the trustworthiness and warmth conveyed by revealing this information, then revealers should systematically overestimate how harshly they will be

judged by recipients, and hence be more inclined to keep information secret than might be optimal for them and for their relationship.

This mechanism predicts that broadening revealers' attention to consider both negative *and* positive outcomes of being open and transparent should lead to more calibrated judgments of recipients' impressions (Epley et al., 2002; Savitsky et al., 2001; Wilson et al., 2000). We tested this possibility in Experiment 5 by directing revealers to consider a specified list of either positive or negative aspects of revealing negative information they are keeping secret, by having them report the two thoughts that they believe are most likely to come to mind for recipients from the list, and by then having them report how they expect to be evaluated by recipients. We compared these expected evaluations against a control condition in which participants selected the most likely thoughts that would come to mind for recipients from the entire set of both positive and negative thoughts. We predicted that revealers in the control condition would expect more negative than positive thoughts to come to mind for recipients, that revealers in the control condition would expect to be judged more negatively than recipients actually judge them, and that these pessimistic expectations would be at least partly attenuated among revealers in the positive condition relative to revealers in the control and negative conditions. This pattern would suggest that people expect negative thoughts to come to mind more readily for recipients than positive thoughts after revealing negative information that has been kept secret, and that focusing revealers on positive outcomes of revealing this negative information would diminish the perspective gap between revealers' expectations and recipients' evaluations.

## Method

**Participants.** Participants were recruited from Amazon Mechanical Turk ($N$ = 213; $M_{age}$ = 36.98; $SD_{age}$ = 11.67; 51.64% female, 48.36% male; 70.42% White, 12.21% Black, 6.10%

Hispanic, 6.57% Asian, 0.47% American Indian, 4.23% other ethnicity) to complete the experiment in exchange for $0.60. We excluded an additional seven participants because they failed the attention check described below. Our final sample provided about 80% power to detect a minimum effect of size $d = 0.55$ in planned, pairwise comparisons of expected or actual evaluations across the four between-participants conditions.

**Procedure.** Participants inputted a friend's initials and were assigned to one of four conditions: positive revealer, negative revealer, control revealer, and recipient. Participants then read the "rule breaking" scenario from Experiment 1 from the revealer or recipient's perspective, in which a roommate steals food from another roommate's cabinets almost every night for a month.

All participants were then told that the recipient's impression of the revealer might change either for better or for worse after hearing the secret. Revealers in the *positive* condition then read five reasons why the recipient might judge the revealer more favorably after hearing the secret, and were asked to select the two reasons that seemed most likely to impact the recipient's impression. The five options were, "Revealing the secret might convey to X that I am an honest person," "Revealing this secret might cause X to trust me more in the future," "Revealing this secret might convey to X that I will improve my behavior in the future," "Revealing this secret might convey to X that I feel remorseful," and "Revealing this secret might convey to X that I am willing to show vulnerability." Revealers in the *negative* condition read five reasons why the recipient might think less favorably of the revealer after hearing the secret, and were asked to select the two reasons that seemed most likely to impact the recipient's impression for worse. The five options were, "Revealing this secret might cause X to feel hurt or betrayed," "Revealing this secret might cause X to trust me less in the future," "Revealing this

secret might cause X to recognize that I've concealed these actions for quite some time," "Revealing this secret might cause X to believe that I am selfish," and "Revealing this secret might cause X to believe I am concealing other secrets as well."

Revealers and recipients in the *control* condition read all 10 reasons described above and selected the three reasons that seemed most likely to impact the recipient's impression. These reasons were modified to be presented either from the revealer's or recipient's perspective, respectively. Reason ordering varied randomly in all conditions.

Revealers then imagined disclosing this secret while recipients imagined hearing the secret. Revealers reported their expectations of how sharing the secret would impact the recipient's impression of them (-5 = *they'd think much less of me*, 0 = *they'd think no differently of me*, 5 = *they'd think much more of me*), when the recipient would forgive them (0 = *immediately*, 1 = *in a few seconds*, 2 = *in a few minutes*, 3 = *in a few hours*, 4 = *in a few days*, 5 = *in a few weeks*, 6 = *in a few months*, 7 = *in a few years*, 8 = *in a few decades*, 9 = *almost the rest of his/her life*, 10 = *never*), and reported the degree to which they preferred to reveal the secret to the recipient (0 = *definitely not reveal*, 10 = *definitely reveal*). Recipients completed three corresponding measures worded from the recipient's perspective.

Finally, participants then completed one attention check in which they reported their role assignment, reported demographic information, and were debriefed.

**Results and Discussion**

**Revealer versus recipient evaluations**. Supporting our hypotheses and replicating the preceding experiments, revealers in the control condition expected more negative impression changes than recipients did, $t(209) = -5.38$, $p < .001$, 95% $CI_{difference}$ [-3.19, -1.48], $d = -1.03$ (see Figure 5). Control revealers expected recipients' impressions to change for worse, $t(209) = -5.61$,

$p < .001$, 95% CI [-2.33, -1.12], $d = -0.80$, whereas recipients expected their impressions to change for better, $t(209) = 1.99$, $p = .048$, 95% CI [0.006, 1.22], $d = 0.27$. Control revealers also expected to be forgiven more slowly than recipients did, $t(209) = 5.28$, $p < .001$, 95% $CI_{difference}$ [1.22, 2.67], $d = 1.02$, and reported weaker desire for the secret to be revealed ($M = 5.04$, $SD = 3.32$) compared to recipients ($M = 8.74$, $SD = 1.65$), $t(209) = -6.44$, $p < .001$, 95% $CI_{difference}$ [-4.84, -2.57], $d = -1.24$.

This gap between revealers' expectations and recipients' evaluations was significantly reduced when participants were explicitly instructed to consider positive outcomes of the secret revelation. Specifically, positive revealers expected less negative change in recipients' impressions than did control revealers, $t(209) = 3.27$, $p = .001$, 95% $CI_{difference}$ [0.57, 2.30], $d = 0.64$, and expected recipients to forgive faster than did control revealers, $t(209) = -2.30$, $p = .023$, 95% $CI_{difference}$ [-1.59, -0.12], $d = -0.45$. Nevertheless, positive revealers still expected recipients to judge them more harshly than the recipients reported, $t(209) = -2.05$, $p = .041$, 95% $CI_{difference}$ [-1.76, -0.04], $d = -0.40$, and expected to be forgiven more slowly, $t(209) = 2.93$, $p = .004$, 95% $CI_{difference}$ [0.36, 1.82], $d = 0.57$. Deliberately focusing revealers' attention on positive aspects of revealing a secret diminished the gap between revealers' expectations and recipients' evaluations, but did not eliminate the gap entirely.

We believe revealers' relatively pessimistic expectations come from a spontaneous tendency to focus more on the negative outcomes of revealing a secret compared to recipients. This predicts that we should observe no difference in expectations between revealers in the negative condition (whose attention was explicitly drawn to negative outcomes of the exchange) and revealers in the control condition (whose attention we expect is spontaneously drawn to the negative outcomes). Consistent with this prediction, we observed nonsignificant differences

among revealers in these two conditions on expected impression change, $t(209) = 0.23$, $p = .820$, 95% $CI_{difference}$ [-0.76, 0.96], $d = 0.04$, and expected time to forgive, $t(209) = -1.16$, $p = .248$, 95% $CI_{difference}$ [-1.16, 0.30], $d = -0.22$.

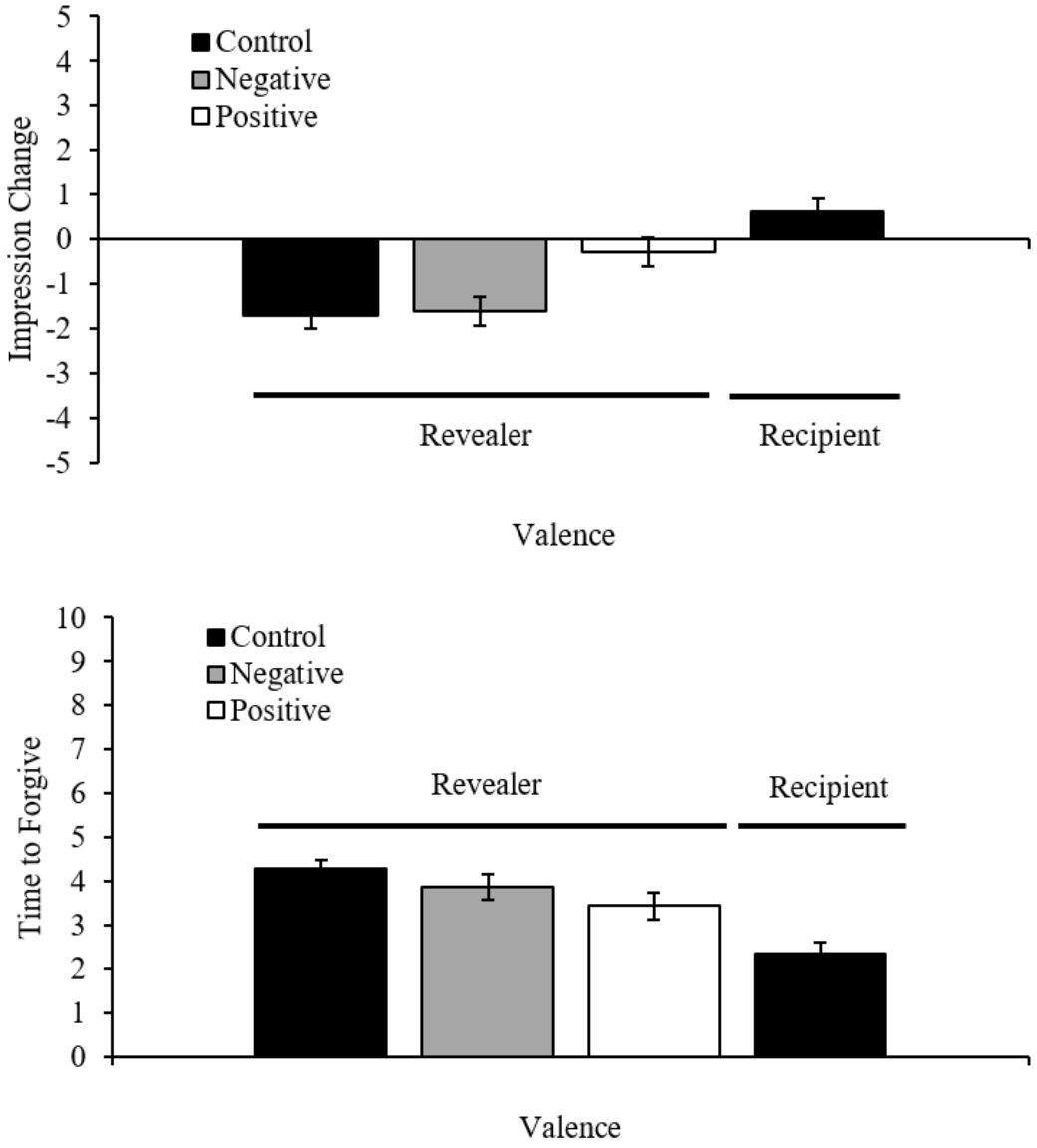



*Figure 5*. Mean impression change (upper panel) and time to forgive (lower panel) across condition (control revealer, negative revealer, positive revealer, recipient) in Experiment 5. Error bars ±1 *SE*.

**Positive versus negative thought selection**. Our proposed mechanisms suggest that those who consider revealing negative information they are keeping secret overestimate how harshly they will be judged by recipients because they focus primarily on the negative outcomes of revealing the information compared to recipients, who recognize both negative aspects of revealing negative information as well as offsetting positive aspects of honesty and authenticity. Consistent with this prediction, control revealers expected recipients to select more negative thoughts ($M$ = 2.30, $SD$ = 0.82) than recipients actually did ($M$ = 1.09, $SD$ = 1.03), $t(209) = -9.44$, $p < .001$, 95% $CI_{difference}$ [-1.46, -0.95], $d = -1.82$. In fact, a majority of the thoughts selected by control revealers were negative (77%), $t(209) = 8.83$, $p < .001$, 95% CI [71%, 82%], $d = 0.98$, whereas only a minority of the thoughts selected by recipients were negative (36%), $t(209) = -4.52$, $p < .001$, 95% CI [30%, 42%], $d = -0.39$.

A mediational analysis with role (control revealer vs. recipient) as the independent variable, number of negative thoughts as the mediating variable, and impression change and time to forgive as dependent variables in separate mediational analyses confirmed that the thoughts selected mediated participants' judgments. The indirect effects of role on both impression change ($b$ = 1.29, $SE$ = 0.35, 95% CI [0.68, 2.05]) and time to forgive ($b$ = -0.79, $SE$ = 0.28, 95% CI [-1.39, -0.27]) were significant, indicating significant mediation on both measures.

**Correlations with desire to reveal**. Finally, we assessed how miscalibrated expectations could be creating a barrier to revealing negative information by assessing the correlation between revealers' desire to reveal and their expected evaluations. As expected, revealers' desire to reveal the negative information they were keeping secret correlated positively with expected impression change, $r = .47$, $t(157) = 6.58$, $p < .001$, 95% CI [.33, .58], and negatively with expected time to

forgive, $r$ = -.35, $t(157)$ = -4.61, $p$ < .001, 95% CI [-.48, -.20]. Desire to reveal also varied across experimental conditions, $F(3, 209)$ = 15.17, $p$ < .001, $\eta_p^2$ = .18, with revealers in the control condition reporting weaker desire ($M$ = 5.04, $SD$ = 3.32) than revealers in the positive condition ($M$ = 6.23, $SD$ = 3.16), $t(209)$ = 2.05, $p$ = .041, 95% $CI_{difference}$ [0.05, 2.34], $d$ = 0.40. Unexpectedly, revealers in the negative condition did not differ significantly ($M$ = 5.94, $SD$ = 3.48) from revealers in either the positive condition, $t(209)$ = 0.49, $p$ = .623, 95% $CI_{difference}$ [-0.86, 1.44], $d$ = 0.10, or the control condition, $t(209)$ = 1.57, $p$ = .118, 95% $CI_{difference}$ [-0.23, 2.05], $d$ = 0.30. Recipients reported the strongest desire to have the information being kept secret revealed ($M$ = 8.74, $SD$ = 1.65).

The results of Experiment 5 suggest that revealers' tendency to overestimate how harshly they will be judged comes at least partly from inordinate attention to negative versus positive outcomes of the interaction, compared to recipients. Explicitly directing revealers' attention to exclusively negative outcomes did not significantly alter their expectations, suggesting that revealers may naturally focus on these negative outcomes. Explicitly directing revealers' attention to exclusively positive outcomes significantly reduced miscalibration, but it did not eliminate it completely. Experiment 5 also provided both correlational and experimental evidence that revealers' miscalibrated expectations could serve as a psychological barrier to transparency. However, this evidence is not completely conclusive because revealers in the negative condition were not significantly less interested in revealing than those in the positive condition.

To test our proposed mechanism further, we conducted an additional experiment ($N$ = 181; see Supplemental Materials, Experiment S4, for full details) in which we modified the rule-breaking scenario used in Experiment 5 such that revealers imagined revealing either positive or

negative information that they were keeping secret. In the positive condition, the scenario described how the revealer "replenished X's cabinets with food almost every night [last month] without telling him/her" in order to "help X save money because X was out of work and money was very tight at the time." The negative condition was identical to the original rule breaking scenario used in Experiment 5.

We observed a significant role × valence interaction effect, $F(1, 177) = 6.76$, $p = .010$, $\eta_p^2 = .04$, such that revealers overestimated how negatively they would be judged by recipients in the negative condition, $F(1, 177) = 25.49$, $p < .001$, $\eta_p^2 = .13$, but not in the positive condition, $F(1, 177) = 2.46$, $p = .119$, $\eta_p^2 = .01$. Miscalibrated expectations about how one will be judged for revealing information one is keeping secret seem to arise only when the valence of information contained in the secret is inconsistent with the positive inferences of trust and honesty that come from being open and transparent, such that revealers and recipients end up with meaningfully different perspectives about the revelation itself. We next continued testing this possibility in an experiment involving live social interactions.

## Experiment 6: Revealing Information Versus Secrecy

The evidence we have reported so far is consistent with our theory that people tend to overestimate how harshly they would be judged for revealing negative information to another person, and that this tendency encourages people to keep information secret more often than they would consider to be optimal if they more accurately understood how they would be evaluated by recipients. In our theorizing, secrecy is a consequence of miscalibrated expectations of how one would be judged, rather than a cause of miscalibrated expectations. However, our preceding experiments have all confounded revealing negative information with revealing an act of secrecy and are therefore consistent with at least two possible interpretations. One possibility is that

Revealers overestimate how harshly they will be judged because they expect that disclosing negative *information* will be evaluated more harshly than it actually is, consistent with Experiment S4. A second possibility is that revealers overestimate how harshly they will be judged for *concealing* information as a secret, meaning that secrecy itself causes miscalibrated expectations of how one would be evaluated after revealing negative information.

We tested these explanations in Experiment 6 by disentangling negative information from concealing information. Specifically, we asked participants to reveal positive information about themselves to another person in a first conversation and then to reveal negative information about themselves to the same person in a second conversation. If people overestimate the reputational costs of revealing negative information, then participants should be more likely to overestimate how negatively they will be evaluated after revealing negative information than after revealing positive information. In addition, we also experimentally manipulated whether or not participants tried to conceal this negative information from the other person as a secret before revealing it. If people overestimate how harshly they will be judged after revealing a negative secret because they expect to be judged negatively for concealing information, then revealers should expect to be judged more negatively when they had previously concealed negative information than when they had never concealed this information.

**Method**

**Pre-test.** As we will describe below, Revealers received four questions in Experiment 6, such that the first three questions were relatively positive (e.g., "What would constitute a perfect day for you?") and the fourth was relatively negative ("If you could undo one mistake you have made in your life that you regret, what would it be and why would you undo it?"). Because we intended to manipulate whether Revealers tried to conceal their fourth question as a secret or not,

we first conducted a preregistered pre-test to verify that people would in fact prefer to conceal Question 4 as a secret relative to the other three questions (see Supplemental Material for detailed method and results). In this pre-test, participants read the four questions, imagined having a conversation with a stranger in which they could discuss any three of these questions, and indicated which question they would prefer to keep secret during the conversation. As expected, participants were significantly more likely to prefer concealing the negative question (#4) as a secret (54%) than any of the other (positive) questions: Question 1 (4%), $\chi^2(1, N = 113) = 83.27$, $p < .001$, Question 2 (33%), $\chi^2(1, N = 168) = 10.50$, $p = .001$, or Question 3 (9%), $\chi^2(1, N = 122) = 63.48$, $p < .001$.

**Participants.** For Experiment 6, we recruited 101 pairs of strangers from an online study pool maintained by a university research center ($N = 202$ individuals, $M_{age} = 28.21$, $SD_{age} = 11.15$; 71.78% female, 24.75% male, 3.47% other gender; 38.12% White, 11.39% Black, 8.42% Hispanic, 32.18% Asian, 0.50% American Indian, 9.41% other ethnicity) to complete this experiment in exchange for $10. Because of the complexity of this experimental procedure, we excluded an additional 12 pairs from analyses for not following instructions based on pre-registered criteria: three pairs in which the Revealer answered Question 4 before instructed to do so, three pairs in which the Revealer did not answer Question 4 as instructed, five pairs in which the Revealer did not mention concealing Question 4 as instructed, and one pair because one participant had already completed the experiment in a previous session. Our final sample provided about 80% power to detect a minimum effect of size $\eta_p^2 = .07$ between Revealers' expectations and Recipients' evaluations when discussing negative information, separately in the concealment and no-concealment conditions.

**Procedure.** We recruited 1-3 pairs of strangers in each session. Participants connected to the video conference call from their personal computers. After all participants arrived, the experimenter explained that they would be participating in a study about social relationships, and instructed the participants not to browse the Internet or leave their computers during the session. The experimenter randomly assigned one participant in each pair to the role of Revealer, and the other to the role of Recipient, without explicitly informing them of their roles. The experimenter sent each participant a survey link and asked them to provide consent.

***Baseline conversation (Time 0)***. After participants consented, the experimenter explained that they would first have a five-minute conversation with another person, and that they could talk about whatever they wanted during this time. We refer to this interaction as the "time 0" conversation because it acts as a baseline for computing both expected and actual changes in evaluations over the course of the procedure. The experimenter then placed each pair of participants into a private video conferencing room where they could talk to each other privately.

After five minutes, the experimenter closed the breakout rooms and asked participants to complete a series of survey items. Revealers reported how they were currently evaluated by the recipients on the measures of honesty, trustworthiness, overall impression, and Recipient mood from the earlier experiments. Recipients reported their actual evaluations of the Revealers on the same measures. Participants then viewed a series of discussion questions in the survey. Revealers received the following four questions:

> QUESTION 1: What would constitute a perfect day for you?
>
> QUESTION 2: If a crystal ball could tell you the truth about yourself, your life, the future, or anything else, what would you want to know?

QUESTION 3: What is one of your favorite memories?

QUESTION 4: If you could undo one mistake you have made in your life that you regret, what would it be and why would you undo it?

Recipients received the following three questions:

QUESTION 1: Where is somewhere you've visited that you felt really had an impact on who you are today?

QUESTION 2: For what in your life do you feel most grateful?

QUESTION 3: Is there something you've dreamed of doing for a long time? Why haven't you done it?

The first three questions for both participants focused on relatively positive content that people are unlikely to intentionally conceal from others as a secret, but the fourth question that only Revealers received focused on relatively negative information that our pretest indicated people might prefer to conceal as a secret. All participants read their conversation questions, wrote down private notes about their answers to these questions, and informed the experimenter when they were finished and ready for their conversation.

***Time 1 and time 2 conversations.*** Participants were then randomly assigned to either the concealment or the no-concealment condition, such that all participants attending the session were assigned to the same condition. We based this experimental manipulation on existing theory wherein secrecy is conceptualized as a state of mind defined not only by possessing information that is unknown to others, but also by having the intention to actively conceal this information from others (Slepian et al., 2017). We therefore manipulated whether Revealers intended to conceal their personal regrets from another person—that is, their answer to Question

4—as a secret or not. In the concealment condition, the experimenter talked with Revealers privately and explained that they had received four questions in the survey whereas their partner had received only three, and that the other participant was unaware that the Revealer received a fourth question. The experimenter explained that both people would discuss the questions they had written notes about in their upcoming conversation, but that the Revealer should answer only the first three questions during this conversation, and should "keep the fourth question secret." The experimenter emphasized that the Revealer should not talk about the fourth question, should not tell the other person that they received four questions, and should try to conceal the additional fourth question as a secret during the first conversation. The experimenter explained that the participants would have an additional conversation later in the study, at which point the Revealer could disclose their secret and answer the fourth question.

In the no-concealment condition, Revealers were likewise told that they had received four questions, that their partner had received three, and that they should answer only the first three questions during the upcoming conversation. However, in this no-concealment condition, the experimenter explained that the purpose of omitting the fourth question was simply to save this question for later, and that "you don't need to keep it a secret." The experimenter emphasized that the Revealer was free to discuss the fourth question during their first conversation if the other person happened to ask if they had anything else that they wanted to talk about. We therefore manipulated Revealers' intentions to conceal Question 4 as a secret, while holding constant the information they would likely reveal across conditions in each conversation.

After the Revealers received these instructions, the experimenter talked with the Recipients in private. In both conditions, the experimenter explained that the Recipients would have two more conversations with the same person they had just talked with. In the first

conversation, they would answer the questions they had written notes about in the survey. In the second conversation, they would have five minutes to continue talking with their partner.

Before the time 1 conversation, Revealers completed additional survey items, including several comprehension checks. In the concealment condition, Revealers viewed a list of the four questions and indicated which they would answer in the first conversation, which they would conceal as a secret in the first conversation, and which they would answer in the second conversation. In the no-concealment condition, Revealers completed the same comprehension checks except we omitted the prompt about which questions they would conceal as a secret. If Revealers answered a comprehension check incorrectly, the survey informed them that one or more of their responses was incorrect, and asked them to try again until they provided the correct responses. After completing these checks, Revealers reported their expectations of how they would be evaluated by the other person after the time 1 conversation, using the same measures described earlier.

Participants then had their time 1 conversations in private video conferencing rooms. In the concealment condition, Revealers viewed all four questions and their notes for them. The fourth was preceded by a reminder stating, “During this first conversation, please try to conceal the following question as a secret.” In the no-concealment condition, Revealers viewed only their first three questions and their notes for them. Meanwhile, Recipients in both conditions viewed their three conversation questions and their notes. Participants discussed the questions until they reached their natural conclusion.

After this time 1 conversation, Revealers indicated how they expected to be evaluated “right now” by Recipients, and Recipients reported their current evaluations of Revealers on the measures described above. To verify that participants had followed instructions, participants then

viewed a list of all the questions they had written notes about, and indicated which they had discussed.

Participants then read instructions about the time 2 conversation. All participants learned that they would have five minutes to continue talking with their partner. In the concealment condition, Revealers additionally read, “During this second conversation, please tell the other person your secret that you concealed Question 4 during the previous conversation, and then answer the following question.” They then viewed Question 4 and their notes for it. In the no-concealment condition, Revealers read, “During this second conversation, please answer the following question.” They likewise viewed Question 4 and their notes. This means that Revealers in both conditions were instructed to answer Question 4 in their time 2 conversation, but only Revealers in the concealment condition were additionally instructed to reveal their secret that they had concealed this question in the previous conversation. After reading these instructions, Revealers indicated how they expected to be evaluated by the Recipient after the time 2 conversation, using the same measures described earlier.

After participants indicated they were ready for the next conversation, the experimenter sent private chat messages to the Revealers reminding them of what they should do in this next conversation. We added this reminder to the procedure after the first 13 pairs to ensure that the experimental manipulation was effective and to reduce the number of pairs that would be excluded for not following instructions. After each Revealer verified that they understood their instruction, the experimenter placed participants in private video conferencing rooms. After five minutes, the experimenter closed the private rooms to end the conversations.

Participants then completed more survey items. Revealers again reported how they were evaluated right now by the Recipient, and Recipients again reported their current evaluations of

the Revealer, using the same measures described earlier. To check whether Revealers followed instructions during the time 2 conversation, Revealers then viewed a list of their four questions and indicated which questions they answered in their last conversation. If they indicated that they answered Question 4, they then indicated whether they mentioned having previously concealed this question as a secret (*Yes, I mentioned that I concealed this "undo one mistake" question, or that I kept this question secret, during the previous conversation* vs. *No, I did not mention that I concealed this "undo one mistake" question, or that I kept this question secret, during the previous conversation* vs. *Other / not sure (please explain)*). Meanwhile, Recipients were asked whether their partner revealed their answer to the "undo one mistake" question in this last conversation (*yes* vs. *no* vs. *other / not sure (please explain)*). If a Recipient selected "yes" or "other / not sure", they then indicated whether the Revealer mentioned having previously concealed this question as a secret. Finally, participants indicated whether they had trouble seeing or hearing the other person during their conversations (*no* vs. *yes (please explain)*), reported demographic information, were debriefed, and were compensated.

**Results**

The concealment condition replicated the findings of our earlier experiments. Before the time 2 conversation, participants underestimated how positively they would be evaluated on all measures after revealing their secret, $F$s $\geq$ 8.43, $p$s $\leq$ .004, $\eta_p^2$s $\geq$ .12, and also overestimated negative changes in Recipients' evaluations on all measures from before to after revealing their secret, $F$s(1, 99) $\geq$ 5.06, $p$s $\leq$ .027, $\eta_p^2$s $\geq$ .08.

Revealers' miscalibrated expectations could stem from overestimating how negatively others will react to disclosing negative information, or from overestimating how negatively others will react to disclosing secrecy. Consistent with the first possibility, the gap between

revealers' expectations and recipients' evaluations did not differ between the concealment and the no-concealment conditions. As can be seen in Figure 6, a series of 2 (condition: concealment, no concealment) × 2 (time: 1, 2) × 2 (measurement type: revealer expectations, recipient evaluations) ANOVAs[5] with repeated observations of time and measurement type, separately for each dependent measure, indicated that revealers consistently underestimated how positively they would be evaluated by Recipients after their time 2 conversation, $F$s $\geq$ 15.44, $p$s < .001, $\eta_p^2$s $\geq$ .12, with non-significant differences between the concealment and no-concealment conditions, $F$s $\leq$ 2.86, $p$s $\geq$ .093, $\eta_p^2$s $\leq$ .03. The only exception to this pattern was the measure of honesty, for which Revealers underestimated how honest they would seem more in the concealment condition than the no-concealment condition, $F(1, 157.77) = 7.18$, $p = .008$, $\eta_p^2$s = .06, indicating that Revealers expected their act of concealing information to be seen as relatively dishonest. Likewise, Revealers expected more negative changes in evaluations from before the time 2 conversation to after than Recipients reported, as indicated by significant time × measurement type interaction effects on all measures, $F$s$(1, 99) \geq 12.71$, $p$s < .001, $\eta_p^2$s $\geq$ .11. This miscalibration did not differ between the concealment condition and the no-concealment condition on any measure, as indicated by non-significant three-way interaction effects with condition, $F$s$(1, 99) \leq 3.10$, $p$s $\geq$ .081, $\eta_p^2$s $\leq$ .03. These results suggest that participants overestimated the reputational costs of revealing negative information rather than the reputational costs of concealing information.

[5] In these analyses, Revealers' time 1 expectations refer to their post-time 1 expectations of how they are evaluated immediately after the time 1 conversation. Revealers' time 2 expectations refer to their pre-time 2 expectations of how they will be evaluated after the time 2 conversation. Recipients' time 1 evaluations refer to their post-time 1 evaluations of the Revealer. Recipients' time 2 evaluations refer to their post-time 2 evaluations of the Revealer.

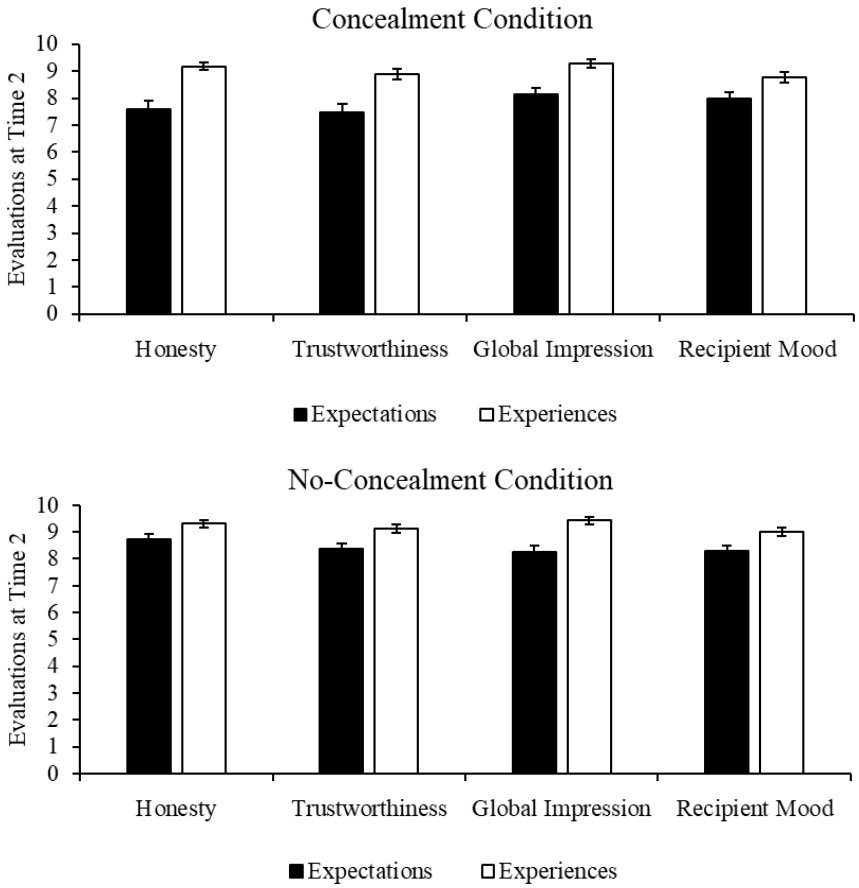



*Figure 6*. Mean expectations and experiences in the concealment condition (upper panel) and no-concealment condition (lower panel) at time 2 in Experiment 6. We added five to the global impression and recipient mood measures in this figure so that they are reported on the same 0-10 scale as the other items. Error bars ±1 *SE*.

Lending further support to this interpretation, participants were more likely to underestimate how positively they would be evaluated when revealing negative information at time 2 than when revealing positive information at time 1. This finding is observed in a series of 2 (condition: concealment, no concealment) × 2 (measurement type: revealer expectations, recipient evaluations) × 2 (time: 1, 2) ANOVAs with repeated observations of measurement type

and time.[6] Revealers expected more negative evaluations than Recipients actually reported, as indicated by significant main effects of measurement type on each measure, $F$s(1, 99) $\geq$ 13.64, $p$s < .001, $\eta_p^2$s $\geq$ .12. Importantly, Revealers were more likely to underestimate the positivity of Recipients' evaluations at time 2 than at time 1, as indicated by significant measurement type × time interaction effects for honesty, $F(1, 99) = 5.64$, $p = .019$, $\eta_p^2 = .05$, and trustworthiness, $F(1, 99) = 4.20$, $p = .043$, $\eta_p^2 = .04$, a marginally significant interaction effect for overall impressions, $F(1, 99) = 3.60$, $p = .061$, $\eta_p^2 = .04$, and a non-significant interaction effect in the same direction for Recipient mood, $F(1, 99) = 1.87$, $p = .175$, $\eta_p^2 = .02$. These findings did not differ significantly between the concealment and no-concealment conditions for any measure, as indicated by non-significant three-way interactions, $F$s(1, 99) $\leq$ 2.19, $p$s $\geq$ .142, $\eta_p^2$s $\leq$ .02.

Because the findings of these analyses varied slightly across highly correlated measures, we performed exploratory analyses using a composite of the four measures (αs $\geq$ .78). On this composite measure, Revealers were significantly more likely to underestimate how favorably they would be evaluated when revealing negative information at time 2 than when revealing positive information at time 1, $F(1, 99) = 6.58$, $p = .012$, $\eta_p^2 = .06$, with a nonsignificant difference between the concealment and no-concealment conditions, $F(1, 99) = 0.48$, $p = .490$, $\eta_p^2 = .005$. We observed the same pattern of results when analyzing expected and actual changes in evaluations at each time point, such that Revealers were more likely to overestimate negative changes in Recipients' evaluations at time 2 than at time 1, $F(1, 99) = 4.88$, $p = .029$, $\eta_p^2 = .05$, with a nonsignificant difference between the concealment and no-concealment conditions, $F$(1,

[6] In these analyses, Revealers' time 1 expectations refer to their pre-time 1 expectations of how they will be evaluated after the time 1 conversation. Revealers' time 2 expectations refer to their pre-time 2 expectations of how they will be evaluated after the time 2 conversation. Recipients' time 1 evaluations refer to their post-time 1 evaluations of the Revealer. Recipients' time 2 evaluations refer to their post-time 2 evaluations of the Revealer.

99) = 0.09, $p$ = .760, $\eta_p^2$ = .001. Our data suggest that people may be especially likely to underestimate how favorably they will be evaluated when revealing negative information that they might be inclined to keep secret because they expect to be judged relatively harshly, compared to positive information that they might not be inclined to keep secret.

**Discussion**

Experiment 6 suggests that people overestimate how harshly they are likely to be judged for revealing a negative secret because they expect to be judged negatively for the information they are concealing, rather than because they are concealing the information. Participants in this experiment overestimated how negatively they would be judged regardless of whether or not they had tried to conceal negative information as a secret before revealing it to another person. Of course, studying this issue experimentally is challenging because we had to instruct participants to conceal information rather than rely on their personal choice to conceal or reveal information. It could be that choosing to conceal would be interpreted more negatively on its own, independent of the content being concealed, if the action is interpreted as a clearer signal to a person's negative moral character. However, revealers may anticipate these consequences of choosing to conceal information as well, just as they anticipated being judged as more dishonest in this experiment after concealing information, thereby maintaining the tendency to overestimate how harshly they would be judged. At the very least, these results suggest that people's beliefs about how they will be viewed after revealing a negative secret are more likely to be based on the negative information being revealed than on the act of secrecy.

Although the act of concealing negative information may not be the primary cause of miscalibration between revealers and recipients of negative secrets, our theory suggests that secrecy is likely to be an important outcome of this miscalibration. If people overestimate how

harshly they will be judged when revealing negative information to others, then their excessively pessimistic expectations could cause them to conceal negative information as a secret that they might otherwise choose to reveal to others, if their expectations were better calibrated. We tested this possibility directly in our final experiment.

## Experiment 7: Calibrating Judgment Increases Transparency

We hypothesize that misunderstanding how one will be judged for revealing negative information matters because it can act as a barrier to being more open, honest, and intimate in relationships, leading people to carry with them more burdensome secrets than might be optimal for both their own wellbeing and for the strength of the relationship itself. The prior experiments report correlational evidence at least partly consistent with this possibility in that revealers' expectations of how they would be judged significantly predict their desire to reveal negative information they are concealing as a secret to others.

We tested this critical connection between people's expectations of a recipient's evaluation and their decisions to reveal negative information, rather than keep it secret, in two additional ways. First, we conducted a supplemental experiment ($N$ = 106; see Supplemental Materials, Experiment S5) in which we asked participants to describe a secret that they were concealing from another person that they would either be reluctant to reveal or happy to reveal. We then measured how people expected they would be judged by the recipient if they were to reveal it. As predicted, participants in the "reluctant" condition reported secrets that were relatively negative, *one-sample* $t(104) = -7.40$, $p < .001$, 95% CI [-3.36, -1.94], $d = -0.96$, and anticipated that revealing these secrets would lead to negative changes in the recipient's impression of them, *one-sample* $t(104) = -4.64$, $p < .001$, 95% CI [-2.28, -0.91], $d = -0.55$. Participants in the "happy" condition reported secrets that were relatively positive, *one-sample*

$t(104) = 8.77$, $p < .001$, 95% CI [2.62, 4.15], $d = 1.28$, and anticipated that revealing these secrets would lead to positive changes in the recipient's impression of them, *one-sample* $t(104) = 5.34$, $p < .001$, 95% CI [1.24, 2.71], $d = 0.91$. People's interest in revealing negative information tends to be associated with the expected reputational consequences of the revelation.

Second, and arguably more important, we tested our hypothesis about the connection between people's expectations and actions in Experiment 7 by directly manipulating participants' expectations of a recipient's reaction. Our theory predicted that people's expectations of others' judgments *influence* their choices to reveal negative information—whether or not this negative information was already being kept secret—such that overestimating how negatively they will be judged creates an unwarranted psychological barrier to transparency. If so, then calibrating people's beliefs about how they will be judged should increase people's willingness to reveal negative information rather than conceal this information as a secret. If, however, people's mistaken expectations about others' evaluations *do not guide* their decisions to reveal negative information, then calibrating their expectations should not affect their willingness to reveal the information.

We test this critical piece of our theorizing in Experiment 7 by directly manipulating people's beliefs about how they will be judged and examining the effect on people's choices to reveal negative information or conceal this information as a secret in a live interaction. Specifically, we utilized the procedure from Experiment 2 in which participants engaged in a fast-friends discussion in the lab, with one participant (the revealer) being asked to lie to the other (the recipient) and to later reveal this negative information to the recipient. We informed revealers in the *mild-judgment* condition that they likely would not be judged harshly for having lied in response to one of the get-to-know-you discussion questions, and informed revealers in

the *harsh-judgment* condition that they would likely be judged severely for having lied. We compared responses in these two conditions to revealers in a *control* condition, in which we told them nothing about how they should expect to be judged (as in Experiment 2). We predicted that participants in the mild-judgment condition would expect to be judged less severely than participants in the harsh-judgment and control conditions, and would also be more likely to reveal their lie rather than conceal it as a secret.

**Method**

**Participants.** We recruited 150 pairs of strangers from university and community participant pools ($N$ = 300 individuals; $M_{age}$ = 27.62; $SD_{age}$ = 12.47; 47.33% female, 50.67% male, 2.00% other gender; 32.00% White, 32.33% Black, 5.00% Hispanic, 18.67% Asian, 1.33% American Indian, 10.67% other ethnicity) to complete an experiment in exchange for $4. We excluded an additional 19 pairs based on criteria in our preregistration for this experiment: 13 pairs in which revealers reported that they did not lie as instructed, four in which participants did not follow instructions when the lie was revealed, one in which the recipient did not respond to the designated discussion questions, and one in which the recipient saw the revealer's instruction to lie before starting the discussion. Our final sample provided about 80% power to detect a minimum effect of size $\phi$ = .31 in planned, pairwise comparisons of the decision to reveal the lie or conceal it as a secret across the harsh-judgment, mild-judgment, and control conditions.

**Procedure.** We recruited pairs of participants to a laboratory, randomly assigning one person in each pair to be the revealer and the other to be the recipient, and also randomly assigning each pair to a harsh judgment, mild judgment, or control condition.

The procedure was similar to Experiment 2 with the following exceptions. First, we recruited participants to the laboratory for in-person sessions, and so both participants received a

packet containing the five conversation questions and were instructed to jot down notes in the packet before their conversation. Second, throughout the experiment we measured ratings of honesty and trustworthiness before overall impressions. Third, we removed the items asking revealers to report the extent to which they would rather conceal or reveal their lie, and the degree to which they would rather reveal this information themselves or allow the experimenter to reveal it.

Fourth, after participants discussed the questions and completed time 1 measures, the experimenter spoke privately with the revealer and told them that they could choose to either conceal or reveal their lie to the recipient later in the experiment. The experimenter then verbally manipulated the revealer's expectations about the consequences of revealing this information: In the *harsh-judgment* condition, the experimenter stated, "You should know that in our past research we've found that people are actually kind of harsh in their judgments once they find out that another person has lied to them. They seem not to be very forgiving of what happened in the experiment." In the *mild-judgment* condition, the experimenter stated, "You should know that in our past research we've found that people don't actually judge others very harshly in situations like these. They tend to be quite charitable in their impressions of what happened." Finally, in the *control* condition, the experimenter omitted details about how the revealer would likely be evaluated upon revealing the lie, as in Experiment 2. In all conditions, the experimenter then emphasized to the revealer that the choice was completely up to them, and that the revealer should think for a moment before choosing to conceal or reveal this information by selecting either option on the computer screen. Regardless of their choice, all revealers then imagined revealing their lie to the recipient and indicated how they expected to be evaluated by recipients

upon doing so at time 2. The experimenter stayed in the room while revealers decided whether to reveal their lie and while they reported these expectations.

The experimenter then brought the recipient back into the room. Revealers who had chosen to reveal the lie then disclosed this information to the recipient, whereas revealers who had chosen to conceal their lie did not. Afterward, both revealers and recipients completed additional measures: Revealers reported their current mood from -4 (*very bad*) to 4 (*very good*) and recipients reported time 2 evaluations of the revealer. Revealers were also asked to report whether they had actually lied, as instructed, in response to the final discussion question (*yes, I did tell a lie* vs. *no, I did not tell a lie*).

**Results and Discussion**

**Manipulation check.** The manipulation of Revealers' expectations was effective. Revealers in the harsh-judgment condition expected more negative evaluations on measures of honesty, trustworthiness, overall impressions, and Recipient mood at time 2 compared to those in the mild-judgment condition, $t$s $\geq$ 3.15, $p$s $\leq$ .002, $d$s $\geq$ 0.51. These participants also expected more negative changes from time 1 to time 2 on each measure compared to the mild-judgment condition, $t$s $\geq$ 2.41, $p$s $\leq$ .017, $d$s $\geq$ 0.48. Revealers in the mild-judgment condition nonetheless anticipated significant negative changes in Recipients' evaluations from time 1 to time 2 on measures of honesty, trustworthiness, and Recipient mood, $t$s $\geq$ 2.20, $p$s $\leq$ .029, $d$s $\geq$ 0.51, but not global impressions, $t(147) = -1.17$, $p = .246$, 95% $CI_{difference} = [-0.92, 0.24]$, $d = -0.26$, suggesting that Revealers in the mild-judgment condition expected to be judged at least mildly negatively and did not expect Recipients to be indifferent to the revelation.

Revealers' expectations in the control condition were generally similar to those in the harsh-judgment condition, suggesting that participants spontaneously expected to be judged

harshly after revealing their lie. Specifically, Revealers in the control condition expected more negative changes in honesty, trustworthiness, overall impressions, and Recipient mood from time 1 to time 2 compared to the mild-judgment condition, *t*s $\geq$ 2.32, *p*s $\leq$ .022, *d*s $\geq$ 0.46. In contrast, Revealers in the control and harsh-judgment conditions did not differ significantly in expected changes in evaluation on any measures, *t*s $\leq$ 0.77, *p*s $\geq$ .441, *d*s $\leq$ 0.15. Revealers in the control condition naturally expected to be evaluated harshly upon revealing their lie.

**Decisions to conceal or reveal.** Revealers' decisions about concealing or revealing their lie varied by condition, $\chi^2(2, N = 150) = 17.20$, $p < .001$. As predicted, planned contrasts revealed that a greater proportion of revealers chose to reveal their lie in the mild-judgment condition (92%) than in either the harsh-judgment condition (76%), $\chi^2(1, N = 100) = 4.76$, $p = .029$, 95% $CI_{difference}$ [1.63%, 30.37%], $\phi = .22$, or the control condition (56%), $\chi^2(1, N = 100) = 16.84$, $p < .001$, 95% $CI_{difference}$ [18.81%, 53.19%], $\phi = .41$.

Interestingly, a greater proportion of revealers shared the lie in the harsh-judgment condition (76%) than in the control condition (56%), $\chi^2(1, N = 100) = 4.46$, $p = .035$, 95% $CI_{difference}$ [1.43%, 38.57%], $\phi = .21$. We did not anticipate this result, and further research would be needed to test both its robustness and its cause. For now, it simply suggests that there may be other mechanisms besides expected judgment from recipients that guide willingness to reveal negative information. We will address this result in more detail in the General Discussion.

**Correlations between expected evaluations and the decision to conceal or reveal.** Across all conditions, revealers were more likely to reveal their lie if they expected to be evaluated more positively at time 2 on measures of honesty, $r = .23$, $t(148) = 2.84$, $p = .005$, 95% CI [.07, .37], trustworthiness, $r = .19$, $t(148) = 2.38$, $p = .018$, 95% CI [.03, .34], overall impression, $r = .28$, $t(148) = 3.61$, $p < .001$, 95% CI [.13, .43], and recipient mood, $r = .19$,

$t(148) = 2.40$, $p = .018$, 95% CI [.03, .34]. Likewise, revealers were more likely to reveal this information if they expected more positive changes from time 1 to time 2 in recipients' ratings of honesty, $r = .20$, $t(148) = 2.48$, $p = .014$, 95% CI [.04, .35], trustworthiness, $r = .17$, $t(148) = 2.09$, $p = .038$, 95% CI [.009, .32], global impressions, $r = .29$, $t(148) = 3.67$, $p < .001$, 95% CI [.13, .43], and marginally for expected changes in recipient mood, $r = .16$, $t(148) = 1.96$, $p = .052$, 95% CI [-.002, .31].

We believe these results are important for three reasons. First, they provide causal evidence that miscalibrated expectations create a psychological barrier to revealing negative information, and may therefore encourage secrecy in relationships. Those who learned—correctly based on our prior experiments—that people tend to judge others fairly mildly after revealing negative information were significantly more likely to reveal that they had lied to their partner than those who were told—incorrectly based on our prior experiments—that people tend to judge others harshly for revealing such information.

Second, these results indicate that most people prefer to reveal negative information even if it poses some mild cost to their reputation in the eyes of others. A cynic might note that the best way to maintain one's positive impression in the eyes of another person is to not reveal negative information and simply keep it to oneself as a secret. Of course, concealing negative information as a secret also imposes some psychological cost on the concealer as well, creating a hedonic burden that people seem disinterested in carrying. Some of our experiments indicate that those who reveal negative information to another person may incur some small reputational cost in the eyes of recipients, even if our main result is that this cost is notably smaller than revealers expect. Participants in our mild-judgment condition did not learn that others judge them favorably for revealing that they lied, but instead were informed that people "do not judge others

very harshly in situations like these." Nearly all participants in this condition (92%) nevertheless chose to reveal their lie to the recipient, as did the majority (76%) of participants who were explicitly told that they would be judged harshly for doing so, indicating that people are willing to incur some reputational cost to avoid whatever burden comes with carrying a secret.

Finally, these results are inconsistent with an alternative interpretation that might have occurred to some readers. In particular, our instructions could have induced a demand characteristic if participants had inferred something about our hypotheses from our instructions and then behaved in line with what they presumed to be an experimenter's suggestion to reveal the lie in the mild-judgment condition but not in the harsh-judgment condition. This alternative interpretation, however, would also predict that participants in the harsh-judgment condition would be less likely to reveal their lie than participants in the control condition. This is not the pattern we observed. Participants behaved in line with how they expected to be judged by the other participant, rather than in line with any plausible expectations of how the experimenter might have intended for them to behave.

## General Discussion

In his memoir, Jackie Chan recalls the moment when his extramarital affair and resulting child were revealed to the public—and his wife. The revelation of Chan's secret led him to believe that his wife would file for divorce, but when he spoke with her by phone, her response was surprisingly forgiving. "You don't need to explain," she told him. "If you need me or our son to show up and stand by your side, we'll do that. I know you must be feeling awful now. Don't worry about me, I'm fine. You go deal with this" (Chan, 2015).

Twelve experiments suggest that Chan's experience—in which the revelation of negative information leads to more charitable reactions than expected—may not be as completely unique

or unusual as one might imagine. Across different hypothetical scenarios that approximate ecologically valid circumstances in daily life, revealers overestimated the negative impressions formed by recipients (Experiments 1, S1, & S2). In the laboratory, participants significantly overestimated how harshly they would be judged after revealing they had lied during a sensitive discussion (Experiment 2). In field settings, when instructed to reveal an *actual* negative secret, participants overestimated how harshly they would be judged by both distant and close others (Experiments 3-4), providing ecologically valid support for our core hypothesis. This misunderstanding occurred because of systematic differences in the perspectives of revealers versus recipients, with revealers focused more on negative thoughts related to the content of the disclosure and recipients focused relatively more on positive characteristics such as honesty, openness, and transparency conveyed by the disclosure of this content (Experiments 5, 6, & S4).

We believe these results matter because miscalibrated expectations about others' judgments are likely to encourage secrecy in relationships by serving as a psychological barrier to revealing negative information. This would be unwise by inducing needless cost into a relationship and creating an unnecessary psychological burden for those concealing the information as a secret (Kumar & Epley, 2023). Consistent with this hypothesis, participants reported being more hesitant to reveal information that they expected to damage their reputations than information they expected to strengthen them (Experiment S5). More important, manipulating revealers' expectations about how they would be judged significantly affected their willingness to actually reveal negative information, such that those given more calibrated expectations were more likely to reveal that they had lied to another person rather than conceal this behavior as a secret (Experiment 7). Misunderstanding the consequences of revealing

negative information may leave people being less transparent, and carrying a larger burden from secrecy, than they would prefer if they correctly understood how they would be judged by others.

Nevertheless, our studies also have several limitations that should be addressed in future research. First, and perhaps most important, we did not ask participants to reveal their most serious secrets to a relationship partner in Experiments 3 and 4 for obvious ethical reasons, but instead directed them to reveal more moderately negative secrets. Although participants might be evaluated more negatively upon sharing more extreme information, they are also likely to anticipate more negative evaluations, thereby continuing to overestimate how negatively they will be evaluated. Consistent with this possibility, participants in Experiment S1 were significantly *more* likely to underestimate others' forgiveness when they imagined revealing more severely negative information compared to mildly negative information.

Second, our research did not investigate whether calibrating people's expectations is similarly likely to increase their willingness to reveal mildly negative or severely negative information. Although Experiment 7 found that calibrating participants' expectations encouraged them to reveal mildly negative information to another study participant, it is possible that calibrating people's expectations about revealing severely negative information—such as physically harming another person, or cheating on a relationship partner—might still leave people anticipating sufficiently negative evaluations that they would choose to continue concealing the information as a secret because they would indeed be judged somewhat negatively. Notably, participants in Experiment 4 were more interested in revealing a real negative secret to their romantic partner if they expected to be evaluated relatively favorably upon doing so, suggesting that underestimating others' favorable evaluations might act as a barrier to revealing at least some meaningfully negative secrets in everyday life.

Third, the content of the information that people conceal as secrets varies widely, from immoral acts such as stealing to personal failings such as failing an exam to stigmatized identities such as homosexuality. Our experiments did not measure how accurately people distinguish negative information that might damage their reputations from those that might not. For example, people tend to evaluate their own actions primarily in terms of how competently those actions are executed, yet are evaluated by others primarily in terms of the warmth or trustworthiness implied by those actions (Abele & Wojciszke, 2007). If concealers use their own perspectives as a guide when inferring how they will be evaluated by others, then they might be more likely to overestimate the costs of revealing lapses in competence, such as underperforming on an exam or falling into debt, than lapses in warmth, such as cheating on an exam or stealing money, because lacking competence may carry less weight in a recipient's impression than lacking warmth. We did not vary the content of negative information systematically in the current experiments.

Despite these limitations, we believe our results make a very important contribution to the existing literature on secrecy. Psychologists have largely studied secrecy from an intrapersonal perspective, examining the emotional costs of holding secrets (e.g., Bedrov et al., 2021; Pennebaker, 1989; Slepian, 2021) as well as the individual determinants of people's decisions to reveal secrets to others (Afifi & Steuber, 2009). Our research suggests that an interpersonal perspective is critical for achieving a more complete understanding of decisions to reveal or conceal information, as well as understanding the relational consequences of secrecy and psychological barriers to greater transparency. We find evidence of systematic miscalibration: Recipients are less harsh in their judgments than revealers expect. This means that people may be concealing more information than would be optimal for their own wellbeing.

Furthermore, the tendency to ruminate on negative secrets (Afifi & Caughlin, 2006; Pennebaker, 1989), and the psychological burden that comes from concealing secrets (Larson & Chastain, 1990; Maas et al., 2012; Pennebaker et al., 1989; Slepian & Bastian, 2017), may be driven in part by revealers' miscalibrated beliefs about how negative and stigmatizing the information they are keeping secret is to begin with.

Our research also sheds light on an important practical question: Under what circumstances *should* people reveal negative information rather than keep this information secret? Psychological experiments cannot address the ethics of concealing or revealing information, but they do provide important insights about the dynamics of revealing information that people might be inclined to keep secret. First, our experiments suggest that revealing negative information is not as consistently harmful to one's reputation as expected. In field experiments (3 & 4), revealing information that people were actually concealing as a secret to a relationship partner carried little or no cost to one's relationship, despite revealers expecting it to come at a measurable cost. In laboratory experiments (2 & 6), revealing that one had lied during a meaningful conversation, and revealing one's personal regrets, did not systematically diminish the impressions formed by a new acquaintance, again despite revealers expecting it would lead to more negative evaluations. Only our hypothetical scenario studies (1 & S1), which included more serious secrets, found that revealing serious secrets such as being unfaithful to one's spouse could consistently damage one's reputation, but even these revelations were less damaging than expected. A person whose only goal is to maintain a positive reputation in the eyes of others could be justified in concealing their more serious secrets to eliminate any risk of negative judgment. Of course, most people do not only care about maintaining their reputations but also about relieving the stress, anxiety, and guilt that can come from concealing a secret, and about

having an open and authentic relationship with other people, meaning that secret keepers themselves may decide that they prefer to reveal a negative secret when they have more calibrated expectations about how they will be judged by their recipient. Consistent with this possibility, participants in Experiment 7 were more likely to reveal negative information to others when they were induced to believe that they would be judged mildly rather than harshly upon doing so, despite being told they could incur a minor cost to their reputation regardless. In this way, overestimating the reputational costs of revealing a secret may cause people to believe that the costs of revealing the secret outweigh its benefits, leading them to be more secretive than they themselves might prefer if their expectations were more appropriately calibrated.

Our experiments also advance our understanding of the relational dynamics of self-disclosure. Revealing a negative secret to a relationship partner entails both the risk that the recipient will react harshly to the information and the potential reward that the disclosure will relieve stress and strengthen the relationship (Altman & Taylor, 1973; Kelly & McKillop, 1996; Murray et al., 2006; Taylor & Altman, 1975). People who expect their partners to react harshly to the negative information they are keeping secret tend to distance themselves from their partners over time (Jaremka et al., 2011), a self-protective response that can reduce relationship satisfaction and even lead to the termination of a relationship (Hendrick et al., 1988; Murray et al., 2003). Our experiments suggest that people tend to overestimate the risks associated with negative self-disclosure. Calibrating people's perceptions of risk—by bringing these perceptions into alignment with the actual risks of revealing a secret—might promote more openness and transparency in relationships. Thus, our findings suggest that the potential relational costs of revealing the kinds of negative secrets that participants shared in our experiments may not justify the psychological costs of keeping the negative information secret. People may be less

transparent in their relationships than would be ideal for their relationship satisfaction and wellbeing.

Our experiments also speak to research on people's social judgments of distant versus close others. Revealers in our experiments underestimated both strangers' and close others' forgiveness after learning about the negative information they were keeping secret. This suggests that basic mechanisms of social judgment, including accessibility and egocentric reasoning—often identified as potential sources of bias in people's judgments of strangers (e.g., Epley et al., 2004; Gilovich et al., 2000; Savitsky et al., 2001)—may lead to judgment errors that also cause people to be excessively guarded in their established relationships. Moreover, we found preliminary evidence that revealers were somewhat *more* likely to underestimate strangers' positive reactions because they mistakenly expected strangers to be markedly less forgiving than close others (Experiment 3). This finding could be part of a more general phenomenon whereby people have better calibrated intuitions about the responses of close others than strangers in social interaction. Indeed, recent work finds that people have more calibrated expectations about friends' than strangers' willingness to comply with requests for help (Deri et al., 2019), and about close others' than strangers' care and concern during conversations (Kardas et al., 2022). Future research should continue to examine whether revealers underestimate forgiveness more when revealing secrets to strangers than to friends, and if so, whether such differences across relationships arise in other forms of social interaction as well.

One unexpected finding that emerged in Experiment 7 warrants further discussion. In particular, revealers who were told nothing about a recipient's likely impression were less willing to reveal their lie than those told that they would be judged harshly, even though these two groups did not differ in their expectations of how negatively they would be judged by

recipients. One potential explanation is that participants in the harsh-judgment condition may have inferred from the instructions that many past research participants had chosen to reveal the lie, creating a perceived norm of behavior that influenced their own decision to reveal their lie. However, our findings could also be consistent with a tendency for people to evaluate risky choices more negatively than their worst possible realized outcome (Fox & Tversky, 1995; Gneezy et al., 2006). That is, people are more averse to choosing uncertain outcomes than they are to the most negative of these potential outcomes. Revealers in the control condition may have felt more uncertain about the recipient's reaction compared to those in the harsh-judgment condition, even though their anticipated judgments did not differ between conditions on average. As a result, they may have been more reluctant to choose to disclose their lie. As an initial test of this hypothesis, we computed the variance in revealers' expectations for each condition separately. Revealers in the control condition exhibited significantly greater variance in expected honesty, $F(1, 148) = 4.10$, $p = .045$, $\eta_p^2 = .03$, trustworthiness, $F(1, 148) = 5.31$, $p = .023$, $\eta_p^2 = .03$, and recipient mood, $F(1, 148) = 5.58$, $p = .019$, $\eta_p^2 = .04$, at time 2 compared to those in the mild- and harsh-judgment conditions combined, as well as marginally greater variance in the recipients' expected impression at time 2, $F(1, 148) = 3.38$, $p = .068$, $\eta_p^2 = .02$. This suggests that uncertainty about a recipient's evaluation could be creating an additional barrier to revealing negative information in addition to the concern about being judged harshly. We believe this possibility warrants further investigation because it could help to explain a broader tendency for undersociality: avoiding social interactions that might otherwise enhance their own and others' wellbeing (Epley & Schroeder, 2014; Kumar & Epley, 2018; Sandstrom & Dunn, 2014).

Finally, even after a person decides to reveal negative information they might be keeping secret to somebody else, another set of decisions concerns *how* they go about revealing the

secret. Revealers may underestimate the reputational benefits of revealing their secrets in face-to-face conversations and through spoken communication media such as phone calls and video calls relative to written media such as text messages, letters, and emails. Spoken communication media reveal paralinguistic cues in a person's voice, and these cues allow people to communicate their thoughts and feelings more clearly (Kruger et al., 2005) and allow them to better convey their thoughtfulness and intellect (Schroeder & Epley, 2015; Schroeder et al., 2017), each of which may lead to more favorable impressions among recipients. More intimate conversations involving the human voice also tend to result in greater social connection than text-based interactions (Kumar & Epley, 2021). Expected impressions among revealers, however, may not be sufficiently sensitive to these differences across communication media (Kruger et al., 2005), and so revealers may underestimate the reputational benefits of revealing their secrets through speech.

**Concluding Thought**

Long before contemporary psychologists uncovered the psychological benefits of expressing one's secrets, William James (1890, pp. 432-433) observed that secrecy may be motivated not by indifference to intimacy in one's relationships but rather by a more pointed aversion to revealing intimate parts of oneself that might be judged negatively by others: "Secretiveness, which, although often due to intelligent calculation and the dread of betraying our interests in some more or less definitely foreseen way, is quite as often a blind propensity, serving no useful purpose … It is to be noted that even where a given habit of concealment is reflective and deliberate, its motive is far less often definite prudence than a vague aversion to have one's sanctity invaded and one's personal concerns fingered and turned over by other people." In line with James's observations, the current research finds that people are more likely

to conceal negative information as a secret when they expect this information to be judged negatively by others. We find that these fears, however, are systematically exaggerated, such that concealers overestimate how harshly they will be evaluated upon revealing what they are keeping secret, creating a potentially unnecessary barrier to transparency in relationships. In daily life, revealing negative information that one might otherwise be inclined to keep secret may reveal not only one's own mistakes and transgressions to others, but also others' surprising willingness to forgive as well.

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# Appendix

Revealer Scenarios from Experiment 1

***Relationships***. You're in a romantic relationship with X and have been in this relationship for nearly three years. Most of the time your relationship with X is very strong and you communicate openly. However, two weeks ago you got into a fight with X and temporarily doubted your relationship. Later that same day you flirted with somebody else over lunch. Although you resolved your fight with X later that evening and your relationship with X continues to be very strong, you never revealed to X that you flirted with somebody else that day over lunch.

***Past behavior***. You are in a relationship with X. You and X have always had a strong relationship: you communicate openly with them and you respect each other's values. However, something that X does not know is that you smoked cigarettes for about a year, ending a week ago. You started smoking at around the same time as your friends at work and thought this would be a good way to bond. You were able to keep this from X because you smoked only at work and changed your clothes afterwards. During the time you smoked you became somewhat addicted, but one week ago you quit. You have been open with X about other aspects of your personal life but you have never revealed that you smoked cigarettes. You very much regret your decision to begin smoking and feel remorseful for having hidden this habit from X.

***Life circumstances***. Your family members, including X, know that you are usually a financially responsible person and have stayed out of serious financial trouble throughout your adult life. However, your financial situation changed drastically last month when you entered serious credit

card debt and stopped paying your credit card bills. Your financial situation changed because you were let go from your job and were unable to find a new one despite contacting many potential employers. You are in serious debt and have not revealed nearly the full extent of your financial difficulty to X, who continues to assume that you are financially well off just as you had been for many years. Privately you feel quite regretful about the situation as well as remorseful that you've been unable to pay your credit card bills.

***Differences of opinion***. You have a close relationship with one of your family members, X, and you and X typically communicate openly about events that are occurring in your lives. But several years ago you didn't tell X about, or invite them to, the first performance of the first play you ever wrote and directed. You and X have very different religious views, and this is something you have discussed together in the past. However, the play had heavy religious themes and presented them in a less than reverent way that supported your own religious views but not X's. You wrote the play this way because the theatre company asked you to incorporate these religious themes in your writing. Years later you still have not revealed to X anything about the play that launched your writing career. You very much regret not inviting X to the play and feel remorseful for not including X in such an important event in your life.

***Rule breaking***. You live with several roommates, including your friend X. You are generally a very responsible person and you think about the consequences of your actions before you act, especially when your actions may affect other people. But last month you snuck food out of X's cabinets almost every night. You did this to save money because you were out of work and money was very tight at the time. X noticed that food was missing but did not discover who was

responsible for the missing food. The missing food caused financial as well as emotional strain for X, who was required to spend extra money on groceries and think about who was responsible for the loss of food. Now you're back in work and you're able to buy your own food, but you still have not revealed to X that you were responsible for sneaking food out of the cabinet. You very much regret taking food from the cabinet without permission and you feel remorseful toward X for behaving selfishly last month.