

Hiding personal information reveals the worst

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Seven experiments explore people's decisions to share or withhold personal information, and the wisdom of such decisions. When people choose not to reveal information—to be “hidiers”—they are judged negatively by others (experiment 1). These negative judgments emerge when hiding is volitional (experiments 2A and 2B) and are driven by decreases in trustworthiness engendered by decisions to hide (experiments 3A and 3B). Moreover, hidiers do not intuit these negative consequences: given the choice to withhold or reveal unsavory information, people often choose to withhold, but observers rate those who reveal even questionable behavior more positively (experiments 4A and 4B). The negative impact of hiding holds whether opting not to disclose unflattering (drug use, poor grades, and sexually transmitted diseases) or flattering (blood donations) information, and across decisions ranging from whom to date to whom to hire. When faced with decisions about disclosure, decision-makers should be aware not just of the risk of revealing, but of what hiding reveals.

disclosure | transparency | trust | policy making | privacy

Imagine being asked about your recreational drug habits on a job application and realizing that to be truthful you must admit to the occasional indulgence. Would you lie, come clean, or avoid answering the question all together? When faced with the choice between revealing (“I smoked marijuana once”) and withholding (“I choose not to answer”), we suggest that people often choose the latter, a strategy that can lead observers to make unsavory character judgments. Indeed, hiding is viewed as so untrustworthy that it produces character judgments even more negative than those arising from divulgence of extremely unsavory information.

Examples abound of situations in everyday life in which people's unwillingness to divulge personal information is conspicuous. Recent newspaper headlines have highlighted the unwillingness of public figures to reveal personal communications to authorities. Some dating websites explicitly indicate whether love-seekers have chosen not to answer personal questions (for example about their smoking or drinking habits). In addition, on countless forms and applications, people are asked to provide information about attributes like gender, race, ethnicity, and household income level—and are given the option to “choose not to answer.”

Anecdotal evidence suggests that these “hidiers” are judged negatively: observers seem to react as if withholding information is indicative of underlying character flaws. As one columnist noted, “both job seekers and employers wonder aloud about what it means if a job candidate doesn't have a Facebook account. Does it mean they deactivated it because it was full of red flags? Are they hiding something?” (1). In the wake of the Sandy Hook Elementary School shootings, one news outlet claimed that, before college, perpetrator Adam Lanza “was already appearing odd and at odds with society” (2). Evidence? He had selected “Choose not to answer” in response to two questions on a college application: “Gender?” and “How do you describe yourself?” In the political realm, despite Hillary Clinton's surrender of over 55,000 pages of email correspondence to the State Department, commentators characterized her insistence on keeping some communications private as the work of a “brazenly dishonest cover-up specialist” (3). Similar insinuations arose following football superstar (and heartthrob) Tom Brady's

refusal to provide authorities with access to his email and phone records in the wake of the “deflategate” scandal (4).

Although it is possible that these cases represent actual concealment of illicit activities and objectionable attitudes, it is also reasonable that decisions to withhold simply reflect desires for privacy and control over one's public portrayal. Nonetheless, contempt appears to be the common reaction toward individuals who choose not to reveal. We examine two central aspects of the psychology of hiding, isolating two related phenomena by using controlled laboratory experiments. First, we examine how people's unwillingness to divulge affects others' views of them. Second, we explore whether actors anticipate how choosing not to disclose impacts the impression they make on others. In short, we ask and answer the question: when faced with the decision of whether to reveal or withhold, do people make decisions that enhance or detract from others' impressions of them?

Previous research has examined how firms' decisions to omit information from product descriptions affects—or does not affect—consumers' evaluations of the product. Although it may be reasonable to think incomplete descriptions would arouse suspicion or pique curiosity, people are often insensitive to missing or unknown product attributes (5). Consistent with seminal research on basic human judgment, this insensitivity arises out of a failure to notice that information is missing in the first place (6, 7).

However, what happens when people are made aware of the incompleteness of the available information? Research in applied psychology and allied fields has found that in such cases, people tend to be appropriately skeptical of incompletely described products (8). However, in contrast to the research on products, we suggest a richer psychology underlying withholding of information by humans: when observers are made to realize that a person has failed to reveal information, they will be quick to make dispositional inferences about that person's character. Indeed, previous research has documented that people readily draw personality

Significance

Disclosure is a critical element of social life, especially given Internet media that afford many opportunities (and demands from friends, partners, and even employers) to share personal information—making withholding anomalous, conspicuous, and therefore suspect. Seven experiments explore people's decisions to withhold or disclose personal information—and the wisdom of such decisions. Declining a request to disclose often makes a worse impression even than divulging unsavory personal information. Moreover, those who withhold fail to intuit this negative consequence: people withhold even when they would make a better impression by “coming clean.” In short, people should be aware not just of the risk of revealing, but the risk of hiding.

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inferences about others based on extremely minimal information (9–13). In cases of nondisclosure, we suggest that people infer withholders to be untrustworthy. Because trustworthiness is a desirable trait, we predict that those who divulge information—even extremely unsavory information—will be liked more than those who conceal.

Our account is rooted in Altman and Taylor’s (14) social penetration theory, one implication of which is that self-disclosure—the process of revealing personal information about oneself (15)—causes relationships to deepen. Experimental evidence suggests that partners experimentally induced to mutually self-disclose like each other more relative to those not induced to divulge (16, 17).

Through what proximal mechanism does this effect—the tendency for self-disclosure to induce liking—arise? Researchers have long identified self-disclosure, trust, and indicators of relationship closeness such as liking to be positively correlated (18, 19). Thus, we posit that the tendency for self-disclosure to induce liking operates via perceptions of trustworthiness: self-disclosure increases trust between two people and, in turn, fosters liking. By the same logic, we predict that a person’s unwillingness to disclose personal information will reduce trust and, in turn, lead to negative impressions. In short, hiding reveals a lack of trustworthiness that manifests in dislike or avoidance. Moreover, given the ecological validity and sheer weight that perceptions of trustworthiness exert in social judgment (20), we expect these inferences of untrustworthiness to exert a negative impact on impressions of hidiers over and above that person’s actual qualities. As a result, we predict that withholding information on a given attribute can produce negative character judgments even more negative than judgments of people who disclose that they possess the worst possible value on that attribute.

Results and Discussion

Experiment 1 explored how people’s dating preferences are affected by prospective dates’ propensity to reveal (vs. withhold) personal information. We expected that dating prospects that chose not to answer personal questions would be liked less than prospects who answered them. Participants [$N = 126$; mean age (M_{Age}) = 34.6, $SD = 10.5$; 59% female] viewed two questionnaires that had ostensibly been completed by two prospective dates. Each prospect had indicated the frequency with which they had engaged in each of five unsavory behaviors [e.g., “Have you ever had a fantasy of doing something terrible (e.g., torturing) to somebody?”] using the response scale: “Never/Once/Sometimes/Frequently/Choose not to answer.” One prospect (the “revealer”) had answered all questions; between-subjects, we manipulated the frequency with which this prospect reported engaging in the undesirable behaviors: Never, Once, Sometimes, or Frequently. The revealer’s answers were the same for all five questions. The other prospect (the “hider”) had provided the same answers as the revealer for three questions but had selected “Choose not to answer” for two questions. In the Frequently condition, for example, the revealer had selected “Frequently” for all five questions, whereas the hider had selected “Frequently” for three questions and “Choose not to answer” for the remaining two (Fig. 1). Participants indicated their preference of which of the two prospects they would prefer to date.

Overall, 78.9% of participants chose to date the revealer ($z = 6.49$, $P < 0.0001$ vs. 50%). Not surprisingly, there were differences between conditions in the percentage of participants who preferred the revealer [$\chi^2(3) = 9.45$, $P = 0.02$]; but in all conditions, participants preferred the revealer to the hider (Fig. 2). Even in the Frequently condition, 64% of participants preferred to date the revealer—the person who had admitted to frequently hiding sexually transmitted diseases from dating partners—to a hider who had chosen not to answer that question. Although this choice share does not differ significantly from 50% ($z = 1.51$, $P = 0.13$),

| Respondent #983219 | | | | | | Respondent #186273 | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|--|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|--|
| Have you ever cheated on your tax return? | | | | | | Have you ever cheated on your tax return? | | | | | |
| Never | Once | Sometimes | Frequently | Choose not to answer | | Never | Once | Sometimes | Frequently | Choose not to answer | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Have you ever made a false insurance claim? | | | | | | Have you ever made a false insurance claim? | | | | | |
| Never | Once | Sometimes | Frequently | Choose not to answer | | Never | Once | Sometimes | Frequently | Choose not to answer | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Have you ever stolen anything worth more than \$100? | | | | | | Have you ever stolen anything worth more than \$100? | | | | | |
| Never | Once | Sometimes | Frequently | Choose not to answer | | Never | Once | Sometimes | Frequently | Choose not to answer | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Have you ever neglected to tell a partner about an STD you are currently suffering from? | | | | | | Have you ever neglected to tell a partner about an STD you are currently suffering from? | | | | | |
| Never | Once | Sometimes | Frequently | Choose not to answer | | Never | Once | Sometimes | Frequently | Choose not to answer | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Have you ever had a fantasy of doing something terrible (e.g. torturing) to somebody? | | | | | | Have you ever had a fantasy of doing something terrible (e.g. torturing) to somebody? | | | | | |
| Never | Once | Sometimes | Frequently | Choose not to answer | | Never | Once | Sometimes | Frequently | Choose not to answer | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

Fig. 1. Stimuli used in experiment 1, Frequently condition. Note: The effect replicates when the “Choose not to answer” option appears on the left of the response scale (i.e., immediately to the left of the “Never” option).

we suggest that any propensity to choose the revealer in this condition is surprising because, by design, the hider is only at worst as bad as the revealer.

In sum, experiment 1 provides evidence that people judge those who withhold information more negatively than their forthcoming counterparts. People would rather date revealers than hidiers, even when the former admit to having engaged in extremely bad behavior.

The volitional act of withholding is central to our account, which suggests that choosing to withhold in particular facilitates negative judgments of hidiers. To test this hypothesis, in experiments 2A and 2B, we added an Inadvertent Nondiscloser condition, in which a computer error prevented the prospective date’s responses from being seen (experiment 2A) or the website rather than the prospective date chose not to display information (experiment 2B). This new condition also allowed us to address an alternative account of experiment 1; namely, that our results may simply reflect a general aversion to uncertainty (21–24). In contrast to this alternative perspective, and in support of our account that willful withholding leads observers to make inferences about the “type of person” that hides, we expected hidiers to be judged more negatively than both revealers and inadvertent nondisclosers.

Participants ($N = 214$; $M_{Age} = 32.6$, $SD = 9.9$; 46% female) viewed one completed questionnaire in which, as in experiment 1, a dating prospect had ostensibly indicated the frequency with which he or she had engaged in a series of desirable behaviors (e.g., donating to charity, donating blood) on the scale: “Never/Once/Sometimes/Frequently/Choose not to answer.” Participants were randomized to view one of three different versions of the completed questionnaire. In the Revealer condition, three questions appeared, along with the prospective date’s answers—a mixture of “Sometimes” and “Frequently.” In the other two conditions, participants also saw the prospective date’s answer to three questions, identical to the Revealer condition; however, there were two extra questions that were unanswered. In the Hider condition, the prospective date had endorsed “Choose not to answer” for the extra questions. In the Inadvertent Nondiscloser condition, a red “x” icon appeared instead of the normal radio buttons alongside each response option for the extra questions (*SI Appendix, section 3*). Thus, although in both of these conditions respondents did not know the frequency with which the prospective date had engaged in two of the behaviors, the conditions were designed to produce different attributions: the lack of information is innocuous in the Inadvertent Nondiscloser condition relative to the Hider condition, wherein the

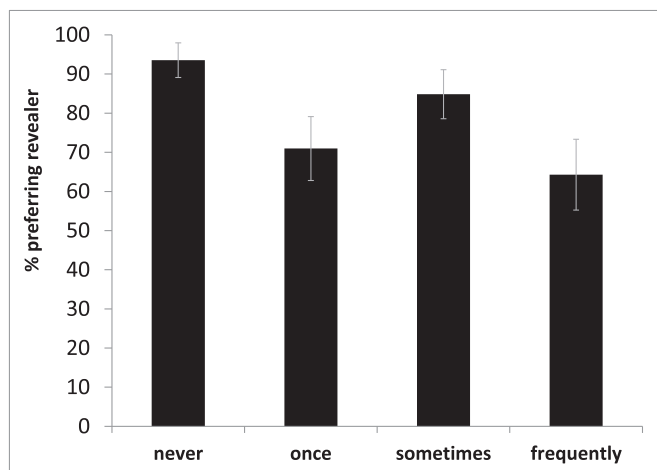


Fig. 2. The revealer is generally preferred over the hider (experiment 1). Note: Error bars represent ± 1 binomial SE of the sample proportion.

prospective date deliberately opted out of answering. Below the screen shot of the questionnaire responses, participants were asked “How interested would you be in dating this woman [man]?” on a 10-point scale (1, not at all interested, to 10, very interested).

There were significant differences in dating interest between conditions [$F_{(2,213)} = 8.04, P < 0.0005$]. Consistent with experiment 1, interest was highest for the Revealer ($M = 7.3$ out of 10, $SD = 1.6$) and lowest for the Hider [$M = 6.2, SD = 1.6; t_{(140)} = 3.92, P < 0.0005$]. Most importantly, interest in the Inadvertent Nondiscloser ($M = 6.8, SD = 1.5$) was higher than that of the Hider [$t_{(140)} = 2.08, P = 0.04$]; it was also lower than that of the Revealer [$t_{(142)} = 1.99, P = 0.05$].

Experiment 2B ($N = 337; M_{Age} = 34.2, SD = 11.5; 53\%$ female) mirrored experiment 2A with the exception of a different operationalization of inadvertent nondisclosure. In the Inadvertent Nondiscloser condition, participants were first informed that “the dating website administrators typically display only a sampling of respondents’ answers. The answers that the administrators chose not to display will be marked ‘Not displayed’” (*SI Appendix, section 4*).

There were significant differences in dating interest between conditions [$F_{(2,336)} = 24.01, P < 0.0005$]. Specifically, consistent with experiment 2A, interest was highest for Revealers ($M = 7.5$ out of 10, $SD = 1.8$) and lowest for Hiders [$M = 6.0, SD = 1.7; t_{(227)} = 6.82, P < 0.0005$]. Interest in the Inadvertent Nondisclosers was again intermediate ($M = 6.5, SD = 1.7$) and was different from both Hiders [$t_{(219)} = 2.19, P = 0.03$] and Revealers [$t_{(222)} = 4.45, P < 0.0005$].

Taken together, experiments 2A and 2B show that it is deliberative nondisclosure (i.e., hiding)—and not simply missing information—that observers find particularly off-putting. Moreover, these results address an alternative account for the effect, namely, that people avoid uncertainty (23). Unanswered questions were a source of uncertainty in both the Hider and Inadvertent Nondiscloser conditions, yet respondents liked the Inadvertent Nondiscloser more.

Consistent with previous research (25), we posit that withholding goes beyond merely shaping inferences about the content of the withheld information. Experiments 3A and 3B test whether aversion to hidings is driven by observers’ global character judgments of the (un)trustworthiness of hidings. Experiment 3A tests whether withholding produces distrust. We used the trust game from experimental economics (26), in which “senders” are given a sum of money and choose how much to send to “receivers”; the amount sent is tripled, and receivers then choose to send however much of that sum back to the sender as they

wish. Note that both parties maximize their earnings if senders entrust their entire sum to receivers (such that the full amount triples in value), but senders risk having receivers exploit this trust by keeping all of the money.

In our experiment, before senders made a decision about how much money to entrust to their partner, they were told whether their receiver had revealed (or hidden) personal information. One-half of senders were paired with receivers who were hidings, whereas the other half were paired with receivers who were revealers. We expected that when paired with hidings, senders would be less trusting of their partner and send fewer dollars. In this paradigm—like in many real-world contexts—senders’ distrust of a (hiding) counterpart can be costly; akin to missing out on a potential date or employee due to misplaced suspicion, here such suspicion comes with a monetary cost.

Participants ($N = 182; M_{Age} = 23.2, SD = 4.1; 49\%$ female) in this laboratory experiment were randomly paired, and each was randomized to be either the sender or the receiver. Senders and receivers were seated on opposite sides of the room and remained anonymous to one another; their only interaction was through paper exchange via an experimenter.

First, receivers were asked five sensitive personal questions (*SI Appendix, section 5*), which served as the disclosure manipulation. Specifically, we randomized each receiver to be either a Revealing Receiver or a Hiding Receiver by varying the response scales they saw. Revealing Receivers answered the questions using the full response scale: “Never/Once/Sometimes/Frequently/Choose not to answer.” Hiding Receivers only had two options for answering the questions—“Frequently/Choose not to answer”—thus inducing them to select the latter option. All receivers first selected their answers on a multiple choice, computer-based survey, and then wrote out those same answers on a sheet of paper with five blank spaces.

Next, experimenters collected the answer sheets and delivered them to the partners (senders) on the other side of the room. Thus, senders simply saw the receivers’ endorsed answer option alongside each question; they were unaware of the response options from which the receiver chose. In other words, if their partner was a Hiding Receiver, senders were unaware that it was likely the restricted response scale that had induced the “Choose not to answer” response; instead, they saw their partners as hidings.

Finally, the trust game was described and senders decided how many, if any, of five one-dollar bills to transfer. Senders were told that any money would be tripled in transit. In turn, their receivers would then have the option to send some, all, or none of the money back.

As predicted, senders sent less money to Hiding Receivers ($M = \$2.73$ out of $\$5, SD = 1.9$) than to Revealing Receivers [$M = \$3.46, SD = 1.8; t_{(89)} = 1.89, P = 0.06$]. In turn, each partner pairing containing a Hiding Receiver took home less money overall ($M = \$10.47, SD = 3.8$) than those containing a Revealing Receiver [$M = \$11.91, SD = 3.5; t_{(89)} = 1.89, P = 0.06$]; the cost of distrust. In other words, people avoid hidings even in a context in which doing so incurs a financial cost.

In experiment 3B we turn to a different context—revealing vs. withholding grades on job applications—an issue that has become increasingly salient in light of new policies that permit graduates to choose whether to disclose their grades to potential employers. Whereas experiment 3A demonstrates that hiding affects a behavioral manifestation of our proposed underlying mechanism—trustworthiness—experiment 3B provides direct evidence of the entire process underlying the effect: withholding makes people appear untrustworthy, and these perceptions of trustworthiness mediate the effect of hiding on judgment. Moreover, we elicit participants’ predictions of hidings’ grades. As a result, we pit perceptions of actual candidate quality—the estimated grade—against a more psychological input—trustworthiness—to

determine which exerts greater weight in judgment. We predicted that perceptions of untrustworthiness would drive our effect even when controlling for inferences about the content of the withheld information: observers' guesses of the hider's actual grade.

Participants ($N = 178$; $M_{Age} = 29.3$, $SD = 9.8$; 37% female) imagined that they were an employer tasked with evaluating two different job candidates. The two candidates provided different answers to a question on the application—"What is the lowest grade you ever received on a final exam in school?" One of the candidates—the Revealer—had indicated a grade of F, whereas the other candidate—the Hider—had indicated "Choose not to answer." Participants (i.e., employers) were shown an image of the hypothetical job application question and the multiple choice answer set (A, B, C, D, F, and Choose not to answer) with the appropriate answer selected (*SI Appendix, section 6*).

After seeing the two candidates' responses, participants (i) estimated the numerical score each candidate had received on the examination, (ii) indicated which of the two candidates they trusted more, and (iii) selected the candidate that they were most likely to hire. For the first task, participants were shown a standard grade scale converting examination percentages to letter grades (A, 90–100%; B, 80–89%; C, 70–79%; D, 60–69%; F, 0–59%). They then estimated the score each candidate received on the examination by entering a number from 0 to 100 into a text box. For the second task, participants indicated which candidate they believed was most trustworthy using a sliding scale with the left endpoint labeled "Candidate 1 – Grade: F – is more trustworthy" and the right endpoint labeled "Candidate 2 – Grade: Choose not to answer – is more trustworthy." Finally, participants indicated which candidate they would hire.

Participants believed that both candidates received a grade of F, but that the hider ($M_{Hider} = 50.9\%$, $SD = 11.3$) received a higher score than the revealer [$M_{Revealer} = 40.5\%$, $SD = 21.6$; $t_{(177)} = 6.07$, $P < 0.0005$]. Thus, consistent with our theorizing, inferences about the specific undisclosed information (in this case, the hider's grade) do not drive people's disdain for hidiers—the hider was believed to have performed better on the examination. More importantly, hidiers were deemed less trustworthy than revealers: the mean trustworthy rating was close to the left endpoint, which we standardized to represent the hider being less trustworthy than the revealer [$M = 18.1$ out of 100, $SD = 19.2$; compared with the indifference point of 50 out of 100: $t_{(178)} = 22.23$, $P < 0.0005$]. Finally, despite the fact that they estimated the hider to have received a higher grade, most participants—89% (95% CI = 83–93%)—hired the revealer over the hider.

A mediation analysis revealed that the relationship between revealer status and hiring choice ($\beta_{Revealer} = 4.13$, $SE = 0.48$, $P < 0.0005$) was reduced to nonsignificance when trustworthiness was included in the model ($\beta_{Revealer} = 0.32$, $SE = 0.76$, $P = 0.67$; $\beta_{Trust} = 0.093$, $SE = 0.018$, $P < 0.0005$), providing support for full mediation (Sobel test statistic = 5.03, $P < 0.0005$). This result holds when controlling for participants' estimates of the candidates' grades.

In our opening example, we suggested that a prospective employee who had occasionally indulged in drug use might be tempted to select "Choose not to answer" in an effort to avoid being judged negatively by a prospective employer. Experiments 1–3, however, suggest that this decision is unwise: choosing not to answer leads observers to like actors less. Therefore, in experiment 4A, we tested whether hidiers understand what hiding reveals. Using a simulated employment task, we explored whether prospective employees who had used drugs would choose not to divulge that use—and whether that decision was wise—by asking prospective employers to rate employees who had chosen not to answer and those who had come clean. We expected that employees in such situations would choose not to answer questions about their drug use, but that consistent with the previous experiments, employers would prefer to hire those who choose to reveal. Although prospective employees probably

realize that it is worse for employers to know about their drug use than to not know, we anticipated that they would fail to appreciate the trust-related risks of withholding.

Participants ($N = 206$; $M_{Age} = 36.2$, $SD = 11.8$; 54% female) were randomized to the role of prospective employee or employer. Employees were told to imagine that "you are filling out a job application for a job that you really want" and that they smoke marijuana. Employees then indicated how they would respond to the question "Have you ever done drugs?" Specifically, they were asked to choose between revealing (i.e., answering "Yes") or hiding (i.e., answering "Choose not to answer"). Employers were randomly assigned to rate an employee who had either answered "Yes" or "Choose not to answer" to the drug question on an 11-point scale (0, definitely will NOT hire, to 10, definitely WILL hire).

As predicted, most employees (70.5%) chose to withhold ($z = 4.20$, $P < 0.0001$). Most employees felt that opting out was the best strategy—that hiding negative information trumps revealing. In contrast, employers were more interested in hiring people who had answered "Yes" relative to those who had opted out of answering [$M_{Yes} = 5.3$, $SD = 2.1$; $M_{No} = 4.4$, $SD = 2.0$; $t_{(99)} = 2.12$, $P = 0.04$; dotted line in Fig. 3]. Employers preferred to hire those who had admitted their drug use to those who had opted out—a preference that demonstrates the error of people's tendency to withhold.

Why do prospective employees withhold, when disclosing leads to more positive evaluations? We suggest that employees focus more on the damage of disclosing specific negative information than the benefits of gaining trust from disclosure; in experiment 4B ($N = 608$; $M_{Age} = 34.7$, $SD = 10.5$; 44% female), we therefore examined whether focusing employees on a goal of gaining trust could temper their desire to withhold. The Baseline condition was the same as that of the prospective employee condition from experiment 4A. In the No Drugs condition, participants were further instructed to imagine: "you do not want the employer to think that you are a drug user." In the Trustworthy condition, participants were instead instructed to imagine: "you do not want the employer to think that you are a drug user, but you also want the employer to see you as an honest and trustworthy person."

The tendency to hide was significantly different between conditions [$\chi^2(2) = 11.41$, $P = 0.003$]. Hiding prevalence was similar between the Baseline and No Drugs conditions [No Drugs = 69.5%, Baseline = 62.4%, $\chi^2(1) = 2.26$, $P = 0.14$], suggesting that, at baseline, participants' instinct was to avoid divulging negative information. Only when reminded that trust

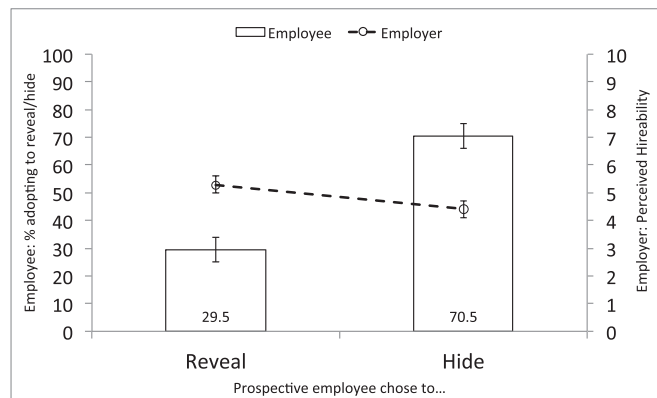


Fig. 3. Employees tend to opt out of answering, yet employers prefer to hire those who had admitted their drug use relative to those who had opted out (experiment 4A). Notes: Error bars represent ± 1 SE of the estimate. Columns sum to 100%.

also matters did participants become more likely to reveal [Trustworthy = 53.2%; vs. No Drugs: $\chi^2(1) = 11.31, P = 0.001$; vs. Baseline: $\chi^2(1) = 3.49, P = 0.07$], suggesting that people may typically focus more on the specific downsides of disclosing negative information rather than the general upside of appearing trustworthy.

We develop and provide evidence in support of a conceptual understanding of when and why people are suspicious of those who abstain from revealing information, documenting the psychological process underlying the adverse effect of hiding, and assessing whether people act wisely when choosing whether to withhold or reveal. In short, failing to disclose can leave a bad impression. This effect is driven by decreases in trustworthiness when people choose to hide: over and above inferences of actual quality, observers trust and prefer people who reveal to those who hide. Moreover, those who abstain (i.e., hidiers) fail to intuit this negative consequence. Taken together, these results suggest that people are prone to withhold information when they would be better off sharing it. Interestingly, the dating website [Match.com](https://www.Match.com) seems to recognize and adjust for this self-presentation error: the responses of users who opt out of answering profile questions (e.g., salary, body type) are publicly displayed (misrepresented?) as “I’ll tell you later,” as opposed to “Not answered.”

Previous research differentiates between outcomes caused by action vs. inaction (27); for example, the deception literature distinguishes between lies of omission (withholding the truth) and lies of commission (stating things that are untrue) (28). The latter are perceived as more serious transgressions due in part to their greater perceived intentionality (27). A similar dynamic is at play in the psychology of disclosure, where nondisclosure via commission (e.g., endorsing a “Choose not to answer” option) is likely judged more harshly than nondisclosure via omission (e.g., leaving a question blank), again due to greater perceived intentionality: unlike the volitional act of selecting “Choose not to answer,” someone could leave a question blank because she wants to withhold (i.e., intentional), or because she simply forgot (i.e., unintentional).

To isolate our phenomena and provide clean tests of our hypotheses, our experimental designs center on tightly controlled situations in which a target’s volitional hiding is made salient. However, although the trust-related risks of hiding are likely to be pronounced when intentionality is clearest—i.e., when hiding by commission—such penalties may also apply in cases of hiding by omission. Indeed, given the increasing shift toward openness spawned by new Internet media, nondisclosure is becoming ever more anomalous: when more than 70% of Americans use Facebook, abstaining from Facebook—nondisclosure by omission—appears deliberate, and hence, suspicious in a way that it would not be only 10% of Americans users. Indeed, after the 2012 movie theater shootings in Aurora, Colorado, the media noted of the perpetrator’s tendency to keep a low profile: “Not having a Facebook account could be the first sign that you are a mass murderer” (29, 30).

Although we have demonstrated the adverse impact of hiding, other research suggests that absent information is desirable. For example, not knowing a piece of information or labeling it “secret” can invoke curiosity (29, 30), and people can rate others favorably when they know very little about them (31–33). Future research should explore other factors—beyond whether nondisclosure is volitional (experiments 2A and 2B)—that moderate the impact of missing information on observers’ judgments. Previous research, along with our result, suggests that, whether good or bad, missing information is always privileged.

Our findings shed light on the current debate surrounding a recent Supreme Court ruling (34). Salinas, accused of murder, had been cooperating in a police interview but suddenly refused to answer when the line of inquiry shifted to the murder weapon.

Salinas’ unresponsiveness was subsequently presented as evidence in the 2007 trial in which he was convicted of murder. Salinas later appealed to the Supreme Court, arguing that his Fifth Amendment rights had been violated. The Court upheld the conviction, ruling that Salinas’ refusal to answer the officers’ questions was admissible evidence. Salinas may well be guilty of murder, but the present research calls this ruling into question, by demonstrating that people are prone to draw unwarrantedly negative conclusions from the absence of disclosure. As one commentator noted, “the Supreme Court has held that you remain silent at your peril” (35).

Beyond the legal realm to everyday life, horror stories abound of the many people who posted incriminating photographs of themselves on Facebook—half-naked at a frat party—and were subsequently denied admission to colleges or rejected for jobs because of their overdisclosure. We document a risk of going too far in the other direction: underdisclosure. Like the commenter who suggested that not having a Facebook page might be a sign of incipient criminality, participants in our experiments express negative attitudes toward those who hide. Worse still, hidiers do not seem to understand the trust-related risks of withholding. When disclosure is expected—whether because a direct question has been posed, or simply because the predominant behavior in the given context is to share—decision-makers should be aware of not just the risk of revealing, but of what hiding reveals.

Materials and Methods

Informed consent was obtained from all participants, and the Institutional Review Board of Harvard University reviewed and approved all materials and procedures. See [SI Appendix, section 1](#), for Disclosure Statement (indicating that we report all manipulations and measures).

Experiment 1. Participants from an online panel indicated the gender they were interested in dating; the remainder of the survey was customized based on this answer (this was also done in experiments 2A and 2B). In addition to the manipulations and measures described in the main text, in experiments 1, 2A, 2B, and 3B, we also asked participants to predict how frequently they believed the hider to have engaged in the behaviors. We report this measure only in experiment 3B because (i) we faced space constraints, (ii) the results are consistent across studies, (iii) these measures were administered after the primary measures, and (iv) these measures are not part of our theoretical account (accordingly, they do not mediate the effect). The results are reported in full in [SI Appendix, section 2](#). All experiments concluded with basic demographic questions.

In experiment 1, it could be argued that participants simply inferred that revealers interpreted the scale differently than hidiers. In the Frequently condition, participants may have made the (sensible) inference that revealers—who answered “Frequently” to all questions—had a lower threshold than hidiers for deeming a behavior to be frequent. Although such a process is unlikely to apply to our subsequent studies, we nonetheless conducted a follow-up study to address this alternative explanation, rerunning the Frequently condition but adding a second dependent measure. After indicating their date choice, participants ($N = 166$; $M_{Age} = 33.1$, $SD = 10.0$; 58% female) were shown the three behaviors for which the prospective dates had both answered “Frequently” and indicated which of the two prospective dates engaged in the behavior more frequently. Replicating experiment 1, most (57% of) participants preferred the revealer to the hider. Most importantly, participants believed the respondents engaged in the behavior the same amount. Thus, the effect is not driven by inferences that revealers have lower thresholds for what counts as engaging in the behavior.

Experiments 2A and 2B. The methods and materials are as described in the main text. It is also worth noting that experiments 2A and 2B extend and replicate experiment 1 in several important ways. Both used a dating paradigm, but unlike experiment 1, participants saw the profile of only one prospective date, making the contrast between hidiers vs. revealers less salient. Experiments 2A and 2B are therefore more conservative tests of our hypothesis. Experiment 2A also includes several features designed to establish the effect’s robustness. In experiment 1, participants were given more information about the revealer than the hider: revealers had answered all five questions; hidiers, only three. Hence, participants may have avoided the hider simply because they had less information about him or her. In addition, whereas experiment 1 showed that prospective dates failing to answer

questions about undesirable behaviors are disliked, experiment 2A tested whether this effect holds for desirable behaviors. Experiment 2B is a conceptual replication of experiment 2A using a different operationalization of inadvertent hiding.

Experiment 3A is described fully in the main text.

Experiment 3B. In addition to the description in the main text, we note that we counterbalanced both candidate presentation order as well as the order of administration of the mediator and the dependent measure. Neither of these ordering manipulations substantively impacted the results; therefore, we collapsed across this factor. In addition to the mediation analysis reported in the main text, we conducted a binary logistic regression using both guessed grades and trustworthiness as independent variables, and employee preference (hider vs. revealer) as the dependent measure. Guessed grades significantly predicted the outcome measure ($\beta = 0.049$, $SE = 0.020$, $P = 0.01$), but importantly, trustworthiness also emerged as a significant predictor ($\beta = 0.084$, $SE = 0.018$, $P < 0.0005$). Moreover, trustworthiness fully mediated the relationship between revealer status and hiring choice when guessed grades

were also included in the model (Sobel test statistic = 4.98, $P < 0.0005$). In other words, trustworthiness drives the effect of hiding on avoidance of hidiers, even when controlling for actual quality of the options, providing further evidence that global judgments of untrustworthiness drive the effect.

Experiment 4A. This experiment also tests whether prospective employees' decisions to hide or reveal depended on the frequency with which they were asked to imagine that they did drugs. Specifically, one-half of employees were asked to imagine that they "smoke marijuana regularly and occasionally use harder drugs" (frequent), or "smoke marijuana occasionally" (occasional). Employees were then instructed to choose between revealing (i.e., answering "Yes") or hiding (i.e., answering "Choose not to answer"). The main text reports the overall tendency to withhold (70.5%). This tendency was directionally stronger among those asked to imagine that they frequently used drugs relative to those asked to imagine that they occasionally used drugs [frequent: 77.4%; occasional: 63.5%; $\chi^2(1) = 2.44$, $P = 0.12$].

Experiment 4B is described fully in the main text.

- Hill K (2012) Beware, tech abandoners. People without Facebook accounts are "suspicious." Available at www.forbes.com/sites/kashmirhill/2012/08/06/beware-tech-abandoners-people-without-facebook-accounts-are-suspicious/. Accessed November 9, 2015.
- Goldstein S (April 2, 2013) Adam Lanza college records: Newtown shooter's bizarre questionnaire answers, good grades and creepy ID photo paint shocking portrait. Available at www.nydailynews.com/news/national/lanza-college-records-suggest-troubling-state-mind-article-1.1305968. Accessed November 9, 2015.
- Sperry P (May 17, 2015) Hillary's closest advisor is hiding the truth of her emails. Available at nypost.com/2015/05/17/hillary-clintons-consigliere-covers-up-for-her-scandals/. Accessed November 9, 2015.
- Tornoe R (May 12, 2015) Tom Brady and Richard Nixon share more than just the word 'gate.' Available at www.philly.com/philly/blogs/tailgaters/Tom-Brady-and-Richard-Nixon-share-more-than-just-the-word-gate.html. Accessed December 20, 2015.
- Sanbonmats DM, Kardes FR, Herr PM (1992) The role of prior knowledge and missing information in multiattribute evaluation. *Organ Behav Hum Decis Process* 51(1):76-91.
- Agostinelli G, Sherman SJ, Fazio RH, Hearst ES (1986) Detecting and identifying change: Additions versus deletions. *J Exp Psychol Hum Percept Perform* 12(4):445-454.
- Bazerman M (2014) *The Power of Noticing: What the Best Leaders See* (Simon and Schuster, New York).
- Johnson RD, Levin IP (1985) More than meets the eye: The effect of missing information on purchase evaluations. *J Consum Res* 12(2):169-177.
- Asch SE (1946) Forming impressions of personality. *J Abnorm Psychol* 41:258-290.
- Winter L, Uleman JS (1984) When are social judgments made? Evidence for the spontaneousness of trait inferences. *J Pers Soc Psychol* 47(2):237-252.
- Ambady N, Rosenthal R (1992) Thin slices of expressive behavior as predictors of interpersonal consequences: A meta-analysis. *Psychol Bull* 111:256-274.
- Ambady N, Rosenthal R (1993) Half a minute: Predicting teacher evaluations from thin slices of nonverbal behavior and physical attractiveness. *J Pers Soc Psychol* 64:431-441.
- Carney DR, Colvin CR, Hall JA (2007) A thin slice perspective on the accuracy of first impressions. *J Res Pers* 41:1054-1072.
- Altman I, Taylor D (1973) *Social Penetration: The Development of Interpersonal Relationships* (Holt, New York).
- Berg JH, Derlega VJ (1987) Themes in the experiment of self-disclosure. *Self-Disclosure: Theory, Research, and Therapy*, eds Derlega VJ, Berg JH (Plenum, New York), pp 1-8.
- Aron A, Melinat E, Aron EN, Vallone RD, Bator RJ (1997) The experimental generation of interpersonal closeness: A procedure and some preliminary findings. *Pers Soc Psychol Bull* 23(4):363-377.
- Sedikides C, Campbell WK, Reeder G, Elliot AJ (1999) The relationship closeness induction task. *Represent Res Soc Psychol* 23:1-4.
- Sheldon P (2009) "I'll poke you. You'll poke me!" Self-disclosure, social attraction, predictability and trust as important predictors of Facebook relationships. *Cyberpsychology (Brno)* 3(2):1.
- Wheelless LR, Grotz J (1977) The measurement of trust and its relationship to self-disclosure. *Hum Commun Res* 3:250-257.
- Balliet D, Van Lange PAM (2013) Trust, conflict, and cooperation: A meta-analysis. *Psychol Bull* 139(5):1090-1112.
- Ellsberg D (1961) Risk, ambiguity, and the savage axioms. *Q J Econ* 75(4):643-669.
- Fox CR, Tversky A (1995) Ambiguity aversion and comparative ignorance. *Q J Econ* 110(3):585-603.
- Gneezy U, List JA, Wu G (2006) The uncertainty effect: When a risky prospect is valued less than its worst possible outcome. *Q J Econ* 121(4):1283-1309.
- Norton DA, Lambertson C, Walker Naylor R (2013) The devil you (don't) know: Interpersonal ambiguity and inference making in competitive contexts. *J Consum Res* 40(August):239-254.
- Simmons CJ, Lynch JG (1991) Inference effects without inference making? Effects of missing information on discounting and use of presented information. *J Consum Res* 17:477-491.
- Berg J, Dickhaut J, McCabe K (1995) Trust, reciprocity, and social history. *Games Econ Behav* 10:122-142.
- Spranca M, Minsk E, Baron J (1991) Omission and commission in judgment and choice. *J Exp Soc Psychol* 27:76-106.
- Bok S (1978) *Lying: Moral Choices in Public and Private Life* (Pantheon, New York).
- Loewenstein G (1994) The psychology of curiosity: A review and reinterpretation. *Psychol Bull* 116:75-98.
- Travers MW, Van Boven L, Judd CJ (2014) The secrecy heuristic: Inferring quality from secrecy in foreign policy contexts. *Polit Psychol* 35(1):97-111.
- Norton MI, Frost JH, Ariely D (2007) Less is more: The lure of ambiguity, or why familiarity breeds contempt. *J Pers Soc Psychol* 92(1):97-105.
- Sears DO (1983) The person-positivity bias. *J Pers Soc Psychol* 44:233-250.
- Tormala ZL, Jia JS, Norton MI (2012) The preference for potential. *J Pers Soc Psychol* 103(4):567-583.
- Supreme Court of the United States (2013) *Salinas v. Texas*, No. 12-246.
- Garrett BL (June 19, 2013) You don't have the right to remain silent: The Supreme Court's terrible—and dangerous—ruling this week on the Fifth Amendment. Available at www.slate.com/articles/news_and_politics/jurisprudence/2013/06/salinas_v_texas_right_to_remain_silent_supreme_court_right_to_remain_silent.html. Accessed November 9, 2015.