

ORIGINAL ARTICLE

When Do People Misrepresent Themselves to Others? The Effects of Social Desirability, Ground Truth, and Accountability on Deceptive Self-Presentations

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Following Leary's (1995) impression management model, three experiments assessed factors that affect deceptive self-presentations of height and weight. One experiment examined the role of biased cognitive processing. It revealed interactions between biased scanning—focusing on one's own socially desirable characteristics—and participants' sex that affected discrepancies between actual and self-reported height/weight. Another investigated the effect of establishing ground truth prior to self-assessment. It determined that exposure to one's actual measures (ground truth) prior to self-report reduced inaccuracy. The third examined the role of perceived accountability. It found that anticipation of being measured reduced discrepant self-reports. Results suggest that psychological and social processes provide higher-order explanations for distorted self-presentations of the kind that other studies have attributed to specific goals and sociotechnological factors.

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Research concerning deceptive communication occupies considerable attention in behavioral science. Lies are commonly told in everyday face-to-face interaction (DePaulo, Kashy, Kirkendol, Wyer, & Epstein, 1996). They are considered to reflect strategic efforts to enhance socially desirable perceptions. These issues have garnered renewed interest with the diffusion of internet communication platforms that are suspected to enhance the potential for deceptive self-presentations. Users of online date-finding systems generally suspect that other users frequently misrepresent themselves (Ellison, Heino, & Gibbs, 2006),¹ and some evidence has been marshaled to

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support their suspicions: Online dating profiles reflect small but reliable inaccuracies in daters' weight, height, and age (Toma, Hancock, & Ellison, 2008). Research has suggested that various features of online systems and the timing of messages promote distorted self-presentations by reducing immediate accountability for those distortions (Ellison, Hancock, & Toma, 2012). Despite ample assertions about the effects of technology on self-presentational deception and distortion, no direct evidence supporting them yet appears. Therefore, it becomes important to ascertain whether similar levels of deceptive self-presentations occur in face-to-face communication, and if so, to discern higher-order explanations that are consistent with findings from both online and offline settings for the production of such messages.

Leary's (1995) impression management model offers a theoretic framework with which to explore these issues. Leary argues that individuals are subject to social desirability goals, and if a distorted self-presentation makes them seem more desirable than an accurate one, they are more likely to communicate inaccurate but desirable self-descriptions. Leary's model also suggests that *accountability* provides a limitation to distorting individuals' self-presentations: To be caught distorting one's self-presentation is more embarrassing than being seen as dishonest and trying to conceal one's actual undesirable characteristics. The social cost of embarrassment prompts individuals to self-present more accurately. This paradigm fits well with the literature about deception in online dating (see Toma & Hancock, 2011), and transcends that context.

Another issue that emerges when examining recent research is whether distorted self-presentations constitute deliberately deceptive acts rather than self-serving estimation errors (see Hall, Park, Song, & Cody, 2010). Interpersonal deception has been conceptually defined as occurring when, "...communicators control the information contained in their messages to convey a meaning that departs from the truth as they know it. This rules out mistaken or unintended lies" (Buller & Burgoon, 1996, p. 205). Given this definition, establishing that communicators know ground truth, and that they report something else despite it, is essential in deception research because it (a) satisfies a critical qualification for deception and (b) informs us whether individuals actually and intentionally chose to deceive.

This article reports three studies that explore these questions. The first study extends the impression management model by examining if deceptive self-descriptions result from biased cognitive processing that occurs during the generation of self-presentations. The second study examines the important methodological step of considering the impact that having awareness of ground truth has on the prevalence and magnitude of individuals' deception. Without knowing if individuals are aware of their actual height and weight, it is impossible to know whether self-reported inaccuracies constitute disinformation and deception or misinformation and mistakes. Although this issue is not derived from Leary's framework, it provides a foundation for comparison with other factors. It also reflects the "foggy mirror" account (Ellison *et al.*, 2006) which suggests that people provide erroneous self-descriptions because of their limited knowledge about their

own personal characteristics, and not in order to deceive deliberately. Finally, the third study examines an additional explanation for distorted self-presentation: the accountability factor suggested in Leary's (1995) impression management model and some of the online dating research (Gibbs, Ellison, & Heino, 2006), which predicts that individuals who know they will be held to account for the accuracy of their self-presentations communicate them more correctly.

Study 1

The first study takes up the issue of whether social desirability motives lead individuals to misestimate and misrepresent their weight and/or height. Previous research exploring social desirability and weight/height deception is found in public health studies and internet research. Public health studies document significant deviations between self-administered survey data on height and weight, and objective measurements (Spencer, Appleby, Davey, & Key, 2002). Although a time lag between self-administered surveys and clinical verification of height and weight might provide opportunities for bona fide changes in these characteristics, Rowland (1990) obtained self-reports in house-to-house interviews followed immediately with objective measures using a mobile examination site, with similar results.

The principal explanation for such findings is that they reflect social desirability concerns. Several studies found correlations between biased self-reports of weight and scores on self-administered measures of social desirability (e.g., Klesges *et al.*, 2004; Larson, 2000). Possessing physical characteristics that deviate from socially desirable norms exacerbates biased self-reports, especially with regard to greater weight (Taylor *et al.*, 2007), as also seen in online dating research (Hall *et al.*, 2010; Toma *et al.*, 2008).

In the online dating realm, empirical evidence for inaccurate self-presentations comes from interviews and measurements of dating site users whom researchers invited to a lab where their weight and height were measured (Toma *et al.*, 2008). Researchers identified discrepancies between these measures and the corresponding information on participants' dating profiles. A height discrepancy more than .5 inches and a weight discrepancy greater than 5 pounds were considered deceptions. Eighty-one percent of subjects were deceptive on at least one characteristic, with weight being the most frequently distorted (by two thirds of subjects). Men exaggerated their height more than women did, whereas women underrepresented their weight more than men. The more individuals actually weighed, the more deceptive was the weight that appeared in their profile. The less physically attractive they were, the more they distorted their height, weight, and/or age (Toma & Hancock, 2010).

In order to explain deception in online dating, researchers argue that impression management concerns plus unique sociotechnical characteristics of computer-mediated communication (CMC) invite distorted self-presentations. According to Toma and Hancock (2011, p. 53), "Online dating self-presentation is different from face-to-face self-presentation in that it requires the disclosure of a wealth of very private information, but it also gives self-presenters a broad arsenal of tools to

control these disclosures. . . . [T]his kind of highly controlled self-presentation is only possible in computer-mediated environments.”

Toma *et al.* (2008) refer to the hyperpersonal model of CMC (Walther, 1996) suggesting that the construction of online dating profiles is asynchronous, allowing users to plan and create their profiles more deliberately than they would in spontaneous face-to-face encounters. Free of face-to-face distractions, CMC users reallocate cognitive resources toward the creation of preferential profiles. Moreover, online profiles can be edited to make them flattering (Toma & Hancock, 2011).

Although these arguments point to CMC features as factors that cause or contribute to deceptive self-presentations, existing empirical data do not directly support such arguments. Online dating deception research has relied on correlations and comparisons between sexes, just as the public health research on height and weight deception research has. No research has examined if the experimental activation of social desirability or sociotechnical factors yield systematic differences in height/weight reports.

Other explanations involving the effect of social desirability on misleading self-presentations are available which are consistent with, but transcend the contextual and technological elements of other recent studies. Certain frames of mind may heighten social desirability effects, and may lead individuals to appraise and then present themselves in systematically different ways. That is, activating social desirability may bias self-assessment processes, instantiating an especially desirable self-schema, and this cognitive structure, in turn, may lead to the production of distorted self-presentations about any variety of specific characteristics. An individual might derive a variety of flattering self-assessments and self-descriptions, among which may be height and weight. This dynamic is an adaptation of research on the arousal of different kinds of self-appraisal through a process known as biased scanning. Biased scanning refers to what happens when individuals are prompted to think about and describe themselves in a manner that is consistent with certain qualities, and how doing so prompts distortions in their subsequent self-presentation. Tice (1992) argued that when one's attention is directed to aspects of oneself, these aspects become salient, and as a result, one's self-concept shifts in the direction of the salient characteristics. Biased scanning effects are more potent when individuals perform their self-presentations where others can witness them. There is greater psychological commitment to self-presentations made in public (Schlenker, Dlugolecki, & Doherty, 1994), which magnifies the effects of biased scanning on presentation of the self (Tice, 1992). In both offline and online public settings (see Gonzales & Hancock, 2008; Walther *et al.*, 2011), biased scanning appears to affect individuals' self-concept as seen in their immediately subsequent self-presentations.

Situational arousal of social desirability goals may induce biased scanning. This may occur when individuals construct online dating profiles, resumes, or other self-presentations. It may be this process rather than strategic misrepresentation that leads to distorted self-presentations. Indeed, some online systems ask individuals to describe their desirable qualities and favorite experiences (e.g., activities they like,

favorite places and things, their ideal vacation, etc.). Users may retrieve favorable memories and self-schemata in order to answer these queries for the dating profile that will be observable by other people.

The manner in which social desirability may arouse biased scanning and public performance suggests the following prediction: Individuals who are prompted to discuss themselves in socially desirable ways distort self-reports of weight and height more than individuals who are not so prompted (H1).

Method

Participants ($N = 150$) consisted of students at Michigan State University, a large, Midwestern campus in the United States, who received extra credit or partial fulfillment of a course requirement. Forty-nine percent of the participants were female. Participants' mean age was 19.73 ($SD = 2.67$). Seventy-two percent of the participants were Caucasian, 13% African American, 2% Hispanic, 8% Asian American or Pacific Islander, and 5% some other designation.

Participants arrived at a designated research room where a research assistant instructed them to leave their personal belongings. The assistant explained that participants would be engaging in an interview related to communication, health, and wellness. The assistant then led the participant to a separate interview room. Participants were always interviewed face-to-face by a research assistant of the opposite sex.

One of two versions of a set of interview questions was then administered by the research assistant. The biased scanning induction was embedded within one set of questions. Each interview began by asking a few neutral questions, such as participants' major, hometown, and age. The biased scanning version of the questions then asked, "What do other people generally find to be your most attractive feature or attribute?" "What do *you* think is your most attractive feature or characteristic, physical or behavioral, whether or not other people think so?" and, "If you could use three words to describe your ideal self, what would they be?" In the other, control condition, these questions were replaced by, "What are your plans after graduation: Get a job or attend graduate school?" "What is the biggest surprise you have had about students (at this university) in general since you started school here?" Following these questions, researchers asked participants how much they weighed and how tall they were. After some filler questions, researchers asked, "When someone is asked their weight, on average, how many pounds do you think people are off-target by?" Finally, participants completed demographic questions. A research assistant also rated each participant on physical attractiveness using a single-item, 11-interval scale.

Following the interview, objective measures of height and weight were recorded. A different experimenter, of the same sex as the participant, led participants to a separate room, requested participants to remove their jackets and shoes, and recorded the participants' height using a wall-mounted height chart. Next, participants were asked to verify their own weight using a digital scale while the experimenter waited outside of the room (to help the participant avoid severe embarrassment in the

Table 1 Descriptive Statistics and Comparisons With Previous Research on Absolute Height and Weight Discrepancy

	Toma et al. (2008)			Current Results		
	Percentage providing deceptive information					
	Overall	Males	Females	Overall	Males	Females
Lied about height	48.1*	55.3	41.5	34*	41	27
Lied about weight	59.7 [†]	60.5	59	49 [†]	43	55
Average absolute height discrepancy (inches)						
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
Male	.57 [†]	.81	40	.61 [†]	.51	73
Female	.03**	.75	40	.51**	.57	75
Average absolute weight discrepancy (pounds)						
Male	1.94**	10.34	40	6.31**	6.01	73
Female	8.48 [†]	8.87	40	10.35 [†]	13.84	75

Pairs of scores across rows with * are different, $p < .05$. ** $p \leq .005$. [†] $p > .05$.

event of a large discrepancy). The experimenter recorded the weight that participants indicated and led each participant back to the initial lab room. Unbeknownst to the participants, their weight information was wirelessly transmitted and recorded on a computer in another lab room, and this measure was used in subsequent analyses. Participants were then debriefed and thanked for their participation.

Results

Descriptions and simple comparisons of the baseline data provide insights into the present sample's similarity to other recent studies. Table 1 reports descriptive statistics broken down by participants' sex from the current research, as well as those of a previous study of online dating deception. Within the present study alone, there was a significant difference in the magnitude of self-presentation distortions of weight due to participants' sex, $t(148) = 2.69$, $p = .008$, $d = .44$: Women underreported weight to a greater extent than men did. Men overestimated height whereas women underestimated height, $t(148) = 5.88$, $p < .001$, $d = .97$. As seen in previous online and offline studies, the more one weighed, the greater was the discrepancy between one's self-reported weight and actual weight, $r(148) = .43$, $p < .001$. Like Toma and Hancock's (2010) analysis, the less physically attractive subjects were, the more they misrepresented their weight, $r(148) = -.28$, $p < .001$. (Although their actual weight was also correlated with observed physical attractiveness, $r[148] = -.36$, $p < .001$, attractiveness alone accounted for a significant additional 2% of variance in weight misrepresentation when controlling for actual weight).

Discrepancy data were converted to absolute values in order to make comparisons to Toma et al.'s (2008) report. The 34% of participants who misreported their height

by greater than half an inch in the present study is a significantly lower proportion than that observed in Toma et al. (2008) according to a binomial proportion test, $Z = 2.00$, $p = .045$. As for weight, however, there was no significant difference between the two studies in the proportion of participants who distorted their weight by more than 5 pounds, $Z = 1.64$, $p = .10$, which was 49% in the present sample. There was no difference between studies in the magnitude of weight discrepancy by women, $t(113) = 1.68$, $p = .49$, although men in this study distorted weight to a greater magnitude than men in Toma et al. (2008), $t(113) = 2.39$, $p = .02$, $d = .45$. Overall, most of the discrepancies resemble or exceed those which were observed in an online dating deception context.

In the current research, discrepancies in individuals' self-reported and observed body mass index (BMI) measures were used to capture overall distortion of height and weight, and to reflect proportionality of weight to height. Used commonly in public health assessments, BMI also appears in other research about biased self-reporting of weight and height (e.g., Nawaz, Chan, Abdulrahman, Larson, & Katz, 2001). Relative to one's height, a lower BMI score indicates that one is underweight, while a higher score indicates being overweight. Individuals' *actual BMI* was calculated from scale and height chart readings, and a *self-reported BMI* score was calculated using their self-reported weight and height. Self-reported BMIs were subtracted from actual BMIs to create a *BMI discrepancy score*. Two outliers (whose discrepancy score exceeded three SDs from the mean) were removed from further analysis. Remaining cases ranged from $-.93$ to 6.54 , $M = 1.16$, $SD = 1.83$, suggesting that, relative to their height people tended to weigh more than they reported (Although the distribution of scores was positively skewed, negative scores and scores of zero prohibited transformation into a normal distribution using standard procedures).

The test of H1 involved the biased scanning versus control interview conditions on the discrepancy between self-reported and actual BMI. The sex of the participant was included in the analysis, because every empirical study of height/weight deception we reviewed, as well as our own baseline data, has revealed sex differences in height/weight misrepresentation. Hall et al. (2010) argued that sex differences should be expected, based on evolutionary psychology premises, such that women are more likely than men to misrepresent weight. How this factor might interact with biased scanning effects, however, was not clear. A 2×2 analysis of variance (ANOVA) with BMI discrepancy as the dependent variable revealed a disordinal interaction between sex and interview condition, $F(1, 144) = 4.47$, $p = .04$, $\eta^2 = .03$. No main effects were detected either for biased scanning, $F(1, 144) = .005$, or for participant sex, $F(1, 144) = .72$. The interaction was such that the biased scanning induction caused the predicted increase in BMI distortion for women, who were less discrepant without biased scanning, $M = .90$ ($SD = 1.58$), than they were when induced to think of themselves positively, $M = 1.35$ ($SD = 1.35$). For men the trend was the opposite: Without the biased scanning prompt men were less accurate about their BMI, $M = 1.18$ ($SD = .99$), but with the biased scanning induction they were more accurate, $M = .69$ ($SD = 1.12$).

Discussion

Although the main effect for biased scanning did not obtain across both men and women, it appears that biased scanning—the induction of participants to think of themselves in socially desirable ways—interacted with individuals' sex on their presentation of height and weight in ways that other research has classified as deception. In the present case, these effects occurred in real-time, face-to-face communication. Whereas previous research relied on assumed latent factors, sex differences, and/or correlations between social desirability and height/weight message distortions, the present research differed from previous studies by experimentally varying the potentially causal factor. As a result, findings are somewhat more definitive with respect to the role that situational factors may play in arousing social desirability processes and their self-presentational effects.

It is not clear why men responded in a manner contrary to the hypothesis and opposite than women, although similar effects have been reported in other research. Fox, Bailenson, and Binney (2009) used avatars to arouse individuals' responses to their ideal body images. Individuals viewed avatars that looked like themselves eating healthy food or fattening food, and subjects saw the avatars become slimmer or fatter as they watched. Although female participants mimicked the healthy eating behavior of their avatars during a posttest period, males did the opposite. For reasons that are not entirely clear, men and women seem to differ in responses related to their body images, as they did in this study as well.

Study 2

Although the previous study indicates that there are systematic influences on people's proclivity to misrepresent themselves, it does not demonstrate in a definitive sense that they knew the truth but chose to distort it. It is widely agreed that interpersonal deception involves the intentional misrepresentation of information (Buller & Burgoon, 1996). That is, deceivers deliberately perpetuate beliefs that they hold false. If individuals do not know the truth, and simply guess at it, this would more appropriately be considered a misestimation rather than an act of deception. Ellison *et al.* (2006) introduced the notion of a "foggy mirror" to describe online daters' accounts for their inaccurate self-descriptions: Individuals misrepresent themselves because they are limited in their self-assessments and do not possess objectively accurate knowledge of their personal traits and characteristics the way outside observers do. Therefore, people unintentionally misrepresent themselves to others.

The degree to which previous research has distinguished between deception and self-serving mistaken estimations is not always clear. For instance, previous research did not report whether participants knew their weight and height at the time they posted it to their online profiles. Although it is unlikely that participants did not know their true age (on which there was also a trace of inaccurate representation), and one's height does not vary considerably, weight may fluctuate, and it was on weight that Toma *et al.*'s (2008) subjects deviated from truth the most. Likewise,

Hall et al.'s (2010) survey asked respondents about a number of attributes on which they may have misrepresented themselves, among them features which should be relatively stable. However, with regard to self-reported misrepresentations of weight, Hall et al. (2010) do not indicate whether subjects were aware of their distortions *a priori* or discovered them at some point after the fact. Toma et al. (2008) asked online daters to score the accuracy of each piece of information in their profile at the current time, but not the honesty of the information. People may convey information that is factually incorrect without having been aware of its inaccuracy or without intending to mislead the receiver at the time the messages were generated. As such, the existing studies are not definitive with respect to whether participants were dishonest or simply wrong, intentional or unintentional, due to ignorance, wishful thinking, or a combination of the above.

In order to ascertain whether people deceive in the face of knowledge about the truth, research methodologically must ensure that individuals are actually aware of ground truth at the point when they generate discrepancies. If participants know exactly what they weigh and subsequently misreport their weight, the inaccuracy can be attributed unequivocally to intentional deception. If they are not exposed to ground truth and they report inaccuracies, it is plausible that they are mistaken and not intentionally deceptive. We expect that discrepancies between self-reported and actual BMI are greater when people are not made aware of their actual height and weight than when they are made aware (H2).

Method

An additional sample of research participants completed the second study, $N = 51$. Participants' ages ranged from 18 to 23 ($M = 19.7$; $SD = 1.53$) and self-identified with the following ethnicities: 68% Caucasian, 8% Asian American, 16% African American, 2% Hispanic, and 6% other. There were 17 male and 34 female participants.

Procedures resembled those for Study 1, above, with the following important differences. Participants were randomly assigned to either a ground truth or no ground truth condition. Unlike Study 1, the interview questions, which still included self-assessments of height and weight, were held constant across these two conditions. Participants in the ground truth condition first measured and weighed themselves in a private room with the door closed. As in Study 1, the participant's weight was digitally transmitted to a computer located in a different lab room. Once participants exited the measurement room, they were led to a different lab room where the interview was conducted. After completing the interview, the research assistant requested that participants return to the measurement room and recorded their height.

In the no ground truth condition, participants first conducted their interview, reporting their height and weight. After the interview, participants were led to the measurement room where their height was recorded by the research assistant. Participants weighed themselves privately and reported their weight to a research assistant, although unbeknownst to them, the scale transmitted their weight wirelessly

to a nearby computer which recorded it for subsequent analyses. Like Study 1, participants were always interviewed by cross-sex experimenters. Actual height measures were obtained by same-sex experimenters. At the end of these procedures, participants were debriefed and thanked for their time.

Results

A preliminary analysis explored whether there was an effect on BMI discrepancy due to the interaction between participants' sex and whether or not they were exposed to their actual height and weight prior to the interview. ANOVA indicated no two-way interaction effect, $F(1, 48) = 1.51$, $p = .23$, and no main effect of participant sex, $F(1, 48) = 1.08$, $p = .30$. Hypothesis 2 was tested using an independent samples *t*-test to assess whether establishing ground truth or not affected participants' discrepant self-reported BMI in relation to their actual BMI. The BMI discrepancies were significantly greater for participants in the no ground truth condition, $M = .57$, $SD = 1.18$, relative to participants in the ground truth condition, $M = -.07$, $SD = .44$, $t(49) = 2.54$, $p = .015$, $d = .73$. Post hoc inspections of the weight and height assessments help illuminate the nature of the discrepancies. Discrepancies between self-reported and actual weight were significantly greater for the no ground truth condition, $M = 6.10$, $SD = 8.88$, relative to the ground truth condition, $M = .72$, $SD = 1.60$, $t(49) = 2.98$, $p < .01$, $d = .85$. Using the classification from Toma *et al.* (2008) that discrepancies of 5 pounds or greater are lies, the data indicate that a greater proportion of participants lied in the no ground truth condition (62%) relative to the ground truth condition (8%), binomial $Z = 7.71$ ($N = 51$), $p < .001$. Although the magnitude of the discrepancies between self-reported and actual height did not significantly differ across conditions ($p = .17$), among those in the condition with no exposure to ground truth, 50% misreported their height by .5 inches or more, which was a significantly greater proportion than the 24% of participants who did so in the ground truth condition, $Z = 3.71$, $p < .001$.

Discussion

The results from Study 2 indicate that knowledge of truth may be an essential factor in understanding when individuals generate ostensibly deceptive self-presentations of the kind discussed in previous research. The marked absence of deviation between actual and self-reported weight estimations in the condition where individuals were unquestionably aware of their true height and weight suggests that establishing whether individuals possess actual knowledge about some matter may be critical to scholarly interpretations of the prevalence of "true" lies. Study 2 suggests that individuals who know the truth about themselves are less likely to distort it. Yet the results of Study 1 indicate that distorted self-presentation is a function of social desirability motives and related self-perception processes. It is possible that social desirability effects occur only when individuals do not possess ground truth; social desirability distortions represent self-serving biases on uncertain knowledge only.

It is also possible that neither case is absolutely true. The online dating literature suggests that individuals distort their self-presentations online when technology reduces their immediate detection. Indeed, research suggests that impression management motives that might otherwise tempt online daters to distort their height and weight are tempered the more that users anticipate meeting prospective dates offline (Gibbs *et al.*, 2006; Whitty, 2008). From the perspective of Leary's (1995) impression management model, when individuals anticipate accountability for prospective deception, it should inhibit the production of deceptive self-presentations. For this application of the impression management model to be valid, individuals must possess fairly accurate self-knowledge and nevertheless choose to misrepresent it when they think they can do so without fear of discovery. This contention differs from the argument that individuals do not possess accurate self-knowledge, and unknowingly bias their estimations. Study 3 explores these possibilities by examining what happens to deceptive self-presentation when participants know that they will be held accountable for their self-reported estimates of height and weight.

Study 3

Studies 1 and 2 collectively suggest that individuals misrepresent themselves due to (a) their frame of mind and (b) lack of ground truth, or a "foggy mirror" regarding their own weight and height. What is still unknown is whether people may instead have a fairly accurate sense of their actual height and weight and nevertheless do not report it accurately due to the lack of accountability for distorting it. Do they genuinely not know, or do they know and misreport it anyway when they can get away with doing so? Study 3 examines whether individuals' discrepancies between self-reported and actual height/weight are due to limited self-knowledge alone, or whether they are subject to both social desirability concerns and the projected likelihood that they may successfully deceive.

If people provide height/weight discrepancies because they do not really know these characteristics accurately, then they should be as likely to provide inaccurate estimates under any circumstance where they have not been confronted with ground truth. This should be the case even when individuals know that they will be weighed and measured after giving their estimates. However, if individuals know the truth and believe that they will be held accountable for presenting themselves dishonestly, they should be motivated to tell the truth because, as Leary (1995) suggests, the stigma and embarrassment of being caught in a deceptive self-presentation is more socially costly than telling an unflattering truth. In short, individuals who are unaware that they will be held accountable for their estimates may be more likely to lie because they do not anticipate getting "caught," whereas those who anticipate an immediate reckoning may not. In the latter case, any discrepancies between estimated and actual height and weight should be attributable to a lack of initial ground truth or self-knowledge rather than to the intentional motivation to deceive. If individuals are able to produce generally accurate height and weight reports when (a) they have not been provided

objective information about these attributes immediately prior to being asked, but (b) they are aware that they will be measured immediately after they are asked, then we must dismiss the lack of self-knowledge as a common basis for the misrepresentation of height or weight. In contrast to the previous findings suggesting that people do not know their own characteristics or that they respond to egocentric drives to distort their self-descriptions, Leary's impression management model suggests that being held to account may induce people to be more cautious (and avoid embarrassment) and therefore less likely to communicate distorted descriptions of their height and weight; H3 predicts that discrepancies between individuals' self-reported and actual BMI are greater when they do not know they will be immediately held accountable for their reports compared to when they know they are going to be held accountable.

Method

An additional sample of research participants completed the third study, $N = 78$. Their ages ranged from 18 to 32 ($M = 20.29$, $SD = 2.04$). Participants self-identified with the following ethnicities: 72% Caucasian, 13% Asian American, 11% African American, 1% Hispanic, and 3% listed other. There were 39 male and 39 female participants.

The same interview procedure described in Study 2 was employed with one notable exception. As in Study 2, half the participants completed the interview with no knowledge that they were going to be weighed and measured afterward. However unlike Study 2, the other half of the participants completed the interview in a room with a scale and measuring tape visually present. Additionally, instructions given before the interview and a prompt during the interview informed participants that they would be weighed and measured during the course of the experiment. Experimenters read the following prompt to participants in this condition during the interview: "I would like to remind you that we are going to measure your weight and height in a moment. Our goal is to see how knowledgeable people are about their own height and weight, so please give us your most accurate estimate of your weight and height without your shoes and coat." Like Studies 1 and 2, participants were interviewed by cross-sex experimenters, but actual weight and height was recorded by same-sex experimenters. As in Study 2, the content of the questions was held constant across conditions.

Results

A preliminary analysis explored the effect on BMI discrepancy due to the interaction between participants' sex and whether or not they knew they would be measured while self-reporting their height and weight. There was no two-way interaction effect $F(1, 71) = .08$, $p = .78$, and no main effect of participant sex, $F(1, 73) = .53$, $p = .47$.

An independent samples t -test showed that participants who were unaware that they were going to be measured ($M = .72$, $SD = 1.19$) had significantly greater BMI discrepancies relative to participants who knew they were going to be measured

($M = .16$, $SD = 1.01$), $t(73) = 2.19$, $p = .03$, $d = .51$. Similar to Study 2, the weight and height assessments illuminate the difference in BMI discrepancy across the two conditions. Discrepancies between self-reported weight and actual weight were significantly greater for participants in the no measurement awareness condition ($M = 6.32$, $SD = 9.19$) than the measurement awareness condition ($M = 1.82$, $SD = 6.04$), $t(73) = 2.54$, $p = .01$, $d = .54$. A greater proportion of participants misrepresented their weight (by 5 pounds or greater) in the no awareness condition (54%) relative to the awareness condition (35%), binomial $Z = 3.29$, $N = 75$, $p < .001$. However, these proportions can be probed further to more clearly examine why 35% of participants who knew they were going to be measured lied about their weight using the Toma *et al.* (2008) criterion. For participants in the awareness of measurement condition, 65% reported a weight within 5 pounds of their actual weight. The 35% of participants who were inaccurate were comprised of 23% who claimed to weigh 5 pounds less than their actual weight, and 12% who claimed to weigh 5 pounds more than their actual weight. The deviations were much more systematic in the no awareness of measurement condition, where 46% of participants were within 5 pounds of their actual weight, but 48% claimed to weigh 5 pounds less than their actual weight, and only 6% of participants claimed to weigh 5 pounds more than their actual weight. These effects yielded significant differences between conditions on proportions of accurate self-reports, as indicated above, as well as on underestimates of actual weight, $Z = 4.33$, $p < .001$; the proportions of overestimates did not differ between conditions, $Z = 1.04$.

Although the magnitude of discrepancies between self-reported and actual height did not differ across the two conditions ($p = .68$), participants in the no awareness condition more frequently "lied" about their height. Following the metric from Toma *et al.* (2008) that discrepancies greater than .5 inches are lies, 42% of participants in the no awareness condition lied about their height, whereas only 13% of participants lied in the awareness of measurement condition. The proportion of accurate and inaccurate height self-reports significantly differed across the two conditions, $\chi^2(1, N = 78) = 8.68$, $p < .01$.

Overall discussion

The current research addressed questions about what constitutes and prompts deception in self-presentations of height and weight. These questions included whether global self-perception or impression management processes may contribute to the effects that have been attributed to online date-seeking goals and technologies. The research also provided experimental examinations of previous correlationally based claims from public health research about social desirability and misrepresentation of the self.

Study 1 found that when an interviewer prompted them to think about themselves in a positive or desirable way, females were more likely to distort their height and weight estimates consistent with positive self-reflections. The pattern was quite

similar to those observed in the context of online dating profiles yet it occurred on the spot, face-to-face. Although the effect did not occur for men, physical appearance characteristics such as height and especially weight are more salient criteria in the construction of young females' self-images of attractiveness (O'Dea & Abraham, 1999), many of whom desire to appear skinnier than they are (see Furnham, Badmin, & Sneade, 2002). Further research is needed to decipher the nature of gender differences in deception and responses to biased scanning treatments, beyond descriptive findings. Whereas young women's desirable self-images involve physical appearance issues, perhaps men's involve honesty.

Study 2 found that exposure to ground truth affected individuals' likelihood to misrepresent height and weight. By establishing participants' knowledge of their actual height and weight, this study was able to separate "true" deception from inadvertent inaccuracy, offering some support for the "foggy mirror" account (Ellison *et al.*, 2006).

Yet these findings are constrained by Study 3 that found a seemingly more potent predictor of deception—accountability—which recasts height/weight distortions ultimately as volitional. Study 3 demonstrated that discrepant self-reports are likely to result when there is a lack of immediate accountability over individuals' accurate or self-serving self-presentations.

Future research may explore the paradox that these studies make apparent. Whereas Studies 1 and 2 collectively suggest that people do not lie, but simply distort imperfect knowledge when more perfect knowledge does not exist, Study 3 suggests that people generally do know themselves, yet misrepresent themselves opportunistically. The same implicit conflict appears, interestingly enough, in the online dating deception research, where the foggy mirror notion suggests that individuals make simple mistakes, whereas the other research assumes that inaccurate information is due to deliberate and strategic disinformation. It may be that when individuals know that there will be immediate accountability it makes more salient the potential embarrassment that would accompany deception, which causes individuals to constrain themselves from biased scanning or otherwise taking liberties with their self-assessments and/or self-reports. This notion is also consistent with contentions about the effects of anticipated future interaction on deception in online dating profiles (see Ellison *et al.*, 2012; Gibbs *et al.*, 2006).

A question arises, if most people know themselves generally well (as indicated by Study 3) and more people present themselves honestly when they are accountable to others but misrepresent themselves when they believe they are unaccountable to others, why do they also present themselves more honestly when they are exposed to ground truth yet remain unaccountable to others (as seen in Study 2)? It may be that participants in Study 2 suspected that researchers might have surreptitious access to their real weight data, or might ask them to reweigh in the researchers' presence. Exposure to ground truth by an outside agent may reduce deception by signaling potential surveillance by other people, consistent with Leary's (1995) argument that accountability mitigates deception.

The results of Study 3 raise additional questions. Although it is clear that more people described themselves truthfully when they knew they were about to be weighed than did those who did not expect to be weighed, 35% of participants who knew they were about to be weighed did not describe themselves accurately, that is, within the ± 5 -pound honesty criterion used in previous research. Why might this be? One interpretation is that the impending weighing-in motivated these individuals to make their best efforts to be accurate, which they could not ultimately achieve due to inaccurate self-knowledge. That is, the foggy mirror effect pertains but it affects a minority of individuals. Yet if lack of self-knowledge was the cause, estimation errors should be random, that is, half too heavy and half too light. This was not the case: Whereas 12% of participants in the accountability condition described themselves as heavier than they actually were, nearly twice as many, 23%, reported being lighter than they actually were, a nonrandom pattern that is more consistent with biased self-perception and/or strategic self-presentation.

This interpretation, however, is based on a questionable assumption that the 5-pound honesty criterion employed in previous studies is equally valid across the range of actual weight. A 6-pound error by a 100-pound individual is a greater misestimation than a 6-pound error by a 200-pound individual. *Percentage* or *relative accuracy* may be a more useful criterion in future research than an absolute numerical cut-off. In the present data, among those knowing they were about to be weighed, those who underreported their weight by more than 5 pounds were nearly 40 pounds heavier on average than those who reported accurately. Although one may suspect that heavier participants purposefully distorted their self-reports, there was nevertheless no correlation between actual weight and the percentage of misrepresentation, $r(13) = .08, p = .78$.

These studies offer new explanations for height and weight deception in an offline context, which are compatible with events in certain online contexts. If biased scanning is triggered when online daters construct their profiles, it may be this general process that prompts self-presentational distortions. That the level of deception was as great in the present research as it has been in certain online dating research does not rule out the possibility that technologies enhance deception, or that the present lab experiences differed from those of field studies in other ways. It does indicate that more research is needed to tease out the unique causal influences that technology may have on deception, and that more conclusive evidence is needed about the specific effects of various channels. Although the widespread use of CMC allows us to study a variety of interpersonal processes that transpire online, we must remain open to the possibility that the effects that we (or our research participants) attribute to technology may actually be more universal in nature, while we also take care to identify the online contexts and features that have no offline analogue (see Walther, 2011).

For instance, in recent research on online dating deception (Ellison et al., 2012), online daters implicated sociotechnical characteristics of CMC when accounting for deliberate inaccuracies in dating profiles. When asked to describe their decisions

to misstate elements of their profiles, daters indicated that they had planned to change themselves between the time they created their profile and when they eventually met a date offline (e.g., they would lose weight, wear high heels, etc.). The asynchronous, time-shifting quality of CMC allows daters to present themselves as they hope to be in the future, not in the here and now that face-to-face interaction would require, making a profile a “promise” and not an implication of fact. This notion is somewhat consistent with Study 3’s results about immediate accountability. Yet in Study 1 individuals misrepresented their height/weight in real-time, face-to-face, as greatly as those in online dating research did. This suggests that the “promise” framework may more accurately describe daters’ retrospective accounts about their distorted self-presentations (an interpretation Ellison *et al.* consider), than it describes daters’ cognition at the time they completed their profiles. Perhaps they misrepresented themselves because that is what people seem to do when describing themselves positively, regardless of medium, and CMC characteristics became the focus of dissonance-reducing post hoc rationalizations when researchers confronted daters with their deception. Additional research is needed to see if the “promise” is more an active or retrospective phenomenon.

A final question raised by the present research is why participants lied, and for whom, given the face-to-face encounter and the ability of the interviewers to see for themselves what a subject’s physical appearance was. The first study’s findings about the effects of biased scanning, at least for women, suggest that height/weight misstatements are self-serving but do not serve a social influence strategy to affect others’ impressions. None of the subsequent studies provide evidence that the subjects conveyed height and weight distortions in order to affect the receiver’s impressions positively, rather than that they avoided misestimations in order not to affect observers’ impressions negatively. It is plausible that subjects lied *to themselves* unless they thought they might be caught doing it. The self-deception literature (e.g., Mele, 1997) tends to focus on individuals’ denial about others’ behaviors (such as a spouse’s infidelity) rather than on lying to oneself about oneself. The evidence from these studies and others suggests that distorted self-presentations can represent simple ignorance about oneself, a strategic message to deceive others, or a self-directed response to self-affirmation or the avoidance of threats to self-esteem. Each of these may be a legitimate function. More research is needed to develop ways to identify which function is being performed, so that researchers can carefully consider when and whether simple mistakes and self-directed enhancements should be interpreted the same as intentionally deceptive influence attempts.

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Note

- 1 The present study found a significant correlation between participants' *own* height/weight misrepresentation and the number of pounds they said that *others* would misreport their weight, $r(148) = .23, p = .005$. Although other studies have suggested that individuals who believe others are lying decide that they also should, it appears just as likely that the more dishonest one is, the more suspicious one is of others.

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Quand les gens se présentent-ils aux autres sous un faux jour? Les effets de la désirabilité sociale, de la réalité concrète et de la responsabilité sur les présentations de soi mensongères

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Suivant le modèle de la gestion des impressions de Leary (1995), trois expériences ont évalué des facteurs qui influencent les présentations de soi mensongères à propos de la taille et du poids. Une expérience a examiné le rôle du traitement cognitif biaisé. Elle a révélé des interactions entre l'analyse biaisée (le fait de se concentrer sur ses propres caractéristiques socialement désirables) et le sexe des participants, qui influençaient les divergences entre la taille et le poids réels et ceux auto-déclarés. Une autre expérience a investigué l'effet de l'établissement d'une réalité concrète avant l'auto-évaluation. Elle a déterminé que l'exposition à ses vraies mesures (la réalité concrète) avant l'auto-déclaration réduisait l'inexactitude. La troisième expérience a examiné le rôle de la perception de responsabilité. Elle a révélé que s'attendre à être mesuré réduisait les auto-déclarations divergentes. Les résultats suggèrent que des mécanismes psychologiques et sociaux offrent des explications d'ordre supérieur pour les auto-présentations divergentes du type de celles que d'autres études ont attribuées à des buts spécifiques et à des facteurs sociotechnologiques.

Mots clés : mensonge, présentation de soi, rencontres en ligne, désirabilité sociale, analyse biaisée

Wann stellen sich Menschen anderen gegenüber falsch dar? Die Wirkung von sozialer Erwünschtheit, Realitätsvergleich und Verantwortlichkeit für irreführende Selbstdarstellungen

Basierend auf dem Impression-Management-Model von Leary (1995) wurden in drei Experimenten Faktoren untersucht, die irreführende Darstellungen bezüglich der eigenen Größe und des eigenen Gewichts beeinflussen. Ein Experiment untersuchte die Rolle von tendenziöser kognitiver Verarbeitung. Es zeigte Interaktionen zwischen tendenziösem, weil auf die eigenen sozialerwünschten Charakteristika fokussierten, Scanning und dem Geschlecht des Teilnehmers, was Abweichungen von tatsächlicher und berichteter Größe/Gewicht beeinflusste. Ein anderes Experiment untersuchte die Wirkung von Realitätsvergleichen vor der Selbsteinschätzung. Es zeigte, dass Information zu den tatsächlichen Werten (Realitätsvergleich) vor der Selbstaussage die Abweichung verminderte. Das dritte Experiment betrachtet die Rolle der wahrgenommenen Verantwortlichkeit und fand heraus, dass die Erwartung, gemessen zu werden, abweichende Selbstaussagen verminderte. Die Ergebnisse deuten darauf hin, dass psychologische und soziale Prozesse übergeordnete Erklärungen für abweichende Selbstdarstellungen bieten, die bislang in anderen Studien eher spezifischen Zielen oder soziotechnologischen Faktoren zugeschrieben wurden.

Schlüsselbegriffe: Täuschung, Selbstdarstellung, Online-Dating, Soziale Erwünschtheit, tendenziöses Scanning

Cuándo la Gente se Misinterpreta a Sí Mismo Frente a los Otros?

Los Efectos de la Atracción Social, la Verdad de Tierra Firme, y la Responsabilidad
sobre

las Auto-Presentaciones Engañosas

Resumen

Siguiendo el modelo de manejo de las impresiones de Leary (1995), 3 experimentos evaluaron los factores que afectan las presentaciones engañosas del peso y la altura. Un experimento examinó el rol del procesamiento cognitivo tendencioso. Reveló interacciones entre el escaneo tendencioso—enfocándose en las características socialmente deseables de uno mismo —y el sexo de los participantes que afectó las discrepancias entre lo actual y la altura/el peso auto-reportado. Otro investigó el efecto del establecimiento de la verdad de tierra firme antes que la auto-evaluación. Determinó que la exposición a las medidas actuales de uno (verdad de tierra firme) previa a la auto-reporte reducido inexacto. El tercero examinó el rol de la responsabilidad percibida. Se encontró que la anticipación a ser medida/o redujo la discrepancia de los auto-reportes. Los resultados sugieren que los procesos psicológicos y sociales proveen de explicaciones de alto orden para las auto-presentaciones distorsionadas del tipo que los otros estudios han atribuido a objetivos específicos y factores socio tecnológicos.

Palabras Claves: Decepción, Auto-presentación, Romance online, Atracción social, Escaneo tendencioso