Article

Why a Simple Act of Kindness Is Not as Simple as It Seems: Underestimating the Positive Impact of Our Compliments on Others

Personality and Social Psychology Bulletin
2021, Vol. 47(5) 826–840

DOI: 10.1177/0146167220949003
journals.sagepub.com/home/pspb
SAGE

Erica J. Boothby[1] and Vanessa K. Bohns[2]

Abstract

A simple compliment can make someone's day, start a new friendship, or just make the world a better, kinder place. So, why don't people give more compliments? Perhaps people misforecast the effect their compliment will have. Five studies explored this possibility. In Studies 1a and 1b, compliment givers underestimated how positively the person receiving their compliment would feel, with consequences for their likelihood of giving a compliment. Compliment givers also overestimated how bothered and uncomfortable the recipient would feel (Study 2)—and did so even in hindsight (Study 3). Compliment givers' own anxiety and concern about their competence led to their misprediction, whereas third-party forecasters were accurate (Study 4). Finally, despite compliment givers' anxiety at the prospect of giving compliments across our studies, they felt better after having done so (Study 4). Our studies suggest that people misestimate their compliments' value to others, and so they refrain from engaging in this prosocial behavior.

Keywords

compliment, social influence, prosocial behavior, well-being, conversation

Received December 24, 2019; revision accepted July 15, 2020

> "Whenever there is a human being, there is an opportunity for a kindness."
>
> —Lucius Annaeus Seneca

In the time it takes to tie your shoes, you could compliment a passerby on their style, you could approach someone at a conference and tell them you loved their talk, or you could tell the security guard in your building that you are terribly fond of his choice of socks. Any of these compliments could make that person's day. And you would likely walk away feeling good having done so. It is difficult to contend with the proposition that the world would be a better, kinder place if people took the time to say nice things to one another more often.

And yet, for an act so simple and easy that would increase the well-being of everyone involved, why do people refrain from doing it? Why don't people give more compliments, particularly to those whom they do not know well? There are several possible reasons. Perhaps people fail to notice opportunities to do so. Or maybe they think they do not have time or do not want to put in the effort. Maybe noticing someone else's positive qualities evokes jealousy and competitiveness, so compliments are withheld. However, we propose a different explanation: People misforecast how their compliments make recipients feel.

Although research on prosocial behavior has grown rapidly in the past several decades, it has focused largely on the affective consequences of giving gifts (Dunn et al., 2008; Kupor et al., 2017), giving money (Frey & Meier, 2004; Weinstein & Ryan, 2010; Zaki & Mitchell, 2011), and giving one's time to help others (Freeman, 1997; Thoits & Hewitt, 2001). Recently, researchers have begun to look at more intangible sorts of prosocial behavior such as giving thanks (Kumar & Epley, 2018). However, despite its important role in everyday life—for example, in facilitating social connections and increasing interpersonal liking (Jones, 1964; Jones & Wortman, 1973)—little is known about the prosocial act of giving a compliment, and the answers to such fundamental questions as whether people are aware of the effects their compliments have on others.

[1]University of Pennsylvania, Philadelphia, USA
[2]Cornell University, Ithaca, NY, USA

Corresponding Author:
Erica J. Boothby, The Wharton School, University of Pennsylvania, Philadelphia, PA 19104, USA.
Email: ericajboothby@gmail.com

Why would people misforecast the impact of their compliment on its recipient? For one, people are often anxious about interacting with people whom they do not know well (Boothby et al., 2018; Epley & Schroeder, 2014; Sandstrom & Boothby, 2020; Sandstrom et al., manuscript under review). However, in reality talking to strangers leaves people feeling better than they did before (McIntyre et al., 1991; Sandstrom & Dunn, 2014a, 2014b; Vittengl & Holt, 2000) and better than they anticipated feeling (Epley & Schroeder, 2014). If anticipating an interaction with a stranger provokes anxiety, those feelings might impact their estimate of the effect their compliment will have on its recipient, either because they are using their own affective state as information when making their estimate (Clore et al., 2001) or because they are egocentrically projecting their own affective state onto the recipient of their compliment (e.g., Ross et al., 1977; Van Boven & Loewenstein, 2003).

People may also misforecast the impact of their compliment in part because they are overly concerned about their ability to deliver a compliment competently. While people are indeed evaluated on the basis of their competence, assessments of warmth (e.g., sociability) are usually more important to perceivers (Fiske et al., 2007; Wojciszke, 1994). For example, when expressing gratitude, people are overly concerned about their ability to express themselves *just right*, leading them to underestimate how the recipient of their gratitude will feel (Kumar & Epley, 2018). We suspect that people are similarly concerned about their ability to skillfully express a compliment to someone, which might inhibit them from complimenting people they might otherwise.

In sum, previous research has found that people feel anxious about interacting with new people and concerned about their ability to express their feelings competently. We predicted that the combination of these factors would lead people to misforecast how good their compliments would make people on the receiving end feel, and that this error would result in a lower likelihood of giving compliments. We explored this hypothesis in four studies that sought to establish the existence of this forecasting error and identify its causes.

Study 1a: Do People Misestimate the Value of a Compliment?

Method

Overview. Participants were recruited to the laboratory and sent out onto campus to compliment a stranger. Beforehand, they predicted how their compliment would make the person feel. After giving their compliment, they asked the receiver of their compliment to complete a brief survey (the contents of which were unknown to the compliment giver until they were debriefed at the end of the session) on how the interaction made them feel.

Pre-registration and data accessibility. This study was preregistered at AsPredicted.org (#6286). Data and materials for all studies are available at Open Science Foundation (OSF; https://tinyurl.com/ydbrn4b7).

Participants. We pre-specified a sample of 100 compliment givers, who would be paired with 100 compliment receivers. A power analysis (GPower 3; Faul et al., 2007) indicated that this sample size had 99.99% statistical power to detect a minimum effect size of 0.40. We were able to recruit a total of 190 participants (70.50% female and missing gender information for one participant; M_{age} = 21.15 years, SD = 4.54; 38.9% White, 37.4% Asian, 6.8% Black/African American, 6.8% "mixed," 4.7% Hispanic/Latino, 2.6% Indian, 0.5% Native American, 1.1% "other," and missing information for two participants) for cash compensation.

Procedure. After arriving at the laboratory, participants (our *compliment givers*) were told they would go to an assigned campus location (e.g., dining hall, building lobby), and give a simple, straightforward compliment to a matched gender stranger. Following the procedure of Roghanizad & Bohns (2017) to reduce selection bias, participants were instructed to compliment the *fourth* male or female (depending on their own gender) they saw (*compliment receivers*) once they arrived at their designated location. They were instructed to say, "I like your shirt" (or jacket or dress, if no shirt was visible).

Next, they were instructed to hand the person a sealed envelope and say, "I'm supposed to give this to you as part of an experiment I'm participating in. I don't know what's in it, but I need to wait for you to fill it out and give it back to me." This envelope contained a short survey along with an empty unsealed envelope so that, after completing the survey, compliment receivers could submit their survey confidentially. Once the person handed back the sealed envelope, compliment givers returned to the lab.

This methodology maximized the ecological validity of the study in two ways. First, the interaction took place outside of the lab, in people's everyday lives. If a stranger was complimented in the lab, it could seem artificial and raise suspicion. Second, it minimized the unnaturalness of the interaction to have compliment givers, rather than research assistants, collect compliment receivers' sealed envelopes. It would have been more awkward, unexpected, and far less natural if a brand-new person who was "in on" the event appeared after the compliment was delivered to collect the envelope.

Before giving their compliment, compliment givers answered several questions asking how they thought the other person would feel as a result of their compliment. These questions were posed similarly to Epley & Schroeder (2014), who asked participants to indicate how stimulating they imagined a conversation with an unknown stranger during their commute would be. Our studies focused instead on participants' expectations of an unknown stranger's reaction to their compliment. Participants were asked how much the other person would enjoy the interaction, and would feel

good, pleased, and flattered as a result of the interaction using 7-point Likert-type scales (1 = *not at all*, 7 = *very/very much*).

The compliment receiver survey mirrored the compliment giver survey, measuring how people felt as a result of receiving the compliment. They answered the same four questions about how much they enjoyed the interaction, and felt good, pleased, and flattered as a result of the interaction.[1]

Upon returning to the lab, compliment givers responded to some additional questions and were debriefed and compensated.[2]

Results

Data were excluded from four dyads in which at least one person failed to complete the survey.[3] Including data from these dyads does not change any of the results.

Our primary research question was whether participants accurately predicted how good their compliment would make its recipient feel. Our four measures of how good compliment givers thought the other person would feel were highly correlated ($\alpha = .93$). Following our pre-registration, we averaged these measures into a single measure of *perceived positivity*. Likewise, our four measures of how good people actually felt as a result of receiving a compliment were also highly correlated ($\alpha = .91$), and they were averaged to create a single measure of *actual positivity*. These measures, collectively referred to as a *positivity index*, served as our primary dependent variable.

Because participants were nested within dyads, for this and all subsequent studies, as pre-registered, we fit mixed linear models to the data in R using the lme4 package (Bates et al., 2015) with role (giver or receiver) as the independent variable, and our positivity index as the dependent variable. Our model included our independent variable as a fixed effect, and an intercept for each dyad as random effects. We used the lmerTest package (Kuznetsova et al., 2014) to derive *p* values and degrees of freedom. Note that the reported means are predicted marginal means.

Predicted versus actual value of compliment. Did compliment givers underestimate the value of their compliment to its recipient? As predicted, there was a significant effect of role (compliment giver vs. compliment receiver) on positivity, $b = .72$, $SE = .16$, $t(92) = 4.48$, $p < .001$, 95% confidence interval (CI) = [0.40, 1.05], with receivers feeling significantly better, $M = 4.66$, 95% CI = [4.42, 4.90], than givers thought they would, $M = 3.93$, 95% CI = [3.69, 4.17].

Discussion

These results indicate that people underestimate how good their compliment will make someone feel. Participants who were instructed to compliment a specific stranger believed that their interaction would make that person feel less happy, good, pleased, and flattered than it actually did.

Study 1b: Do People Refrain From Giving Compliments Because They Underestimate the Value of Their Compliment?

Method

Overview. This study was designed to achieve four goals (a) to provide a direct test of our thesis that people refrain from giving compliments because they misestimate their value to others, (b) to rule out an alternative explanation for why people may avoid complimenting others (social comparison), (c) to demonstrate that people misestimate the value of their compliment even when their interaction does not involve asking the compliment receiver to fill out a survey, which may independently contribute to people's pessimistic assessments of how the compliment receiver will react (Flynn & Lake, 2008), and (d) to find out what kinds of compliments people normally give strangers in their daily lives to compare these naturally occurring compliments to the compliments used in our first and subsequent studies.

Pre-registration. This study was pre-registered at AsPredicted.org (#41694).

Participants. We pre-specified a sample of at least 200 participants and were able to recruit 237 people (51.1% female and 2.1% preferred not to indicate their gender; $M_{age} = 30.73$ years, $SD = 11.66$; 68.8% White, 12.2% Asian, 7.2% Black/African American, 5.5% Hispanic/Latino, 4.6% "more than 1 of the above," 0.8% "prefer not to answer," 0.4% Hawaiian/Pacific Islander, 0.4% "other") on Prolific Academic.

Procedure. Participants were assigned to one of two roles: compliment giver or compliment receiver.

Compliment giver. Compliment givers were told, "Imagine you notice something you really like about someone you don't know (who's the same gender as you). You approach them and give them a genuine, straightforward compliment (e.g., 'I really like your shirt')." Participants indicated how happy, good, pleased, and flattered they thought this stranger would feel as a result of this interaction using 7-point Likert-type scales (1 = *not at all*, 7 = *very/very much*). Next, they reported how likely they would be to compliment the stranger on something they genuinely liked about them using a 7-point Likert-type scale (1 = *not at all likely*, 7 = *very likely*).

To rule out an alternative explanation noted earlier—namely, that people may refrain from giving compliments out of jealousy and competitiveness due to upward social comparison (Aspinwall & Taylor, 1993; Mendes et al., 2001; Wills, 1981)–compliment givers also reported how bad they would feel about themselves having noticed something they liked about the stranger using a 7-point Likert-type scale (1 = *not at all bad*, 7 = *very bad*).

Compliment receiver. Compliment receivers were told, "Imagine someone you don't know (who's the same gender as you) notices something they really like about you. This person approaches you and gives you a genuine, straightforward compliment (e.g., 'I really like your shirt')." Using 7-point Likert-type scales (1 = *not at all*, 7 = *very/very much*), they indicated how happy, good, pleased, and flattered they would feel as a result of this interaction.

All participants were asked to report on their desire for strangers to compliment one another more often in two questions using 7-point scales with endpoints labeled "Strongly disagree" and "Strongly agree." Finally, participants were asked to report on the kinds of compliments they have given to strangers using a text box.

Results

Data were excluded from 15 participants who failed to correctly answer attention checks. Including data from these participants does not change any of the results.

We first examined whether we replicated our effect from Study 1a. Specifically, we tested whether compliment receivers reported that they would feel better than compliment givers believed they would. To do so, we created composite variables from the four dependent measures of *perceived positivity* ($\alpha = .92$) and *actual positivity* ($\alpha = .95$). These measures, collectively referred to as a *positivity index*, served as our primary dependent variable for this analysis. We fit a linear model to the data with role (giver or receiver) as the independent variable, and our positivity index as the dependent variable. As predicted, the analysis revealed a significant effect of role on positivity, $b = .60$, $SE = .15$, $t(220) = 3.92$, $p < .001$, 95% CI = [0.30, 0.90], with receivers reporting that they would feel significantly better, $M = 5.65$, 95% CI = [5.45, 5.86], than givers thought receivers would, $M = 5.06$, 95% CI = [4.84, 5.28].

Did compliment givers' misestimation affect their likelihood of complimenting a stranger? A linear model with compliment givers' *perceived positivity* as the independent variable and their likelihood of giving a compliment as the dependent variable revealed a significant effect, $b = .55$, $SE = .11$, $t(102) = 4.91$, $p < .001$, 95% CI = [0.33, 0.78]. People were more likely to compliment a stranger when they believed their compliment would have a positive effect.

We next fit a linear model with compliment givers' anticipated negative feelings about themselves as a result of social comparison as the independent variable, and their likelihood of giving a compliment as the dependent variable. This analysis revealed a non-significant effect, $p = .38$.

Our two measures of whether people believe strangers ought to give each other more compliments were highly correlated ($\alpha = .88$), and we averaged them into a single measure. A one-sample *t*-test comparing participants' responses to the scale midpoint ("4—Neither agree nor disagree") revealed that people wished strangers complimented one another more often, $M = 5.57$, $SD = 1.02$, $t(221) = 22.87$, $p < .001$, 95% CI = [5.43, 5.70].

Finally, 81% of participants in our sample reported complimenting strangers on physical characteristics (e.g., clothes, hairstyle, tattoo).[4,5]

Discussion

In Study 1b, people reported being more likely to compliment a stranger to the extent that they anticipated their compliment would be received positively, whereas people's social comparison concerns were unrelated to their likelihood of complimenting a stranger. Furthermore, participants underestimated the value of their compliment even when they did not have to ask the compliment receiver to fill out a survey as part of the study design. The vast majority of compliments people reported giving strangers in their everyday lives were for physical characteristics, in line with the kind of compliment participants gave strangers in Study 1a, suggesting that clothing and other aspects of people's appearance are common subjects of compliments among strangers.

Study 2: Do People Underestimate the Value of a Genuine Compliment?

In Study 1a, people gave a scripted compliment, that is, participants were instructed to compliment someone on their shirt. Although this enabled us to standardize compliments across dyads, it may also have contributed to compliment givers' pessimism about how good their compliment would make its recipient feel, that is, compliment givers may have been concerned that their compliment would not seem genuine. To eliminate this possibility, in Study 2 compliment givers complimented the stranger on whatever they genuinely liked about them.

Furthermore, compliment givers in both Studies 1a and 1b underestimated the value of their compliment to the recipient. But might people realize its value after having complimented the person and observed their reaction? In Study 2, we tested the possibility that people are unable to adequately update their perception of their compliment's value, which may contribute to the persistence of their misestimation.

Pre-Registration

This study was pre-registered at AsPredicted.org (#8690).

Participants

We aimed to recruit 50 compliment givers for a total of 100 participants. We were able to recruit 100 participants (72% female and missing gender information for three participants; $M_{age} = 21.59$ years, $SD = 5.53$; 48% White, 28% Asian, 14% Black/African American, 3% Hispanic/Latino, 2% Indian, 2% "mixed," 1% "other," and missing information from two

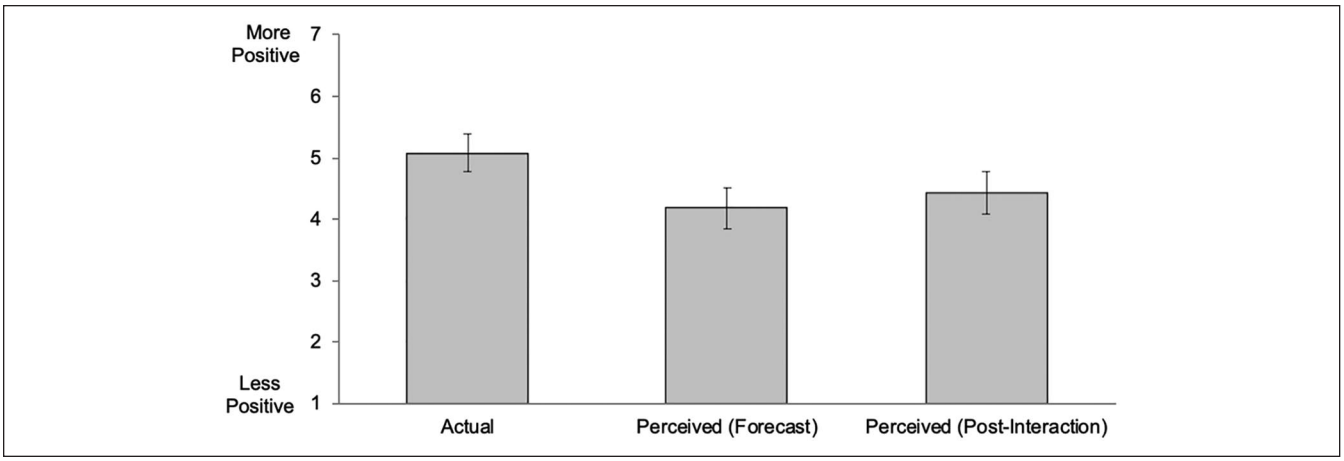

Figure 1. Results of Study 2: Means of actual and perceived effect of compliment. Error bars show the 95% confidence intervals around the means.

participants). A power analysis indicated that this sample size had 97.72% statistical power to detect a minimum effect size of 0.40 for our primary analyses.

Procedure

The procedures were identical to those of Study 1a with two exceptions. First, compliment givers were instructed to give the stranger a compliment of their choice. Participants were told, "We recommend finding something about them that you like and complimenting them on that. It's up to you what, specifically, you want to compliment the person on." Since complimenting someone new on something about them that one likes is a common way to break the ice, one benefit of this design is its ecological validity and relevance to people's everyday lives. Second, upon returning to the lab, compliment givers were asked how they thought the person they complimented felt as a result of their interaction on the same 7-point Likert-type scales (enjoyed, good, pleased, flattered).

Results

Data were excluded from four dyads in which at least one person failed to complete the survey or follow the instructions.[6] Including data from these dyads does not change any of the results. We created composite variables from the four dependent measures of *perceived positivity* ($\alpha = .91$) and *actual positivity* ($\alpha = .85$).

Predicted versus actual value of compliment. Our primary research question was whether compliment givers underestimate the value of their compliment to its recipient. Indeed, we found a significant effect of role (compliment giver vs. compliment receiver) on positivity, $b = .90$, $SE = .19$, $t(46) = 4.63$, $p < .001$, 95% CI = [0.51, 1.28], with receivers feeling significantly better, $M = 5.08$, 95% CI = [4.77, 5.39], than givers thought they would, $M = 4.18$, 95% CI = [3.87, 4.50] (see Figure 1).

Compliment givers' pre- versus post-interaction perceptions of the value of their compliment. It is clear that compliment givers underestimate the value of their compliment to its recipient prior to giving their compliment. But do they continue to undervalue their compliment afterward? If so, this mistaken belief might be one reason for people's hesitance to compliment strangers in everyday life. Our analysis revealed that although compliment givers believed that the recipient of their compliment felt better after they gave their compliment, $M = 4.43$, 95% CI = [4.10, 4.77], than they had forecasted, $M = 4.18$, 95% CI = [3.85, 4.52], this difference did not reach significance, $p = .12$, that is, compliment givers failed to sufficiently update their mistaken beliefs after having given their compliment, indicating a failure to realize just how positively their compliment affected the stranger after the fact.

Discussion

In Study 1a, participants were constrained to complimenting someone on their shirt, which because of the artificiality of the compliment might have contributed to their undervaluing of their compliment. In Study 2, compliment givers could compliment someone on anything they genuinely liked about them. Even when people were free to compliment someone on something they genuinely liked about them, compliment givers continued to underestimate how good their compliment would make a recipient feel. We also found that participants complimented people on a variety of features—primarily clothing, accessories, and physical features (see Table 1). Although such compliments may seem superficial, they often reflect affirmation of people's personal choices, identity,

Table 1. Content of Compliments Given in Study 2.

Percent of compliment givers	Content of compliment
20	Physical feature (e.g., hair, eyebrows)
42	Top (e.g., shirt, sweater, sweatshirt, jacket)
24	Accessory (e.g., scarf, jewelry, backpack)
6	Outfit
8	Shoes

culture, and so on, and so may be more meaningful than they first appear.

Furthermore, even after giving their compliment, people failed to realize how positively their compliment made its recipient feel. This is not terribly surprising. After all, politeness norms dictate that people be courteous and positive in most social interactions (Jones & Wortman, 1973). Thus, it can be difficult to discern whether someone's positive response to your compliment indicates that they truly enjoyed receiving your compliment or they are simply being polite. This inability to realize just how positively strangers actually feel after receiving a compliment likely contributes to people's tendency to refrain from giving compliments when they have the opportunity to do so.

Study 3: Do People Overestimate the Cost of a Compliment?

Compliment givers in Studies 1a, 1b, and 2 underestimated the *positive* impact their compliment had on its recipient. Study 3 tested whether people additionally overestimate the *negative* impact they will have on the stranger they compliment. We hypothesized that because people tend to feel awkward and uncomfortable about interacting with new people (Boothby et al., 2018; Epley & Schroeder, 2014), they would assume the converse to also be true—that is, that by approaching a stranger they would make *that* person feel awkward and uncomfortable. Thus, because of people's anxiety about interacting with a stranger, we predicted that participants would overestimate how annoyed and bothered by the interaction the other person would be.

Pre-Registration

This study was pre-registered at AsPredicted.org (#8961).

Participants

We aimed to recruit 50 compliment givers, for a total of 100 participants. We recruited 100 participants (76% female, M_{age} = 20.61 years, SD = 4.48; 35% White, 29% Asian, 12% Black/African American, 10% Hispanic/Latino, 14% "other"). A power analysis indicated that this sample size had 97.72% statistical power to detect a minimum effect size of 0.40.

Procedure

The procedures were identical to those of Study 2, with the exception that in addition to asking about the predicted and actual *positive* impact of their compliment, compliment givers and receivers were asked about the predicted and actual *negative* impact of their compliment. Compliment givers were asked how annoyed, bothered, and uncomfortable the other person would feel as a result of the interaction. These items were combined into a *perceived negativity* (α = .82). Likewise, for compliment receivers, *actual negativity* (α = .89).

Results

Predicted versus actual positive effect of compliment. As in Studies 1 and 2, our analysis revealed a significant effect of role (compliment giver vs. compliment receiver) on our positivity index, b = .72, SE = .17, $t(50)$ = 4.20, $p < .001$, 95% CI = [0.38, 1.05], with compliment receivers feeling significantly better, M = 4.87, 95% CI = [4.58, 5.16], than compliment givers thought they would, M = 4.16, 95% CI = [3.86, 4.45].

Predicted versus actual negative effect of compliment. We have repeatedly found that compliment givers underestimate the value of their compliment to its recipient. Here we also tested whether compliment givers also *overestimate* the negative impact their compliment has on its recipient. Our analysis revealed a significant effect of role (compliment giver vs. compliment receiver) on negativity, b = −1.75, SE = .23, $t(50)$ = −7.76, $p < .001$, 95% CI = [−2.20, −1.30], with receivers feeling significantly less annoyed, bothered, and uncomfortable, M = 2.42, 95% CI = [2.04, 2.80], than givers anticipated, M = 4.17, 95% CI = [3.79, 4.54], as a result of being complimented by them.

Compliment givers' pre- versus post-interaction perceptions of the value of their compliment. Replicating the results of Study 2, there was no significant effect of time (pre- vs. post-interaction) on compliment givers' beliefs about how positively their compliment would affect its recipient, p = .59. However, compliment givers believed their compliment had a significantly *less negative* effect on the compliment receiver, M = 3.39, 95% CI = [3.03, 3.75], post-interaction than they had initially forecasted, M = 4.17, 95% CI = [3.81, 4.53]; b = −.77, SE = .19, $t(50)$ = −4.13, $p < .001$, 95% CI = [−1.15, −0.40] (see Figure 2), indicating that compliment givers did update their beliefs about the negative impact of their compliments somewhat. However, this adjustment was insufficient; compliment givers' perceptions of how negatively their compliment made the stranger feel was still

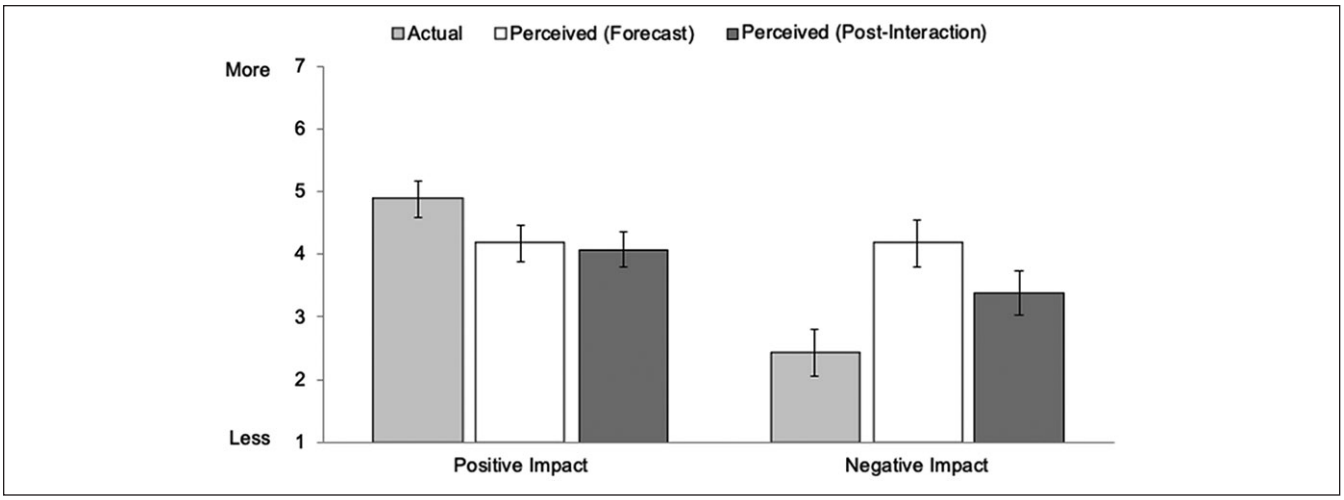

Figure 2. Results of Study 3: Means of actual and perceived positive and negative effects of compliment. Error bars show the 95% confidence intervals around the means.

significantly worse than the effect it actually had, $M = 2.42$, 95% CI = [2.02, 2.82]; $b = -.97$, $SE = .22$, $t(50) = -4.50$, $p < .001$, 95% CI = [−1.41, −0.54].

Discussion

Study 3 provides evidence that people not only fail to realize how positive another person will feel as a result of receiving their compliment; they also drastically overestimate how bothered, uncomfortable, and annoyed the other person will feel. People's overly pessimistic assessments of how uncomfortable and bothered a stranger will feel as a result of receiving their compliment may hinder them from complimenting strangers in their everyday lives. This seems especially likely given that participants in Study 3 were unable to adequately update their initial forecasts of how negatively their compliment impacted its recipient. Although they did update their beliefs somewhat in the right direction, they continued to be anchored on their pre-compliment forecasts, believing that their interaction had a more negative impact on the stranger they complimented than it actually did. This miscalibration likely reduces people's likelihood of complimenting strangers of their own accord.

Study 4: Causes of Underestimating the Value of a Compliment

The results of Studies 1 to 3 clearly demonstrate a tendency to underestimate the value of one's compliment. But why? We predicted two major reasons why people underestimate the value of their compliment. First, we hypothesized that people are anxious about complimenting a stranger, which contributes to their pessimistic beliefs about the effect of their compliment. There are several reasons to believe that approaching a stranger to give them a compliment would cause people anxiety. For one, research has demonstrated that people by and large underestimate strangers' interest in interacting with them (Epley & Schroeder, 2014; Shelton & Richeson, 2005). And when people anticipate being socially evaluated, they tend to expect to be judged more harshly by others than they actually are Savitsky et al. (2001), Savitsky & Gilovich (2003). Indeed, consistent with prior research, the results of Study 3 reveal that people believed that by giving a stranger a compliment they were "bothering" the person to a greater extent than they actually were. Furthermore, when people are socially anxious they exhibit an attenuated self-serving attribution bias (Mezulis et al., 2004), presenting their abilities and attributes significantly more modestly than do individuals low in social anxiety (Arkin et al., 1980). In short, people may feel anxious leading up to giving a stranger a compliment, resulting in overly pessimistic forecasts about the effect their compliment will have on its recipient.

A second reason people may underestimate the value of their compliment is that people are concerned about their ability to give a compliment competently. That is, one result of people's tendency to underestimate strangers' interest in interacting with them, as discussed above, is that people likely feel some pressure to perform well in giving their compliment, to make the interaction worth the stranger's while. Research on people's "willingness to communicate" (McCroskey, 1992) reveals that people report being less willing to talk to strangers to the extent that they are concerned about their own communication competence (McCroskey & Richmond, 1990). Indeed, when people's communication skills increase as a result of training, people become more willing to communicate, underscoring the importance of feeling competent. People's doubts about their own social competence have also been found in more general beliefs that oneself has fewer friends than one's peers, goes to fewer parties, and has less rich social networks (Deri et al., 2017),

and in specific beliefs about their ability to adequately express gratitude to friends and acquaintances (Kumar & Epley, 2018). Thus, in Study 4, we tested whether people's anxiety and doubts about their own competence in giving a compliment predict their pessimistic beliefs about the effect of their compliment in Study 4.

In addition, Study 4 included a group of third-party forecasters who predicted the value a stranger's compliment would have on its recipient. This allowed us to address a couple of questions. First, this design provided an additional test of the primary aim of this study—to examine how anxieties related to actually giving a compliment shapes compliment givers' misforecasts about how it will be received. We hypothesized that third-party predictors' estimates would be more accurate than those of compliment givers because they have no reason to feel anxious, as they are not about to give someone a compliment. Second, this design allowed us to address concerns regarding the potential demand effects of having compliment givers hand the recipients of their compliments a survey. If compliment receivers felt pressure to inflate their responses, we would expect differences between compliment givers' and compliment recipients' ratings to be caused solely by the recipients' responses, rather than being characteristics of the compliment givers' pessimism. Thus, if outside forecasters' predictions look different from compliment givers' predictions, this would suggest that our results must be explained, at least in part, by the attributes of compliment givers, such as their anxieties—not just attributes of the compliment recipients.

Finally, Study 4 tested the prediction that giving a compliment confers benefits not only to the receiver but also to the giver, and that people would feel more inclined to give a compliment in the future after having done so before—suggesting a way we might be able to increase the number of compliments people are willing to give.

Pre-Registration

This study was pre-registered at AsPredicted.org (#20640).

Participants

We aimed to recruit as many participants as possible by the end of the semester. We were able to recruit 50 compliment givers and 50 third-party predictors to the laboratory, for a total of 150 participants (57.3% female; M_{age} = 19.62 years, SD = 2.28; 46.7% White, 26% Asian, 5.3% Black/African American, 5.3% Indian, 6.7% Hispanic/Latino, 0.7% Native American, 1.3% "other"). A power analysis indicated that this sample size had 99.81% statistical power to detect a minimum effect size of 0.40 for our primary analyses.

Procedure

Participants who arrived in the laboratory were randomly assigned to one of two conditions, namely *compliment giver* or *third-party predictor*. Compliment givers were given instructions identical to those in Study 3. Before leaving the lab to give their compliment, compliment givers answered the same positivity and negativity questions as in Study 3, which were again combined into a *perceived positivity index* (α = .86) and a *perceived negativity index* (α = .78). In addition, compliment givers were asked several questions on 7-point Likert-type scales about how *good* and *anxious* they currently felt, how *competently* and *skillfully* they would be able to deliver their compliment to a stranger, and how *likely* they would be to give a stranger a compliment if it was not part of a study. Upon returning to the lab, compliment givers were once again asked how *good* they felt and how *likely* they would be to compliment a stranger in future.

Participants assigned to be third-party predictors were told about a study being run by researchers at their university and instructed to answer a few questions about it:

> In that study, participants are told they will be asked to give a stranger a compliment. The stranger they compliment must match their own gender, and they should give the person a simple, straightforward compliment (e.g., "I like your shirt"). It's up to the participant what, specifically, they want to compliment the person on. Now think of one participant giving a stranger a compliment. Answer the following questions about how you think the stranger receiving the compliment will feel as a result of this interaction.

They were asked the same questions about a receiver's positive and negative reactions as were the participants assigned to the compliment giver condition. These responses were combined into a *third-party predicted positivity index* (α = .88) and *a third-party predicted negativity index* (α = .83).

Compliment receivers were asked the same positive and negative questions as in Study 2, which were again combined into an *actual positivity index* (α = .91) and an *actual negativity index* (α = .82).

Results

Data from four dyads in which at least one person did not complete the survey or directions were excluded from analyses.[7] Including data from these dyads does not change any of the results.

Predicted versus actual positive effect of compliment. As predicted, we again found a significant effect of role (compliment giver vs. compliment receiver) on our positivity index, b = .71, SE = .20, $t(46)$ = 3.55, p = .001, 95% CI = [0.31, 1.11], with compliment receivers feeling significantly better, M = 5.16, 95% CI = [4.84, 5.47], than compliment givers thought they would, M = 4.45, 95% CI = [4.13, 4.76]. Furthermore, descriptively the CI of the third-party predictors' mean positivity index rating, M = 5.26, 95% CI = [4.99, 5.53], does not overlap with the CI of the compliment givers' mean positivity index rating. However, the CI of the

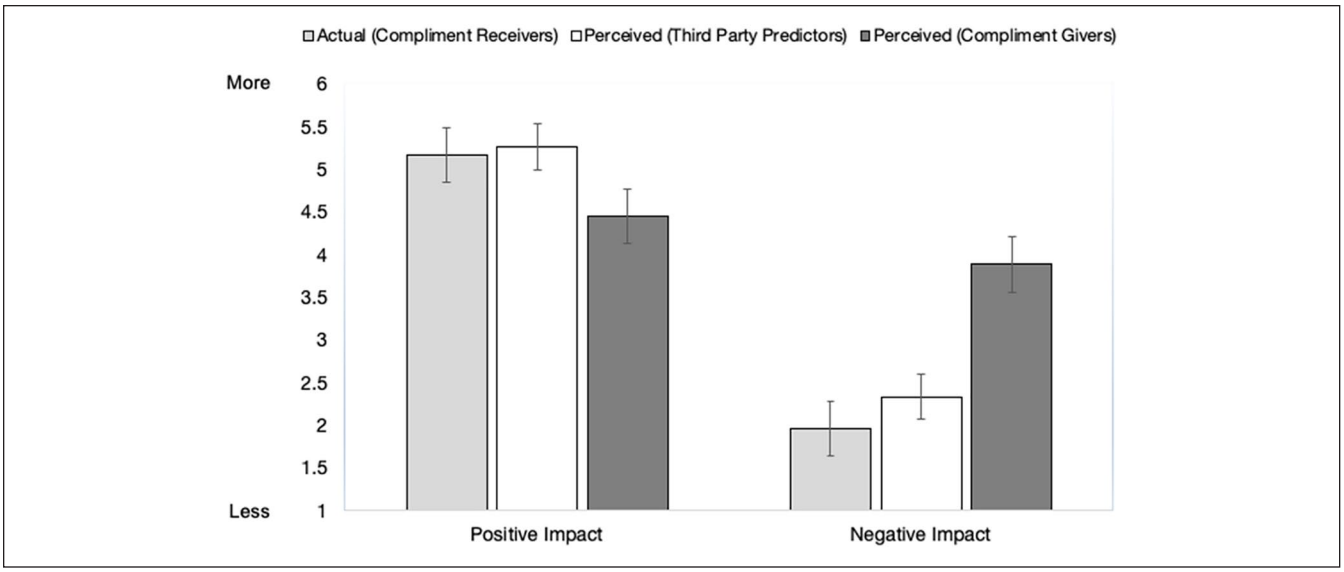

Figure 3. Results of Study 4: Means of actual and perceived negative and positive effects of compliment. Error bars show the 95% confidence intervals around the means.

third-party predictors' mean positivity index rating does overlap with the compliment receivers' mean positivity index rating. These results suggest that third-party predictors are better able to forecast the positive effect a compliment will have on its recipient, compared with the person giving the compliment (see Figure 3).

Predicted versus actual negative effect of compliment. There was a significant effect of role (compliment giver vs. compliment receiver) on our negativity index, $b = -1.93$, $SE = .23$, $t(92) = -8.34$, $p < .001$, 95% CI = [−2.39, −1.47], with compliment receivers feeling significantly less negatively, $M = 1.96$, 95% CI = [1.63, 2.28], than compliment givers anticipated, $M = 3.88$, 95% CI = [3.56, 4.21]. Furthermore, descriptively the CI of the third-party predictors' mean negativity index rating, $M = 2.33$, 95% CI = [2.06, 2.59], does not overlap with the CI of the compliment givers' mean negativity index rating. However, the CI of the third-party predictors' mean negativity index rating does overlap with the compliment receivers' mean negativity index rating. Considered together, this suggests that compliment givers' forecasts about how negatively their compliment will impact its recipient are less accurate than are those of third-party predictors (see Figure 3).

Benefits to compliment givers. A paired *t*-test revealed that compliment givers felt significantly better after complimenting someone, $M = 5.26$, 95% CI = [4.84, 5.68], than they had beforehand, $M = 4.13$, 95% CI = [3.71, 4.55]; $t(45) = -4.36$, $p < .001$, 95% CI = [−1.65, −0.61] (see Figure 4), suggesting that there may be benefits not only of receiving a compliment but also of giving one.

Causes of underestimating how good a compliment makes its recipient feel. We hypothesized that compliment givers' predictions about how their compliment would make its recipient feel are inaccurate for two primary reasons (a) people feel anxious about delivering a compliment to someone they do not know and (b) people doubt their competence in giving a compliment to someone they do not know.

Anxiety. We first tested whether anxious feelings were a better predictor of people's forecasts about how the compliment recipient would feel for those assigned to the compliment giver condition than those assigned to the third-party predictor condition, that is, do people who are going to give a compliment feel more anxious than third-party predictors, and is their anxiety significantly correlated with the effect they expect their compliment to have on its recipient? Our analysis revealed that compliment givers, $M = 4.17$, 95% CI = [3.71, 4.64], felt significantly more anxious than did third-party predictors, $M = 2.86$, 95% CI = [2.41, 3.31]; $b = -1.31$, $SE = .32$, $t(94) = -4.05$, $p < .001$, 95% CI = [−1.96, −0.67]. Moreover, as predicted, compliment givers' feelings of anxiety significantly predicted their forecasts of how negatively the stranger would be impacted by their interaction, $b = .29$, $SE = .09$, $t(44) = 3.16$, $p = .003$, 95% CI = [0.11, 0.48], and a mediation model revealed a significant indirect effect of anxiety on their forecasts ($p < .01$). Third-party predictors' feelings of anxiety, on the contrary, were not significantly related to their forecasts of how negatively the stranger would feel as a result of the interaction, $p = .10$. Neither compliment givers' ($p = .22$), nor third-party predictors' ($p = .93$), feelings of anxiety were significantly related to their beliefs about how positively the stranger would feel as a result of the interaction.

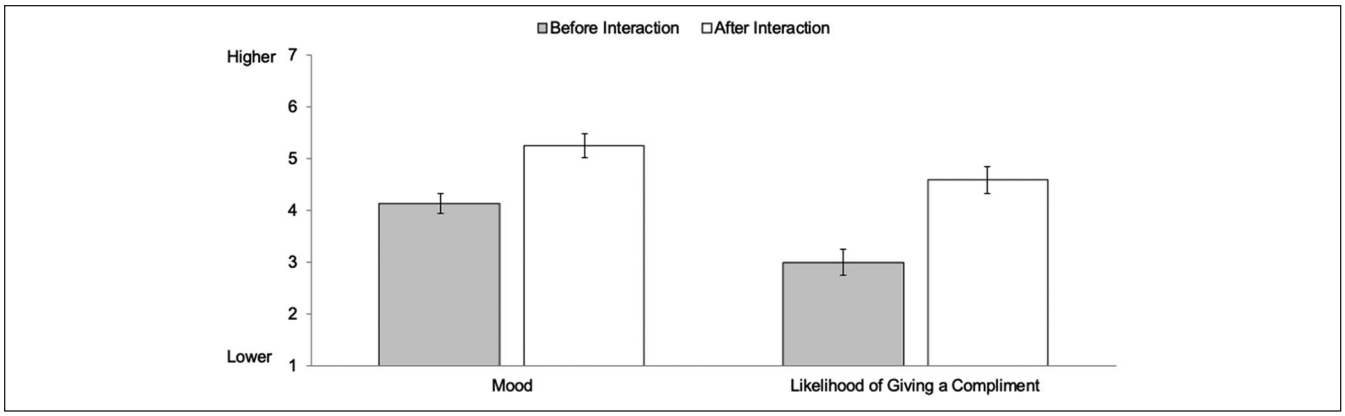

Figure 4. Results of Study 4: Compliment givers' mood and likelihood of giving a stranger a compliment before and after interaction. Error bars show the 95% confidence intervals around the means.

Competence. In addition, as predicted, our pre-registered analysis testing compliment givers' beliefs about how competently they would be able to deliver their compliment were significantly correlated with how negatively, $b = -.39$, $SE = .10$, $t(44) = -3.97$, $p < .001$, 95% CI = [−0.58, −0.19], and how positively, $b = .36$, $SE = .09$, $t(44) = 3.80$, $p < .001$, 95% CI = [0.17, 0.54], they thought the stranger would feel. The less competently participants believed they would be able to deliver their compliment, the less positively and the more negatively they believed the recipient of their compliment would feel as a result of receiving their compliment.

Likelihood of giving a compliment to a stranger. We also predicted that people would be more inclined to compliment a stranger of their own accord after having given a compliment as a participant in our study compared with beforehand, because they would be more cognizant of the fact that by doing so they are not actually as bothersome to the stranger they compliment as they originally believed. Indeed, a pre-registered paired *t*-test revealed that compliment givers reported being significantly more likely to compliment a stranger in the future *after* participating in our study, $M = 4.59$, 95% CI = [4.08, 5.10], than they were prior to participating, $M = 3.00$, 95% CI = [2.49, 3.51]; $t(45) = 6.91$, $p < .001$, 95% CI = [1.12, 2.05] (see Figure 4).

Exploratory analyses revealed that participants' reported likelihood of complimenting a stranger in their everyday life (apart from their participation in this study) prior to giving their compliment was significantly negatively correlated with the extent to which they believed their compliment would impact its recipient negatively, $b = -.67$, $SE = .22$, $t(45) = -3.06$, $p = .004$, 95% CI = [−1.12, −0.23], that is, to the extent people believed their compliment would not pose an annoyance to its recipient or cause them discomfort, they indicated being more likely to compliment a stranger. Although participants reported being more likely to compliment a stranger to the extent they believed their compliment would affect its recipient positively, this effect was only marginally significant, $b = .45$, $SE = .25$, $t(44) = 1.85$, $p = .07$, 95% CI = [−0.04, 0.95].

Furthermore, an exploratory analysis revealed that the extent to which compliment givers' likelihood of giving a stranger a compliment increased after giving a compliment in the study compared with beforehand was predicted by the improvement in their mood from pre-interaction to post-interaction, $b = .31$, $SE = .13$, $t(45) = -2.50$, $p = .016$. Consistent with past research showing that positive moods promote sociality (Isen & Levin, 1972), compliment givers' mood change may have contributed to their greater willingness to give compliments after participating in our study.

Discussion

Just as in Studies 1 to 3, participants in Study 4 misforecasted the impact their compliment would have on its recipient. Building on the previous studies, Study 4 additionally provided reasons why people tend to be overly pessimistic about the effect their compliment will have on its recipient. First, compliment givers felt anxious prior to giving a compliment, and their anxiety predicted how negatively they thought their compliment would affect its recipient. Second, compliment givers were concerned about their own competence in giving a compliment to a stranger. Both of these concerns predicted their expectations about how their compliment would make its recipient feel. Importantly, estimates made by third-party predictors, who by and large did not report feeling anxious, as they were not about to interact with a stranger, were significantly less pessimistic than those of compliment givers. Third-party predictors expected the receiver of a compliment to feel significantly better (more flattered, pleased, and good) and significantly less bad (uncomfortable, annoyed, and bothered) than did people who were about to give someone a compliment, that is, third-party predictors' estimates of the effect a compliment would have on a stranger were accurate, reflecting the way the receivers of compliments actually felt as a result of being

complimented. And recipients of compliments felt rather good—indeed, one compliment receiver wrote on their survey, "Thanks for making my day more human!"

It is possible that compliment givers' forecasts about the effect their compliment would have on a stranger were overly pessimistic in part because they did not make their estimates about a specific person (it would simply be the fourth same-gender person they saw once they arrived at their designated location). Perhaps they imagined someone who would reject them or respond particularly poorly to their compliment. However, it is worth noting that third-party predictors made their estimates under the same conditions, that is, third-party predictors also did not have a specific person in mind when making their forecasts. Nevertheless, their forecasts were accurate. It is therefore unlikely that there is simply something about making a forecast about an unknown other that result in overly pessimistic beliefs. The only difference between compliment givers and third-party predictors is that the former group would be giving a stranger a compliment. And a major difference between these two groups is that compliment givers felt anxious about giving their compliment and doing so competently, whereas third-party predictors were unencumbered by such feelings and therefore better able to more accurately foresee how compliment recipients would feel. We additionally note that the fact that third-party forecasters' estimates of the impact compliments had on recipients were aligned with the reactions of compliment recipients speaks against the likelihood that our findings can be attributed solely to demand effects on the part of recipients.

Study 4 also demonstrated that there may additionally be benefits to complimenting strangers for the person giving the compliment. Compliment givers were in a better mood and expressed a greater likelihood of giving a compliment to a stranger in the future after complimenting someone compared with beforehand. Just as practice talking to strangers improves people's initially pessimistic expectations of such conversations (Sandstrom et al., manuscript under review), it appears people may be more inclined to give more compliments to strangers in the future after having done so before, suggesting a way we might be able to increase the number of compliments people are willing to give in their everyday lives.

General Discussion

Expressions of admiration, endorsement, and general positive regard are an important component of social life, in large part because they satisfy people's fundamental need to belong (Baumeister & Leary, 1995). Giving compliments therefore has significance in everyday social life because doing so fosters positive self-regard and social acceptance, which are critical for people's self-esteem (Leary & Downs, 1995; Leary et al., 1995) and health and well-being (Baumeister & Leary, 1995; House et al., 1988). However, compliment giving is an understudied social psychological phenomenon in contrast to other forms of prosocial behavior (e.g., prosocial spending, gratitude, helping) which have received ample attention (for a review, see Dunn et al., 2008; Helliwell & Aknin, 2018), and so compliment giving is not well understood. We hope the present research sets the stage for more work in this area, as compliment giving is a relatively easy and low-cost behavior that can make the world a friendlier place. Although previous work has to our knowledge studied compliment giving only as a form of strategic ingratiation (e.g., Jones, 1964), perhaps people would be more inclined to compliment strangers if they viewed it as an act of kindness rather than an instrumental act designed to curry favor with someone.

People in our studies systematically underestimated the value of their compliment to its recipient, and this reduced their likelihood of giving compliments (Study 1b). Not only did people underestimate how positive their compliment would make someone feel (Studies 1–4), they also overestimated how bothered and annoyed the person would feel as a result of being approached (Studies 3 and 4). Even after giving their compliment, people failed to adequately update their beliefs about the effect they had on the person they complimented (Studies 2 and 3). Compliment givers' forecasts were inaccurate in part because they felt anxious and concerned about their ability to compliment a stranger competently (Study 4). In Study 4, compliment givers felt significantly more anxious than did third-party predictors, and compliment givers' feelings of anxiety were related to their pessimistic beliefs about the effect their compliment would have on its recipient, whereas third-party predictors' forecasts were more accurate and unrelated to their feelings of anxiety. Despite the difficulty of realizing the true impact they had on the person they complimented, after complimenting a stranger people were in a better mood and more likely to compliment someone they do not know in the future (Study 4), likely in part because they realized their compliment did not affect the person quite as negatively as they had initially anticipated (Study 3).

We all know it feels good to receive a compliment, and that it feels good to make others feel good. So, why are people so anxious about giving compliments? Research suggests several reasons. First, social norms often dictate that strangers in public places give one another privacy, perhaps acknowledging one another but rarely engaging in full-blown interaction (Goffman, 1963). Violating this social norm may cause some discomfort, in part because people believe strangers would prefer not to interact with them at all (Epley & Schroeder, 2014; Sandstrom et al., manuscript under review). But people of course do interact with strangers quite regularly, whether they are buying coffee, being introduced to a new colleague, or meeting someone brand new who may become a friend or romantic partner—and to be sure, many such first conversations even start with a compliment.

Second, people fear social judgment, a fear which is often overblown because people overestimate how harshly others

judge them during social interactions (Savitsky et al., 2001). When interacting with someone new, people believe their awkwardness is on display and that people are noticing—and judging—them for their many flaws and faux pas (Boothby et al., 2018; Gilovich et al., 2000; Schegloff et al., 1977; Van Boven et al., 2005). Despite its ubiquity, we know that interacting with new people is a social activity that people find particularly challenging and stressful (Duronto et al., 2005). As demonstrated in Study 4, focusing on one's own inability to deliver a compliment competently prevented people from realizing just how positive an impact their compliment actually had on its recipient. In people's own minds, they are stammering and nervous and searching for the right words, but in the eyes of the recipient of their compliment, they are simply nice, friendly folks.

Interestingly, when people *are not* bogged down by their own anxieties and insecurities, they are able to anticipate the positive impact of a compliment. In Study 4, forecasters were able to discern how someone *else's* compliment would make a person feel. Although it is clear from the outside that a compliment will make someone feel good, this fact is lost on potential compliment givers, who are blinded by their own feelings of anxiety and incompetence (DePaulo & Tang, 1994).

It is noteworthy that even in hindsight people continue to mistakenly believe their compliment had a more negative impact than it actually did. This may be because social interactions, especially with new people, are characterized by politeness norms which prescribe people respond to one another civilly. Thus, even when someone responds warmly to a compliment, it may be difficult to tell whether one's compliment really had a positive effect or if the recipient is just being polite (Brown & Levinson, 1987; Tesser & Rosen, 1975). Thus, the difficulty of taking at face value someone's positive reactions to being complimented likely contributes to people's continued devaluation of their compliment.

The results of these studies are noteworthy in part because they differ from a large, well-established body of research on self-serving biases showing that people tend to be overly optimistic about their own outcomes (Sharot, 2011; Sweeny et al., 2006; Weinstein, 1980). People believe they are less likely than others to fall victim to diseases such as cancer, heart attack, and alcoholism (Kirscht et al., 1966; Perloff, 1983; Weinstein, 1987), and that they are less susceptible to negative life events such as injury due to car accidents and divorce (Perloff & Fetzer, 1986). However, in stark contrast to these pervasive optimism biases, and in line with recent work showing that people are sometimes remarkably pessimistic about their social abilities (e.g., Boothby et al., 2018; Deri et al., 2017; Srivastava & Beer, 2005; Whillans et al., 2017), we found that people are unduly pessimistic when it comes to the effect their compliments have on others. The present research suggests that this is a domain of social life in which people are not comfortably buffered by optimism in their abilities and outcomes.

Limits on Generality

We do not expect people always underestimate how positively their compliments are received; there are likely to be instances in which people instead *overestimate* how positively and *underestimate* how negatively their compliments affect recipients. This is likely to be the case for a specific subset of compliments that are largely of a romantic or sexual nature, as in the cases of "cat calling" or of inappropriate remarks directed at work colleagues. In such cases, compliment givers may in fact overestimate the extent to which their compliments are welcomed and underestimate the extent to which they make their targets uncomfortable (e.g., Abbey, 1982; Bohns & DeVincent, 2019; Farris et al., 2008; Jacques-Tiura et al., 2007). Such instances are problematic, for sure. However, they are also more limited in scope and less surprising, in the light of the extensive literature on overconfidence (Moore & Healy, 2008), than the findings we report here.

We additionally note that people may *overestimate* the value of their compliments to strangers, or be more accurate in their estimates, in cultures in which there is a stronger modesty norm, or in contexts when giving a compliment is not as anxiety-provoking (e.g., complimenting a subordinate, or a close friend; although see Zhao & Epley, 2020a & Zhao & Epley, 2020b for an alternative perspective), such as social media platforms in which people can compliment strangers anonymously with little risk of anxiety or embarrassment. That is, we do not claim that undervaluing one's compliment is a universal bias; the bias we have documented and replicated several times is robust, at least in some circumstances, and future research ought to investigate more extensively the factors that affect people's beliefs about the effects their compliments have on others.

Coda

Compliments are an important part of social life, and the world would be a better place if there were more of them. Compliments make us feel good, and they can provide an easy entrée to conversation with someone new. But when people are anxious about giving compliments and concerned about their ability to do successfully, people may be inhibited from giving as many compliments as they might otherwise. And so, they lamentably forgo opportunities to increase people's well-being, leaving everyone—themselves included—worse off.

Acknowledgments

The authors thank Meredith Anderer, Ava Barnett, Lauren Ann DeVincent, David Navadeh, Courtney Noll, Megan Rodriguez, Kendra Sober, Carlie Stewart, and Charlotte Walden.

Declaration of Conflicting Interests

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

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

ORCID iD

Erica J. Boothby https://orcid.org/0000-0001-6171-3563

Supplemental Material

Supplemental material is available online with this article.

Notes

1. In this first study, we also included several additional items asking about the perceived and actual impact of the interaction on the compliment receiver. However, as our understanding of the phenomenon evolved, we no longer included these items in subsequent studies. These items and results can be found in the Supplemental Material.
2. All questions for this and all subsequent studies are available in the Supplemental Material.
3. Two compliment givers failed to complete the survey prior to giving a compliment, one compliment giver did not actually give a compliment, and one compliment receiver did not hear the compliment.
4. The full qualitative data with information about what people compliment strangers on in their everyday lives are available on OSF (https://tinyurl.com/ydbrn4b7).
5. We note that we found no differences in the pattern of results for male and female participants, for this or subsequent studies.
6. One compliment giver had already participated in the study as a compliment receiver, two participants failed to complete the survey before giving a compliment, and one participant accidentally complimented someone who did not match their gender.
7. One participant failed to complete the prediction survey prior to giving a compliment, two participants misunderstood the instructions and complimented someone who did not match their gender, and one compliment giver returned to the lab after giving their compliment with an unsealed envelope from the compliment receiver.

References

Abbey, A. (1982). Sex differences in attributions for friendly behavior: Do males misperceive females' friendliness? *Journal of Personality and Social Psychology*, *42*, 830–838.

Arkin, R. M., Appelman, A. J., & Burger, J. M. (1980). Social anxiety, self-presentation, and the self-serving bias in causal attribution. *Journal of Personality and Social Psychology*, *38*, 23–35.

Aspinwall, L. G., & Taylor, S. E. (1993). Effects of social comparison direction, threat, and self-esteem on affect, self-evaluation, and expected success. *Journal of Personality and Social Psychology*, *64*, 708–722.

Bates, D., Maechler, M., Bolker, B., & Walker, S. (2015). Fitting linear mixed-effects models using lme4. *Journal of Statistical Software*, *67*, 1–48.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*, 497–529.

Bohns, V. K., & DeVincent, L. A. (2019). Rejecting unwanted romantic advances is more difficult than suitors realize. *Social Psychological and Personality Science*, *10*, 1102–1110.

Boothby, E. J., Cooney, G., Sandstrom, G. M., & Clark, M. S. (2018). The liking gap in conversations: Do people like us more than we think? *Psychological Science*, *29*, 1742–1756.

Brown, P., & Levinson, S. C. (1987). *Politeness: Some universals in language usage* (Vol. 4). Cambridge University Press.

Clore, G. L., Gasper, K., & Garvin, E. (2001). Affect as information. In J. P. Forgas (Ed.), *Handbook of affect and social cognition* (pp. 121–144). Lawrence Erlbaum Associates Publishers.

DePaulo, B. M., & Tang, J. (1994). Social anxiety and social judgment: The example of detecting deception. *Journal of Research in Personality*, *28*, 142–153.

Deri, S., Davidai, S., & Gilovich, T. (2017). Home alone: Why people believe others' social lives are richer than their own. *Journal of Personality and Social Psychology*, *113*, 858–877.

Dunn, E. W., Aknin, L. B., & Norton, M. I. (2008). Spending money on others promotes happiness. *Science*, *319*, 1687–1688.

Duronto, P. M., Nishida, T., & Nakayama, S. I. (2005). Uncertainty, anxiety, and avoidance in communication with strangers. *Inter-national Journal of Intercultural Relations*, *29*, 549–560.

Epley, N., & Schroeder, J. (2014). Mistakenly seeking solitude. *Journal of Experimental Psychology*, *143*, 1980–1999.

Farris, C., Treat, T. A., Viken, R. J., & McFall, R. M. (2008). Sexual coercion and the misperception of sexual intent. *Clinical Psychology Review*, *28*, 48–66.

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G* Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*, 175–191.

Fiske, S. T., Cuddy, A. J., & Glick, P. (2007). Universal dimensions of social cognition: Warmth and competence. *Trends in Cognitive Sciences*, *11*, 77–83.

Flynn, F. J., & Lake, V. K. B. (2008). If you need help, just ask: Underestimating compliance with direct requests for help. *Journal of Personality and Social Psychology*, *95*, 128–143.

Freeman, R. B. (1997). Working for nothing: The supply of volunteer labor. *Journal of Labor Economics*, *15*, 140–166.

Frey, B. S., & Meier, S. (2004). Social comparisons and pro-social behavior: Testing "conditional cooperation" in a field experiment. *American Economic Review*, *94*, 1717–1722.

Gilovich, T., Medvec, V. H., & Savitsky, K. (2000). The spotlight effect in social judgment: An egocentric bias in estimates of the salience of one's own actions and appearance. *Journal of Personality and Social Psychology*, *78*, 211–222.

Gilovich, T., Savitsky, K., & Medvec, V. H. (1998). The illusion of transparency: Biased assessments of others' ability to read one's emotional states. *Journal of Personality and Social Psychology*, *75*, 332–346.

Goffman, E. (1963). *Behavior in public places*. Free Press.

Helliwell, J. F., & Aknin, L. B. (2018). Expanding the social science of happiness. *Nature Human Behavior*, *2*, 248–252.

House, J. S., Landis, K. R., & Umberson, D. (1988). Social relationships and health. *Science*, *241*, 540–545.

Isen, A. M., & Levin, P. F. (1972). Effect of feeling good on helping: Cookies and kindness. *Journal of Personality and Social Psychology*, *21*(3), 384–388.

Jacques-Tiura, A. J., Abbey, A., Parkhill, M. R., & Zawacki, T. (2007). Why do some men misperceive women's sexual intentions more frequently than others do? An application of the confluence model. *Personality and Social Psychology Bulletin*, *33*, 1467–1480.

Jones, E. E. (1964). *Integration: A social-psychological analysis*. Appleton-Century-Crofts.

Jones, E. E., & Wortman, C. (1973). *Integration: An attributional approach*. General Learning Corp.

Kirscht, J. P., Haefner, D. P., Kegeles, S. S., & Rosenstock, I. M. (1966). A national study of health beliefs. *Journal of Health and Human Behavior*, *7*, 248–254.

Kumar, A., & Epley, N. (2018). Undervaluing gratitude: Expressers misunderstand the consequences of showing appreciation. *Psychological Science*, *29*, 1423–1435.

Kupor, D., Flynn, F., & Norton, M. I. (2017). Half a gift is not half-hearted: A giver–receiver asymmetry in the thoughtfulness of partial gifts. *Personality and Social Psychology Bulletin*, *43*, 1686–1695.

Kuznetsova, A., Brockhoff, P. B., & Christensen, R. H. B. (2014). lmerTest: Tests for random and fixed effects for linear mixed effect models (lmer objects of lme4 package). R package version 2.0-6. R-project.org/package=lmerTest.

Leary, M. R., & Downs, D. L. (1995). Interpersonal functions of the self-esteem motive. In M. H. Kernis (Eds.), *Efficacy, agency, and self-esteem* (pp. 123–144). Springer.

Leary, M. R., Tambor, E. S., Terdal, S. K., & Downs, D. L. (1995). Self-esteem as an interpersonal monitor: The sociometer hypothesis. *Journal of Personality and Social Psychology*, *68*, 518–530.

McCroskey, J. C. (1992). Reliability and validity of the willingness to communicate scale. *Communication Quarterly*, *40*, 16–25.

McCroskey, J. C., & Richmond, V. P. (1990). Willingness to communicate: A cognitive view. *Journal of Social Behavior and Personality*, *5*, 19–37.

McIntyre, C. W., Watson, D., Clark, L. A., & Cross, S. A. (1991). The effect of induced social interaction on positive and negative affect. *Bulletin of the Psychonomic Society*, *29*, 67–70.

Mendes, W. B., Blascovich, J., Major, B., & Seery, M. (2001). Challenge and threat responses during downward and upward social comparisons. *European Journal of Social Psychology*, *31*(5), 477–497.

Mezulis, A. H., Abramson, L. Y., Hyde, J. S., & Hankin, B. L. (2004). Is there a universal positivity bias in attributions? A meta-analytic review of individual, developmental, and cultural differences in the self-serving attributional bias. *Psychological Bulletin*, *130*, 711–747.

Moore, D. A., & Healy, P. J. (2008). The trouble with overconfidence. *Psychological Review*, *115*(2), 502–517.

Perloff, L. S. (1983). Perceptions of vulnerability to victimization. *Journal of Social Issues*, *39*, 41–61.

Perloff, L. S., & Fetzer, B. K. (1986). Self–other judgments and perceived vulnerability to victimization. *Journal of Personality and Social Psychology*, *50*, 502–510.

Roghanizad, M. M., & Bohns, V. K. (2017). Ask in person: You're less persuasive than you think over email. *Journal of Experimental Social Psychology*, *69*, 223–226.

Ross, L., Greene, D., & House, P. (1977). The "false consensus effect": An egocentric bias in social perception and attribution processes. *Journal of Experimental Social Psychology*, *13*, 279–301.

Sandstrom, G. M. & Boothby, E. J. (manuscript accepted). *Why do people avoid talking to strangers? A mini meta-analysis of predictions and experiences*. Self and Identity.

Sandstrom, G. M., Boothby, E. J., & Cooney, G. *Talking to strangers: A week-long intervention reduces barriers to social connection*. [Unpublished manuscript]

Sandstrom, G. M., & Dunn, E. W. (2014a). Social interactions and well-being: The surprising power of weak ties. *Personality and Social Psychology Bulletin*, *40*, 910–922.

Sandstrom, G. M., & Dunn, E. W. (2014b). Is efficiency overrated? Minimal social interactions lead to belonging and positive affect. *Social Psychological and Personality Science*, *5*, 437–442.

Savitsky, K., Epley, N., & Gilovich, T. (2001). Do others judge us as harshly as we think? Overestimating the impact of our failures, shortcomings, and mishaps. *Journal of Personality and Social Psychology*, *81*, 44–56.

Savitsky, K., & Gilovich, T. (2003). The illusion of transparency and the alleviation of speech anxiety. *Journal of Experimental Social Psychology*, *39*, 618–625.

Schegloff, E. A., Jefferson, G., & Sacks, H. (1977). The preference for self-correction in the organization of repair in conversation. *Language*, *53*, 361–382.

Sharot, T. (2011). The optimism bias. *Current Biology*, *21*(23), R941–R945.

Shelton, J. N., & Richeson, J. A. (2005). Intergroup contact and pluralistic ignorance. *Journal of Personality and Social Psychology*, *88*, 91–107.

Sweeny, K., Carroll, P. J., & Shepperd, J. A. (2006). Is optimism always best? Future outlooks and preparedness. *Current Directions in Psychological Science*, *15*, 302–306.

Tesser, A., & Rosen, S. (1975). The reluctance to transmit bad news. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 8, pp. 193–232). Academic Press

Thoits, P. A., & Hewitt, L. N. (2001). Volunteer work and well-being. *Journal of Health and Social Behavior*, *42*, 115–131.

Van Boven, L., & Loewenstein, G. (2003). Social projection of transient drive states. *Personality and Social Psychology Bulletin*, *29*, 1159–1168.

Van Boven, L., Loewenstein, G., & Dunning, D. (2005). The illusion of courage in social predictions: Underestimating the impact of fear of embarrassment on other people. *Organizational Behavior and Human Decision Processes*, *96*(2), 130–141.

Vittengl, J. R., & Holt, C. S. (2000). Getting acquainted: The relationship of self-disclosure and social attraction to positive affect. *Journal of Social and Personal Relationships*, *17*, 53–66.

Weinstein, N., & Ryan, R. M. (2010). When helping helps: Autonomous motivation for prosocial behavior and its influence on well-being for the helper and recipient. *Journal of Personality and Social Psychology*, *98*, 222–224.

Weinstein, N. D. (1980). Unrealistic optimism about future life events. *Journal of Personality and Social Psychology*, *39*, 806–820.

Weinstein, N. D. (1987). Unrealistic optimism about susceptibility to health problems: Conclusions from a community-wide sample. *Journal of Behavioral Medicine*, *10*, 481–500.

Whillans, A. V., Christie, C. D., Cheung, S., Jordan, A. H., & Chen, F. S. (2017). From misperception to social connection: Correlates and consequences of overestimating others' social connectedness. *Personality and Social Psychology Bulletin*, *43*(12), 1696–1711.

Wills, T. A. (1981). Downward comparison principles in social psychology. *Psychological Bulletin*, *90*, 245–271.

Wojciszke, B. (1994). Multiple meanings of behavior: Construing actions in terms of competence or morality. *Journal of Personality and Social Psychology*, *67*, 222–232.

Zaki, J., & Mitchell, J. P. (2011). Equitable decision making is associated with neural markers of intrinsic value. *Proceedings of the National Academy of Sciences*, *108*, 19761–19766.

Zhao, X., & Epley, N. (2020a). Kind words do not become tired words: Undervaluing the positive impact of frequent compliments. *Self and Identity*, 1–22. https://doi.org/10.1080/15298868.2020.1761438

Zhao, X., & Epley, N. (2020b). *Insufficiently complimentary? Underestimating the positive impact of compliments creates a barrier to expressing them* [Unpublished manuscript]. University of Chicago.