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**Lying Because We Care:
Compassion Increases Prosocial Lying**

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Abstract

Prosocial lies, or lies intended to benefit others, are ubiquitous behaviors that have important social and economic consequences. Though emotions play a central role in many forms of prosocial behavior, no work has investigated how emotions influence behavior when one has the opportunity to tell a prosocial lie—a situation that presents a conflict between two prosocial ethics: lying to prevent harm to another, and honesty, which might also provide benefits to the target of the lie. Here, we examine whether the emotion of compassion influences prosocial lying, and find that compassion causally increases and positively predicts prosocial lying. In Studies 1 and 2, participants evaluated a poorly written essay and provided feedback to the essay writer. Experimentally induced compassion felt towards the essay writer (Study 1) and individual differences in trait compassion (Study 2) were positively associated with inflated feedback to the essay writer. In both of these studies, the relationship between compassion and prosocial lying was partially mediated by an enhanced desire to prevent emotional harm. In Study 3, we found moderation such that experimentally induced compassion increased lies that resulted in financial gains for a charity, but not lies that produced financial gains for the self. This research illuminates the emotional underpinnings of the common yet morally complex behavior of prosocial lying, and builds on work highlighting the potentially harmful effects of compassion—an emotion typically seen as socially beneficial.

Keywords: Positive Emotion, Morality, Empathy, Prosocial Behavior, Deception

Word count: 13,065

Lying Because We Care:

Compassion Increases Prosocial Lying

When people are asked to report their most important moral value, the most frequent response is honesty (Graham, Meindl, Koleva, Iyer, & Johnson, 2015). Nevertheless, people report lying several times daily on average (DePaulo, Kashy, Kirkendol, Wyer, & Epstein, 1996). Many of these lies are told with the intention of benefiting others in some way, thus earning the classification “prosocial lie” (Levine & Schweitzer, 2014, 2015).

Despite the benevolent intentions behind prosocial lies, however, it is often the case that when given the opportunity to tell a prosocial lie, both lying and honesty can have different prosocial—and antisocial—consequences. For example, imagine a professor is asked by an undergraduate advisee to review his application essays for a prestigious doctoral program. After reading the essays, the professor thinks it unlikely that the student would be accepted into the program. Knowing that the student cares deeply about his academic identity and that he has put several months’ effort into the materials, the professor believes the truth would be devastating to the student. At the same time, the professor understands that honest feedback will give the student an opportunity to revise the essays and significantly improve his chances at admission.

If the professor were to experience a rush of compassion for the student, how would it impact whether or not the professor gives the student honest feedback? One possibility is that compassion would lead the professor to consider the benefits of the honest feedback, and drive the professor to tell the student the hurtful but beneficial truth. That is, compassion could promote a focus on the student’s career goals and help the professor see past the temporary emotional consequences of the feedback. Alternatively, compassion could instead focus the

professor on the negative emotional impact of the feedback, and lead the professor to tell a lie in the form of overly positive feedback.

In this paper, we explore, for the first time, the emotional basis of prosocial lying. Specifically, we examine how and why compassion impacts behavior when one has the opportunity to tell a prosocial lie. Determining how compassion influences prosocial lying is important for predicting the circumstances under which these lies might be told, as well as for developing an understanding of the counterintuitive and potentially detrimental effects of compassion on individuals, relationships, and organizations.

The Benefits and Limitations of Compassion

Compassion is sometimes confused with other related constructs in the empathy domain. Thus, we must first provide some conceptual work to make clear the construct we are studying. Under the superordinate heading of empathy lie three well-studied constructs (see Decety & Cowell, 2014; Levenson & Ruef, 1992; Preston & de Waal, 2002): (a) *Knowing what others feel* is a cognitive form of empathy that involves efforts to take the perspective of others (Zaki, 2014); success in this endeavor is called empathic accuracy (Ickes, 1993). (b) *Feeling what others feel* is an affective form of empathy that involves sharing the experiences of others (Wondra & Ellsworth, 2015), and is documented in rich literatures on emotional contagion (Barsade, 2002; Hatfield, Cacioppo, & Rapson, 1993; Neumann & Strack, 2000) and emotional mimicry (Dimberg, Thunberg, & Elmehed, 2000; Hess & Fischer, 2013). Finally, (c) *being emotionally motivated to alleviate others' distress or suffering* is an other-oriented emotion that involves an action tendency to help others (Goetz, Keltner, & Simon-Thomas, 2010); we label this construct "compassion" (see Haidt, 2003; Lazarus, 1991; Nussbaum, 1996), and study this

emotion in the present paper.¹ These three empathy-related constructs are psychologically (Davis, 1983; Konrath, O'Brien, & Hsing, 2011) and neurobiologically distinct (Decety, 2015; Immordino-Yang, McColl, Damasio, & Damasio, 2009; Shamay-Tsoory, Aharon-Peretz, & Perry, 2009), and predict different behavioral outcomes (Galinsky, Maddux, Gilin, & White, 2008; Jordan, Amir, & Bloom, 2016). However, there are some relations among the three constructs: for example, taking the perspective of a person in need promotes compassion (Coke, Batson, & McDavis, 1978), and empathic accuracy is facilitated by sharing others' feelings and physiological responses (Hess & Blair, 2001; Levenson & Ruef, 1992).

Compassion is an emotion elicited by appraisals of need or undeserved suffering (Goetz et al., 2010; Haidt, 2003; Lazarus, 1991), and is often associated with increased prosocial behavior (Batson & Shaw, 1991; Eisenberg, 2002). Compassion is evoked by witnessing or learning about others' physical or emotional pain (Batson et al., 1997; Condon & DeSteno, 2011; Eisenberg et al., 1989; Stellar, Cohen, Oveis, & Keltner, 2014; Stellar, Feinberg, & Keltner, 2014; Stellar, Manzo, Kraus, & Keltner, 2012; Van Kleef et al., 2008) or victimization (Cameron & Payne, 2011; Valdesolo & DeSteno, 2011a), and by viewing depictions of suffering others such as homeless or malnourished people (Oveis et al., 2009; Oveis, Horberg, & Keltner, 2010). Philosophers and psychologists consider compassion to be the prototypical prosocial emotion, as it guides decisions about whom to help and how to help them (e.g., Cameron & Payne, 2012; Haidt, 2003; Nussbaum, 1996).

Because compassion involves appraisals of suffering in others, it is no surprise that this emotion increases prosocial behaviors aimed at alleviating suffering and harm. For example, participants induced to experience compassion become more willing to receive painful electric

¹ Others have labeled this emotion as sympathy, empathy, or empathic concern (Batson, 1991;

shocks in place of other people (see Batson & Shaw, 1991 for a review). In addition, participants who reported compassion while viewing footage of injured children offered to volunteer more time to help the family of those children (Eisenberg et al., 1989). Those experiencing compassion will help others even if they can escape the situation without doing so (Batson, Duncan, Ackerman, Buckley, & Birch, 1981). Compassion is also a motivator of generosity towards those who suffer (Saslow et al., 2013). Furthermore, nonverbal behaviors aimed to reduce suffering, such as soothing touch and skin-to-skin contact, have been observed cross-culturally (Hertenstein, Keltner, App, Bulleit, & Jaskolka, 2006).

Not only does compassion increase prosocial behaviors that involve *preventing* suffering and harm, but it also plays a role in behaviors that *promote* the welfare of others. When a person experiences compassion, their focus turns away from the goals and needs of the self and toward enhancing the welfare of others (Batson & Shaw, 1991; Eisenberg et al., 1989; Eisenberg & Miller, 1987; Horberg, Oveis, & Keltner, 2011; Oveis et al., 2010; Valdesolo & DeSteno, 2011b). As such, research suggests that compassion increases behaviors intended to help others, even at a cost to oneself. For example, compassion promotes forgiveness (Condon & DeSteno, 2011; Rudolph, Roesch, Greitemeyer, & Weiner, 2004), increases volunteerism (Omoto, Malsch, & Barraza 2009), and facilitates cooperation (Singer & Steinbeis, 2009).

Despite the multitude of work highlighting compassion's central role in prosocial behavior, however, researchers have recently begun documenting the limitations of compassion, as well as conditions under which this emotion can actually have perverse effects. An underlying theme of this work is that compassion is associated with biases that can sometimes misguide our attention away from doing the "most good." This idea is well-illustrated by the story of Baby Jessica, who enraptured media attention and brought in hundreds of thousands of dollars in

charitable donations after falling down a well, while elsewhere in the world, humanitarian crises such as the Kurdish genocide, which resulted in hundreds of thousands of lives being lost (Black, 1993), received little attention. Individuals experience more compassion towards identifiable victims than relatively greater numbers of victims described using statistics (Small & Loewenstein, 2003), and people downregulate their compassion when they encounter multiple victims in need because those needs appear overwhelming (Cameron & Payne, 2011). Compassion is also more easily and more often felt for those whose suffering is vivid (Loewenstein & Small, 2007), and in-group members, such as those who are closely related (Cialdini, Brown, Lewis, Luce, & Neuberg, 1997), or those who share our ethnicity or nationality (Stürmer, Snyder, Kropp, & Siem, 2006). It has been argued that the biased nature of compassion is a contributing factor to neglect of the world's greatest atrocities, the rectification of which requires overcoming of these biases so that people may recognize and act where help is needed most (Slovic, 2007).

Prosocial and Selfish Lying

Prosocial lying is ethically ambiguous. On one hand, lying violates the principle of honesty, a widely held moral value (Graham et al., 2015). Yet, these lies differ in their intentions from *selfish lies*, or those which are told to benefit oneself, potentially at the expense of others (Levine & Schweitzer, 2014). Selfish lies, such as those told for personal monetary gain, to protect one's status or position, or to attain social approval, are commonly viewed as reprehensible (Buller & Burgoon, 1994). In contrast, prosocial lies are colored by people's good intentions, such as to prevent others from feeling hurt or embarrassed (DePaulo et al., 1996), or to benefit others financially (Erat & Gneezy, 2012).

It is important to note, however, that prosocial lies are benevolent in *intent*, but not

necessarily in their ultimate consequences. That is, although those who tell prosocial lies have good intentions, these lies can have harmful effects on others. Providing overly positive feedback (such as in the professor-student example earlier) is one such context in which prosocial lies can ultimately backfire. Inflated feedback can harm performance (Ellis, Mendel, & Aloni-Zohar, 2009) and lead to avoidance of challenges (Brummelman, Thomaes, Orobio de Castro, Overbeek, & Bushman, 2014). Conversely, research has documented clear benefits to receiving accurate performance feedback. Accurate feedback can foster motivation to achieve goals and improve performance (Hyland, 1988; Ilgen, Fisher & Taylor, 1979; Locke & Latham, 1990). Research in organizational behavior has demonstrated the importance of accurate feedback for workplace productivity (Hillman, Schwandt, & Bartz, 1990), as well for clarifying expectations and reducing employee uncertainty (Ashford & Cummings, 1983). Thus, while prosocial lies are intended to benefit others, they may ultimately have detrimental effects on individuals and organizations.

Because of the adverse consequences that can result from prosocial lies, scholars across several domains of psychology (social, developmental, organizational behavior) and behavioral economics have sought to better understand these lies through research. One clear finding is that prosocial lying is ubiquitous. Prosocial lying is socialized early in life; parents lie to their children to promote positive emotions (Heyman, Luu, & Lee, 2009), and children in turn understand and tell prosocial lies themselves (Broomfield, Robinson, & Robinson, 2002; Talwar et al., 2007). Adults also tell prosocial lies regularly, especially in close relationships (DePaulo & Kashy, 1998). Recent research has focused on responses to prosocial lying: Whereas selfish lies generally lead to distrust of the liar, prosocial lies that provide clear economic benefits to the target of the lie (hereafter “target”) can increase trust and positive moral evaluations of the liar

(Levine & Schweitzer, 2014, 2015). Yet, when the benefits of lying do not clearly outweigh those of honesty in the eyes of the target, prosocial lies can harm trust and moral judgments, and communicating benevolent intent may do little to mitigate these negative effects (Lupoli, Levine, & Greenberg, 2017). Other work has focused on predictors of prosocial lying: Research reveals that people are more likely to lie when others stand to gain (Gino, Ayal, & Ariely, 2013; Gino & Pierce, 2009; Wiltermuth, 2011), and prosocial lying is observed even when there is a cost to the self (Erat & Gneezy, 2012). Thus far, however, no work has examined what is likely a critical antecedent of prosocial lying: emotion, and in particular, the emotion of compassion.

Compassion and Prosocial Lying

Considering that compassion facilitates prosocial behavior, it seems likely that compassion would play *some* role in prosocial lying. What complicates matters, however, is that prosocial lying may not necessarily be the most beneficial action to take when considering targets' interests, because the alternative to prosocial lying might be helpful to them as well. When faced with the opportunity to tell a prosocial lie, two prosocial ethics are pitted against one another. Individuals must either lie in order to reduce harm or provide care to another, or tell the truth, which could also provide benefits for the target. Thus far, it is unclear how compassion influences behavior in moral dilemmas when different prosocial values are in conflict. In what direction might compassion influence prosocial lying, if any? Answering this question is critical to understanding compassion's influence on moral behavior, and this knowledge could inform policy initiatives aimed at increasing compassion in society and in organizations (e.g., Rynes, Bartunek, Dutton, & Margolis, 2012).

On one hand, compassion could decrease prosocial lying (and thus produce increased honesty) for two reasons. First, when faced with the opportunity to tell a prosocial lie, those

experiencing compassion might consider what is in the overall best interest of the target. As noted earlier, compassion has been shown to result in both harm-preventing behaviors, as well as behaviors that promote the wellbeing of others in ways unrelated to suffering. While no work has addressed how compassion influences behavior when harm prevention and non-harm-related welfare promotion are in conflict, one possibility is that compassion leads individuals to do whatever provides the greatest magnitude of benefits for others. Thus, if the benefits of a hurtful truth clearly outweigh the temporary pain inflicted by the truth, compassion could then lead an individual to be more honest. Recall the aforementioned example of the professor asked to evaluate the student's essays: Although hearing that that he is unlikely to be accepted would be painful, this would be a small price if honest criticism helps the student improve his application and ultimately gain admission. A compassionate individual might then be honest with the student about the flaws in his application.

Second, because lies have damaging effects on relationships, compassion may make individuals averse to telling lies in general. Deception can harm relationships by decreasing liking (Tyler, Feldman, & Reichert, 2006), intimacy (DePaulo et al., 1996), and trust (Schweitzer, Hershey, & Bradlow, 2006), and can also provoke revenge (Boles, Croson, & Murnighan, 2000). Additionally, in close relationships, such as friendships and romantic relationships, there are strong expectations of honesty (Stiff, Kim, & Ramesh, 1992). The discovery that one has been lied to can have negative emotional effects on the lie recipient, and damage or destroy the relationship (Haselton, Buss, Oubaid, & Angleitner, 2005; McCornack & Levine, 1990). It is possible that a lifetime of exposure to the harmful consequences of lying in general could have spillover effects towards perceptions of prosocial lying. Thus, one

experiencing compassion might opt to uphold the social contract of honesty, in part because of the detrimental effects that lying could have on one's relationships.

On the other hand, because compassion involves a heightened sensitivity to the suffering of others, this emotion could increase prosocial lying by focusing individuals on the harm inherent in a painful truth. That is, if lying is seen as a means to prevent or decrease suffering, then compassion might increase this type of lying. Consistent with this analysis is aforementioned work showing that compassion's effects on prosocial behavior are not necessarily calibrated toward promoting the *most* welfare-enhancing behavior, but instead toward promoting the welfare of others whose suffering is vivid (Loewenstein & Small, 2007). The circumstances under which lies are told lend well to compassion's biases: Lies are often told face-to-face, whereby the target is identifiable (e.g., Small & Loewenstein, 2003), and the pain that might result from the truth would be immediately apparent (i.e., vivid) to the potential deceiver. If the perceived harm that honesty might cause to the target is to be experienced in the here-and-now, compassion could act as a catalyst for prosocial lying in order to avoid this harm.

The Present Studies

In three studies, we provide the first tests of the influence of compassion on prosocial lying. We approach compassion at three levels (Han, Lerner, & Keltner, 2007; Rosenberg, 1998): as an experimentally-induced state experienced toward the potential target of a prosocial lie, or *integral compassion*; as an enduring emotional *trait*; and as an experimentally-induced state elicited by stimuli unrelated to the potential target of a prosocial lie, or *incidental compassion*. We also test whether a particular cognitive mechanism concerning the welfare of others—the importance placed on preventing harm—might underlie the relationship between compassion and prosocial lying. Studies 1 and 2 examine prosocial lies that prevent emotional harm; Study 3

examines lies that promote the gains of others, while also investigating compassion's influence on selfish lies. All three studies measure real behavior. For all studies, we report all measures, conditions, and data exclusions.

Study 1:

Integral Compassion Increases Prosocial Lies That Prevent Emotional Harm

Study 1 tested whether experimentally-induced compassion (versus neutral feelings) would influence prosocial lying. Prosocial lying was operationalized as the inflation of feedback to the writer of a poorly written essay, as compared to participants' previous, private evaluations of that same essay. This behavioral paradigm simulates a regular occurrence in schools and workplaces in which individuals first evaluate an underperforming individual and then must decide whether to give accurate feedback.

Study 1 employed an integral manipulation of compassion; that is, the person who elicited compassion in the participants was also the potential target of the prosocial lie. This type of manipulation allowed us to examine compassion's relation to prosocial lying as it often occurs in the real world. We also tested a potential cognitive mechanism of compassion's influence on prosocial lying in this context—an enhanced importance placed on preventing harm to others, which is a primary appraisal of compassion (Goetz et al., 2010)—as well as potential alternative mechanisms.

Additionally, we included several measures to rule out alternative hypotheses that could potentially account for the effect of compassion on prosocial lying (if any). For instance, while some individuals respond to others' suffering with the other-oriented emotion compassion, which predicts prosocial behavior, others experience personal distress, which is a self-focused response captured in measurements of one's own distress and anxiety, and does not predict prosocial

behavior (Batson, 1991; Eisenberg et al., 1989; Eisenberg & Eggum, 2009; Eisenberg & Fabes, 1990). As such, we measured participants' emotional experience to determine whether the effect of compassion on prosocial lying (if any) was driven by compassion specifically, and to rule out the possibility that other affective responses—personal distress, other discrete emotions, positive affect, and negative affect—could explain the effects. Lastly, we measured social perceptions of the essay writer that could potentially account for the effect of compassion on prosocial lying.

Methods

Participants, design, and procedure. Participants were 434 undergraduates from a large U.S. public university. Participants were randomly assigned to the compassion or neutral condition in a two-cell between-subjects design. Twenty-four participants were excluded for failing an attention check, and nine participants were excluded for reporting suspicion that they were not actually paired with another individual. Five responses were excluded from individuals who had already participated in the study. This left a final sample of 396 participants ($M_{age} = 21.3$, 55.1% female), which fell just below our a priori target sample size of 400 (200 per cell).² We chose this sample size as a number that would give us high power to detect a small-to-medium effect size, given we did not have sufficient precedent to estimate a precise effect size.

Participants completed the prosocial lying task (which included the compassion versus neutral manipulation), provided reports on their experienced emotions, and answered questions to assess potential mechanisms. Finally, we measured social perceptions of the writer to rule out potential confounding variables.

² Twenty-eight of the respondents who were excluded were in the compassion condition, and 11 were in the neutral condition. The results of this study hold with the inclusion of all participants.

Prosocial lying task. We adapted a behavioral measure of prosocial lying (Jampol & Zayas, 2016) in which participants first provided private ratings of an essay written by another individual. They then read about a recent experience in this individual’s life, which served as our manipulation of compassion or neutral feelings toward the essay writer. Next, they received a cover story explaining that they would have the opportunity to give the writer feedback, and that this feedback could help the writer improve the essay and thus improve his/her chance to earn a prize (see details below in section entitled, “Assessment of prosocial lying”). Finally, participants evaluated the essay a second time on the same dimensions, except this time with the knowledge that their evaluations would be shared with the essay writer. This procedure is graphically depicted in Figure 1.

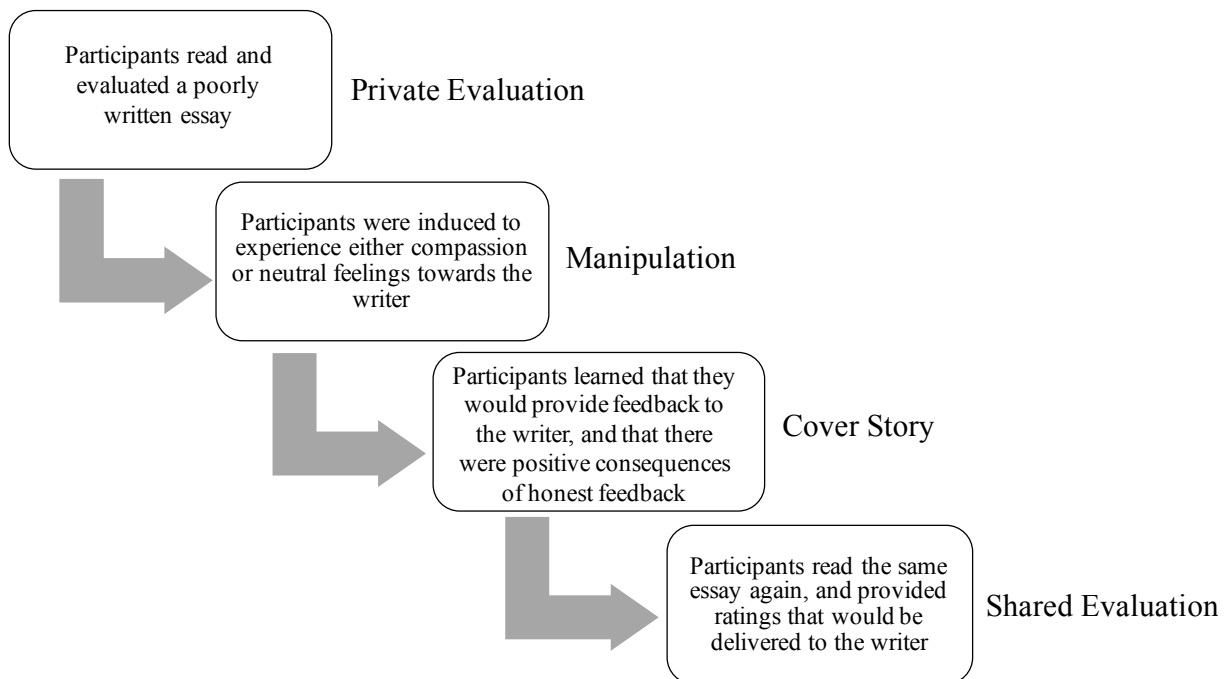


Figure 1. Overview of prosocial lying task in Study 1.

As in Jampol and Zayas (2016), participants were first told that they would be paired with a student from another university who had written an essay about why he/she should be admitted to a graduate program. Participants were told that the purpose of the task was to let the researcher know (1) the quality of the student's writing, and (2) whether the writing sample should be provided to students who are applying to graduate school as an example of good "off the cuff" writing—that is, writing not prepared in advance. To bolster the believability of the cover story and to increase the salience of an identifiable target, participants were provided with the student's initials ("CG") and a short introductory message from this ostensible partner. Participants were also provided with a description of criteria they would use to evaluate specific essay attributes (i.e., focus, logic, organization, support, mechanics), and were given an example of a high quality essay. Participants then read and rated the essay, which was pretested to be of relatively low quality ($N = 36$, sample drawn from same student population; $M = 44.56$, $SD = 20.69$; $0 = worst$, $100 = best$).

Private essay evaluations. Participants first provided their private ratings of the essay. Participants rated *quality* by indicating how the essay ranks "in general, compared to the best writing from someone in your peer-group/students at your university" ($0 = worst$, $100 = best$). Participants' ratings of the focus, logic, organization, support, and mechanics of the essay—five attributes that are important in good essay writing, which were defined for participants—were averaged to form an *attributes* score ($\alpha = .74$; $1 = worst$, $5 = best$). Lastly, participants provided their *recommendation* for the essay ("How likely would you be to recommend this essay as a good example of off the cuff writing for students preparing for graduate admissions?"; $1 = very unlikely$, $7 = very likely$). Attributes and recommendation scores were converted to percentage of maximum possible scores (Cohen, Cohen, Aiken, & West, 1999); these scores and the quality

score (which was already on a 0 to 100 scale) were averaged to form a measure of *overall private evaluations* ($\alpha = .76$). At no point were participants told that the writer would learn their identity or view their evaluation; thus, they were free to give any ratings they wished without social repercussions.

Manipulation of compassion versus neutral feelings toward the essay writer. After providing their initial private essay evaluations, participants received the manipulation of compassion or neutral feelings toward the writer. This manipulation was implemented in the form of a message ostensibly written by the essay writer about an event that recently occurred in his/her life. To reduce the potential for demand effects that could arise from identification of the purpose of this message, we told participants that they would receive this message because “we want to give you the chance to know him/her [the writer] better,” and that “he/she [the writer] was not given any specific instructions about what type of event he/she should write about.”

Participants randomly assigned to the compassion condition then read a short paragraph adapted from Stellar, Feinberg, and Keltner (2014) that depicted the experience of a family member’s death (with intentional spelling and punctuation errors to match the writing quality of the essay):

I dont know if this will be interesting to you but the only thing I can think of is two days ago my cousin passed away. It was really hard for me since we were so close. I spent a lot of time with her when I was younger we were best friends as kids. After I found out I just came home and sat in my room for a while by myself, my whole body was tired and I just felt so drained. I haven’t talked to anyone about it really... I just couldn’t believe it I, I wish I had gotten a chance to talk to her one last time. She was a really great person and she was a really big part of my life.

Participants in the neutral condition read a paragraph about an ordinary grocery shopping experience.

Assessment of prosocial lying. After receiving the emotion manipulation, participants were asked to provide feedback to the writer about the quality of his/her essay. To (a) make the benefits of honesty salient, and (b) reduce demand effects that might arise from the perception that participants were expected to inflate their shared evaluations, we presented the following explanation to participants before they provided their feedback:

Your feedback is important. Each writer in this project must decide whether they would like to rewrite their essay before submitting it into a contest in which they can win a small prize that we will hold at the end of the semester. So, the information that you provide will help the writer improve his/her essay.

Participants again rated the *quality* and *attributes* of the essay and provided their *recommendation* for the essay on the same scales described above, but this time they received an on-screen reminder that their essay ratings would be shared with the essay writer. Attributes and recommendation ratings were converted to percentage of maximum possible scores, and these scores were averaged along with the quality rating to form a measure of *overall shared evaluations* ($\alpha = .79$).

Experienced emotions. After providing their shared evaluations, participants were asked to think back to the message they read about the recent experience in the writer's life (the emotion manipulation), and to indicate the extent to which they experienced several emotions while reading this message (1 = *very slightly or not at all*, 5 = *extremely*). Twenty of the items assessed were taken from the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988), and three additional items were used to assess compassion ("compassionate,"

“sympathetic,” “moved”; Oveis et al., 2010). The order of the emotion items was randomized for each participant. We calculated composite scores for positive affect (10 items: interested, excited, strong, enthusiastic, proud, alert, inspired, determined, attentive, active; $\alpha = .85$), negative affect (10 items: distressed, upset, guilty, scared, hostile, irritable, ashamed, nervous, jittery, afraid; $\alpha = .77$), and compassion (3 items, $\alpha = .89$). In addition, we calculated a composite score for personal distress using a subset of the negative affect items (5 items: distressed, upset, scared, nervous, afraid; $\alpha = .74$), following past work that has measured personal distress with similar items (Eisenberg et al., 1989).

Mechanism: Harm prevention. A primary appraisal associated with compassion is a heightened focus on the suffering of others. Thus, we hypothesized that compassion’s influence on prosocial lying would be mediated by an enhanced desire to prevent emotional harm. To assess this mechanism, participants responded to the following prompt: “When you were giving feedback to the student with whom you were paired during the second round of grading, how important was it for you to prevent any emotional harm or negative feelings that might have occurred as a result of your feedback?” (1 = *not at all important*, 7 = *extremely important*).

We also assessed alternative potential mechanisms by asking participants to indicate on the same scale how important it was to “give honest feedback,” and how important it was to “give feedback that would help the student improve his/her writing.” All mechanism questions were presented in randomized order.

Social perceptions. Next, we measured several perceptions of the writer. Participants were first asked, “How optimistic would you be about CG’s [the writer’s] success as a future graduate student?” (1 = *not at all*, 7 = *very*). They then received a series of questions on the same 1 to 7 scale in the following format: “How ___ is CG?” Participants rated the writer on the

following dimensions: smart, dominant, warm, agreeable, competent, confident, open, likeable, trusting, trustworthy.”

On the next survey page, we asked participants to indicate their beliefs about the gender of the student with whom they were paired (1 = *the student was very likely to be female*, 2 = *the student was probably female*, 3 = *the student could have been male or female*, 4 = *the student was probably male*, 5 = *the student was very likely to be male*). Lastly, participants responded to several exploratory measures, which are reported in the Supplemental Material and do not moderate the results.

Results

Manipulation check. The compassion induction was successful: Participants in the compassion condition reported feeling more compassion ($M = 3.15$, $SD = 1.03$) than did those in the neutral condition ($M = 1.46$, $SD = 0.64$), $t(394) = 19.76$, $p < .001$, $d = 1.99$.

Overall levels of prosocial lying. The prosocial lying task successfully generated prosocial lying. To test this, we subtracted overall private evaluations from overall shared evaluations. We also subtracted private from shared evaluations on each of the three evaluation criteria (quality, attributes, recommendation). The higher each difference score, the more participants inflated their ratings when giving feedback to the writer. For all measures, the mean difference score for each evaluation criterion across conditions was positive, indicating that participants provided more positive evaluations when the writer would view those evaluations, compared to their private evaluations ($M_{overall} = +3.67$, $SD_{overall} = 8.94$; $M_{quality} = +2.95$, $SD_{quality} = 9.43$; $M_{attributes} = +0.10$, $SD_{attributes} = 0.41$; $M_{recommendation} = +0.33$, $SD_{recommendation} = 0.74$). Furthermore, t-tests revealed that each of these difference scores significantly differed from zero ($ps < .001$), thus enabling us to reject the null hypothesis that no prosocial lying occurred.

Compassion increased levels of prosocial lying. In this study, we hypothesized that compassion would increase overall prosocial lying, which was operationalized as the size of the essay rating inflation going from overall private to overall shared evaluations. To test this, we ran a mixed model ANOVA. We entered condition (compassion/neutral) as a between-subjects variable, time (overall private/overall shared) as a within-subjects variable, and their interaction. With this analysis, the interaction term is the focal term: This tests whether the mean difference going from private to shared evaluations differs as a function of the manipulation.

Consistent with our hypothesis, this interaction was significant, $F(1,394) = 13.70, p < .001, \eta^2_p = .03$. The compassion condition produced increased overall prosocial lying (that is, a bigger difference going from private to shared evaluations) than the neutral condition ($M_{compassion} = +5.37, SD_{compassion} = 9.23$ vs. $M_{neutral} = +2.09, SD_{neutral} = 8.38$), $t(394) = 3.70, p < .001, d = .37$. There was also a significant main effect of time, $F(1,394) = 69.00, p < .001, \eta^2_p = .15$. Participants rated the essay higher when their evaluations were shared ($M = 29.68, SD = 16.36$) compared to than when they were private ($M = 26.01, SD = 14.78$), $t(395) = 8.18, p < .001, d = .41$. There was no main effect of condition ($p > .25$). These results are displayed in Figure 2.

We also examined prosocial lying on each of the three specific essay rating criteria (quality, attributes, recommendation) by running separate mixed model ANOVAs with each criterion entered as the dependent variable. Each of these models revealed significant interactions (quality: $F(1,394) = 15.21, p < .001, \eta^2_p = .04$; attributes: $F(1,394) = 8.19, p < .001, \eta^2_p = .02$; recommendation: $F(1,394) = 15.21, p < .001, \eta^2_p = .02$). Those in the compassion condition exhibited greater levels of prosocial lying (i.e., shared – private evaluations) in their ratings of quality ($M_{compassion} = +4.83, SD_{compassion} = 9.18$ vs. $M_{neutral} = +1.20, SD_{neutral} = 9.33$), $t(394) = 3.90, p < .001, d = .39$, attributes ($M_{compassion} = +0.16, SD_{compassion} = 0.37$ vs. $M_{neutral} =$

+0.05, $SD_{neutral} = 0.29$), $t(394) = 2.86, p < .01, d = .29$, and recommendation ($M_{compassion} = +0.43, SD_{compassion} = 0.80$ vs. $M_{neutral} = +0.24, SD_{neutral} = 0.27$), $t(394) = 2.66, p < .01, d = .27$. In addition, these models revealed main effects of time ($ps < .001$), indicating that participants' shared ratings evaluations were significantly higher than their private evaluations (quality: $M_{private} = 33.88, SD_{private} = 20.36$ vs. $M_{shared} = 36.83, SD_{shared} = 20.95$; $t(395) = 6.24, p < .001, d = .31$; attributes: $M_{private} = 2.31, SD_{private} = 0.63$ vs. $M_{shared} = 2.41, SD_{shared} = 0.70$; $t(395) = 4.86, p < .001, d = .24$; recommendation: $M_{private} = 1.68, SD_{private} = 1.09$ vs. $M_{shared} = 2.02, SD_{shared} = 1.19$; $t(395) = 9.01, p < .001, d = .45$). There were no main effects of condition ($ps > .25$). Raw score means and standard deviations for private and shared evaluations across conditions are displayed in Table 1.

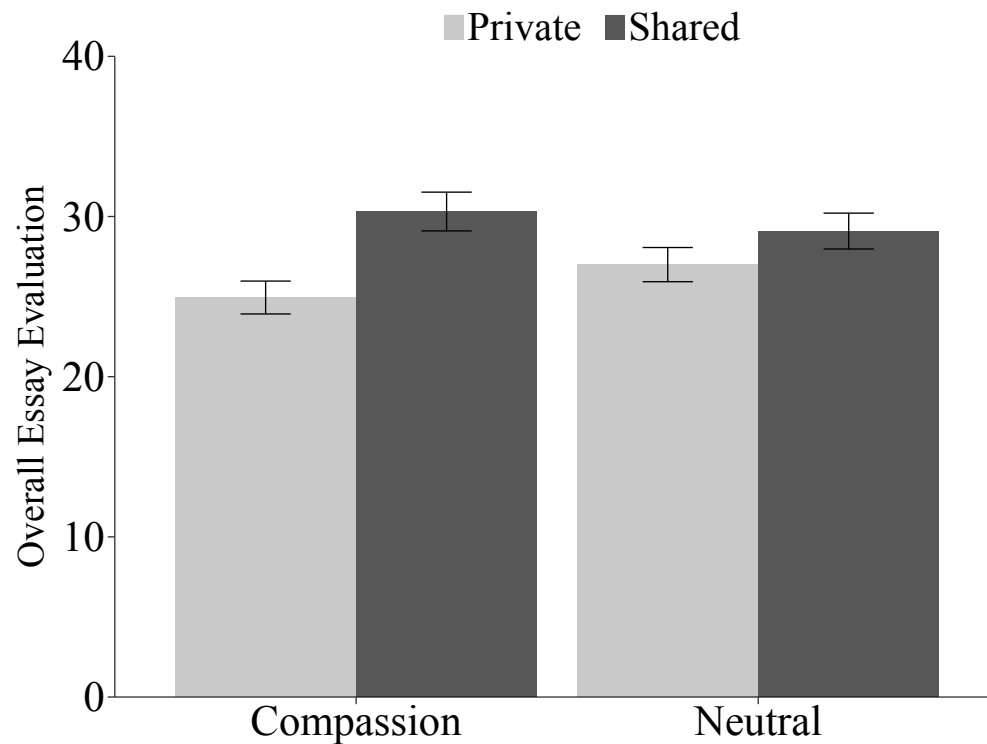


Figure 2. The effect of integral compassion on overall essay evaluations in Study 1. Essay evaluations are on a 0 to 100 scale. Error bars signify standard errors.

	<u>Overall</u>		<u>Quality</u>		<u>Attributes</u>		<u>Recommendation</u>	
	Private	Shared	Private	Shared	Private	Shared	Private	Shared
Compassion	24.94 (14.18)	30.31 (16.73)	32.71 (20.01)	37.54 (21.21)	2.29 (0.61)	2.45 (0.70)	1.60 (0.97)	2.03 (1.16)
Neutral	27.00 (15.29)	29.09 (16.03)	34.97 (20.67)	36.17 (20.73)	2.33 (0.65)	2.38 (0.70)	1.76 (1.19)	2.00 (1.22)

Table 1. Means of raw private and shared evaluations across conditions for each of the three essay evaluation criteria, as well as for overall evaluations. Numbers in parentheses signify standard deviations. Note: Overall evaluations are on a 0 to 100 scale, quality is on a 0 to 100 scale, attributes is on a 1 to 5 scale, and recommendation is on a 1 to 7 scale.

Importance placed on harm prevention partially mediated the effect of compassion on prosocial lying. After establishing that the compassion induction significantly increased prosocial lying, we assessed whether compassion also increased the importance placed on preventing emotional harm or negative feelings. Indeed, those in the compassion condition reported a significantly greater importance placed on preventing emotional harm than those in the neutral condition, $B = .39, p = .02$. The importance placed on preventing emotional harm also significantly predicted overall prosocial lying, $B = .65, p = .01$. We therefore examined the relationship between this potential mediator and overall prosocial lying. All mediation models

implemented a difference score as the dependent variable, where overall private evaluations were subtracted from overall shared evaluations to obtain a measure of overall prosocial lying.³

Using the bootstrapping method, a mediation model with 20,000 bootstrap resamples confirmed that the importance placed on preventing emotional harm was a partial mediator of the relationship between compassion and overall prosocial lying, $B = .21$, 95% CI [.02, .59]. In contrast, neither the importance placed on giving honest feedback nor the importance given to helping the student improve his/her writing was predicted by the compassion induction ($ps > .25$), thus ruling these items out as mediators of the relationship between compassion and prosocial lying.

Experienced compassion mediated the effect of the compassion manipulation on prosocial lying. In order to establish that the observed effects on prosocial lying were driven by the experience of compassion and not some other difference between the two experimental conditions, we first tested whether prosocial lying was predicted by experienced compassion as measured by the manipulation check. Overall prosocial lying was significantly predicted by experienced compassion, $B = 2.10$, $p < .001$. This effect held for both participants in the compassion condition, $B = 2.22$, $p < .001$, as well as those in the neutral condition, $B = 2.36$, $p < .01$. We also tested whether the data were consistent with a mediation model in which the

³ F and p values for the Time x Manipulation interaction term in the mixed model ANOVA we reported are equivalent to F and p values for the independent variable in a one-way ANOVA where the manipulation (compassion/neutral) is the independent variable and the shared – private difference score is the dependent variable (Huck & McLean, 1975); both of these terms test whether the mean change going from private to shared evaluations differs as a function of the manipulation.

experience of compassion mediates the influence of the compassion (versus neutral) condition on prosocial lying. The data were indeed consistent with such a model: A mediation model with 20,000 bootstrap resamples and bias-corrected confidence estimates revealed a significant indirect effect of the manipulation through experienced compassion on prosocial lying, $B = 3.81$, 95% CI [1.93, 5.96].

In addition, we tested multiple mediation models containing experienced compassion and other emotions as measured by items of the PANAS scale as mediators of the effect of the compassion manipulation on prosocial lying. A model containing experienced compassion, positive affect, negative affect, and personal distress as mediators revealed a significant indirect effect of experienced compassion, $B = 3.48$, 95% CI [1.09, 5.89], while confidence intervals around the indirect effects of positive affect, negative affect, and personal distress all contained zero. These analyses serve as a test of the specificity of the effect, indicating that increases in prosocial lying stemmed from participants' experience of compassion, rather than other emotions.

Controlling for positive affect, negative affect, personal distress, specific emotions, and social perceptions did not account for the observed effects. The effect of the compassion manipulation on overall prosocial lying remained significant in a model controlling for positive affect, negative affect, and personal distress, $B = 2.14$, $p < .05$, and marginally significant in a model controlling for every specific emotion item assessed in the PANAS, $B = 2.00$, $p = .06$.

In addition, we looked for differences in social perceptions resulting from the compassion and neutral manipulation to determine if they could explain the effects on prosocial lying. Overall, those in the compassion condition ($M = 3.40$, $SD = 1.42$) reported being more optimistic about the writer's future as a graduate student than those in the neutral condition ($M = 2.93$, $SD =$

1.34), $t(394) = 3.40, p < .001, d = 0.34$. The writer in the compassion condition was also perceived as significantly more warm, agreeable, competent, open, likeable, trusting, trustworthy, and more likely to be female compared to the neutral condition ($ps < .05$). There were no significant differences between the two conditions in perceptions that the writer was smart, dominant, or confident ($ps > .20$). Importantly, the effect of the compassion manipulation on prosocial lying remained significant in a model controlling for each of the social perceptions significantly predicted by the compassion manipulation, $B = 3.73, p < .001$. Furthermore, a multiple mediation model with these perceptions entered as mediators revealed no significant indirect effects (all confidence intervals contained zero). We also ran a model controlling for positive affect, negative affect, personal distress, and the aforementioned social perceptions that were influenced by compassion; the effect of compassion on prosocial lying remained significant in this model as well, $B = 2.79, p < .01$.⁴

Discussion

Study 1 provided the first demonstration that compassion increases prosocial lying. By examining peer feedback, the experimental design in this study simulated a common context in which prosocial is likely to occur. Moreover, we identified a mechanism: The effect of compassion on prosocial lying was partially mediated by the importance placed on preventing emotional harm that could occur as a result of their feedback. Other emotions and social perceptions of the target did not drive the effect.

Study 2:

⁴ Models that included covariates to rule out alternative hypotheses were linear mixed effects models with a random intercept for participant ID to control for repeated measures of private/shared ratings. Full regression tables are available in the Supplemental Material.

Trait Compassion Predicts Increased Prosocial Lying To Prevent Emotional Harm

Study 2 tested whether individual differences in trait compassion predict prosocial lying using the same feedback paradigm implemented in Study 1. Trait emotions are enduring aspects of a person's personality that show stability over time and reflect elevated baseline levels of an emotion, increased tendencies to experience an emotion, and/or a decreased threshold for triggering the experience of an emotion (Rosenberg, 1998; Shiota, Keltner, & John, 2006). Investigating trait compassion thus offers another important glimpse into how prosocial lying effects are likely to emerge in the real world.

Methods

Participants, design, and procedure. Participants were 145 Amazon Mechanical Turk (Mturk) workers located in the United States. Four participants were excluded for failing an attention check, and two participants were excluded for reporting disbelief that they were paired with another individual. This left a final sample of 139 participants ($M_{age} = 35.5$, 60.5% female).⁵ Before collecting data, we aimed to acquire as many participants as possible while staying within a budget.

No variables were manipulated in Study 2, thus eliminating the potential for demand characteristics that could arise from identification of the experimental manipulation. All participants completed the assessment of trait compassion, a filler task, the prosocial lying task, and the mechanism measures, as detailed below.

Trait compassion. Trait compassion was measured using two validated scales administered in counterbalanced order: the Empathic Concern subscale of the Interpersonal Reactivity Index (IRI-EC; Davis, 1983) and the compassion subscale of the Dispositional

⁵ The results of this study hold with the inclusion of all participants.

Positive Emotion Scales (DPES; Shiota et al., 2006). For the 7-item IRI-EC, participants indicated their agreement or disagreement (1 = *strongly disagree*, 5 = *strongly agree*) with items such as, “Other people’s misfortunes usually do not disturb me a great deal,” (reverse-scored) and “I often have tender, concerned feelings for people less fortunate than me.” Internal reliability was high ($\alpha = .88$). For the 5-item Compassion DPES, participants rated their agreement or disagreement (1 = *disagree strongly*, 7 = *agree strongly*) with items such as “Taking care of others gives me a warm feeling inside,” and “I am a very compassionate person.” Internal reliability was also high for this scale ($\alpha = .88$). As expected, the two scales were highly correlated ($r(137) = .86$), so we converted them to percentage of maximum possible scores and averaged them to form the composite measure of trait compassion ($\alpha = .92$).

Filler task and demographics. In order to disguise our hypotheses and preclude the desire for consistent responding with the trait compassion measures, it was important to temporally separate the compassion measures from the focal dependent variables. Thus, we provided participants with filler measures after assessing trait compassion. Here, participants answered demographic questions, then engaged in a task in which they formed neutral sentences from a series of scrambled words.

Prosocial lying task. We used the prosocial lying task from Study 1, with the cover story adapted for Mturk participants. Specifically, participants were told that we were interested in assessing Mturk workers’ (those who participate in tasks on Mturk) perspectives on Mturk workers’ writing. Participants were informed that they would be paired with another Mturk worker, and that this worker had been asked to write a short essay about the benefits of Mturk for both workers and requesters (those who post tasks on Mturk). As in Study 1, participants were informed that the purpose of the task was to let the researcher know the quality of the writing,

and also to determine whether the essay should be included in an introductory manual for people potentially interested in using Mturk.

Similarly to Study 1, participants were shown the Mturk worker's initials and short introductory message. They then learned about the same criteria for evaluating specific essay attributes that were used in Study 1 (i.e., focus, logic, organization, support, mechanics). Next, participants provided private evaluations of the essay, which was rated in a pretest by Jampol and Zayas (2016) to be of low quality ($M = 22.20$, $SD = 19.20$ on a 0 [*worst*] to 100 [*best*] scale). The evaluation measures implemented here were also similar to those used in Study 1, with minor changes. In Study 2, all measures were assessed on 0 to 100 scales. Participants rated the *quality* of the essay (0 = *worst*, 100 = *best*), the five essay *attributes* (0 = *worst*, 100 = *best*; $\alpha = .74$), and the degree to which they would recommend the essay to be published in an introductory manual for online research (*recommendation*; 0 = *very unlikely*, 100 = *very likely*). Ratings on each criterion were averaged to form a measure of *overall private evaluations* ($\alpha = .89$). The essay was provided on the screen while participants made their ratings.

After giving their initial, private evaluations, participants were asked to provide feedback to the writer about the quality of his/her essay. Before they gave their feedback, we presented participants with a similar explanation from Study 1 for why they would provide the feedback—that is, that their feedback was important because it could help the writer improve his/her essay before submitting it “into a future HIT [survey on Mturk] in which they can earn a bonus [extra money].” As in Study 1, we presented this information in order to make the benefits of honesty salient and to reduce potential demand effects.

Participants then evaluated the essay on the same three measures as before, with the addition of an on-screen reminder that these ratings would be shared with the essay writer. These evaluations were averaged to form a composite of *overall shared evaluations* ($\alpha = .89$).

Mechanism: Harm prevention. Following the prosocial lying task, we asked participants the same question from Study 1 to assess the hypothesized mechanism—an enhanced focus on harm prevention—except that the writer was now referred to as a “worker” instead of a “student.” Specifically, participants were asked, “When you were giving feedback to the worker with whom you were paired during the second round of grading, how important was it for you to prevent any emotional harm or negative feelings that might have occurred as a result of your feedback?” (1 = *not at all important*, 7 = *extremely important*). They were also asked the same two questions from Study 1 to assess two alternative mechanisms: the importance placed on giving honest feedback, and on giving feedback that would help the worker improve his/her writing (1 = *not at all important*, 7 = *extremely important*). Following the mechanism questions, participants responded to additional exploratory measures, which are reported in the Supplemental Material and do not moderate results.

Results

Overall levels of prosocial lying. Once again, the prosocial lying task resulted in prosocial lying. Positive difference scores for overall prosocial lying as well as each evaluation criterion indicated that participants inflated their ratings when they would be shared with the writer, compared to their private evaluations ($M_{overall} = +3.51$, $SD_{overall} = 7.55$; $M_{quality} = +3.25$, $SD_{quality} = 10.84$; $M_{attributes} = +1.08$, $SD_{attributes} = 7.87$; $M_{recommendation} = +6.19$, $SD_{recommendation} = 11.06$). Additionally, t-tests revealed that difference scores for quality and recommendation

measures significantly differed from zero ($ps < .001$), though difference scores for the attributes measure did not differ significantly from zero ($p = .11$).

Trait compassion predicts increased prosocial lying. To test our main hypothesis, we first examined correlations between trait compassion and overall prosocial lying, which was defined as the difference score of overall shared evaluations – overall private evaluations. Because the distributions of trait compassion scores were skewed (most participants rated themselves as relatively high in compassion ($M = 75.28$, $SD = 15.72$, Pearson's moment correlation of skewness = $-.73$), we conducted non-parametric Spearman rank-order correlations. Consistent with our predictions, trait compassion was significantly correlated with overall prosocial lying, $\rho(137) = .18$, $p = .03$. We then examined how prosocial lying correlated with the three evaluation criteria that comprised the composite measure. These analyses revealed a significant positive correlation between compassion and prosocial lying about essay quality, $\rho(137) = .18$, $p = .03$, and recommendation, $\rho(137) = .21$, $p = .01$. The relationship between trait compassion and prosocial lying about the essay attributes was not significant ($p > .25$).

We also conducted additional analyses to determine how individuals who were both high and low in trait compassion rated the essay for both private and shared evaluations. We defined high trait compassion as one standard deviation above the mean or greater on our measure of compassion, and low trait compassion was defined as one standard deviation below the mean or less. Those who were high in trait compassion provided an overall private rating of 44.14 ($SD = 24.79$), and an overall shared rating of 50.13 ($SD = 25.21$). Those who were low in trait compassion had an overall private rating of 36.54 ($SD = 18.64$), and an overall shared rating of 40.75 ($SD = 19.15$). Means and standard deviations of private and shared ratings on each individual criterion for those high and low in compassion are provided in Table 2.

	<u>Overall</u>		<u>Quality</u>		<u>Attributes</u>		<u>Recommendation</u>	
	Private	Shared	Private	Shared	Private	Shared	Private	Shared
High Compassion	44.14 (24.79)	50.13 (25.21)	48.96 (23.83)	55.30 (26.59)	49.33 (22.02)	51.95 (22.43)	34.13 (32.51)	43.13 (31.50)
Low Compassion	36.54 (18.64)	40.75 (19.15)	45.06 (21.82)	45.13 (21.24)	43.18 (18.81)	48.63 (19.78)	21.38 (21.17)	28.50 (23.49)

Table 2. Means of raw private and shared evaluations for those high and low in trait compassion for each of the three essay evaluation criteria, as well as for overall evaluations. Numbers in parentheses signify standard deviations. Note: All scores are on 0 to 100 scales. High and low compassion were defined as greater than 1 standard deviation above and below the mean of trait compassion, respectively.

Importance placed on harm prevention partially mediated the relationship between trait compassion and prosocial lying. The relationship between compassion and our hypothesized mediator—the importance placed on preventing emotional harm or negative feelings—was significant, $\rho(137) = .27, p < .01$. The relationship between importance placed on harm prevention and overall prosocial lying was also significant, $\rho(137) = .23, p < .01$. As such, we tested whether the importance placed on preventing emotional harm mediated the relationship between trait compassion and prosocial lying. Consistent with Study 1, a mediation model with 20,000 bootstrap resamples indicated that the desire to prevent harm was a partial mediator of this relationship, $B = .02, 95\% \text{ CI } [.01, .05]$ (See Figure 3).

indirect effect of the importance placed on harm prevention, $B = .02$, 95% CI [.002, .04].

However, confidence intervals for the indirect effects of the importance placed on helping the writer improve and on being honest both contained zero, thus ruling these out as mediators of the relationship between trait compassion and prosocial lying.

Discussion

In Study 2, trait compassion predicted increased prosocial lying. While this study implemented a correlational design, the results are consistent with those of Study 1, thus offering more evidence for the positive relationship between compassion and prosocial lying. Further supporting this evidence is the identification of the same underlying mechanism in Studies 1 and 2. In both of these studies, the desire to prevent emotional harm partially mediated the relationship between trait compassion and prosocial lying, rather than alternative mechanisms.

Study 3:

Compassion Increases Prosocial Lies That Promote the Gains of Others But Not the Self

Whereas Studies 1 and 2 examined how compassion influences and relates to lies that *prevent* harm to others, Study 3 instead examined lies that *promote* positive outcomes for others. Specifically, Study 3 investigated whether experimentally-induced compassion would increase lies that procure financial gains of others—in this case, a charity. By examining prosocial lying in a different context, Study 3 helps to assess the external validity of the effects seen in Studies 1 and 2. Moreover, in this study, we examined a third form of compassion by testing the effect of incidental state compassion on prosocial lying. That is, we manipulated compassion that was unrelated to the subsequent target of a prosocial lie. Testing the effects of incidental compassion on prosocial lying offers another key glimpse into how prosocial lying might unfold in the real world, as emotions can have spillover effects on decision-making in a variety of domains (e.g.,

Han et al., 2007). Lastly, we tested discriminant validity by investigating both prosocial and selfish lies, predicting moderation such that compassion would increase prosocial lies, but either decrease or have no effect on selfish lies.

Methods

Participants, design, and procedure. Participants were 455 undergraduates from a large U.S. public university. Participants were randomly assigned to one of four conditions in a 2 (Emotion: compassion/neutral) x 2 (Lie Type: prosocial/selfish) between-subjects design. Ten participants were excluded due to a computer malfunction, three were excluded for being familiar with the lying task, six were excluded for guessing the hypothesis of the study, and four were excluded for displaying consistent responding that demonstrated a lack of understanding or concern for the task (by giving the payoff-minimizing response for the first 100 trials of the task). This left a final sample of 432 ($M_{\text{age}} = 21.3$, 49.2% female).⁶ Before collecting data, we had a target sample size of at least 400 (100 per cell), and planned to collect as many responses as possible within the lab time we were allotted to run the study. All participants received course credit in exchange for participation; additional incentive payments were made to a random selection of 10% of participants according their responses in the lying task (it was possible to gain up to \$10 in incentive payments for the self or for charity).

To obscure the study's purpose, participants were first told that they would be participating in a study about "how personality and visual stimuli influence memory." To bolster

⁶ Of those participants who were excluded, nine were in the compassion/prosocial condition, nine were in the compassion/selfish condition, three were in the neutral/prosocial condition, and one was in the neutral/selfish condition. The results of this study hold with the inclusion of all participants.

the cover story about the memory task, participants were told, “For this study, we are investigating how different visual stimuli affect memory. You will view a series of photos and a short movie. You will later be asked to recall aspects of the photos and movie, so please pay close attention.” Next, participants filled out the Big Five Personality Inventory (BFI; John, Donahue, & Kentle, 1991), which assessed control variables. Then, participants received the compassion or neutral emotion induction, completed the lying task (where lies benefited the self or others), and finally reported on their experienced emotions.

Big Five Personality Inventory (control variables). Participants completed the 44-item BFI on 1 (*strongly disagree*) to 5 (*strongly agree*) scales. We measured agreeableness as a control variable because of its potential relationship with decisions to lie prosocially, and because agreeableness, along with extraversion, tends to covary with positive emotionality (John & Srivastava, 1999). Neuroticism was measured as a control variable because of its empirical links with negative emotionality. We additionally included conscientiousness and openness to experience as control variables because they make up the other two major dimensions of personality.

Emotion manipulation – compassion vs. neutral. Next, participants received the emotion manipulation. Those in the compassion condition viewed a validated 15-slide compassion induction (photographs depicted helplessness and vulnerability; Oveis et al., 2010) followed immediately by a validated 46-second film induction of compassion (about child malnutrition and starvation; Côté et al., 2011). Importantly, the slides and video selected were not connected to the target organization of the prosocial lying task, nor was it plausible based on photo/video content or procedure that participants would later believe that they were benefiting the individuals depicted in the compassion induction.

Participants in the neutral condition viewed 15 neutral slides from the International Affective Picture System (IAPS; Lang, Bradley, & Cuthbert, 1999) immediately followed by a 46-second clip from the film *All the President's Men* depicting two men talking in a courtroom—a clip that past research has shown to elicit a neutral state (Hewig et al., 2005). All stimuli used in the manipulation can be found in the Supplemental Material.

Lying task – prosocial lies vs. selfish lies. Immediately after the emotion induction, participants engaged in a lying task adapted from Gino, Norton, and Ariely (2010). For this task, participants viewed a series of arrays of dots dispersed within a square. Each square had a diagonal line cutting it in half, such that some dots were displayed to the right of the diagonal, and some dots to the left of the diagonal. After a 1-second exposure to each trial, participants were asked report whether there were more dots to the left or the right of the diagonal by pressing one of two keys.

Participants in the selfish lie condition were told that they would be paid 0.5 cents each time they reported that there were more dots on the left, and 5 cents for each time they reported that there were more dots on the right “because most people can easily identify the number of dots on the left side.” That is, they were incentivized to say that there were more dots on the right regardless of whether or not this was true.

In the prosocial lie condition, participants received the same information, but were told that the money earned based on their responses would be donated to a real charity—the Against Malaria Foundation. Participants in this condition were also given a short paragraph about the nature of the charity, which provides insecticide-treated mosquito nets for the prevention of malaria (see Supplemental Material for full description provided to participants). All money

earned by participants in the prosocial lie condition was actually donated to the Against Malaria Foundation.

Following Gino et al. (2010), all participants first performed 15 practice trials. After the practice phase, there were 200 trials divided into two blocks with 100 trials each. Each of the two blocks contained 34 trials in which there were clearly more dots on the left (a right-to-left ratio of less than $2/3$), 50 trials in which it was ambiguous whether there were more dots on the left or the right (a right-to-left ratio greater than or equal to $2/3$ and less than or equal to $3/2$), and 16 trials in which there were clearly more dots on the right (the ratio of the number of dots on the right to the number of dots on the left was greater than $3/2$). As in Gino et al. (2010), *clearly dishonest* responses were defined as “more on the right” responses—the response that yielded the higher payoff—when there were clearly more dots on the left. *Ambiguously dishonest* responses were defined as “more on the right” responses when it was ambiguous whether there were more dots on the right or left. *Honest* responses were defined as “more on the right” responses when they were clearly more dots on the right.

Experienced emotions. Immediately following the lying task, participants completed the same measures of experienced emotions as in Study 1 for our manipulation check. Here, participants were asked to indicate the extent to which they experienced each emotion after viewing the slides and video. We once again calculated scores for positive affect (10 items, $\alpha = .89$), negative affect (10 items, $\alpha = .90$), personal distress (5 items; $\alpha = .85$) and compassion (3 items, $\alpha = .90$). All items were displayed in a randomized order. Due to a programming error, only 269 of the 432 participants were asked about their experienced emotions.

Results

Manipulation check. We ran a 2 (Emotion: compassion/neutral) x 2 (Lie Type: prosocial/selfish) ANOVA on experienced compassion as our manipulation check. As expected, there was no main effect of lie type ($p > .25$), but there was a significant main effect of emotion condition, $F(1,265) = 267.12, p < .001, \eta^2_p = .50$. The previously validated emotion induction successfully induced compassion: Participants in the compassion condition ($M = 3.38, SD = 0.98$) reported more experienced compassion than those in the neutral condition ($M = 1.62, SD = 0.82$), $t(267) = 16.06, p < .001, d = 1.96$. This analysis also revealed an unpredicted significant interaction, $F(1,265) = 11.84, p < .001, \eta^2_p = .04$. The compassion condition resulted in a greater increase in experienced compassion for those in the prosocial lie condition ($M = 3.60, SD = 0.96$ vs. $M = 1.47, SD = 0.70, t(132) = 14.85, d = 2.57$) than those in the selfish lie condition ($M = 3.15, SD = 0.96$ vs. $M = 1.76, SD = 0.90, t(133) = 8.66, d = 1.50$).

Prosocial and selfish lying. Overall, this procedure successfully produced prosocial and selfish lying. Those in the prosocial lie conditions exhibited on average 41.15 clearly dishonest responses ($SD = 14.66$) out of a potential 68 trials (60.51%), and 63.72 ambiguously dishonest responses ($SD = 18.50$) out of a potential 100 trials (63.72%). Those in the selfish lie conditions demonstrated on average 38.08 clearly dishonest responses ($SD = 13.31$) out of 68 trials (56.0%), and 60.13 ambiguously dishonest responses ($SD = 17.02$) out of 100 trials (60.13%).

For each dependent variable (clearly dishonest responses, ambiguously dishonest responses, honest responses), we conducted a 2 (Emotion: compassion/neutral) x 2 (Lie Type: prosocial/selfish) ANOVA.⁷ For ease of comprehension, for each dependent variable we used the percentage of dishonest responses, rather than the absolute number of dishonest responses.

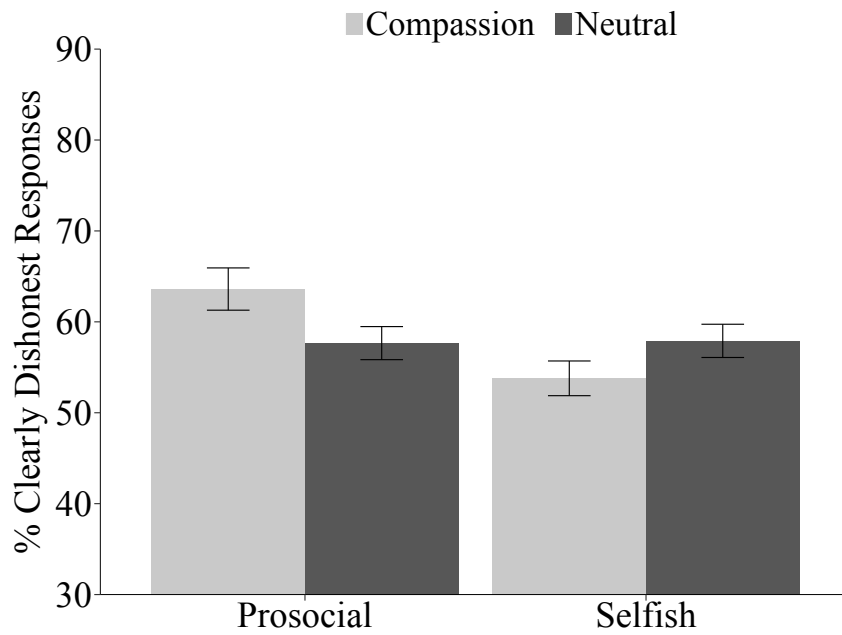
⁷ Repeated measures analyses with block (first vs. second) included as a factor are included in the Supplemental Material, though inclusion of block as a factor does not alter the results.

For clearly dishonest responses, as predicted, there was a significant Emotion x Lie Type interaction, $F(1,428) = 6.51, p = .01, \eta^2_p = .01$ (see Figure 4, Panel A). Participants in the compassion condition ($M = 63.61, SD = 23.60$) exhibited more clearly dishonest responses for the benefit of the charity (i.e., prosocial lying) than those in the neutral condition ($M = 57.66, SD = 19.16$), $t(212) = 2.03, p = .04, d = .28$. There was no statistically significant difference in clearly dishonest responses for participants' own monetary gain (i.e., selfish lying) between those in the compassion condition ($M = 53.79, SD = 19.18$) and those in the neutral condition ($M = 57.91, SD = 19.78$), $p = .12$. In addition, there was a main effect lie type, $F(1,428) = 5.28, p = .01, \eta^2_p = .01$. Those in the prosocial lie conditions ($M = 60.52, SD = 21.56$) demonstrated more clearly dishonest responses than those in the selfish lie conditions ($M = 56.00, SD = 19.57$). There was no main effect of emotion ($p > .25$).

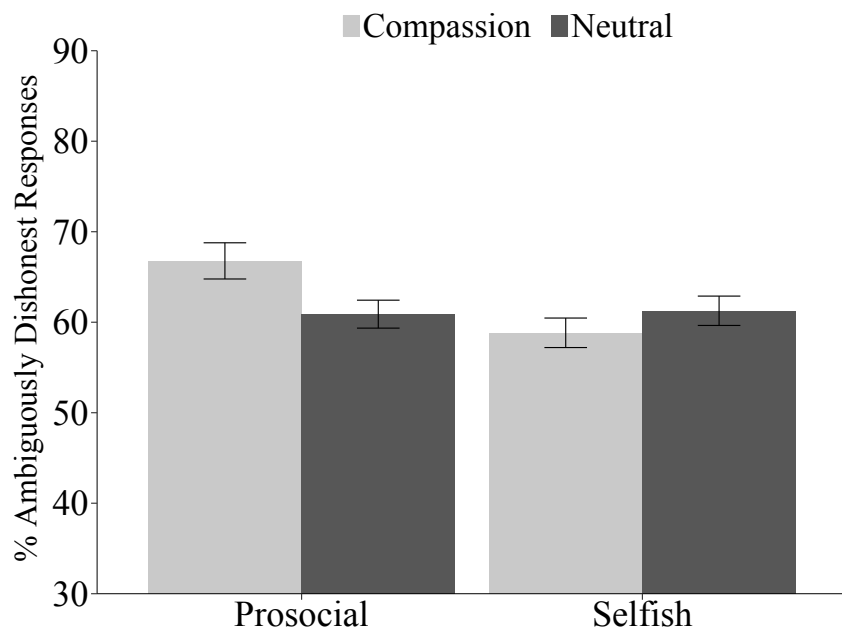
For ambiguously dishonest responses, similar results were obtained (see Figure 4, Panel B). As predicted, there was a significant Emotion x Lie Type interaction, $F(1,428) = 5.96, p = .02, \eta^2_p = .01$. Those in the compassion condition ($M = 66.78, SD = 20.29$) exhibited more prosocial lying than those in the neutral condition ($M = 60.89, SD = 16.26$), $t(212) = 2.35, p = .02, d = .32$. There was no statistically significant difference in selfish lying between those in the compassion condition ($M = 58.83, SD = 16.39$) and those in the neutral condition ($M = 61.26, SD = 17.54$), $p > .25$. There was also a main effect of lie type, $F(1,428) = 4.45, p = .04, \eta^2_p = .01$, such that participants engaged in more lying in the prosocial lie conditions ($M = 63.72, SD = 18.50$) than in the selfish lie conditions ($M = 60.14, SD = 17.02$). There was no significant effect of emotion ($p > .25$).

For honest responses, as predicted, there was no significant Emotion x Lie Type interaction ($p > .25$; see Figure 4, Panel C). There was also no main effect of lie type ($p = .11$) nor emotion ($p > .25$).

A



B



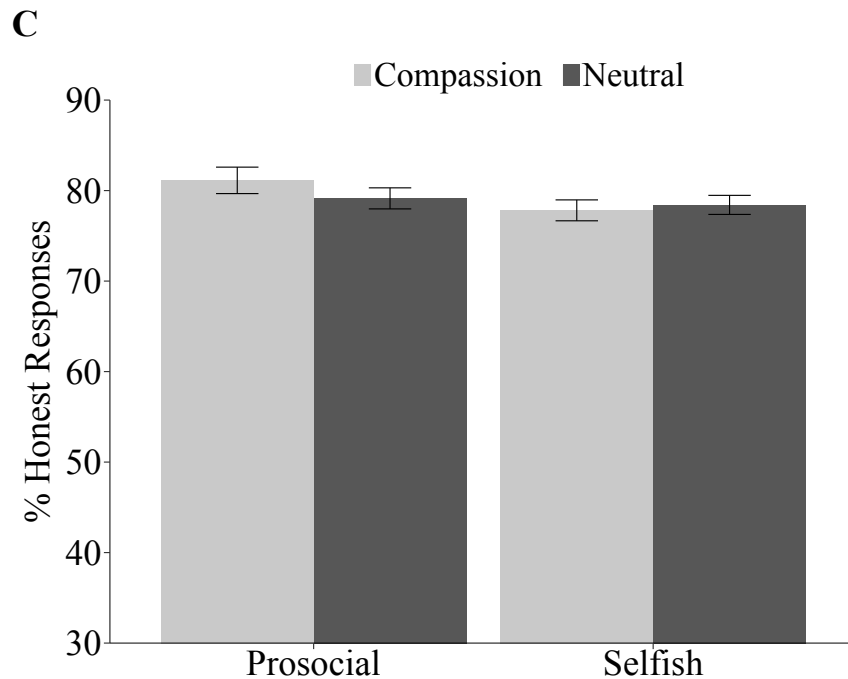


Figure 4. The effect of incidental compassion on clearly dishonest responses (Panel A), ambiguously dishonest responses (Panel B), and honest responses (Panel C) for prosocial and selfish causes in Study 3. Error bars signify standard errors.

Experienced compassion predicted prosocial lying. As an additional test of the specificity of the observed effects, we examined whether prosocial lying was predicted by experienced compassion, as measured by our manipulation check. Experienced compassion marginally predicted clearly dishonest responses, $B = 2.48$, $p = .07$, and significantly predicted ambiguously dishonest responses, $B = 2.44$, $p = .04$. However, experienced compassion did not mediate the effect of compassion on prosocial lying.

Controlling for positive affect, negative affect, personal distress, specific emotions, and personality traits did not account for the observed effects. To ensure that these effects were specific to compassion and were not due to other emotions or personality traits, we

examined the effect of the compassion manipulation on prosocial lying with the inclusion of covariates to control for these other emotions and personality traits. The effect of compassion on prosocial lying (for both clearly dishonest and ambiguously dishonest responses) held in models controlling for positive affect, negative affect, and personal distress (clearly dishonest responses: $B = 9.14, p < .05$; ambiguously dishonest responses: $B = 10.23, p < .01$), as well as in models controlling for all individual items of the PANAS (clearly dishonest responses: $B = 16.09, p < .01$; ambiguously dishonest responses: $B = 16.22, p < .01$).

In addition, the effect of compassion on prosocial lying held in models simultaneously controlling for extraversion, agreeableness, neuroticism, conscientiousness, and openness (clearly dishonest responses: $B = 7.90, p < .05$; ambiguously dishonest responses: $B = 8.08, p < .05$). Lastly, we ran models examining the effect of compassion on prosocial lying controlling for personality traits, as well as positive affect, negative affect, and personal distress. The effect of compassion on prosocial lying also held in these models (clearly dishonest responses: $B = 8.84, p = .06$; ambiguously dishonest responses: $B = 10.05, p = .01$) Thus, enduring personality traits and other emotions did not account for the observed effects.⁸

Discussion

Consistent with Studies 1 and 2, Study 3 found that incidental compassion increased prosocial lying. Critically, the compassion-eliciting stimuli were unrelated to the charity that benefited from participants' dishonest behavior, and the compassion induction still increased prosocial lying.

These results expand the findings of Studies 1 and 2 in several ways. First, Study 3 employed a different operationalization of compassion, and also examined a different type of

⁸ Full regression tables for these models are available in the Supplemental Material.

compassion. Using a large sample, we found that prosocial lying is not only associated with integral (Study 1) and trait (Study 2) compassion, but is also increased by incidental compassion (Study 3). These results offer further evidence for the causal influence of compassion on prosocial lying. Second, the use of another operationalization of prosocial lying in Study 3 bolsters support for the external validity of the effect. In addition to being associated with prosocial lying that prevents emotional harm in the context of providing performance feedback, compassion also increased prosocial lies that promoted financial benefits for a humanitarian aid charity. This phenomenon could present itself in the real world in the form of a charity employee lying on tax returns to reserve more funds for humanitarian work. Third, by examining two types of lies—selfish and prosocial lies—we demonstrated that the beneficiary of the lie is an important moderator of the relationship between compassion and deception. Compassion increased prosocial lying, but not selfish lying. Furthermore, we again ruled out important alternative explanations: Other emotions did not explain these effects, nor did personality traits linked to positive affect (extraversion and agreeableness), negative affect (neuroticism), or prosocial behavior (agreeableness).

General Discussion

The present studies provide the first investigation of the emotional underpinnings of prosocial lying. Across studies, we examined compassion at three different levels, demonstrating that both integrally (Study 1) and incidentally (Study 3) induced state compassion causally increase prosocial lying, and that individual differences in trait compassion (Study 2) are positively associated with prosocial lying. Not only did we implement multiple operationalizations of compassion, but we also studied two different types prosocial lies: those that prevent emotional harm, and those that promote the welfare of others. All studies

investigated actual lying behavior, rather than attitudes toward lying or hypotheticals.

Furthermore, we ruled out alternative explanations across studies that could potentially account for our results—that is, we found that the observed increases in prosocial lying were due to compassion specifically, and not due to other discrete emotions, personal distress, generalized positive or negative affect, personality traits, or social perceptions of the target. Together, this research demonstrates how compassion increases prosocial lying.

In addition to uncovering the relationship between compassion and prosocial lying, we also identified a mechanism behind this effect in Studies 1 and 2. In the context of providing feedback, the effect of compassion on prosocial lying was partially mediated by the importance placed on preventing emotional harm. Compassion has been shown to increase prosocial behaviors associated with both harm prevention (e.g., Batson et al., 1981) as well as non-harm-related welfare promotion (e.g., Condon & DeSteno, 2011). However, this mechanism suggests that compassion may make individuals particularly attuned to preventing the suffering of others, even when additional routes to helping others are available (e.g., providing honest feedback).

Moreover, in Study 3, we showed that compassion increased lies that helped a charity, but had no effect on lies that financially benefited participants themselves. This suggests that compassion does not exert global effects on deception, but rather that the beneficiary of the lie is an important moderator of the relationship between compassion and dishonesty. Although the present investigation is focused on how compassion influences prosocial lies, it is worth noting that, to our knowledge, these are the first data to investigate whether compassion influences selfish lies. Thus, while compassion may promote prosocial behavior, this emotion may not have any appreciable (negative) effect on antisocial behavior.

This work contributes to the nascent literature on prosocial lying in several ways. First, no research has examined emotion as a causal driver of prosocial lying. Previous research on prosocial lying has focused on identifying contexts in which these lies are told (e.g., DePaulo et al., 1996), responses to those who tell prosocial lies (e.g., Levine & Schweitzer, 2014), or qualitative assessments of reasons for lying (e.g., DePaulo & Kashy, 1998). Our research extends theory on prosocial lying by providing the first demonstration that compassion is related to and causally influences prosocial lying. In addition, this research provides insight into an important real world context in which prosocial lies are told. Past work has often operationalized prosocial lying using economic games (e.g., Erat & Gneezy, 2012; Levine & Schweitzer, 2014, 2015), which afford experimental control but do not closely resemble real world situations in which lies are told. Given the usefulness of these games for cleanly differentiating prosocial lies from other types of lies (e.g., selfish lies), we borrowed from this approach for our lying task in Study 3. However, by examining prosocial lying in the form of overly inflated person-to-person feedback in Studies 1 and 2, we shed light on how compassion influences behavior in a common situation that affords the opportunity for prosocial lying.

This work also informs scholarly understanding of compassion and how it shapes ethical behavior. While compassion's positive influence on prosocial behavior has been widely documented, little work has examined how compassion affects moral decision making, and no work has examined how compassion influences behavior when different ethical principles are pitted against one another. According to Moral Foundations Theory (Graham et al., 2011; Haidt & Graham, 2007; see also Shweder, Much, Mahapatra, & Park, 1997), people across cultures conceive of actions and beliefs in several different domains as morally relevant. Lying may be regarded as a violation of the principle of honesty (Graham et al., 2015) and the decision to tell a

prosocial lie presents a conflict between the principle of honesty and the principle of harm and care—the obligation to aid the welfare of others. Our work suggests that compassion might cause people to consider harm and care more heavily in ethically ambiguous situations. More research would help to illuminate how compassion influences the weighting of harm and care relative to other moral values across a broader spectrum of moral dilemmas.

In addition, this research contributes to a growing body of work that highlights how, despite the prosocial benefits it often affords, compassion can sometimes lead individuals to act contrary to what is truly in others' best interests (e.g., Cameron & Payne, 2011; Slovic, 2007). Similarly to how compassion draws attention and resources to identifiable victims rather than to comparably greater atrocities (Small, Loewenstein, & Slovic, 2007), our results suggest that compassion may bias individuals toward alleviating immediate emotional harm rather than attending to others' longer-term goals (e.g., performance improvement resulting from critical feedback). This notion is consistent with work suggesting that affect and emotion play an important role in intertemporal choice (DeSteno, 2009; Hirsh, Guindon, Morisano, & Peterson, 2010; Loewenstein, 1996), and in (mis)predicting the preferences and emotions of others (Van Boven & Loewenstein, 2003). However, it may also be that when honesty is perceived to result in future benefits for a target that far outweigh the benefits of lying, compassion could lead individuals to be more honest. While recent work has begun to address how positive emotions such as gratitude influence temporal discounting (DeSteno, Li, Dickens, & Lerner, 2014; Dickens & DeSteno, 2016), further research is necessary to understand how compassion influences valuations of others' short-term and long-term goals.

Another area for future research lies in how the relationship between the lie teller and the target of the lie moderates the effect of compassion on prosocial lying. In the present studies,

participants were given the opportunity to lie only to strangers. As such, it is critical to determine whether these effects generalize to closer relationships. The relationship between compassion and prosocial lying may differ depending on the in-group/out-group membership of the lie target, or the lie teller's perceived closeness to the target. People feel more compassion towards those to whom they are closely related (Cialdini et al., 1997), and people also tell more prosocial lies to close others than selfish lies (DePaulo & Kashy, 1998). Thus, it is possible that an interaction exists between compassion and the closeness of the lie target on prosocial lying, such that compassion would exert an even stronger influence on prosocial lies told between friends, coworkers, or relationship partners.

One limitation of our studies is that we did not assess the extent to which participants considered their own behavior as dishonest. While it would be interesting to know whether individuals were consciously aware that they were lying, we would argue that conscious awareness is not a necessary condition for dishonesty. Individuals often lack conscious insight into their mental processes (Nisbett & Wilson, 1977), and self-deception is common (Mazar, Amir, & Ariely, 2008; Tenbrunsel & Messick, 2004). Furthermore, it is possible that even if participants did consider their behavior dishonest, that they would not admit this upon being asked due to social desirability concerns. We encourage future research to determine if people's conscious awareness of their dishonesty is a moderating factor in the relationship between compassion and prosocial lying.

It is also important to note that the mechanism uncovered behind the effects seen in Studies 1 and 2 does not apply to Study 3; that is, when lying for the financial gain of a charity, there is no emotional harm to be prevented. However, we believe a similar mechanism might underlie the results in Study 3, whereby importance is still placed on reducing harm, albeit not

emotional harm. In the context of Study 3, dishonest responding could result in more money being donated to the Against Malaria Foundation for the purchase of mosquito nets to prevent the spread of malaria. Supporting this cause financially could thereby prevent harm and human suffering. Although we did not measure participants' views about the extent to which their actions in the task could reduce suffering, we speculate this belief could mediate the effect of compassion on prosocial lying for others' gains—a hypothesis worthy of further investigation.

According to Ralph Waldo Emerson (1888), “the purpose of life...is to be honorable, to be compassionate, to have it make some difference that you have lived and lived well.” Unfortunately, Emerson did not offer guidelines for how one should behave when helping others requires an act that some may view as dishonorable, such as lying. The present research suggests that compassion may provide that moral compass by leading individuals to tell lies that are intended to benefit others. Indeed, many people likely lie not in spite of their concern for others, but rather because they care.

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