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Published in:
British Journal of Social Psychology

DOI:
[10.1111/bjso.12711](https://doi.org/10.1111/bjso.12711)

Publication date:
2023

Document Version
Publisher's PDF, also known as Version of record

[Link to publication in Tilburg University Research Portal](#)

Citation for published version (APA):
Preuter, S., Jaeger, B., & Stel, M. (2023). The costs of lying: Consequences of telling lies on liar's self-esteem and affect. *British Journal of Social Psychology*. Advance online publication. <https://doi.org/10.1111/bjso.12711>

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ARTICLE

The costs of lying: Consequences of telling lies on liar's self-esteem and affect

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Email: m.stel@utwente.nl**Abstract**

Deceiving others is generally viewed as immoral. However, most people lie on a daily basis. This article examines the psychological consequences for the liars themselves, as they are participating in what is generally perceived as immoral behaviour. More specifically, this article focuses on the effects of lying on the liar's self-esteem and affect. We tested if lying, in comparison to telling the truth, lowers people's self-esteem and increases negative experienced affect. In total, three cross sectional and one longitudinal studies were conducted ($N=783$). Results showed that lying decreased people's self-esteem and increased negative affect, regardless of the type of lie (self-centred vs. other-oriented). Furthermore, lying on a given day decreased people's self-esteem compared to their self-esteem on the previous day and to their average level of self-esteem across 5 days.

KEYWORDS

affect, deception, lying, morality, self-esteem

BACKGROUND

People lie on a daily basis (DePaulo et al., 1996, 2003; Feldman et al., 2002). Yet, most people regard lying to others as immoral (Cantarero, Szarota, et al., 2018). If a lie is detected, receivers of the lie tend to react negatively to liars and are less satisfied with their relationship (Peterson, 1996; Tyler et al., 2006). Most of the lies, however, stay undetected by others (Kupfer, 1982). Furthermore, when people are explicitly asked to distinguish lies from the truth in laboratory studies, they can only do so in 54% of all cases (i.e. performance is just above chance; Bond & DePaulo, 2006). This means that most lies remain unpunished and liars accomplish the goal they attempted to achieve. The possibility of their lies being detected and the punishment followed after may not be the only potential costs for liars. As lying is widely seen as immoral, there may be psychological costs to telling lies even if they go undetected. Yet,

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relatively little is known about these psychological effects of lying. Here, we examine how lying affects the self-esteem of liars. This is important as it provides insight into whether liars experience a downside of lying, which may affect their future behaviour.

Deception can be defined as 'an act intended to foster in another a belief or understanding which the deceiver considers false' (Zuckerman et al., 1981, p. 3). One type of lie people tell are self-centred or self-serving lies (Hart et al., 2020; Kashy & DePaulo, 1996). Self-centred lies are told with the intention of material gain or for personal convenience, but also to make oneself feel better or to protect oneself against shame or rejection. Hample (1980) argued that because people know that lying is wrong, they tend to only tell self-centred lies when they know that the rewards are assured and large. Lying is not always meant to harm others or to protect one's own interests. People can also lie to protect someone else's feelings (DePaulo & Bell, 1996). These lies are considered other-oriented lies or altruistic lies (Hart et al., 2020; Kashy & DePaulo, 1996).

Lying and self-esteem

Lying is generally seen as immoral across cultures (Cantarero, Szarota, et al., 2018). This raises the question of whether liars experience a decrease in self-esteem as a consequence of engaging in the violation of a moral norm. Self-esteem is defined as the way people typically feel about themselves (Brown et al., 2001). This type of self-esteem is mostly called global or trait self-esteem and is relatively stable throughout people's lives (Brown et al., 2001). Another way self-esteem can be regarded is as a momentary fluctuating state. This state self-esteem is influenced by positive and negative experiences (Brown et al., 2001). For example, feeling proud, regretful or ashamed have all been shown to influence state self-esteem. State self-esteem is also influenced by people's perception of how others see them (Harter, 1993). Behaviour that is high in relational evaluation (e.g. succeeding or being praised) generally increases people's self-esteem, while behaviour that is low in relational evaluation (e.g. failing or being rejected) lowers self-esteem (Leary, 1999). Therefore, it can be expected that lying decreases self-esteem, as this is an act that is widely perceived as wrong and immoral (DePaulo et al., 1996, 2003; Feldman et al., 2002).

On the other hand, however, it can be argued that lying would not affect self-esteem. Mazar et al. (2008) showed that another immoral behaviour, cheating on a task, did not affect people's self-concept in terms of being honest individuals. They argued that engaging in unethical behaviour is threatening to people's self-image. As a result, people are dishonest up to a certain level to be able to profit, but honest enough so it does not force them to update their self-concept. If people's self-concept of being an honest person is not affected by cheating, self-esteem may be unaffected by lying as well. Note, however, that cheating in laboratory studies may be regarded as more acceptable than lying (Ruedy et al., 2013).

Most prior work on the association between lying and self-esteem has focused on how self-esteem leads to the lying. One study found that the lower people's trait self-esteem, the higher their tendency to lie (Hart et al., 2020). Hart and colleagues interpreted this finding as self-esteem affecting lying, although they did not test this experimentally. An experimental study on the effect of self-esteem on lying showed that low trait self-esteem is related to more frequent lying aimed at bringing benefits (Cantarero, Van Tilburg, & Szarota, 2018, see also Aronson & Mettee, 1968). These studies suggest that both state and trait self-esteem may influence dishonest behaviour. Yet, less is known about the opposite causal relationship—whether lying might affect self-esteem.

A study by Hample (1980) investigated to what extent liars were satisfied with themselves, with their performance of telling the lie and with the lie's effectiveness. They showed that people were more satisfied with their lies than with themselves. This may be a first indication of the psychological costs for the liar. These data, however, were obtained investigating lies only, not truths. Also, the study focused on self-satisfaction, not on self-esteem. In experimental studies on the effects on self-esteem, Barkan et al. (2012) showed that recalling immoral misdeeds lowered people's state self-esteem as compared with recalling ethically worthy conducts and neutral events. Their studies focused on unethical deeds

people had done, not solely on lying. So, to the best of our knowledge, no experimental studies investigated the effects of lying on self-esteem so far.

The present studies

The present studies investigate the effect of lying on self-esteem. As lying is generally considered to be immoral behaviour (Cantarero, Szarota, et al., 2018; Seiter et al., 2002) and engaging in behaviours that are perceived as wrong can decrease people's self-esteem (Leary, 1999), we expected that lying (vs. telling the truth) would have a negative effect on liars' self-esteem. Results from two studies support the idea that telling lies may decrease self-esteem (Barkan et al., 2012; Hample, 1980), but other research suggests that people's self-image is not necessarily affected in a negative way because they engage in motivated reasoning to still see themselves as a good and honest person (Mazar et al., 2008). Thus, the available evidence is mixed.

In addition to examining the effect of lying on self-esteem, we investigate two related questions. First, we investigated whether this relationship depends on the type of lie: self-centred versus other-oriented. As self-centred lies are perceived as less acceptable than other-oriented lies (Cantarero, Szarota, et al., 2018; Seiter et al., 2002), we expect that the effect of lying on self-esteem is stronger when the lie is self-centred than other-oriented. Nevertheless, other-oriented lies are expected to decrease self-esteem because it is still generally viewed as immoral behaviour, but the effects are anticipated to be weaker than for self-centred lies.

Second, we examined the effects of lying on affect (and whether this depends on the type of lie being told). Self-esteem is often defined as 'the positive or negative evaluations of the self, as in how we *feel* about it' (Smith & Mackie, 2007). Indeed, research found that lower levels of self-esteem are related to more negative affect (Brown & Marshall, 2001; Juth et al., 2008; Krieger et al., 2015). Therefore, this research investigated the effects of lying on affect as well. It can be expected that people who lie experience more negative affect than people who are telling the truth as lying is generally perceived as a negative act. However, people may also experience a 'liar's high', being thrilled of getting away with lying and experiencing the benefits of it. Research on another unethical behaviour showed that participants who cheated on different problem-solving tasks experienced more positive affect than participants who did not cheat (Ruedy et al., 2013). The research of Ruedy, however, concerns cheating in laboratory settings, whereas our research focuses on everyday lies. Cheating on tasks in laboratory studies that does seem to affect anyone may be more thrilling and acceptable than lying which may affect other people. So as lying is generally considered negative (Cantarero, Szarota, et al., 2018; Seiter et al., 2002), we hypothesize that lying increases negative affect.

We investigated the effects of lying on self-esteem and affect in three cross sectional studies ($N = 677$) and one longitudinal study ($N = 100$). We used a variety of methods to test the effects of lying, asking participants (a) how they previously responded in common situations that might elicit a lie (Study 1), (b) to recall a time they had lied (vs. told the truth) in the past (Study 2) and (c) about their lying behaviour on that current day (Study 3). Crucially, we also conducted a diary study in which participants indicated their lying behaviour, affect and self-esteem across 5 days (Study 4). This allowed us to test if lying leads to a decrease in self-esteem and affect. Moreover, the longitudinal design allowed us to further probe a potential reciprocal relationship between lying and self-esteem, as previous studies suggest the possibility of an opposite causal relationship where low self-esteem increases rates of lying (Cantarero, Van Tilburg, & Szarota, 2018).

We report all manipulations, measures and exclusions in these studies. All data and analysis scripts can be accessed at <https://osf.io/623dy/>.

STUDY 1

In Study 1, we tested the hypotheses that lying, compared to telling the truth, decreases a person's self-esteem and increases negative affect. We also explored whether the effects are different for self-centred and other-oriented lies.

Method

All data and analysis scripts can be accessed at <https://osf.io/623dy/>.

Participants and design

Participants were 202 Amazon Mechanical Turk (MTurk) workers who participated for €1. One outlier with an unusual high acceptability perception score (84) was excluded from the analyses, together with a participant that did not finish the questionnaire, leaving a sample size of 200 participants (93 females; 105 males; two unspecified). Their ages ranged from 19 to 72 years ($M = 33.39$; $SD = 11.05$). The study was a 2 (behaviour: lying vs. truth telling) \times 2 (type of dilemma: self-centred vs. other-oriented) between-subjects design. The dependent variables were self-esteem and affect. Perceived acceptability of lying was measured as an exploratory variable (see [Supporting Information](#)). In total, 101 participants were assigned a self-centred dilemma (50.5%) and 99 participants were assigned an other-oriented dilemma (49.5%).

We conducted a sensitivity analysis using G*Power 3.1.9.7 (Faul et al., 2007) to compute the achieved power for our main analysis of interest, a t -test (difference between two independent means) examining the effects of behaviour (lying vs. truth telling). This showed that our design had 88% power to detect an effect size of $d = .40$ (with $\alpha = .05$).

Procedure and materials

Participants started with an informed consent form. Then, they were given one of eight situations, which presented typical dilemmas they could have previously experienced in their daily lives. Four of these dilemmas described a self-centred dilemma and four described an other-oriented dilemma. An example of a self-centred dilemma was: 'You are at a job interview. You are being asked if you have experience in a relevant aspect of the job, which you haven't'. An example of an other-oriented dilemma was: 'Your friend is very happy about her new dress. You don't like it'. For all dilemmas, see: <https://osf.io/623dy/>. For the presented dilemma, participants were asked how they responded the last time that they were in a similar situation. They could either indicate that they lied, that they told the truth or that they have never been in such a situation in real life.

A post-test was conducted to test whether the dilemmas were indeed regarded as either self-centred or other-oriented. Descriptive analyses showed that the vast majority of participants judged the lies told in the self-oriented scenarios as self-oriented (94.38%) and that the vast majority judged the lies told in the other-oriented scenarios as other-oriented (82.85%). Furthermore, participants indicated that the persons in the self-centred scenarios were more likely to lie for selfish reasons than for other-oriented reasons and participants indicated that the persons in the other-oriented scenarios were more likely to lie for other-oriented reasons than for self-centred reasons, $F(1, 88) = 649.68$, $p < .001$, $\eta_p^2 = .88$ (see [Supporting Information](#) for the methods and results).

After the dilemma, participants' self-esteem and affect were measured. Participants' self-esteem was measured using two self-esteem scales constructed by Rosenberg (1965) with 35 items. The first scale consisted of 10 items and was focused on the feeling that people had about themselves (e.g. 'I feel I do not have much to be proud of'). The second scale consisted of 25-five items and was focused on what people think others think of them (e.g. 'Most people would take advantage of me if they could'). The items were measured on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The two scales were combined into one general scale ($\alpha = .96$). The items that were negatively worded were reverse coded, so that higher scores indicated higher self-esteem.

Participants' affect was measured with four items that described negative emotions: nervousness, regret, discomfort and unhappiness ($\alpha = .90$). An example item is: 'My behaviour in this situation made

me feel uncomfortable'. The items were measured on a 7-point Likert scale ranging from 1 (*not at all*) to 7 (*very much*). The items were reverse coded, so that lower scores indicated more negative affect. A confirmatory principal components analysis revealed that there was one factor for negative affect.

We additionally measured perceived acceptability of lying as an exploratory variable. The [Supporting Information](#) present the measurement and analyses. In short, the results showed that participants who lied regarded lying as more acceptable than participants who told the truth, $F(1, 180) = 33.30, p < .001, \eta_p^2 = .16$, regardless of type of lie. Finally, participants were asked how vividly they remembered their feelings after the situation they described on a 7-point Likert scale ranging from 1 (*not at all*) to 7 (*very much*).

Results

Of all participants, 87% answered 5 or above on the 7-point scale for the vividness question ($M = 6.27, SD = 1.09$), indicating that participants generally found it easy to remember how they felt after the situation. Out of the 101 participants that were assigned a self-centred dilemma, 42 told a lie (41.6%), 49 told the truth (48.5%) and 10 had not experienced a similar dilemma before (9.9%). Out of the 99 participants that were assigned an other-oriented dilemma, 45 told a lie (45.5%), 48 told the truth (48.5%) and six had not experienced a similar dilemma before (6.1%). There was no significant association between behaviour (lying vs. truth telling) and type of dilemma (self-centred vs. other-oriented), $\chi^2(1, N = 184) = 0.09, p = .762$. The 16 participants who never experienced a similar dilemma before were excluded from further analyses, leaving a final sample size of 184 participants.

Before conducting each analysis, we checked whether the required assumptions were met. If assumptions were violated, we report the results of non-parametric tests (see the [Supporting Information](#) for full results of diagnostic tests).

Self-esteem

A Kruskal–Wallis H test showed that there was a significant difference in self-esteem between behaviour and type of dilemma, $\chi^2(3) = 13.15, p = .004$. Post-hoc Mann–Whitney U tests revealed that for self-centred dilemmas, participants reported lower levels of self-esteem when lying ($M_{\text{rank}} = 74.56$) than when telling the truth ($M_{\text{rank}} = 106.35, U = 611.50, p = .001$). The post-hoc tests also showed for other-oriented dilemmas that participants reported lower levels of self-esteem when lying ($M_{\text{rank}} = 79.70$) than when telling the truth ($M_{\text{rank}} = 104.44, U = 813.50, p = .040$) (see also [Figure 1](#)). There were no significant differences between the rank scores of self-centred lying and other-oriented lying, $U = 914.50, p = .796$, and between self-centred truth-telling and other-oriented truth-telling, $U = 1127, p = .855$.

Affect

The results of a 2 (behaviour: lying vs. truth-telling) \times 2 (type of dilemma: self-centred vs. other-oriented) ANOVA revealed a significant main effect of type of behaviour on affect, $F(1, 180) = 25.03, p < .001, \eta_p^2 = .12, 95\% \text{ CI } [0.046, 0.213]$. Participants who indicated to have lied in the presented situation, experienced more negative affect ($M = 4.14, SD = 1.55$) than participants who indicated to have told the truth ($M = 5.27, SD = 1.53$; see [Figure 2](#)). There was no significant main effect of type of dilemma, $F(1, 180) = 2.53, p = .113, \eta_p^2 = .01, 95\% \text{ CI } [0.000, 0.065]$, neither an interaction between behaviour and type of dilemma, $F(1, 180) = 0.24, p = .622, \eta_p^2 = .001, 95\% \text{ CI } [0.000, 0.065]$ (see [Table 1](#)). Exploratory mediation analyses were conducted to test whether self-esteem mediated the influence of lying on affect. A partial mediation was found, $\bar{c} = 2.56, p = .01$ (see [Supporting Information](#) for the detailed description of the analyses).

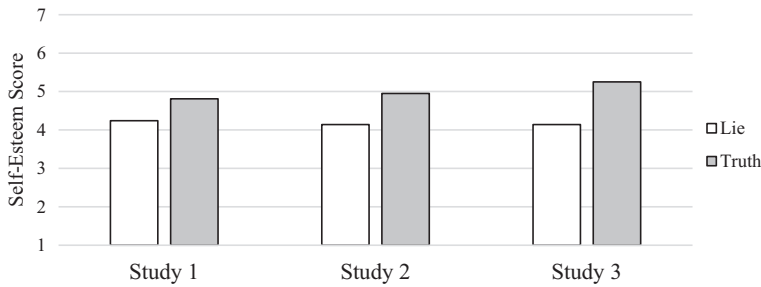


FIGURE 1 Self-esteem of people who lied compared to people who told the truth. *Note:* The self-esteem scores of people who lied significantly differed from people who told the truth in Study 1, 2 and 3.

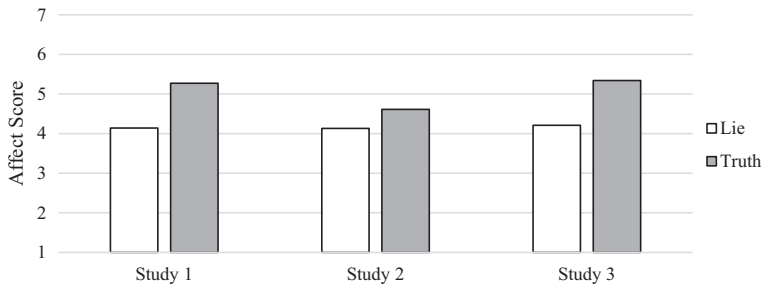


FIGURE 2 Affect of people who lied compared to people who told the truth. *Note:* The affect scores of people who lied significantly differed from people who told the truth in Study 1, 2 and 3. Higher scores represent more positive affect.

TABLE 1 Participants' negative affect for behaviour (lying vs. truth telling) per dilemma (Study 1).

Type of dilemma	Behaviour	<i>M</i>	<i>SD</i>	95% confidence interval	
				Lower bound	Upper bound
Self-centred	Lie	3.89 _a	1.55	3.42	4.37
	Truth	5.15 _b	1.65	4.72	5.58
Other-oriented	Lie	4.37 _a	1.52	3.91	4.83
	Truth	5.40 _b	1.40	4.96	5.84

Note: Means with different subscripts differ significantly ($p < .05$).

Discussion

Having decided to respond with lying the last time participants were in the presented situation, in comparison to telling the truth, was associated with lower self-esteem and more negative affect. Similar results were obtained for self-centred and other-oriented dilemmas. A limitation of Study 1 is that the Rosenberg self-esteem scale used to measure self-esteem may be less sensitive to how people feel in one particular moment. Consequently, it is hard to draw firm conclusions about whether lying affected self-esteem in that situation or whether self-esteem affected the decision to lie. As our goal was to measure fluctuations in self-esteem after telling a lie, we used a scale that is more sensitive to capture fluctuations in self-esteem in Study 2. Note that this limitation does not apply for the affect measure as we asked about participants' affect as a result of their behaviour in that situation.

STUDY 2

In Study 2, we investigated whether we could replicate the results of Study 1. Instead of asking whether they previously experienced a pre-described dilemma, we now asked them to come up with a past experienced dilemma themselves. Furthermore, we measured self-esteem using a state self-esteem scale. Finally, we extended the affect scale which now includes more negative affect items and also positive affect items.

Method

Participants and design

In total, 197 people voluntarily participated in this study; of whom, 192 (157 females; 35 males) completed the entire questionnaire. Their ages ranged from 15 to 57 years ($M = 20.52$; $SD = 4.75$).

This study used a between-subject design with behaviour (lying vs. truth telling) and type of dilemma (self-centred vs. other-oriented) as the independent variables and self-esteem and affect as dependent variables. Perceived acceptability of people's own lies and perceived acceptability of lying in general were measured as exploratory variables (see [Supporting Information](#)). Five participants did not describe a situation that we asked for and were excluded from the study. Also, one participant was excluded from the analyses for answering every question with the lowest value.

We conducted a sensitivity analysis using G*Power 3.1.9.7 (Faul et al., 2007) to compute the achieved power for our main analysis of interest, a *t*-test (difference between two independent means) examining the effects of behaviour (lying vs. truth telling). This showed that our design had 81% power to detect an effect size of $d = .40$ (with $\alpha = .05$).

Procedure and materials

Participants started with an informed consent form. When they agreed to participate, they were asked to describe one of the following four situations: (1) a situation in which they lied for their own benefit (self-centred lie); (2) a situation in which they could have lied for their own benefit but chose to tell the truth (self-centred truth); (3) a situation in which they lied for someone else's benefit (other-oriented lie); (4) a situation in which they could have lied for someone else's benefit but chose to tell the truth (other-oriented truth). They were instructed to try to remember this situation as vividly as possible and to explain what they said and why they said it. In total, 54 participants described a situation in which they told a self-centred lie (28.1%), 43 participants described a self-centred situation in which they told the truth (22.4%), 51 participants described a situation in which they told an other-oriented lie (26.6%) and 44 participants described an other-oriented situation in which they told the truth (22.9%).

Self-esteem was measured using a self-esteem scale with three items ($\alpha = .87$; Vonk et al., 2017). We asked participants to indicate to what extent the self-esteem statements applied *after* the situation they described. An example item is: 'I was satisfied with myself'. The items were measured on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The items that were negatively worded were reverse coded, so that higher scores indicated higher self-esteem.

Affect was measured by asking the participants to what extent they experienced positive or negative affect on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Positive affect that is related to lying/truth-telling was measured with four items: comfortable, happy, relieved and proud. Negative affect that is related to lying/truth-telling was measured with six items: guilty, embarrassed, ashamed, discredited, sorry and angry. The items that were negatively worded were reverse coded, so that lower scores indicate more negative affect. The Cronbach's alpha was .82.

Again, participants were asked how vividly they remembered how they felt after the situation. We also measured perceived acceptability of lying as an exploratory variable. The [Supporting Information](#) present the measurement and analyses. In short, the results showed that the perceived acceptability of self-centred lying was significantly lower than the perceived acceptability of other-oriented lying, $t_s < 11.86$, $p_s < .001$ and $d_s > .77$.

Results

Of all participants, 87.6% answered 5 or above on the 7-point scale for the vividness question ($M = 5.31$, $SD = 1.41$), indicating that participants generally succeeded in remembering how they felt after the situation.

If required assumptions for analyses were violated, we report the results of non-parametric tests (see the [Supporting Information](#) for full results of diagnostic tests).

Self-esteem

The results of a 2 behaviour (lying vs. truth-telling) \times 2 type of dilemma (self-centred vs. other-oriented) ANOVA revealed a significant main effect of type of behaviour on self-esteem, $F(1, 187) = 14.59$, $p < .001$, $\eta_p^2 = .072$, 95% CI [0.017, 0.152]. Participants who were asked to recall a situation in which they lied, experienced lower self-esteem ($M = 4.14$, $SD = 1.52$) than participants who were asked to recall a situation in which they told the truth ($M = 4.95$, $SD = 1.35$; see [Figure 1](#)). There was no significant main effect of type of dilemma on self-esteem, $F(1, 187) = 0.33$, $p = .566$, $\eta_p^2 = .002$, 95% CI [0.000, 0.032], neither an interaction between behaviour and type of dilemma, $F(1, 187) = 1.01$, $p = .315$, $\eta_p^2 = .01$, 95% CI [0.000, 0.045] ([Table 2](#)).

Affect

The results of a 2 behaviour (lying vs. truth-telling) \times 2 type of dilemma (self-centred vs. other-oriented) ANOVA on affect revealed that there was a significant main effect of type of behaviour on self-esteem, $F(1, 187) = 9.03$, $p = .003$, $\eta_p^2 = .05$, 95% CI [0.005, 0.116]. Participants who were asked to recall a situation in which they lied, experienced less positive affect ($M = 4.13$, $SD = 1.13$) than participants who were asked to recall a situation in which they told the truth ($M = 4.61$, $SD = 1.11$; see [Figure 2](#)). There was no significant main effect of type of dilemma, $F(1, 187) = 0.70$, $p = .404$, $\eta_p^2 = .004$, 95% CI [0.000, 0.040], neither an interaction between behaviour and type of dilemma, $F(1, 187) = 0.19$, $p = .667$, $\eta_p^2 = .001$, 95% CI [0.000, 0.028]. [Table 3](#) presents means, standard deviations and confidence intervals. Exploratory mediation analyses were conducted to test whether self-esteem mediated the influence of lying on affect. A full mediation was found, $\bar{z} = 3.65$, $p < .001$ (see [Supporting Information](#) for the detailed description of the analyses).

TABLE 2 Participants' self-esteem for behaviour (lying vs. truth telling) per dilemma ($N = 191$).

Type of dilemma	Behaviour	<i>M</i>	<i>SD</i>	95% confidence interval	
				Lower bound	Upper bound
Self-centred	Lie	3.98 _a	1.55	3.59	4.37
	Truth	5.00 _b	1.30	4.56	5.43
Other-oriented	Lie	4.31 _a	1.48	3.91	4.72
	Truth	4.91 _b	1.40	4.47	5.34

Note: Means with non-common subscripts differ significantly ($p < .05$).

TABLE 3 Participants' affect for behaviour (lying vs. truth telling) per dilemma ($N=191$).

Type of dilemma	Behaviour	M	SD	95% confidence interval	
				Lower bound	Upper bound
Self-centred	Lie	4.09 _a	1.14	3.78	4.40
	Truth	4.51 _b	1.12	4.17	4.85
Other-oriented	Lie	4.16 _a	1.13	3.84	4.47
	Truth	4.72 _b	1.10	4.38	5.05

Note: Means with non-common subscripts differ significantly ($p < .05$).

Discussion

Study 2 replicated the results of Study 1. Participants who were asked to recall a situation in which they lied either for self-centred reasons or for other-oriented reasons reported to have experienced lower self-esteem after the situation compared with participants who were asked to recall a situation in which they did not lie. Furthermore, the results showed that participants who were asked to recall a situation in which they lied, either for self-centred reasons or other-oriented reasons, reported to have experienced less positive affect after the situation than participants who were asked to recall a situation in which they did not lie.

A limitation of both Studies 1 and 2 is that we relied on how well a person could remember a situation from their past. Even though the vast majority of participants indicated they vividly remembered how they felt, it could have been difficult for them to recall their actual feelings, especially when it occurred some time ago. Therefore, the results may reflect effects of *recalling* the lie or truth instead of actual effects of telling the lie or truth. Hence, in Study 3, we conducted a diary study in which participants tracked and reported their lying behaviour, self-esteem and affect on the day of the lie immediately.

STUDY 3

Study 3 was conducted to test whether the results as obtained in Study 1 and 2 could be replicated. We used a diary study design to minimize memory bias.

Method

Participants and design

In total, 285 Amazon MTurk workers (150 females; 135 males) participated in this study for €1. Only the first entries from people who participated twice were included. Their ages ranged from 18 to 75 years ($M=33.56$, $SD=11.56$). This study used a between-participants study design with behaviour (lying vs. truth telling) and type of dilemma (self-centred vs. other-oriented) as independent variables and self-esteem and affect as dependent variables.

We conducted a sensitivity analysis using G*Power 3.1.9.7 (Faul et al., 2007) to compute the achieved power for our main analysis of interest, a t -test (difference between two independent means) examining the effects of behaviour (lying vs. truth telling). This showed that our design had 96% power to detect an effect size of $d=.40$ (with $\alpha=.05$).

Procedure and materials

After participants consented on the terms for participating, participants were asked to keep track of their lying behaviour for 1 day. They reported whether they lied or not and if they lied, described their lie and motive. Five people coded their lies as either self-centred or other-oriented (intercoder reliability was at 100%).¹

Then, participants' self-esteem ($\alpha = .80$) and affect ($\alpha = .74$) were measured as in Study 2.

Results

Participants that could not be categorized, or that did not describe a situation in which they told either a self-centred or an other-oriented lie were excluded from the analyses. Of the remaining 267 participants, 59 (22.1%) told a self-centred lie, 22 (8.2%) told an other-oriented lie and 186 (69.7%) did not tell a lie on the day they participated in the diary study.

If required assumptions for analyses were violated, we reported the results of non-parametric tests (see the [Supporting Information](#) for full results of diagnostic tests).

Self-esteem

A one-way ANOVA with behaviour (self-centred lying vs. other-oriented lying vs. not lying) as the independent variable and self-esteem as the dependent variable showed that there was a main effect of behaviour, $F(2, 264) = 24.99, p < .001, \eta_p^2 = .159, 95\% \text{ CI } [0.083, 0.235]$. Post-hoc Tukey tests showed that people who lied either for self-centred reasons ($M = 3.88, SD = 1.35$) or for other-oriented reasons ($M = 4.40, SD = 1.22$) on the day of the study reported a lower self-esteem compared with people who did not lie on that day ($M = 5.25, SD = 1.35$), respectively, $p < .001$ and $p = .015$ (see [Figure 1](#)). There was no significant difference in self-esteem between self-centred and other-oriented liars, $p = .259$.

Affect

A one-way ANOVA with behaviour (self-centred lying vs. other-oriented lying vs. not lying) as the independent variable and affect as the dependent variable showed that there was a main effect of behaviour, $F(2, 264) = 46.66, p < .001, \eta_p^2 = .255, 95\% \text{ CI } [0.170, 0.337]$. Post-hoc Tukey tests showed that people who did not lie on the day of the study ($M = 5.34, SD = 0.07$) felt significantly more positive than people who told self-centred lies ($M = 4.03, SD = 0.98$) and people who told other-oriented lies ($M = 4.38, SD = 0.19$), respectively, $p < .001$ and $p < .001$ (see [Figure 2](#)). There was no significant difference between self-centred and other-oriented liars, $p = .299$. Exploratory mediational analyses were conducted to test whether self-esteem mediated the influence of lying on affect. A partial mediation was found, $\bar{c}' = 6.50, p < .001$ (see [Supporting Information](#) for the detailed description of the analyses).

Discussion

The results of Study 3 replicated the results of Studies 1 and 2. Participants who lied either for self-centred reasons or for other-oriented reasons on the day of the study reported lower self-esteem compared with people who did not lie on that day. Furthermore, the results showed that people who lied,

¹As part of a different study, participants who reported to have lied were asked if they had planned the lie, how serious they perceived their lie to be and how much discomfort and stress symptoms they experienced.

either for self-centred reasons or other-oriented reasons, experienced more negative affect than people who did not lie, regardless of the type of lie.

Studies 1–3 consistently showed that lying is associated with lower self-esteem and more negative affect. In all three studies, we focus on between-person differences in self-esteem and affect, comparing people who told the truth with people who told a lie. In Study 4, we extended our analysis by examining *within-person* changes in self-esteem and affect. This will give more insight into how lying and self-esteem are related: whether lying affects self-esteem or whether self-esteem also affects lying.

STUDY 4

Study 4 tested whether lying causes within-person changes in self-esteem. Participants reported their lying behaviour, self-esteem and affect after each day for 5 days. We tested whether participants who lied on a given day would experience lower self-esteem compared to their self-esteem on the previous day. Study 4 also explored whether the relationship between lying and self-esteem is reciprocal. That is, we tested whether participants' level of self-esteem on 1 day was associated with their lying behaviour on the next day.

Method

Participants and design

In total, 100 Amazon MTurk workers (59 females, 34 males, seven unspecified) participated in this study for €1. Their ages ranged from 19 to 58 years ($M = 32.26$, $SD = 9.34$). This study used a within-participants study design with as independent variables behaviour (lying vs. truth telling) and type of dilemma (self-centred vs. other-oriented) and as dependent variable self-esteem. Out of all participants, 69% filled in the questionnaire on all 5 days. There is no software we are aware of supporting power analyses for cross sectional and time series analyses.

Procedure and materials

After agreeing to the information of the study, participants were asked to keep track of their lying behaviour for 5 days by filling in the questionnaire at the end of each day. On each day, self-esteem of participants was measured using the same self-esteem scale as in Studies 2 and 3 ($\alpha = .91$). The average of the total points was used for the analyses.² Then, the participants were asked to report whether they lied or not and if they did lie, to describe their lies and motive (self-centred or other-oriented).

Results

Average levels of self-esteem (across all 5 days) ranged from 2 to 7 on the 7-point scale ($M = 5.44$, $SD = 1.21$). Participants reported having told a lie 45.20% of the time ($SD = 35.35\%$), with 22% of

²As part of a different study, we also measured details of the interaction in which participants lied, whether participants planned to tell a lie and how comfortable participants felt before, during and after telling a lie. Also, participants who reported to have lied were asked how intimate their interaction was, if they had planned the lie and how serious they perceived their lie to be. Finally, they were asked to imagine how they and the person they had lied to would have felt if they had told the truth.

participants reporting that they had lied on each day and 19% reporting that they had not lied on any day.

Cross-sectional analysis

First, we conducted cross sectional analyses, examining the effects of lying on participants' self-esteem on the same day. To examine the effect of lying on self-esteem, a multilevel regression model was estimated using the *lme4* (Bates et al., 2015) and *lmerTest* packages (Kuznetsova et al., 2016) in R (R Core Team, 2020). The model included random intercepts per participant and day to account for differences in average levels of self-esteem across these two factors.³ This yielded a negative effect of lying on self-esteem, $\beta = -.19$, $SE = 0.08$, 95% CI $[-0.36, -0.03]$, $t(322) = 2.29$, $p = .023$, showing that participants reported lower levels of self-esteem when having lied on the same day. Similar results were found when only focusing on participants who provided data for all 5 days ($n = 68$), $\beta = -.18$, $SE = 0.09$, 95% CI $[-0.35, -0.01]$, $t(284) = 2.09$, $p = .037$.

The moderating role of the type of lie (self-centred vs. other-oriented) was also investigated. Rather than predicting self-esteem with a binary variable indicating whether participants had lied or not, a dummy variable was included indicating whether participants had told no lie (the reference category), a self-centred lie or an other-oriented lie. There was no significant difference between the effect of self-centred lie (vs. no lie) and the effect of other-oriented lie (vs. no lie) on self-esteem, $\zeta = 0.003$, $p = .997$. Again, only focusing on participants without any missing data yielded similar results, $\zeta = 0.20$, $p = .843$.

Time series analysis

Our time series data also allowed us to examine within-person changes in self-esteem. Using the *plm* package (Croissant & Millo, 2008) in R, we estimated a model predicting participants' self-esteem at time t with whether they had lied at time t while controlling for their self-esteem at $t - 1$. This yielded a positive effect of self-esteem at $t - 1$, $\beta = .60$, $SE = 0.04$, 95% CI $[0.52, 0.68]$, $\zeta = 14.46$, $p < .001$. Participants' self-esteem on any given day correlated with their self-esteem on the previous day. More importantly, the model also showed a negative effect of lying, $\beta = -.21$, $SE = 0.11$, 95% CI $[-0.42, -0.01]$, $\zeta = 2.02$, $p = .044$. When participants had lied (vs. had not lied) on a given day, they experienced a decrease in self-esteem compared to their self-esteem on the previous day.

We also tested whether participants' level of self-esteem on 1 day was associated with their lying behaviour on the next day. Self-esteem at $t - 1$ did not significantly predict the probability of lying behaviour at time t or the increase in an individual's probability of lying relative to the previous day (i.e. lying at time t while also controlling for lying at time $t - 1$).

Discussion

The results of Study 4 showed that participants who lied reported lower levels of self-esteem compared with participants who did not lie. Importantly, we also found evidence that lying is associated with within-person changes in self-esteem: Participants who had lied on a given day experienced a decrease in self-esteem compared with their self-esteem on the previous day. Finally, we examined whether self-esteem is associated with future lying behaviour, but did not find any evidence for this.

³Models that also included random slopes for the effect of lying on self-esteem per participant, $\chi^2(2) = 2.08$, $p = .353$, or per day, $\chi^2(2) = 5.50$, $p = .064$, did not show superior fit.

GENERAL DISCUSSION

Decades of research have shown that people are relatively bad at detecting lies, suggesting that many (if not most) lies that people tell in everyday life go undetected (Kupfer, 1982). Even though the tangible costs of telling a lie may often be low because they go undetected, and therefore unpunished, there may also be a psychological cost to telling a lie. Lying is widely seen as immoral (Cantarero, Szarota, et al., 2018). As people are motivated to view themselves as a good and honest person, engaging in lying could negatively influence their self-image (Leary, 1999). Building on this reasoning, this article examined whether lying decreases self-esteem and increases negative affect. Across four studies with different methodologies, convergent evidence for relation of lying with self-esteem and affect were found (see also Figures 1 and 2). There were no differences in the strengths of these effects between self-centred lies and other-oriented lies.

Specifically, in the retrospective studies 1 and 2, we found that both self-centred and other-oriented lying, in comparison to telling the truth, were related to lower people's self-esteem and more negative affect. Study 3 replicated these findings while using a diary study design that minimized memory errors among its participants. Study 4 again replicated these results, while also examining within-person changes in self-esteem. We found that lying on a given day decreased people's self-esteem compared to their self-esteem on the previous day. This confirms that lying decreases self-esteem. Finally, results from Study 4 suggest that self-esteem does not predict the probability of lying behaviour in the future. Taken together, across four samples and various research designs, we consistently find that lying (vs. telling the truth) relates to lower self-esteem and more negative affect in the people telling the lies.

One limitation for Studies 1 and 2 was that both studies relied on the memory of the participants for collecting data. We tried to minimize memory biases by (1) asking the participants to rate the vividness of their memories, and by (2) also including two diary studies in this article (Studies 3 and 4). When asked to rate their vividness, 87% of the participants indicated having no trouble remembering. Note that the findings of Study 1 could be interpreted bidirectionally such that lying could have influenced self-esteem, but self-esteem could also have influenced lying. In the subsequent studies, however, we asked participants to indicate how they felt after lying or telling the truth with a state self-esteem scale. Study 4 provided a more diagnostic test by investigating not only whether lying affects self-esteem, but also whether this relationship is bidirectional. Study 4 showed that lying decreased self-esteem that was reported on the same day as compared to their self-esteem on the previous day, but self-esteem did not predict the probability of future lies. This may seem inconsistent with previous research showing that self-esteem affects dishonest behaviour (Aronson & Mettee, 1968; Cantarero, Van Tilburg, & Szarota, 2018). Note, however, that we measured state, not trait self-esteem. It is possible that people's overall trait self-esteem predicts future lying behaviour (as shown by Cantarero, Van Tilburg, & Szarota, 2018; Hart et al., 2020), while at the same time the fluctuating state self-esteem does not affect lying in everyday life. Also, it is very likely that if a person experiences a drop in state self-esteem, there may not be an immediate opportunity in which one can decide to lie or tell the truth, which was the case in the study of Aronson and Mettee (1968). When the opportunity does not immediately follow the drop in self-esteem, people may not feel the need any more to show compensatory behaviour by lying or may have compensated differently. Furthermore, note that the research of Aronson and Mettee regarded laboratory cheating during a game of cards, not lying in real life. Future research could investigate the interplay between trait and state self-esteem on lying when an opportunity is immediately present versus delayed. As we expect the relationship to be bidirectional when taking the points mentioned above into account, it would also be interesting to investigate whether vicious cycles can be detected of declining self-esteem and increased lying behaviour.

Previous research on the effects of lying very rarely focused on the liars' side of the story; most studies focused on the effect lying has on the relationship between the liar and the receiver or on the receivers alone. As a consequence, relatively little is known about the psychological consequences of lying for liars themselves. Studies that did focus on the sender did not investigate the effects of lying on self-esteem. This article thus provided new insights into the effects of lying by showing that lying decreases

self-esteem and increases negative affect. Furthermore, our results suggest that this occurs irrespective of whether people told lies to pursue their selfish goals or to benefit others.

CONCLUSION

To conclude, this article extends previous research on the effects of lying on the senders of lies by demonstrating that lying related to lower self-esteem and more negative affect. Furthermore, lying on a given day decreases people's self-esteem compared to their self-esteem on the previous day and to their average level of self-esteem. Finally, our results suggest that self-esteem does not predict the probability of lying behaviour in the future.

AUTHOR CONTRIBUTIONS

Sanne Preuter: Conceptualization, methodology, data curation, formal analyses, writing – original draft. **Bastian Jaeger:** Conceptualization, formal analyses, writing – review and editing. **Mariëlle Stel:** Conceptualization, methodology, data curation, supervision, writing – review and editing.

CONFLICT OF INTEREST STATEMENT

The authors state that there is no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available in OSF at https://osf.io/623dy/?view_only=db37e19aa0c8418cbac405236bbb6701; <https://osf.io/623dy/>, reference number DOI 10.17605/OSF.IO/623DY.

ETHICAL APPROVAL

This research was approved by the Ethics Committee of Twente University, The Netherlands (approval numbers 201092 and 221360).

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REFERENCES

- Aronson, E., & Mettee, D. R. (1968). Dishonest behaviour as a function of differential levels of induced self-esteem. *Journal of Personality and Social Psychology*, 9(2, Pt.1), 121–127.
- Barkan, R., Ayal, S., Gino, F., & Arieli, D. (2012). The pot calling the kettle black: Distancing response to ethical dissonance. *Journal of Experimental Psychology: General*, 141, 757–773. <https://doi.org/10.1037/a0027588>
- Bates, D., Mächler, M., Bolker, B., & Walker, S. (2015). Fitting linear mixed-effects models using lme4. *Journal of Statistical Software*, 67(1), 1–48. <https://doi.org/10.18637/jss.v067.i01>
- Bond, C. F., & DePaulo, B. M. (2006). Accuracy of deception judgements. *Personality and Social Psychology Review*, 10, 214–234.
- Brown, J. D., Dutton, K. A., & Cook, K. E. (2001). From the top down: Self-esteem and self evaluation. *Cognition and Emotion*, 15(5), 615–631.
- Brown, J. D., & Marshall, M. A. (2001). Self-esteem and emotion: Some thoughts about feelings. *Personality and Social Psychology Bulletin*, 27(5), 575–584.
- Cantarero, K., Szarota, P., Stamkou, E., Navas, M., & Dominguez Espinosa, A. D. C. (2018). When is a lie acceptable? Work and private life lying acceptance depends on its beneficiary. *The Journal of Social Psychology*, 158(2), 220–235.
- Cantarero, K., Van Tilburg, W. A. P., & Szarota, P. (2018). Differentiating everyday lies: A typology of lies based on beneficiary and motivation. *Personality and Individual Differences*, 134, 252–260.
- Croissant, Y., & Millo, G. (2008). Panel data econometrics in R: The plm package. *Journal of Statistical Software*, 27(2), 1–43. <https://doi.org/10.18637/jss.v027.i02>
- DePaulo, B. M., & Bell, K. L. (1996). Truth and investment: Lies are told to those who care. *Journal of Personality and Social Psychology*, 71(4), 703–716.
- DePaulo, B. M., Kashy, D. A., Kirkendol, S. E., Wyer, M. M., & Epstein, J. A. (1996). Lying in everyday life. *Journal of Personality and Social Psychology*, 70(5), 979–995. <https://doi.org/10.1037/0022-3514.70.5.979>

- DePaulo, B. M., Lindsay, J. J., Malone, B. E., Muhlenbruck, L., Charlton, K., & Cooper, H. (2003). Cues to deception. *Psychological Bulletin*, *129*(1), 74–118.
- 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*(2), 175–191.
- Feldman, R. S., Forrester, J. A., & Happ, B. R. (2002). Self-presentation and verbal deception: Do self-presenters lie more? *Basic and Applied Social Psychology*, *24*(2), 163–170.
- Hample, D. (1980). Purposes and effects of lying. *Southern Speech Communication Journal*, *46*(1), 33–47.
- Hart, C. L., Lemon, R., Curtis, D. A., & Griffith, J. D. (2020). Personality traits associated with various forms of lying. *Psychological Studies*, *65*(3), 239–246.
- Harter, S. (1993). Causes and consequences of low self-esteem in children and adolescents. In R. F. Baumeister (Ed.), *Self-esteem: The puzzle of low self-regard* (pp. 87–116). Springer US.
- Juth, V., Smyth, J. M., & Santuzzi, A. M. (2008). How do you feel? Self-esteem predicts affect, stress, social interaction, and symptom severity during daily life in patients with chronic illness. *Journal of Health Psychology*, *13*(7), 884–894. <https://doi.org/10.1177/1359105308095062>
- Kashy, D. A., & DePaulo, B. M. (1996). Who lies? *Journal of Personality and Social Psychology*, *70*(5), 1037–1051.
- Krieger, T., Hermann, H., Zimmermann, J., & Grosse Holtforth, M. (2015). Associations of self-compassion and global self-esteem with positive and negative affect and stress reactivity in daily life: Findings from a smart phone study. *Personality and Individual Differences*, *87*, 288–292.
- Kupfer, J. (1982). The moral presumption against lying. *The Review of Metaphysics*, *36*, 103–126.
- Kuznetsova, A., Brockhoff, P. B., & Christensen, R. H. B. (2016). *lmerTest: Tests in linear mixed effects models* (R package version 2.0-32). <https://cran.r-project.org/package=lmerTest>
- Leary, M. R. (1999). Making sense of self-esteem. *Current Directions in Psychological Science*, *8*(1), 32–35. <https://doi.org/10.1111/1467-8721.00008>
- Mazar, N., Amir, O., & Ariely, D. (2008). The dishonesty of honest people: A theory of self-concept maintenance. *Journal of Marketing Research*, *45*, 633–644. <https://doi.org/10.1509/jmkr.45.6.633>
- Peterson, C. (1996). Deception in intimate relationships. *International Journal of Psychology*, *31*(6), 279–288.
- R Core Team. (2020). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing, Vienna, Austria. <https://www.r-project.org/>
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton University Press.
- Ruedy, N. E., Moore, C., Gino, F., & Schweitzer, M. E. (2013). The cheater's high: The unexpected affective benefits of unethical behavior. *Journal of Personality and Social Psychology*, *105*(4), 531–548. <https://doi.org/10.1037/a0034231>
- Seiter, J. S., Bruschke, J., & Bai, C. (2002). The acceptability of deception as a function of perceivers' culture, deceiver's intention, and deceiver-deceived relationship. *Western Journal of Communication*, *66*(2), 158–180.
- Smith, E. R., & Mackie, D. M. (2007). *Social psychology* (3rd ed.). Psychology Press.
- Tyler, J. M., Feldman, R. S., & Reichert, A. (2006). The price of deceptive behaviour: Disliking and lying to people who lie to us. *Journal of Experimental Social Psychology*, *42*(1), 69–77.
- Vonk, R., Radstaak, M., De Heus, P., & Jolij, J. F. (2017). Ironic effects of feedback on contingency of self-worth: Why self-reports of contingency are biased. *Self and Identity*, *18*, 1–18.
- Zuckerman, M., DePaulo, B. M., & Rosenthal, R. (1981). Verbal and nonverbal communication of deception. In *Advances in experimental social psychology* (Vol. 14, pp. 1–59). Academic Press.

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: Preuter, S., Jaeger, B., & Stel, M. (2023). The costs of lying: Consequences of telling lies on liar's self-esteem and affect. *British Journal of Social Psychology*, *00*, 1–15. <https://doi.org/10.1111/bjso.12711>