

Lies in the Eye of the Beholder: Asymmetric Beliefs about One's Own and Others' Deceptiveness in Mediated and Face-to-Face Communication

Communication Research
1–26

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DOI: 10.1177/0093650216631094

crx.sagepub.com



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Abstract

This article examines how people's beliefs about deception in text-based media (i.e., email, instant messenger) and face-to-face communication are distorted by two biases: (a) a self-other asymmetry, whereby people believe themselves to be more honest than their peers across communication contexts; and (b) a media intensification effect, whereby the perceived gap between one's own and others' deceptiveness is increased in text-based media, whose affordances (e.g., reduced nonverbal cues) are believed to facilitate deception. We argue that these biases stem from a desire for self-enhancement, or for seeing oneself as good, moral, capable, and impervious to negative media influence. Support for these propositions emerged across a college student sample (Study 1) and a national sample of U.S. adults (Study 2). The results offer a theoretical framework for the distortions in people's beliefs about mediated deception, and have important practical implications.

Keywords

deception, beliefs about deception, self-other asymmetry, self-enhancement, media affordances

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The belief that people lie to each other frequently on the Internet appears to be solidly endorsed. In one survey, 79% of the respondents reported that they believed interpersonal deception to be very widespread on the Internet (Caspi & Gorsky, 2006); in online dating, deception is perceived to be the single biggest drawback (Brym & Lenton, 2001; Madden & Lenhart, 2006); and the *New Yorker* cartoon claiming that “on the Internet, nobody knows you’re a dog” (indicative of the medium’s ability to support misrepresentation) has entered the realm of modern-day century folklore.

The perceived pervasiveness of online deception sits in contrast with most people’s view themselves as good, decent, and moral members of society (Steele, 1988). Since the majority of American adults use the Internet extensively for social interaction (Pew Research Center, 2012), it appears contradictory that they view themselves as honest, but the Internet as full of liars.

This article attempts to reconcile this contradiction by arguing that people’s beliefs about the prevalence of interpersonal deception on the Internet, and about their own contribution to it, are distorted by two sources of bias. First, using the self-other asymmetry in social perception (Pronin, Gilovich, & Ross, 2004) as a theoretical framework, we propose that people consistently view themselves as more honest than others regardless of the medium of communication. Second, we propose that this perceived gap between one’s own and others’ deceptiveness is enlarged when the interaction occurs through text-based online media compared to face-to-face communication, because these media provide a set of affordances that are believed to facilitate deception. We argue that, similar to other asymmetric perceptions, the deception asymmetry in online media is motivated by a desire to self-enhance. We test the existence and the motivational basis of these beliefs in a convenience sample of college students (Study 1) and then, to achieve external validity, we replicate the major findings with a representative sample of American adults (Study 2).

We note that a growing body of research has examined deception production (e.g., George & Carlson, 2005; Hancock, Thom-Santelli, & Ritchie, 2004; Toma & Hancock, 2010) and deception detection (e.g., Toma & Hancock, 2012; Van Swol, Braun, & Kolb, 2013) in online environments. However, there is little research on people’s *beliefs* about the prevalence of deception in interpersonal encounters online (but see Flanagan & Metzger, 2000; Metzger, 2007 for related research on the perceived credibility of news and commercial websites).

We argue that investigating people’s beliefs about interpersonal deception online is essential because people act on their beliefs, however distorted. For instance, they may restrict online access to their children (Macgill, 2007), become suspicious of interaction partners when communicating through certain media, or avoid these media themselves, as a consequence of fearing deception. In this initial investigation of the nature of people’s beliefs about mediated deception, we focus on text-based online media (i.e., email and instant messenger) as compared with face-to-face, while inviting future research to investigate other media.

Study I

Self-Other Asymmetry in Beliefs About Deception

One of the most robust findings in social psychology is that people hold excessively flattering views of themselves. For instance, they are unaware of their own lack of skill or ability, such as poor humor, grammar, and logic (Kruger & Dunning, 1999), they are overly optimistic about their own future (Helweg-Larsen & Shepperd, 2001), and, quite ironically, they consider themselves objective and unbiased (Pronin, Lin, & Ross, 2002).

These lofty views of self are often perpetrated at the expense of peers. That is, people tend to believe themselves to be superior to their peers in both character and behavior. Perhaps the best illustration of this tendency is the above-average effect, according to which the majority of people consider themselves better than their peers on socially desirable attributes such as intelligence, kindness, generosity, fairness, loyalty, and sincerity, although that is statistically impossible (Dunning, Meyerowitz, & Holzberg, 1989). Conversely, the average person considers himself or herself below average on undesirable attributes, such as gullibility, laziness, impoliteness, or lack of ethics (Goethals, Messick, & Allison, 1991). In the area of behaviors, research documents the same self-serving pattern: Drivers and motorcyclists believe they are less likely than others to be involved in auto accidents (Rutter, Quine, & Albery, 1998); 94% of college professors believe the quality of their work is above average (Cross, 1977); and people generally underestimate their own task completion times, but not others' (Buehler, Griffin, & Ross, 1994).

This bias in perception, whereby people maintain overly favorable views of themselves at the expense of others, is known as the *self-other asymmetry in social perception* (Pronin et al., 2004). Research shows that these asymmetric judgments generally result from evaluating the self too kindly, rather than evaluating others too harshly (Epley & Dunning, 2000), and that they are deeply entrenched and resistant to revision (see Sedikides & Gregg, 2008, for a review).

How does this asymmetry apply to deception? Across time and cultures, deception has been regarded as a highly undesirable behavior. In one study, being a liar was rated as the least likable out of 555 personality traits (Anderson, 1968). Deception is also subject to social reprimand and punishment, which is why liars typically experience feelings of guilt, shame, and nervousness, and go to great lengths to avoid being caught (Vrij, 2008). Maintaining a flattering view of self should then require that people minimize their deceptive tendencies by comparison with peers. Given the general unacceptability of deception, this self-other asymmetry in perceptions about deception should be observable regardless of the medium of communication:

Hypothesis 1: People believe that others lie more than themselves across communication contexts.

The Intensifying Effect of Media

Although research has documented a commonly held belief that deception is widespread over the Internet (e.g., Caspi & Gorsky, 2006), it is unclear *why* people maintain this belief. An answer to this question might emerge from examining people's more general beliefs about deception.

As discussed earlier, one widely endorsed belief is that deception is a socially undesirable, negative act that is liable to punishment if detected (Vrij, 2008). A related belief is that deception is difficult to accomplish, because of negative emotions (i.e., anxiety and shame at the prospect of being detected), and because it is harder to fabricate information and maintain consistency than to simply recount truthful events (Bond & Robinson, 1988). As a result, people believe that liars experience high nervousness (Global Deception Research Team, 2006).

Perhaps the most pervasive belief is that liars produce, in spite of their best efforts, stereotypical verbal and nonverbal cues that betray their deceptiveness (Bond & DePaulo, 2006). These leakage cues are thought to include an avoidance of eye contact, stuttering, fidgeting, and incoherent and hesitant speech. The perceived association between deception and leakage cues is particularly strong and, remarkably, is upheld across cultures (Global Deception Research Team, 2006). However, it is also erroneous, as research has consistently shown that nonverbal cues are rarely reliable indicators of deception (DePaulo et al., 2003) and that people are poor at using cues to detect deception (Levine et al., 2011; Vrij, 2008).

In light of the perceived difficulty of lying and of the costs of being caught, we argue that people use a simple heuristic in judging the level of deceptiveness of a communication environment: They expect people to lie more in situations where it is easy and convenient to do so. Text-based media (i.e., email, Instant Messenger [IM]) appear to make lying easier because of two affordances. First, they eliminate nonverbal cues, including gestural (i.e., fidgeting, avoidance of eye contact) and vocal cues (e.g., stuttering, speech hesitations). Therefore, people should believe that liars are less likely to get caught in media where these cues are absent.

Second, media are distributed, in the sense that they allow communicators to interact with each other without sharing the same physical space (Hancock et al., 2004). This lack of physical co-presence makes it possible to lie about topics that are not visible to, and hence verifiable by, communication partners. Such topics include actions (i.e., what individuals are currently doing), whereabouts (i.e., where they are), and emotions (i.e., what they are currently feeling, which is usually demonstrated through facial expressions and tone of voice). For instance, while texting her parents, a student can claim to be at the library when in fact she is out with friends.

In sum, people should believe that deception is a viable and convenient option in text-based media because (a) liars need to be less concerned with monitoring potential leakage cues; and (b) the verifiability of many lies is rendered impossible by distribution. These two affordances can then be perceived as encouraging deception. For instance, a person could believe that an inconvenient truth (e.g., "I can't meet with you today because I have plans with other friends") can be replaced with a lie (e.g., "I can't

meet with you today because I have a bad cold”) more easily over email than face-to-face. As a result, text-based media should be believed to convey more deception, generally, than face-to-face communication.

However, in line with the self-other asymmetry, we expect that people apply this simple heuristic only to others, but not to themselves. That is, people should not believe themselves influenced by media features that encourage deception, because such an admission implies that they are opportunistic and easily influenced by negative features of the media. Rather, only others should be viewed as liable to being swayed by media features that make it easy to lie. Indeed, related research on people’s perceptions of mass media effects has shown that people resist the notion that they themselves are affected by negative media features, but are quick to impute it to others. For instance, people believe that television violence (Hoffner et al., 1999) and pornography (Lo & Wei, 2002) affect others much more so than themselves. Therefore, we expect people to believe that others take greater advantage of media features that make it easy to lie, leading to a greater difference between their own and others’ deceptiveness in text-based media than in face-to-face communication:

Hypothesis 2: The perceived difference between one’s own and others’ deceptiveness is amplified in text-based online media (i.e., email and IM) compared with face-to-face communication.

Underlying Mechanisms

So far, we have argued that people’s beliefs about the prevalence of deception across face-to-face and text-based media are biased. Our next question of interest concerns the operations of this bias. What psychological mechanism is responsible for it? Research has identified two categories of mechanisms responsible for the self-other asymmetry in social perception: non-motivational and motivational (see Sedikides & Gregg, 2008, for a review). Non-motivational factors refer to errors in cognitive processing that are not goal-directed, such as anchoring (i.e., individuals’ egocentric focus on their own abilities and failure to adjust sufficiently to account for others’; Kruger, 1999) and information deficits (i.e., individuals’ lack of knowledge and expertise necessary to evaluate themselves correctly; Kruger & Dunning, 1999). For example, individuals may simply not have sufficient information to evaluate either themselves or their peers’ actions and states of mind, resulting in inaccurate perceptions.

By contrast, motivational factors are goal-driven. In the case of the self-other asymmetry, this goal is self-enhancement—a psychological need to maintain an elevated, positive view of self. Self-enhancement has been recognized as a fundamental human drive since William James (1890) and has been shown to cause people to engage in a variety of self-protective behaviors, such as ego defense and self-affirmation (e.g., Baumeister, 1998; Greenberg, Solomon, & Pyszczynski, 1997; Steele, 1988). A robust line of research shows that the self-other asymmetry in social perception is motivated by an unconscious goal to self-enhance, that operates above and beyond non-motivational factors (Sedikides & Gregg, 2008). Because of its centrality in the self-other

asymmetry framework, we focus here on self-enhancement as a mechanism behind the deception asymmetry in text-based media, while inviting future research to examine non-motivational factors as well. We argue that, as an instantiation of the self-other asymmetry in social perception, the deception asymmetry in online media should also be motivated by self-enhancement.

We take a two-prong approach to testing this claim. First, if self-enhancement motivates the self-other asymmetry of deception, individuals who have more acute needs for self-enhancement should be more likely to engage in these perceptual distortions. Such individuals score high in social desirability concerns—that is, they have a high need to increase their positive self-regard through gaining social approval (Crowne & Marlowe, 1960; McCrae & Costa, 1983). Social desirability has indeed been associated with a propensity to engage in self-serving biases (see Alicke & Govorun, 2005, for a review). For instance, individuals high in social desirability tend to exaggerate the extent to which they engage in socially sanctioned behaviors, such as voting (Silver, Anderson, & Abramson, 1986) and going to church (Hadaway, Marler, & Chaves, 1993), while downplaying their participation in socially frowned-on behaviors, such as drug use (Mensch & Kandel, 1988).

In the context of online deception, individuals scoring high in social desirability should also be more prone to the intensification effects of media on the deception asymmetry. They should view themselves as more honest than their peers across communication contexts, because deception is socially undesirable and distancing oneself from it is a strategy for maintaining positive self-regard. In addition, they should view themselves as less likely to be influenced by media features that make it easy to lie (e.g., lack of nonverbal cues in text-based communication), because viewing oneself as impervious to negative media influence is another avenue toward maintaining a positive self-view (Perloff, 1999). Hence,

Hypothesis 3: Individuals high in social desirability display a greater deception asymmetry and media intensification of this asymmetry than individuals low in social desirability.

Second, as Bond and DePaulo (2006) argued in their double standard framework, self-enhancement should be reflected in the way people make sense of their own and others' lies. Research has identified two general types of explanations for deception: self-centered, or selfish, and other-centered, or altruistic (DePaulo, Kashy, Kirkendol, Wyer, & Epstein, 1996; Lindskold & Han, 1986). Selfish lies are those whose primary goal is to benefit the liar, who seeks to obtain rewards and/or avoid punishments. Altruistic lies are told primarily to serve the interests of the target of deception. For instance, the liar may want to protect the target's feelings, or to uphold politeness norms.

Self-enhancing motivations should lead people to provide altruistic explanations for their own lies, because construing oneself as kind and considerate toward others is an intrinsic part of having a positive self-view (Bond & DePaulo, 2006; Kaplar & Gordon, 2004; Leary, 2005). However, other people should be viewed as more selfish,

lying in order to benefit themselves (Kaplar & Gordon, 2004). The juxtaposition of their own altruism to other people's selfishness should make people feel morally superior and hence serve their need to self-enhance (Bond & DePaulo, 2006).

As discussed earlier, one of the most powerful selfish concerns experienced by liars is to not get caught and therefore avoid punishment (Vrij, 2008). As noted earlier, the majority of people believe that deception detection is possible by paying attention to stereotypical nonverbal cues, despite substantial evidence that they are not reliable (Global Deception Research Team, 2006). Hence, media that restrict nonverbal cues, such as email and IM, should elicit selfish explanations for deception (i.e., "they lie online because it's easy to not get caught") for other people, but not for oneself. In sum, when lying in text-based media, people should claim to be motivated by altruistic reasons (i.e., a desire to protect the conversation partner) more so than others, but believe others to be motivated by selfish reasons (i.e., a desire to avoid being caught) more so than themselves:

Hypothesis 4: For deception in text-based online media, people provide altruistic explanations for themselves more so than for others, and selfish explanations for others more so than for themselves.

Method

Procedure overview. The above hypotheses were tested through an online survey. Participants reported their own frequency of deception and their beliefs about their peers' frequency of deception in face-to-face communication and across two text-based media (i.e., IM and email). Participants also provided explanations for both their own and others' deception in text-based online interactions, and completed a social desirability scale. The order of reporting one's own deception frequency and beliefs about others' deception frequency was counterbalanced in order to eliminate the potential biasing effect of anchoring (i.e., participants' numerical responses to the first deception reports affecting their responses to subsequent deception reports).

A sample of college students was selected to test the hypotheses. Although college student samples are problematic in making descriptive inferences about a population, they are useful in investigating relationships between theoretically derived variables (Basil, Brown, & Bocarnea, 2002; Li, 2008; Mook, 1983), such as self-other comparisons and media—face-to-face comparisons. College student samples are widespread in testing the self-other discrepancy theoretical framework (e.g., Alicke & Govorun, 2005; Kruger & Dunning, 1999; Pronin et al., 2002).

Participants

Participants were 264 undergraduate students (78% women; 69.3% Caucasian), recruited from Cornell University. The participants' age ranged from 17 to 34 years ($M = 19.72$, $SD = 1.62$). Participants were compensated with extra credit in their Communication or Psychology courses.

Measures

Own deception frequency. Participants reported how much they typically lie across each of the three communication contexts of interest: “Generally speaking, how much do you lie or misrepresent information when interacting with someone face-to-face/over instant messaging (IM)/over email?” Participants used a scale from 1 (*very rarely*) to 7 (*very frequently*). This scale was preferred to asking participants the *number* of lies they told, because research suggests that in any given day, the majority of people do not tell any lies (Halevy, Shalvi, & Verschuere, 2014; Serota, Levine, & Boster, 2010). Asking participants to remember the number of lies told in an interval of time exceeding one day may be difficult and lead to erroneous responses.

Perceptions of others’ deception frequency. Participants also indicated how much they thought the average college student at their university lied across the same media: “Generally speaking, how much do you think the average student at your university lies or misrepresents information when interacting with someone face-to-face/over IM/over email?” As before, a scale from 1 (*very rarely*) to 7 (*very frequently*) was used.

The referent other was selected to be the average student at the same university as the participants (i.e., an average peer) because a comparison target that is as similar as possible to the respondent offers a strong basis for exposing perceptual biases. Specifically, participants who, on average, believe that they are better than others who, on average, are closely similar to them are likely engaging in perceptual distortions. Selecting an average peer as a comparison target is the most widely used procedure in the self-other asymmetry literature (see Pronin et al., 2004, for a review).

Explanations for lying in text-based online media. After reporting the extent of their own and other people’s deception across the media, participants were asked to consider four possible explanations for lying in text-based media relative to face-to-face, and report how much these explanations applied to their own deceptions, and then to peers’ deceptions. The four explanations were (a) because it is less likely that I/they get caught, (b) because I/they do not have to worry about looking or sounding deceptive, (c) because I/they want to avoid upsetting my/their conversation partner, and (d) because lying makes it easier to avoid an uncomfortable situation. A scale from 1 (*not at all important*) to 7 (*extremely important*) was used.

The first two explanations were combined to create a *selfish explanation scale* (for own deception, Spearman-Brown’s $r = .67$; for others’ deception, Spearman-Brown’s $r = .65$), and the last two were grouped to create an *altruistic explanation scale* (for own deception, Spearman-Brown’s $r = .72$; for others’ deception, Spearman-Brown’s $r = .68$).

Frequency of media use. Participants reported how often they interact with people face-to-face, over IM, and over email on a scale from 1 (*very rarely*) to 7 (*very frequently*).

Social desirability was measured using the Marlowe-Crowne Social Desirability Scale, which includes 33 true-or-false questions (Crowne & Marlowe, 1960; Cronbach's $\alpha = .76$). The answers were dummy-coded and summed to create a social desirability score for each participant, with higher scores representing higher levels of social desirability.

Analytic Approach

The data were organized in a hierarchical structure, with three media (face-to-face/IM/email) and two types of judgments (about self or others) nested within each participant. For simplicity, we henceforth refer to these variables as the self-other factor and the media factor. To test the primary hypotheses, we computed the *deception asymmetry* as the difference score between one's own deception frequency and beliefs about others' deception frequency.

A linear mixed-model procedure (LMM; Hayes, 2006) was used to examine the effects of the self-other factor, the media factor, lying explanations, and social desirability on deception perceptions. LMM is an expansion of general linear modeling that accounts for the interdependence among nested observations and accommodates the correlated responses generated from the same participant.

Results

Deception asymmetry and media intensification. To test Hypotheses 1 and 2, we conducted an LMM analysis on deception frequency with the self-other and media factors as predictors, controlling for frequency of media use. Hypothesis 1 predicted a self-other asymmetry such that people believe others to be more deceptive than themselves regardless of the medium of communication. As hypothesized, the main effect of the self-other factor was significant, $F(1, 914) = 7.80, p < .01$, partial $\eta^2 = .04$. Overall, participants viewed others ($M = 4.00, SE = .07$) as significantly more deceptive than themselves ($M = 3.02, SE = .07$), Cohen's $d = .86$, revealing a powerful asymmetry in perceptions about deception and providing strong support for Hypothesis 1.

Hypothesis 2 predicted that the asymmetry in deception perceptions would be larger in text-based media (i.e., IM and email) than face-to-face. The LMM revealed a significant interaction effect of the self-other and media factors on the deception asymmetry, $F(1, 899) = 4.00, p < .05$, partial $\eta^2 = .02$. Although the self-other asymmetry was significant for all three media (all F s > 42.13 , all p s $< .001$), it was greater in IM and in email than in face-to-face interactions: for IM vs. fact-to-face, $t(1398) = 4.31, p < .05$, Cohen's $d = .24$; for email vs. face-to-face, $t(1352) = 6.90, p < .001$, Cohen's $d = .34$. The self-other differences in IM and email did not significantly differ from each other, $t(1335) = 1.29, p = .20$, Cohen's $d = .10$ (see Table 1). Thus, in support of Hypothesis 2, the deception asymmetry was intensified in text-based media relative to face-to-face interactions.

It is also noteworthy that the main effect of the media factor achieved significance, $F(1, 956) = 113.36, p < .001$, partial $\eta^2 = .06$. Overall, IM ($M = 4.11, SE = .08$) was

Table 1. Means and Standard Errors for Self and Other Deception Across Communication Contexts.

	Face-to-face		IM		Email	
	M	SE	M	SE	M	SE
Study 1						
Self-other difference	0.84	.07	1.10	.07	1.21	.07
Self	2.44	.10	3.58	.10	3.05	.10
Other	3.16	.10	4.64	.10	4.20	.10
Study 2						
Self-other difference	1.01	.07	1.24	.07	1.27	.07
Self	1.84	.04	1.48	.04	1.46	.04
Other	2.89	.04	2.89	.05	2.84	.05

Note. IM = instant messenger.

rated as containing the most deception, followed by email ($M = 3.63$, $SE = .08$), and least of all face-to-face ($M = 2.80$, $SE = .08$), regardless of the self-other difference. The pairwise comparisons were all significant (all $p < .001$), indicating that deception perceptions may have different base-rates across communication contexts.

The covariate, frequency of using each medium, was a significant predictor of deception frequency, $B = .11$, $SE = .03$, $F(1, 1086) = 3.17$ $p < .01$, partial $\eta^2 = .02$, indicating that the more participants used a particular medium, the more they believed the medium involves deception, regardless of whether it was produced by themselves or others.

Underlying mechanisms. Next, we sought to examine the mechanism behind the intensified deception asymmetry in text-based media by testing whether this phenomenon is motivated by self-enhancement. As individuals high in social desirability are more susceptible to self-enhancement, Hypothesis 3 predicted that social desirability would positively affect the magnitude of the deception asymmetry, as well as the media intensification effect on this asymmetry. To test this hypothesis, we collapsed IM and email into one category of text-based media, and performed an LMM analysis on the deception asymmetry, with media (face-to-face vs. text-based media) and social desirability as predictors, controlling for frequency of media use. As expected, social desirability had a positive main effect on the asymmetry, $B = .05$, $SE = .01$, $F(1, 251) = 7.31$, $p < .01$, partial $\eta^2 = .07$, suggesting that individuals high in social desirability viewed themselves as more honest than their peers across communication contexts. Moreover, the LMM also revealed a significant interaction effect between social desirability and the media factor, $F(1, 912) = 11.28$, $p < .01$, partial $\eta^2 = .02$. Specifically, social desirability produced a larger deception asymmetry when the interaction took place through text-based media relative to the face-to-face baseline, $B = .04$, $SE = .01$, $t(912) = 3.36$, $p < .01$. Together, these analyses provide support for Hypothesis 3.

Table 2. Means and Standard Errors for Deception Explanations.

	Selfish motives		Altruistic motives	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Self	4.40	.05	4.86	.05
Other	5.16	.04	5.16	.04

People's explanations for text-based deception were also hypothesized to illustrate self-enhancement needs. Generally speaking, we expected individuals to provide altruistic explanations for their own deception in text-based communication, and selfish explanations for others' (Hypothesis 4). To test this, we first performed a general linear model (GLM) analysis on deception explanations with explanation category (selfish vs. altruistic) and the self-other factor as within-subject factors, controlling for social desirability concerns. As predicted by Hypothesis 4, there was a significant interaction effect between the explanation category and the self-other factor, $F(1, 262) = 8.08, p < .01$, partial $\eta^2 = .03$. Pairwise comparisons indicated that, for their own lies in text-based media, participants provided more altruistic than selfish explanations, $F(1, 262) = 20.57, p < .001$, partial $\eta^2 = .06$. In contrast, participants believed others to be equally motivated by altruistic and selfish concerns, $F(1, 262) = .00, p = .96$ (see Table 2). This pattern provides partial support for Hypothesis 4, with participants indeed displaying a double standard—their own deceptions were viewed as more altruistic in text-based media, but others' deceptions were viewed as equally selfish and altruistic.

Discussion

These results document two sources of bias in people's beliefs about deception production in text-based media and face-to-face communication. First, in accordance with the self-other asymmetry in social judgments (Pronin et al., 2004), we find that people hold positive views about their own undesirable behaviors, consistently rating themselves as less likely to lie than their peers. Second, we identify an intensifying effect of media on this deception asymmetry, with people assuming that text-based media, which lack nonverbal cues and physical co-presence, encourage others' deception more so than their own. Indeed, the deception asymmetry, operationalized as the difference between one's own reported deception and perceptions of others' deception, grew larger when the interaction took place in text-based rather than face-to-face communication.

Following the self-other asymmetry in social perception, we predicted that the need for self-enhancement (i.e., perceiving oneself as good, appropriate, and moral) underlay the deception asymmetry and the media intensification effect. Two sets of results provide support for this contention. First, the media intensified the deception double standard more for individuals scoring higher in social desirability—that is, those with

higher needs for self-enhancement. Second, individuals interpreted their own and others' deceptions in online media in self-serving ways. They provided more altruistic than selfish explanations for their own deceptions, but believed others were equally motivated by selfish and altruistic reasons. That is, individuals were less likely to explain their own deceptions as being motivated by features of the media that make it easy to lie, but did not extend the same courtesy to their peers.

Study 2

While a convenience sample of college students is useful for testing multivariate relationships between theoretical constructs, such as the self-other distinction and the presence of media, its external validity is limited to the sample being used. The purpose of Study 2 is to extend the generalizability of the media intensification of the deception asymmetry by investigating it within a nationally representative sample of U.S. adults. Note that the self-other asymmetry theoretical framework has been overwhelmingly tested with college student samples and therefore it is important to extend it to nonstudent adults.

However, we recognize that a nationally representative sample is by definition older than the young adults included in Study 1, and age may play a part in individuals' deceptive behaviors and, by extension, their beliefs about deception. Indeed, age has been shown to affect base-rates of deception production, with individuals lying less as they get older (DePaulo et al., 1996; Serota et al., 2010). Older adults have also been shown to verify the credibility of online information more than college students (Metzger, Flanagin, & Zwarun, 2003).

Despite these differences between a representative sample of the population and undergraduate students, we expect that the self-other asymmetry and the media intensification of this asymmetry will hold for the national sample, given the robustness of the need for self-enhancement as a psychological motivator (Sedikides & Gregg, 2008).

Method

Procedure. In order to minimize the impact of non-random sampling on the effect size of self-other judgments (Sun, Pan, & Shen, 2008), a representative sample of U.S. adults were recruited. The data were collected via telephone surveys conducted by the Survey Research Institute at Cornell University. The survey was an omnibus of social science topics including privacy attitudes, perceptions of deception, identification with television characters, Islamophobia and knowledge about Islam, and attitudes toward participation in clinical trials.

All interviews were conducted in English, using the Computer-Assisted Telephone Interviewing (CATI) software. The response rate was 23.9%, and the cooperation rate was 55.1%. Note that this study is consistent with national trends of response and cooperation rates for telephone data (Singer, 2006). Research indicates that a response rate of 25% and cooperation rates as low as 34% do not threaten the quality of survey estimates (Keeter, Kennedy, Dimock, Best, & Craighill, 2006).

Participants. Participants were 500 adults (53.6% women; 76.4% Caucasian), aged between 18 and 90 years ($M = 49.79$, $SD = 16.00$), all residents of the continental United States, selected through random digit dialing. This procedure ensures that every household with a landline telephone within the United States has an equal chance of being included in the survey, and that once the household is sampled, every adult has an equal chance of being included in the poll. With 500 respondents, chance variations in the sample should cause the results to vary by no more than 4.4 percentage points from a situation in which all U.S. residents were interviewed (based on a binomial response distribution).

Measures

Own deception. For each medium, participants reported how much they typically lie on a scale from 1 (*never*) to 4 (*often*): “When talking with someone face-to-face/over email/over IM¹, could you tell me how frequently you lie or misrepresent some information?”. The item was limited to a 4-point scale given the time constraints of doing telephone-based interviews.

Perceptions of others’ deception. Participants then indicated how much they thought other people lied across the same three communication contexts on a scale from 1 (*never*) to 4 (*often*): “What about other people? How often do you think they may lie or misrepresent information when talking to others face-to-face/over email/over IM?”.

Results

To examine how the self-other and media factors affect beliefs about the prevalence of deception, a two-way analysis of variance (ANOVA) was performed on perceptions about deception frequency, with the self-other and media as within-subject factors. The main effect of the self-other factor was significant, $F(1, 203) = 444.47$, $p < .001$, partial $\eta^2 = .69$, with participants viewing others ($M = 2.81$, $SE = .05$) as significantly more deceptive than themselves ($M = 1.63$, $SE = .04$), Cohen’s $d = 1.17$. This replicates the powerful deception asymmetry observed in Study 1.

The two-way ANOVA also detected a significant interaction effect of the media and self-other factors on deception beliefs, $F(2, 202) = 7.81$, $p < .01$, partial $\eta^2 = .07$. Providing evidence for a media intensification of the self-other asymmetry, the deception asymmetry was greater in IM and email than in face-to-face: for IM vs. face-to-face, $t(406) = 2.32$, $p < .05$, Cohen’s $d = .22$; for email vs. face-to-face, $t(406) = 2.63$, $p < .01$, Cohen’s $d = .25$. There was no difference between IM and email in the deception asymmetry, $t(406) = .30$, $p = .76$, Cohen’s $d = .03$ (see Table 1).

However, in contrast to Study 1, the media intensification of the deception asymmetry in Study 2 was driven by reductions in reports of own deception in text-based media, rather than an increase in perceptions of others’ deception (see Table 1): Participants reported lying less in IM and email than in face-to-face, both $t < -7.40$, both $p < .001$, but they believed others lied equally often across communication contexts, all $t < 1.44$, all $p > .23$.

Discussion

Using a nationally representative sample of adults, Study 2 replicates the core findings of Study 1: Respondents believed themselves to be more honest than others across communication contexts (i.e., deception asymmetry) and the difference between their own and others' deceptiveness was increased in text-based media compared with face-to-face (i.e., media intensification of the deception asymmetry). This pattern of results suggests that the deception asymmetry and the media intensification effect are generalizable phenomena, and thus underscore the robustness of our theoretical framework.

However, there were some differences between the studies. First, base-rates of deception frequency differed between the college student sample and the national sample (e.g., college students believed that IM conveyed more deception than email, whereas U.S. adults found no difference between the two). This is consistent with recent research showing that base-rates of deception production differ with age (Serota et al., 2010) and between college students and community members (DePaulo et al., 1996; Serota et al., 2010). Second, the media intensification effect in the national sample was due to a decrease in self-reports of deception in text-based media relative to face-to-face, rather than to an increase in perceptions of others' deception in text-based media relative to face-to-face, as was the case in Study 1.

What might account for this difference? Recall that our theoretical framework proposes that people self-enhance by viewing themselves as less affected by media features that make it easy to lie than their peers. However, this enhancement can be achieved via two routes: viewing others as *more* likely than oneself to take advantage of media features that facilitate deception (other-derogation), or viewing oneself as *less* likely than others to take advantage of media features that facilitate deception (self-inflation). Both strategies have the same net effect of producing a greater self-other difference in text-based media than face-to-face, and both serve the same psychological need for self-enhancement.

The pattern of findings suggests that the media intensification effect may be the product of other-derogation for college students (Study 1) and of self-inflation for older adults (Study 2). The students may view their peers as more likely to take advantage of media affordances to accomplish deception (i.e., others are more opportunistic than me), which allows them to feel morally superior. The adults from the national sample may view themselves as less likely to take advantage of media affordances that facilitate deception than their peers (i.e., I am less opportunistic than others), which also allows them to feel morally superior. Indeed, the issue of whether self-enhancement is the product of viewing oneself in overly charitable ways or viewing others in deprecating ways is an important but less understood one within the self-other asymmetry framework. Research indicates that both types of distortions contribute to producing the net effect of people viewing themselves as morally superior to their peers (Goethals et al., 1991; Sedikides & Gregg, 2008), although future research is needed to understand the circumstances under which people utilize one strategy versus the other.

General Discussion

To date, deception research has been overwhelmingly focused on two general topics: (a) deception production, or how much people lie and why; and (b) deception detection, or whether deception is caught and what type of information is useful in doing so (see Vrij, 2008, for a review). A much less studied but equally important area of research concerns people's *beliefs* about deception, or how they perceive and make sense of deception in their everyday interpersonal interactions (e.g., Anderson, DePaulo, Ansfield, Tickle, & Green, 1999), and particularly in online environments, where deception appears to be a significant source of concern (Brym & Lenton, 2001; Caspi & Gorsky, 2006; Madden & Lenhart, 2006).

The present article adds to the small but important body of research on people's beliefs about deception in the media, and is the first, to the best of our knowledge, to specifically identify biases that distort these beliefs in interpersonal contexts. We identify two such biases: (a) a self-other asymmetry, whereby people generally believe that their peers are more deceptive than themselves across communication contexts; and (b) a media intensification effect, whereby people expect that the difference between their own and their peers' deceptiveness is even greater in text-based media than in face-to-face communication, because technological affordances that make it easy to lie (i.e., a lack of physical co-presence and an elimination of nonverbal cues) affect peers more than oneself.

Support for these effects emerged both in a sample of college students (Study 1) and a national sample of U.S. adults (Study 2). Both samples exhibited a self-other asymmetry and a media intensification effect of this asymmetry. Consistent with the self-other asymmetry theoretical framework, Study 1 showed that these biases stem from a need for self-enhancement—that is, to maintain an elevated view of self by positioning oneself as morally superior to peers. Specifically, participants scoring high in social desirability (who have greater needs for self-enhancement) were more susceptible to both the self-other asymmetry of deception and the media intensification of this asymmetry. Participants also provided altruistic and media-independent explanations for their own lies, while viewing their peers' lies as motivated by selfish and media-dependent concerns (e.g., the ease of avoiding deception in reduced-cue, text-based media).

One important difference between the two studies was that college student respondents (Study 1) believed that the media intensification effect occurs because peers take *more* advantage of media affordances that make it easy to lie than they themselves do, whereas the older respondents in the national sample (Study 2) attributed the media intensification effect to the fact that they themselves take *less* advantage of these affordances than peers. Both strategies serve the purpose of maintaining positive self-regard, in that they position the self as less affected by media affordances that facilitate deception than others, and therefore morally superior to them. Notably, both strategies are consistent with theorizing and empirical research within the self-other theoretical framework.

The contributions of these results are threefold: (a) furthering the understanding of people's beliefs about deception in mediated environments, (b) extending the self-other asymmetry theoretical framework to the arena of deception and interpersonal

media, and (c) setting an agenda for future research on the biases in people's beliefs about mediated deception. We discuss these contributions below.

Understanding Perceptions About Deception Across Media

The primary contribution of this research lies in documenting some of the biases that color people's beliefs about the prevalence of interpersonal deception in text-based media—a topic that has not yet been investigated. Our data suggest that people filter their judgments through their own ego needs and media fears (see also Baym, 2010). As they strive for a positive self-image, they distance themselves from deception by viewing themselves as more honest, more altruistic, and less likely to be led astray by media features that promote deceptiveness than their peers. Presumably, these beliefs allow people to maintain an image of self as good, decent, and relatively immune to media features that encourage deceptiveness.

The self-other asymmetry demonstrates in and of itself the problematic nature of people's judgments about the prevalence of deception. It is statistically impossible for the average person to be more honest than her or his peers. In addition, people's association of text-based media with deception is also problematic, as it demonstrates a misunderstanding of how media affects deception. A daily diary study of deception across the media (Hancock et al., 2004) shows that face-to-face and instant messenger contain equal amounts of deception, whereas email contains the least amount of deception. In other words, our participants' estimations of both their own and others' deceptiveness across the samples were incorrect. As argued by Hancock and colleagues (2004), deception production is affected by a complex web of technological and social factors, one that may be beyond the grasp of lay people, who instead rely on simple heuristics to estimate the occurrence of deception across the media. This heuristic relies on the well-documented but incorrect notion that nonverbal cues are useful indicators of deception (Bond & DePaulo, 2006; Global Deception Research Team, 2006; Levine et al., 2011; Vrij, 2008) and that, by extension, the media facilitates deception by obstructing these cues.

On the theoretical front, the present studies advance the deception and interpersonal media literature in two ways. First, we introduce the self-other asymmetry in social perception as a theoretical framework with high predictive power for explicating people's beliefs about deception. As will be discussed in more detail later, this framework has been applied widely in the area of social perception. To the best of our knowledge, this is the first project to apply it to the area of deception and interpersonal media. Second, the present research advances a theoretical explanation for why people may perceive text-based media to contain more deception than face-to-face communication. Technologically deterministic fears, whereby people assume that technology has straightforward and negative effects on users, have been thoroughly documented (Baym, 2010). Here, we pinpoint the root of some of these fears about technology and deception by arguing that people associate certain media features, such as a reduction in cues and distribution, with deceptiveness. They either assume that others utilize these features more than they do (Study 1) or that they themselves utilize these

features less than others (Study 2). The net effect is the same: Text-based media is viewed as yielding a greater self-other gap in deceptiveness than face-to-face communication, due to the different utilization of these affordances by self and others.

Our claim that media features that promote deception are believed to affect peers more so than oneself (i.e., the media intensification effect) is congruent with the third-person effect framework (Davison, 1983; Perloff, 1999). This theory, developed to explain the perceived effects of mass media (e.g., television, radio), argues that people do not like to view themselves as directly affected by these media, because such an admission impinges on their need to view themselves as in control of their own decisions and behaviors. By the same token, we find that features that promote deceptiveness in *interpersonal* media (i.e., media that enables direct contact between users) are similarly viewed as affecting others more than oneself.

The results also have implications for credibility perceptions in online informational resources (e.g., news, entertainment, health-related websites). Studies show that, when seeking information about these topics online, people generally trust sources on the Internet despite the fact that these sources often lack editorial oversight, professional gatekeeping, or an established reputation (Flanagin & Metzger, 2000, 2007; Metzger et al., 2003). This body of research has viewed online communicators as information seekers who do not have direct contact with others online, despite the connectivity afforded by the Internet:

A hallmark of the digital media environment is the ability of individuals to connect to one another more easily. . . . Nonetheless, the majority of research on online credibility considers individuals as isolated appraisers of credibility, rather than as networked actors engaged with others. (Flanagin & Metzger, 2008, p. 10)

By addressing individuals' perception of deceptiveness during interpersonal interactions over online media, our research speaks of this important gap in the literature on online credibility. Our findings show that individuals view online media as encouraging deception during interpersonal encounters, even though they trust it as a repository of information, particularly when this information comes from organizational sources rather than personal webpages. This pattern indicates that there may be a credibility gap between *more* personalized (e.g., communication with others online, or simply reading their personal webpages) and *less* personalized contact online (e.g., reading content contributed by organizations, such as news websites), whereby the former is viewed as less credible than the latter. One reason for this discrepancy might be that personal interactions activate self-enhancement biases, whereby online communicators view others as more fallible and vulnerable to negative media influence than them.

Extending the Self-Other Asymmetry to a Media Context

The disconnect between self-perception and social perception, known as the self-other asymmetry in social judgments, has been a topic of longstanding interest for social

scientists and has generated a robust set of findings in traditional face-to-face settings. In an effort to boost their own perceptions of self-worth, people have been shown to apply different standards when judging themselves and other people (e.g., Armor, 1999; Vivian & Berkowitz, 1992).

To this prolific literature, we add a new bias: the media intensification effect, according to which people make biased estimates of their own versus others' deceptive behavior in mediated, not just face-to-face, settings. In so doing, we extend the self-other asymmetry in social judgments to two previously unexplored contexts: deception and text-based media. By showing that the same self-serving biases that lead people to make erroneous judgments interpersonally also lead them astray in mediated settings, this study underscores the high predictive power of the self-other asymmetry. Although social interaction in text-based media is different from face-to-face interaction, in that it is complicated by media affordances, such as distribution and the capacity to convey nonverbal cues, people rely on the same simple heuristics to predict their own versus others' behaviors. Furthermore, they re-interpret the perceived effect of these media characteristics through the self-other lens: They view media characteristics that potentially enable undesirable behavior to affect others more than the self.

A New Direction for Analyzing Deception and an Agenda for Future Research

In addition to providing a test bed for the self-other asymmetry, the current study also offers a new lens for understanding the intricate nature of deception. Current research and theorizing in the area of deception is predominantly preoccupied with improving deception detection by identifying the tell-tale cues of lying, or with understanding the circumstances under which people lie (Vrij, 2008). As the current data demonstrate, however, the prevalence of deception and the factors that enable it depend on the vantage point of the observer.

When it comes to deception, people apply different standards to themselves and others: They view themselves as more honest and their personal deceptions as dictated by legitimate reasons, while they view others as more dishonest and more apt to take advantage of the media to accomplish their deceptive goals. These different standards merit future investigation. For instance, Gordon and Miller (2000) found that lie tellers considered their deceptions more justified and their motives more misunderstood than lie receivers, and concluded that the interpretation of deception really does lie in the eye of the beholder. The present data raise the question of whether perceptions of own versus other people's deception in mediated communication are affected by biases beyond those investigated here. As Saxe (1991) argued, a psychology of deception needs to be developed that is focused on how actors and observers come to view the world, rather than simply on the detection and punishment of lying. Before proceeding to detect and/or punish deception, it may be wiser to seek to understand how the line between truth and deception gets blurred by perceptual biases.

In addition to underscoring the importance of examining beliefs about deception and interpersonal media in a general sense, our research also highlights some specific

avenues for future research, and thus serves an agenda-setting function. One such avenue is to directly measure people's perception of how individual media affordances (cue reduction, distribution) affect one's own and others' deceptiveness. This is particularly important as we found evidence that college students report being affected differently by media affordances than older adults. As previously mentioned, there is indication that college students engage in other-derogation whereas older adults engage in self-inflation.

Although other-derogation and self-inflation are both strategies for self-enhancement, it is unclear why participants in Studies 1 and 2 made different uses of these strategies. We offer some possible explanations below, based on age and procedural differences between the samples, and invite future research to test them. First, younger adults are more narcissistic than older adults (Roberts, Edmonds, & Grijalva, 2010; Twenge, Konrath, Foster, Keith Campbell, & Bushman, 2008), and narcissism has been shown to correlate with a tendency to engage in other-derogation—that is, putting others down as a means toward self-enhancement (Locke, 2009; Park, 2013; South, Oltmanns, & Turkheimer, 2003). It is therefore possible that the young adults in Study 1 were likely to view others as more swayed by negative media affordances than themselves (i.e., other-derogation) on account of being more narcissistic. By contrast, the older adults in Study 2 simply engaged in self-inflation, which is a more general strategy for self-enhancement (Sedikides & Gregg, 2008).

Second and relatedly, age may affect people's preferred strategies for self-enhancement even without the moderating effect of narcissism. Socio-emotional selectivity theory (Carstensen, 1993) argues that, as people age, they become more adept at emotional regulation and, contrary to stereotypes, they experience more positive emotions. This "positivity effect" has been shown to affect people's views of themselves and others. In one study, middle-aged and old adults rated themselves more positively along a series of personal characteristics, and closer to their ideal selves, compared with college students. They also viewed their peers more positively than younger adults (Williams & Harter, 2010). Adolescents and young adults have been shown to view their peers more negatively than either children or older adults (Adams-Webber, 1992; Romany & Adams-Webber, 1981; Viney, 1993). These tendencies might explain why our sample of older adults engaged in self-inflation (i.e., illustrating their positive view of self), whereas our younger respondents engaged in other-derogation (i.e., illustrating their more negative view of others).

Finally, procedural differences may explain why the two samples engaged in different strategies for self-enhancement. Study 1 was a completely anonymous online questionnaire, whereas Study 2 was a non-anonymous telephone interview. By virtue of having a live audience, respondents in Study 2 may have felt more pressured to respond in socially desirable ways, such as making themselves look better (i.e., self-inflation), without putting others down, a behavior that is frowned-upon. The respondents in Study 1 may not have felt this pressure, and as a result admitted to lying more in the media than face-to-face, and also derogated peers. Indeed, research shows that anonymous online surveys substantially decrease socially desirable responding, particularly when it comes to deception (Hancock, 2007).

Another avenue for future research lies in investigating the factors that affect beliefs about mediated deception beyond media affordances. Such factors include (a) the identity of the interactional partner (e.g., do people expect more deception from friends than acquaintances or strangers?), (b) past experiences of encountering deception within a medium (e.g., do people expect more deception if they have been previously lied to in that medium?), and (c) the perceived motivations of the interaction partner (i.e., do people expect more deception when they believe their partner is trying to impress them, or sell them something, as is the case in many online venues?).

Practical Implications

Although people use the Internet extensively to manage their personal and professional relationships, they may approach online interactions with more skepticism, as they fear that others take advantage of media affordances to lie. This is consistent with studies highlighting online daters' elevated concern with the possibility that potential partners lie in their profiles (Cali, Coleman, & Campbell, 2013; Couch, Liamputtong, & Pitts, 2012), despite the widespread popularity and success of online dating (Cacioppo, Cacioppo, Gonzaga, Ogburn, & VanderWeele, 2013). Our results are also consistent with studies on online trust, which reveal a substantial decrease in trust when interactions take place in online media compared with face-to-face (Bos, Olson, Gergle, Olson, & Wright, 2002). This suggests that, in situations where building trust is essential, such as collaborative work, people are well-advised to opt for face-to-face interactions.

Our results also support the claim that truth bias, or the well-documented tendency to believe that other people are cooperative, well-intentioned, and honest, is reduced in text-based interactions compared with face-to-face (Burgoon, Blair, & Strom, 2005). Therefore, in situations where it is advisable to be suspicious, such as when interacting with strangers whose motives and credentials are questionable, text-based media may provide a healthy dose of skepticism.

Limitations and (More) Avenues for Future Research

This study took a broad operational definition of deception, asking participants to consider lies and misrepresentations, in general. Follow-up studies may take a more granular approach, by investigating different types of lies, such as falsifications, omissions, exaggerations, minimizations, and evasions (Metts, 1989; see also Bradac, 1983). While we expect the self-other asymmetry to persist across these various types of lies, it is possible that people believe the media intensify the self-other gap for some types of lies more than for others.

At a methodological level, we measured deception frequency using a single item (e.g., "how much do you typically lie/believe others lie"). This is a common procedure in deception research (e.g., Jensen, Arnett, Feldman, & Cauffman, 2004; Serota et al., 2010; Toma, Hancock, & Ellison, 2008) due to the high face validity of this question. Nevertheless, future research should consider developing a scale for measuring deception frequency in order to enhance reliability.

Conclusion

This study is one of the first to examine people's beliefs about deception in mediated interpersonal communication. In so doing, it revealed powerful biases that shape these beliefs. People try to distance themselves from socially undesirable behaviors, such as deception, and may stigmatize the deceptiveness levels of the Internet relative to face-to-face communication. This study opens the door for future research on how people construe deception in relation to media features, and what impact this may have on media use.

Acknowledgments

The authors are grateful to Zhongdang Pan, Louise Mares, and Sunny Kim for their valuable feedback during discussions of this project, to Peter Sengstock for technical support, and to Rachel Boochever for her help with data collection.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The authors received funding from the Wisconsin Alumni Research Foundation and the Hamel Family Foundation for the research, authorship, and/or publication of this article.

Note

1. Participants were told IM referred to online chatting and did not include text messaging.

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