

# The Effect of LinkedIn on Deception in Resumes

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## Abstract

This study explores how LinkedIn shapes patterns of deception in resumes. The general self-presentation goal to appear favorably to others motivates deception when one's true characteristics are inconsistent with their desired impression. Because LinkedIn makes resume claims public, deception patterns should be altered relative to traditional resumes. Participants ( $n = 119$ ) in a between-subjects experiment created resumes in one of three resume settings: a traditional (offline) resume, private LinkedIn profiles, or publicly available LinkedIn profiles. Findings suggest that the public nature of LinkedIn resume claims affected the kinds of deception used to create positive impressions, but did not affect the overall frequency of deception. Compared with traditional resumes, LinkedIn resumes were less deceptive about the kinds of information that count most to employers, namely an applicant's prior work experience and responsibilities, but more deceptive about interests and hobbies. The results stand in contrast to assumptions that Internet-based communication is more deceptive than traditional formats, and suggests that a framework that considers deception as a resource for self-presentation can account for the findings.

## Introduction

PEOPLE RARELY LIE for the sake of lying. Deception is used to accomplish goals (e.g., appearing attractive or competent).<sup>1</sup> Self-enhancing deceptions are common, and typically driven by the desire for positive self-presentation. In the self-presentational framework of deception,<sup>2</sup> self-enhancing lies are part of an effort to manage how we convey ourselves to the world.

In professional contexts, resume padding is an example that seems to occur frequently. One resume consulting service suggested that 43 percent of resumes evaluated contained significant inaccuracies.<sup>3</sup> Though many of these lies seem like mere exaggerations, consequences for deception in resumes can be devastating. Take Janet Cooke, who lost the Pulitzer Prize in 1981 after being caught lying about her educational background.<sup>4</sup> Cooke's case is extreme, but demonstrates the costliness of deception in organizations. Getting caught in a self-enhancing lie damages one's reputation, leading to social or material punishment. People also prefer to view themselves as honest, which is evident in research demonstrating that even with no chance of being caught, people tend to lie or cheat in small amounts.<sup>5</sup>

Factors encouraging or discouraging deception have been raised anew in the age of online profiles, in which individuals construct virtual self-presentations. These profiles have become surprisingly common with social networking Web sites linking profiles between friends, acquaintances, and col-

leagues. These services include professionally oriented sites, such as LinkedIn, in which people upload online resumes and form connections with colleagues and friends. Because social networking profiles are virtual self-presentations and are not physically connected to the self, these profiles offer novel opportunities for deception not possible in Face-to-Face (FtF) settings. Walther<sup>6,7</sup> argues that people can take advantage of affordances of computer-mediated communication (CMC) (e.g., reduced cues and editability) to enhance self-presentations.

Though the online environment may facilitate deception, several factors should constrain deception and foster honesty. Social network profiles make self-presentations publicly available and link individuals to the profile (e.g., colleagues and supervisors) who can verify whether profile claims are deceptive or not. Researchers both on and offline have demonstrated the importance of social relationships in fostering honesty between individuals.<sup>8-10</sup> For example, recommender systems on Web sites like eBay help ensure that transactions in these environments remain honest by providing users, who have no previous seller history, with information about sellers' trustworthiness. Affordances that establish links between the on and offline self should improve the likelihood of honesty online.

In the case of resumes, how might LinkedIn, which allows people to post resumes and link with others online, affect deception? More specifically, how will LinkedIn affect the tension between the self-presentational motivation to be

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deceptive and the motivation to be honest, given that discovery of deception is reputation damaging? The current study explored how LinkedIn resumes affect the frequency and type of deception produced in resumes.

### *Self-presentation and deception in social networking Web sites*

Popular opinion holds that deception is prevalent online, with one study finding that 73 percent of individuals believe deception is widespread online.<sup>11</sup> These are concerns about digital deception, or the deliberate control of a technologically mediated message to create false belief.<sup>12-14</sup> Specifically, we are concerned with identity-based deception related to personal identity.<sup>15</sup> Research suggests that identity-based deception occurs more in CMC than FtF.<sup>16</sup> The major reason digital deception may be more frequent in online communication is because “text-based interaction or virtual representations of self” (p. 291)<sup>15</sup> are not physically connected to an individual.

Self-presentational goals, however, are a common and important motivator for deception<sup>2</sup> regardless of medium. Online these goals range as widely as they do FtF and often involve eliciting positive impressions.<sup>17-19</sup> Research demonstrates that wanting to appear competent motivates deception.<sup>20,21</sup> One study<sup>20</sup> found that 90 percent of individuals admitted to lying on a resume-like scholarship application. When trying to appear competent, motivation to lie flows from the need to impress an audience, such as a potential employer. Social networking profiles are designed to convey impressions to an audience, whether it is the unknown general audience online or specific network connections.<sup>22</sup> Self-presentational goals should drive deception in social networking profiles, especially in the case of LinkedIn profiles, which are designed to convey competence for employment.

While individuals are motivated to provide positive self-presentations, the publicness of resumes makes people accountable for information shared online. When a person creates a LinkedIn profile, the site provides default settings making the profile public, creating a potential audience to which the communication partner must explain deceptions (profiles can be made private upon request). Public settings should increase the possibility that an employer might discover deceptions. Traditional resumes, on the other hand, are confidential and are not widely shared outside organizations.<sup>23</sup> Though it is common for employers to contact references to review truthfulness of resumes, traditional resumes are limited in their ease of accessibility to others, with far fewer potential viewers to verify veracity.

The likelihood of being caught in a lie about previous employment should be higher for publicly available LinkedIn profiles than for traditional resumes. Though profile publicness does not guarantee that relevant audiences will view profiles (e.g., supervisors), profile creators should alter deceptive behavior to be consistent with information known by potential audiences. For example, online dating profiles had fewer deceptive photographs when more friends knew about the profile.<sup>24</sup> In another study, the more links a person had on a social networking site the fewer lies they reported in profiles.<sup>25</sup> Socially connected displays of information on these sites should constrain deception, as being detected has seri-

ous consequences (e.g., exposure of deceptions by network members).

How exactly should LinkedIn affect deception then? On one hand, the perception that deception is widespread online is pervasive. This perception is partially fueled by the affordances of text-based communication, which allow for increased opportunities to edit self-presentations, and the reduction of the nonverbal cues, which are stereotypically used to detect lies.<sup>11,26</sup> In the absence of these cues, which may provide “leakage” indicating deceptiveness, deception may be perceived as less difficult.<sup>27,28</sup> Recent research, however, has shown that the content of deception (rather than nonverbal cues) improves accuracy in detecting deception.<sup>29</sup> Thus, concerns about being caught lying should be more important when making resume claims publicly available. Since both traditional resumes and LinkedIn profiles are created without nonverbal cues and provide similar opportunities to craft self-presentations—but only LinkedIn profiles are publicly available—lying should occur less frequently in LinkedIn resumes:

#### **H1: Deception will occur less frequently in public social networking profiles than in private profiles or traditional resumes.**

Not all lies are created equally, however. A more subtle response to the pressure of making a resume public on LinkedIn should also affect the types of lies people tell to accomplish self-presentational goals. For instance, deception should be affected by the verifiability of resume claims. The falsifiability heuristic suggests that when a person shares self-relevant information that is more objectively verifiable (e.g., observable behaviors), it is viewed as less credible and people are more likely to classify it as deceptive.<sup>30</sup> Deceptions about verifiable claims, such as educational background or experience, pose significant risks if made public and are more likely to be classified as lies. In contrast, when the veracity of resume information is difficult to assess objectively, such as hobbies or interests, not only is there less risk of being caught lying, but information is less likely to be classified as deceptive.<sup>30,31</sup> Thus, individuals should practice deception strategically, lying about different types of information depending on the publicness of the claims. Specifically, public resume creators should lie less about former employment, such as job responsibilities, because this information can be independently verified as deceptive.<sup>31</sup>

Indeed, cases involving discovery of deceptions about verifiable claims entailed consequences including loss of jobs and awards, and damage to reputation.<sup>32</sup> To avoid consequences, people creating public resumes should lie about information that is not widely known to network members and therefore less job relevant. For example, when applying to a job involving travel, lies about interests in travel or learning new languages accomplish this goal without being verifiable by network members. Though unverifiable information is less directly relevant to obtaining a job, it can be used to accomplish self-presentational goals. Thus, deception should occur strategically based on a resume’s potential audience:

#### **H2: Public profiles will contain less deception about verifiable information, but more deception about unverifiable information than traditional resumes or private profiles.**

## Methods

### Participants

Participants were 119 undergraduates between 18- and 22-years old in the Northeast United States (29.4 percent men). Four participants were excluded for failing to follow instructions.

### Resume conditions

Participants were randomly assigned to one of three resume-creating conditions: offline as a Word® document (traditional,  $n=37$ ), or online as a LinkedIn profile that was either private ( $n=41$ ), or public ( $n=41$ ). LinkedIn profiles and traditional resumes required the same information categories: education, experience, skills, and interests.

Participants in the public LinkedIn condition were informed that profiles would be available online. Participants in the private LinkedIn condition created profiles that only the participant and researchers could access. This condition was a control to ensure that differences between the traditional resume and public profiles were not due to the public profile's presence on LinkedIn. Participants created new LinkedIn profiles and had no site experience.

### Procedure

Following previous procedures,<sup>20</sup> participants created a resume for an advertised position. They spent 30 minutes creating a resume for a consultant position with a lucrative salary and international office locations. Requirements were enhanced to ensure that participants would have difficulty meeting the qualifications. Participants were instructed to tailor resumes using their own information to be the most qualified candidate, with a \$100 incentive for the "best-fitting" resume. Participants spent 15 minutes answering questions related to creating the resume and demographics.

The researcher then revealed the study's true purpose: assessing deception in resumes. Participants spent 15 minutes revealing and describing their deceptions using the *retrospective deception identification* technique from previous re-

search,<sup>21</sup> which requires participants to review statements and identify deceptions. Participants were told that any information that could create false belief counted as a lie. Participants were assured that we made no judgments about deception's valence and deception in resumes is common.<sup>20</sup> In a worksheet participants reported the deception and provided a more truthful version of the deception. Participants were debriefed and dismissed.

### Dependent variables

**Deception coding.** Self-reported deceptions were coded on how verifiable information was. Verifiable information related to aspects of the self-presentation that could be conceivably confirmed by others online. Lies in this category were related to *responsibilities*, information describing responsibilities at a job or activity; *abilities*, information indicating ability to use software, language, or anything involving expertise; and *involvement*, information indicating level of participation in an activity or job.

Unverifiable information made up a smaller subset of the data and included information typically unknown to colleagues. These lies related to *interests*, and indicated an interest, motivation, or concentration in some aspect of life. These lies included information about interests or hobbies.

These types of deception make up our original *resume lie taxonomy* (see Table 1 for examples of each deception type). Two coders rated all lies individually, reviewed codes together, and resolved discrepancies. Intercoder reliability was acceptable ( $\kappa=0.76$ ).

**Manipulation checks.** A manipulation check ensured that participants in the public condition felt that their profiles were more public than those creating nonpublic profiles (e.g., "My profile in this experiment is publicly identifiable.").

A second manipulation check ensured that differences in deception were due to publicness of resumes, rather than differential motivation to create a self-presentation that publicness of different communication environments may have elicited. Participants responded to the 10-item, semantic

TABLE 1. RESUME-RELATED LIE TAXONOMY

	Definition	Deception	Truth
Responsibility	Lies that discuss implicit and/or explicit job or activity-specific duties.	Nine students work for my company Organize museum's spring benefit	Six students work for my company Helped staff who organized
Abilities	Deceptions indicating ability to use specific software, language, etc.; lies related to recognition (i.e., honors, awards) for skills or abilities.	Familiarity with Adobe Suite Poststandard "Voices Award" winner	Not familiar with Adobe Illustrator Only a contributing writer
Involvement	Lies indicating a greater or lesser degree of participation in some specific activity, job, etc.	National society of collegiate scholars 8/2007—present	Member, but only attended 1 meeting
Interests	Deception indicating interest, motivation, or concentration that is in some way false.	Major concentration in media studies Marketing is my best fit	Not sure what my major concentration is I'm not interested in marketing at all, just in high salary

differential state motivation scale.<sup>33,34</sup> Participants assessed the resume task (i.e., "Please indicate the number toward either word which best represents your feelings about creating a resume for the described job.") using polarized adjectives anchoring each end of a seven-point scale (e.g., motivated vs. unmotivated, excited vs. bored, etc.). The scale measured how motivated participants were in creating a positive self-presentation with high item reliability (Chronbach's  $\alpha=0.86$ ).

#### Data analysis

Contrast analyses explored the effect of publicness on manipulation check items and dependent variables (i.e., deception frequency and type). Contrast analyses assigned weights of  $-1$ ,  $-1$ , and  $2$  to traditional resumes, private profiles, and public profiles respectively,<sup>35</sup> to compare private conditions (i.e., traditional resumes and private profiles) to the public condition. Though a Bayesian analysis would provide a more appropriate test of the probability of deception, insufficient data exist from prior studies to factor in the probability of deception in this context.

### Results

#### Manipulation checks

Public LinkedIn resumes ( $M=5.30$ ,  $SE=0.27$ ) were considered more publicly available than the two types of private resumes ( $M=4.18$ ,  $SE=0.19$ ),  $t(115)=3.42$ ,  $p<0.01$ ,  $r_{effect\ size}=0.30$ .<sup>36</sup> This confirms that the publicness manipulation was successful (see Table 2 for individual means of traditional, private, and public LinkedIn resumes).

The second manipulation check ensured equal motivation among all participants in creating a positive self-presentation. Analysis assessing the effect of publicness on self-presentational motivation revealed no differences in motivation between private (traditional:  $M=3.26$ ,  $SD=0.94$ ; private LinkedIn:  $M=3.73$ ,  $SD=1.17$ ) and public resumes ( $M=3.69$ ,  $SD=0.96$ ),  $t(116)=0.94$ ,  $p=0.35$ . As deception is a function of motivation, this check allowed us to focus on publicness as the mechanism driving deception differences.

#### Deception patterns

On average, participants lied 2.87 (median=3.00,  $SD=1.79$ ) times in their profile with a total of 341 lies. The frequency of deception was normally distributed. One hundred and six participants (92.4 percent) reported at least one deception; the greatest number of lies was 8. There were no gender differences in deception frequency,  $t(117)=0.53$ ,  $p=0.60$ .

The first hypothesis predicted that deception would be more frequent in traditional and private LinkedIn resumes relative to public LinkedIn resumes. This was not the case. Participants in the public condition ( $M=3.02$ ,  $SE=0.27$ ) pro-

TABLE 3. MEAN (STANDARD ERROR) FREQUENCY OF DECEPTION OVERALL AND BY RESUME INFORMATION TYPE ACROSS PRESENTATION CONDITION

	<i>Traditional resume (n=37)</i>	<i>Private LinkedIn profile (n=41)</i>	<i>Public LinkedIn profile (n=41)</i>
Responsibilities	0.68 (0.15)	0.61 (0.13)	0.39 (0.09)
Abilities	1.24 (0.18)	1.07 (0.17)	1.32 (0.21)
Involvement	0.76 (0.13)	0.95 (0.15)	0.76 (0.12)
Interests	0.05 (0.04)	0.15 (0.07)	0.37 (0.10)
Total frequency	2.81 (0.27)	2.76 (0.31)	3.02 (0.27)

Note: Total frequency may not indicate exact total of all four types because some lies could not be coded into these four categories.

duced a similar number of lies as participants in private conditions ( $M=2.78$ ,  $SE=0.21$ ),  $t(116)=0.94$ ,  $p=0.49$  (see Table 3 for individual means of traditional, private, and public LinkedIn resumes).

Our next hypothesis concerned whether the publicness of LinkedIn resumes affected the types of deceptions told. Lies related to responsibilities, abilities, and involvement were considered verifiable lies. Lies related to interests were considered unverifiable lies. We predicted that more verifiable lies would be present in traditional and private LinkedIn resumes compared with public LinkedIn resumes and that more unverifiable lies would be present in the public condition compared with private conditions (H2). As predicted, participants in the public condition lied less about responsibilities ( $M=0.39$ ;  $SE=0.09$ ) relative to participants in private conditions ( $M=0.64$ ;  $SE=0.10$ ;  $t(116)=1.66$ ,  $p<0.05$ , one-tailed,  $r_{effect\ size}=0.15$ ).<sup>36</sup> In contrast, participants in the public condition lied more about interests ( $M=0.37$ ;  $SE=0.10$ ) relative to participants in private conditions ( $M=0.10$ ;  $SE=0.04$ ;  $t(116)=2.88$ ,  $p<0.01$ ,  $r_{effect\ size}=0.26$ ).<sup>36</sup> Comparisons for abilities and involvement were not significant (see Table 3 for individual means of traditional, private, and public LinkedIn resumes). Note that data for responsibilities and interests were positively skewed; however, data transformations did not change effects reported earlier.

### Discussion

The public nature of LinkedIn shaped deception in our participants' resumes. Although overall rates of deception did not differ across the two types of resumes, participants lied differently depending on whether their self-presentation was a traditional or LinkedIn resume. Participants creating public LinkedIn profiles lied less about verifiable information, specifically responsibilities, and maximized their resume's attractiveness with minimal consequences by lying more about unverifiable information, specifically interests. Participants creating traditional resumes lied more about verifiable information that was central to the job, presumably because there is less threat of being caught. Traditional resume creators accomplished self-presentational goals via deceptions about verifiable information, and lied less about unverifiable information. While the effect sizes were small, these findings were consistent with the hypotheses, and have important theoretical and practical implications.

First, these data are consistent with the idea that self-presentational motivations drive deception.<sup>1,37</sup> Given that

TABLE 2. MEANS (STANDARD ERRORS) FOR PUBLICNESS AND MOTIVATION BY CONDITION

	<i>Traditional resume (n=37)</i>	<i>Private LinkedIn profile (n=41)</i>	<i>Public LinkedIn profile (n=41)</i>
Publicness	4.54 (0.23)	3.85 (0.29)	5.30 (0.27)
Motivation	3.26 (0.15)	3.74 (0.18)	3.69 (0.15)

self-presentational motivations were equivalent across conditions, as indicated by our manipulation check, our expectation that LinkedIn would uniformly reduce deception was overly simplistic. Instead participants accomplished identical self-presentational goals (as indicated by the motivation manipulation check) using different forms of deception that matched the public nature of the claims. It is important to note that the effect size of the difference in the frequency of responsibility deceptions was relatively small. Given the grave consequences associated with deception in organizations, for both employers and employees,<sup>4</sup> we argue that this small difference is nonetheless important.

Second, our findings suggest that the assumption that the Internet is rife with deception<sup>11</sup> is not necessarily correct. Our data from LinkedIn resumes reflect lower levels of deception compared with previous work exploring enhancement in paper-based resumes.<sup>20</sup> The results suggest that the public nature of online resume information, rather than the distinction between on and offline deception, determines how lying takes place. Further, our data speak to the recent debate on the prevalence of deception in everyday communication, with some research suggesting most people lie a little each day<sup>38</sup> and other research suggesting that only a few people lie a lot.<sup>39</sup> In the current study, over 90 percent of participants lied at least once on their resume. This distribution of deception is more consistent with previous observations that most people lie a little.

## Conclusion

Although counterintuitive, our data suggest that Web sites such as LinkedIn, which make resume information public and linked to one's network, can foster greater honesty for resume claims that are most important to employers, such as claims about experience and responsibility. Similar effects have been demonstrated in the context of recommender systems.<sup>8,10</sup> Our research suggests that the public availability of information to social ties affects honesty in a more complex manner than previously assumed. Participants considered publicness strategically, adapting their lies based on whether information could be verified as deceptive by others online, suggesting that public availability of information does not guarantee honesty. Instead, the public nature of online self-presentations shapes how we use deception to achieve our goals.

## Acknowledgment

This research was supported by funding from the National Science Foundation HSD#0624267.

## Disclosure Statement

No competing financial interests exist.

## References

- Levine TR, Kim RK, Hamel LM. People Lie for a reason: an experimental test of the principle of veracity. *Communication Research Reports* 2010; 27:271–285.
- DePaulo BM, Lindsay JJ, Malone BE, et al. Cues to deception. *Psychology Bulletin* 2003; 129:74–118.
- Cullen LT. Getting wise to lies. *Time* 2006; 167:59–60.
- Kidwell RE. "Small" lies, big trouble: the unfortunate consequences of resume padding. *Journal of Business Ethics* 2004; 5:175–184.
- Mazar N, Ariely D. Dishonesty in everyday life and its policy implications. *Journal of Public Policy and Marketing* 2006; 25:117–126.
- Walther JB. Computer-mediated communication: impersonal, interpersonal, and hyperpersonal interaction. *Communication Research* 1996; 23:3–43.
- Walther JB. Selective self-presentation in computer-mediated communication: hyperpersonal dimensions of technology, language, and cognition. *Computers in Human Behavior* 2007; 23:2358–2557.
- Resnick P, Varian HR. Recommender systems. *Communications of the ACM* 1997; 40:56–58.
- Resnick P, Kuwabara K, Zeckhauser R, et al. Reputation systems. *Communications of the ACM* 2000; 43:45–48.
- Zimmerman J, Kurapati K. (2001) Exposing profiles to build trust in a recommender. *Proceedings of the Conference on Human Factors in Computing Systems*. New York, NY: ACM SIGCHI, pp. 608–609.
- Caspi A, Gorsky P. Online deception: prevalence, motivation, and emotion. *Cyberpsychology & Behavior* 2006; 9:54–59.
- Hopper R, Bell RA. Broadening the deception construct. *Quarterly Journal of Speech* 1984; 70:288–302.
- Kraut R. Humans as lie detectors: some second thoughts. *Journal of Communication* 1980; 30:209–216.
- Miller GR, Mongeau PA, Sleight C. Fudging with friends and lying to lovers: deceptive communication in personal relationships. *Journal of Social and Personal Relationships* 1986; 3:495–512.
- Hancock J. (2007) Digital deception. In Joinson AN, McKenna K, Postmes, Reips U, eds. *The Oxford handbook of Internet psychology*. Oxford, UK: Oxford University Press, pp. 289–329.
- Cornwell B, Lundgren DC. Love on the Internet: involvement and misrepresentation in romantic relationships in cyberspace vs. realspace. *Computers in Human Behavior* 2001; 17:197–211.
- Curtis P. (1992) Mudding: social phenomena in text-based virtual realities. In Schuler D, ed. *DIAC-92: directions and implications of advanced computing*. Palo Alto, CA: Computer Professionals for Social Responsibility, pp. 48–68.
- Donath JS. (1999) Identity and deception in the virtual community. In Smith MA, Kollack P, eds. *Communities in Cyberspace*. New York, NY: Routledge, pp. 29–59.
- Roberts LD, Parks MR. The social geography of gender-switching in virtual environments on the Internet. *Information, Communication, and Society* 1999; 2:521–540.
- George J, Marett K, Tilly P. (2004) Deception detection under varying electronic media and warning conditions. *Proceedings of the 37th Hawaii International Conference on System Sciences*. Manoa, HI: Computer Society Press.
- Feldman RS, Forrest JA, Happ BR. Self-presentation and verbal deception: do self-presenters lie more? *Basic and Applied Social Psychology* 2002; 24:163–170.
- boyd D, Ellison N. Social network sites: definition, history, and scholarship. *Journal of Computer-Mediated Communication* 2007; 13:210–230.
- Rousseau DM. Schema, promise and mutuality: the building blocks of the psychological contract. *Journal of Occupational and Organizational Psychology* 2001; 74:511–541.
- Toma CL, Hancock JT, Ellison NB. Separating fact from fiction: an examination of deceptive self-presentation in online dating profiles. *Personality and Social Psychology Bulletin* 2008; 34:1023–1036.

25. Warkentin D, Woodworth M, Hancock JT, et al. (2010) Warrants and deception in computer-mediated communication. *Proceedings of the ACM conference on Computer-Supported Cooperative Work*. New York, NY: ACM Press.
26. Keyes R. (2004) *The post-truth era: dishonesty and deception in contemporary life*. New York: St. Martin's Press.
27. Global Deception Research Team. A world of lies. *Journal of Cross-Cultural Psychology* 2006; 37:60–74.
28. Zuckerman M, Koestner R, Driver R. Beliefs about cues associated with deception. *Journal of Nonverbal Behavior* 1981; 6:105–114.
29. Blair JP, Levine TR, Shaw AS. Content in context improves deception detection accuracy. *Human Communication Research* 2010; 36:423–442.
30. Fielder K, Walka I. Training lie detectors to use nonverbal cues instead of global heuristics. *Human Communication Research* 1993; 20:199–223.
31. Walther JB, Parks MR. (2002) Cues filtered out, cues filtered in: computer-mediated communication and relationships. In Knapp IM, Daly JA, eds. *Handbook of interpersonal communication*, 3rd edition. Thousand Oaks, CA: Sage, pp. 529–563.
32. McCornack SA, Levine TR. When lovers become leery: the relationship between suspicion and accuracy in detecting deception. *Communication Monographs* 1990; 57:219–230.
33. Beatty MJ, Forst EC, Stewart RA. Communication apprehension and motivation as predictors of public speaking duration. *Communication Education* 1986; 35:143–147.
34. Christophel DM. The relationships among teacher immediacy behaviors, student motivation, and learning. *Communication Education* 1990; 39:323–341.
35. Rosenthal R, Rosnow RL. (1985) *Contrast analysis: focused comparisons in the analysis of variance*. New York: Cambridge University Press.
36. Furr R. Interpreting effect sizes in contrast analysis. *Understanding Statistics* 2004; 3:1–25.
37. Bond CF, DePaulo BM. Individual differences in judging deception: accuracy and bias. *Psychological Bulletin* 2008; 132:477–492.
38. DePaulo B, Kashy D, Kirkendol S, et al. Lying in everyday life. *Journal of Personality and Social Psychology* 1996; 70:979–995.
39. Serota KB, Levine TR, Boster FJ. The prevalence of lying in America: three studies of self-reported lies. *Human Communication Research* 2010; 36:2–25.

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