The Costs of Lying: Consequences of Telling Self-Centered and Other-Oriented Lies on the Self-Esteem and Affect of Liars

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Abstract

Deceiving others is generally viewed as immoral and unethical. However, most people lie on a daily basis. This paper examines the psychological consequences of telling lies for the liars themselves, as they are participating in what is generally perceived as immoral behavior. More specifically, this paper focuses on the effects of self-centered and other-oriented lying on the liar's self-esteem and affect. In four studies (N = 783), we tested if lying, in comparison to telling the truth, lowers liars' self-esteem and positive affect. We also tested if these effects would be stronger for self-centered lying than for other-oriented lying, as self-centered lying is generally seen as more immoral than other-oriented lying. In total, three cross-sectional studies (Studies 1, 2, and 4) and one longitudinal (Study 3, N = 100) were conducted. Results from all four studies showed that lying decreases people's self-esteem, regardless of what type of lie was told. Studies 1 (N = 201), 2 (N = 285) and 4 (N = 197) showed that lying increases negative affect, regardless of what type of lie was told. People who had lied on a given day experienced a decrease in self-esteem compared to their self-esteem on the previous day and to their average level of self-esteem (Study 3). Moreover, people who lied perceived lying as more acceptable than people who told the truth (Studies 1-4).

Keywords: lying; deception; self-esteem, affect, acceptability

The Costs of Lying: The Consequences of Telling Self-Centered and Other-Oriented Lies on the Self-Esteem and Affect of Liars

Deceiving others is viewed by most people as unconscionable, yet research shows that people lie on a daily basis (Charlton & Cooper, 2003; DePaulo, Kashy, Kirkendol, & Epstein, 1996; DePaulo, Lindsay, Malone, Muhlenbruck, 2003; Feldman, Forrest, & Happ, 2002). Most of these lies stay undetected by others (Kupfer, 1982). For example, when people are explicitly asked to distinguish lies from the truth in laboratory studies, they can do so in 54% of all cases (Bond & DePaulo, 2006). This is just above chance performance. One consequence of people's inability to detect lies is that liars often get away with their deception and accomplish the goal they attempted to achieve with their lie. However, when lying is uncovered, receivers of lies tend to react negatively to liars and report to feel less satisfied with relationships that involve frequent deception (Peterson, 1996; Tyler, Feldman, & Reichert, 2006), which can eventually lead to termination of the relationship (McCornack & Levine, 1990). Thus, lying affects receivers and relationships between senders and receivers negatively. The question that this paper aims to answer is if liars themselves experience any psychological effects from lying and, more specifically, if it affects their own self-esteem.

Self-Centered and Other-Oriented Lies

Deception can be defined as "an act intended to foster in another a belief or understanding which the deceiver considers false" (Zuckerman, DePaulo & Rosenthal, 1981). However, this does not mean that lying is 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 white lies are considered other-oriented lies, while lies told in one's own interests are called self-centered lies (Kashy & DePaulo, 1996). Self-centered 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) found that because people know that lying is wrong, they tend to only tell self-centered lies when they know that the rewards are assured and large.

The way in which lies are perceived by people depends on the context in which a lie is told and whether the lie is self-centered or other-oriented (Cantarero, Szarota, Stamkou, Navas & Dominguez Espinosa, 2018; Seiter, Bruschke & Bai, 2002). The motive behind a lie is found to be the largest determinant for perceiving a lie as acceptable or not. When a lie is less self-centered and more other-oriented, the deception is considered more acceptable than when it is more self-centered and less other-oriented (Cantarero et al., 2018; Seiter et al., 2002). The context in which a lie is told also has an effect on the acceptability of a lie. For example, telling a lie to a stranger to protect one's privacy is considered acceptable, while it is considered unacceptable when a lie to protect one's privacy is told to a spouse (Seiter et al., 2002). Furthermore, self-centered lies are generally considered as more acceptable in a professional setting than in a personal setting. However, in cultures with relatively high power distances, attitudes towards deception in a workplace setting are more similar to the attitudes towards deception in a private sphere, possible due to the fact that lying to a superior is perceived as a stronger norm violation in high power distance c0ultures than in lower power distance cultures (Cantarero et al., 2018).

Lying and Self-Esteem

Despite contextual differences in which type of lie is perceived as more acceptable, lying is generally seen as immoral across cultures (Cantarero 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 can be referred to as a way in which people typically feel about themselves (Brown, Dutton & Cook, 2001). This type of self-esteem is mostly called global- or trait self-esteem and is quite constant throughout people's lives

(Brown, Dutton & Cook, 2001). However, self-esteem can also be defined as a momentary emotional state that is influenced by positive and negative experiences (Brown et al. 2001). Feeling proud, regretful or ashamed are examples of emotions that are associated with this type of "state self-esteem" (Brown et al. 2001). State self-esteem fluctuates and is influenced by people's perception of how others see them (Harter, 1993). Behavior that is high in relational evaluation (e.g. succeeding or being praised) generally raises people's self-esteem, while behavior that is low in relational evaluation (e.g. failing or being rejected) lowers self-esteem (Leary, 1999). Therefore, people's self-esteem might be decreased by telling a lie, as this is something people see as wrong and unconscionable (Charlton & Cooper, 2003; DePaulo et al., 1996; DePaulo et al, 2003; Feldman et al., 2002).

It is generally believed that self-esteem affects the enjoyment of life, as people with high self-esteem are psychologically happier and healthier than people with low self-esteem (Heatherton & Wyland, 2003). Low self-esteem is related to several negative psychological states, such as feeling lonely, shy, distressed, and sometimes even depressed (Leary, 1999; Tennen & Affleck, 1993). Thus far, empirical evidence on the topic of the effect of lying on self-esteem is scant, despite the fact that low relational behavior lowers self-esteem and the fact that self-esteem plays such an important role in people's psychological wellbeing.

In a study by Hample (1980), the effect that lying has on liars' self-satisfaction was examined. His results indicate that although lies may be effective enough to justify their use, violation of the social proscription against deceit causes self-satisfaction to be less than lie-satisfaction and performance-satisfaction. Meaning that people might feel satisfied with the effectiveness of the lie they told and their own performance of telling a lie, but not with themselves after they told the lie. However, Hample (1980) did not examine if self-satisfaction was higher for people who told the truth compared to telling a lie. Furthermore, Hample (1980) did not test if self-satisfaction was influenced by the motive (self-centered or

other-oriented) of the lie. The motive of a lie could however have an impact on the strength effect of lying on self-esteem, as self-centered lying is considered to be less acceptable than other-oriented lying (Cantarero et al., 2018; Seiter et al., 2002).

The Present Studies

The present studies investigate the effect of lying on self-esteem. Moreover, we examine whether this relationship depends on the type of lie. We focus on explicit self-esteem, which refers to self-esteem that is measured by standard self-report scales (Jordan, Spencer & Zanna, 2005), rather than implicit self-esteem that is an unconscious form of self-reflection (Greenwald & Banaji, 1995). We hypothesize that lying lowers someone's self-esteem, as lying is generally considered to be immoral behavior. We expect that this effect on self-esteem is stronger when a lie is self-centered than when it is other-oriented, as self-centered lies are perceived as less acceptable than other-oriented lies. Other-oriented lies are still expected to decrease self-esteem because it is still generally viewed as immoral behavior, but the effects are anticipated to be weaker than for self-centered lies.

We also examine the roles of negative affect. Self-esteem is often defined as "the positive or negative evaluations of the self, as in how we *feel* about it" (Smith & Mackie, 2007). Furthermore, "state self-esteem" as mentioned above, is associated with feelings like being proud or ashamed of oneself (Brown et al. 2001). Thus, affective responses play a central role in determining a person's self-esteem (Benson & Giacomin, 2020; Brown & Marshall, 2001; Juth, Smyth & Santuzzi, 2008; Krieger, Hermann, Zimmermann & Grosse Holtforth, 2015; Passanisi, Gervasi, Madonia, Guzzo & Greco, 2015). Therefore, this study aims to explore the effects of different lies on a person's affect. We hypothesize that lying increases negative affect associated with low self-esteem. We expect that the effect of lying on affect is stronger when a lie is self-centered than when it is other-oriented, as self-centered lies are perceived as less acceptable than other-oriented lies. Other-oriented lies are still

expected to increase someone's negative affect and decreases someone's positive affect, but the effects are anticipated to be weaker than for self-centered lies.

Finally, we investigated whether we could replicate the results of Cantarero and others (2018) and Seiter and others (2002) that when a lie is less self-centered and more other-oriented, the deception is considered more acceptable than when it is more self-centered and less other-oriented. We explore whether this difference in acceptability is related to self-esteem and affect.

Study 1

In Study 1, we tested the core hypotheses that lying, compared to telling the truth, decreases a person's self-esteem and increases negative affect. We hypothesized that these effects are stronger for self-centered lies than for other-oriented ones.

To test whether the participants of this study perceived self-centered lying as less acceptable than other-oriented lying, as previous studies would suggest (Cantarero et al., 2018; Seiter et al., 2002), we also measured perceived acceptability of lying. We expected that people who perceive lying as more acceptable, lie more than people who perceive lying as less acceptable. In addition, we anticipated that participants who were asked to describe an other-oriented lie would be more inclined to perceive lying as acceptable than people who were asked to describe a self-centered lie.

Method

Participants and Design

Participants were 201 (93 females; 106 males; 2 unspecified) Amazon Mechanical Turk (MTurk) workers who participated for €1. Their ages ranged from 19 to 72 (M = 33.41; SD = 11.02). The study was a 2 (type of dilemma self-centered vs. other-oriented) × 2 (behavior: lying vs. truth telling) between-participants design. In total, 101 participants were

assigned a self-centered dilemma (50.2%) and 100 participants were assigned an other-oriented dilemma (49.8%).

Procedure and Materials

Participants were given one of eight situations which they could have previously experienced in their lives. These situations are typical dilemmas in daily life for which participants had to decide whether to lie or tell the truth. For the presented dilemma, participants were asked how they responded the last time they were in a similar situation. Four of these dilemmas described a self-centered dilemma and four described an other-oriented dilemma. Participants were asked how they responded the last time that they were in a similar situation. After the dilemma, participants' self-esteem, affect, and perceived acceptability were measured.

Participants' self-esteem was measured using two self-esteem scales constructed by Rosenberg (1965) with thirty-five items. The first scale consisted of ten items and was focused on the feeling that someone had about himself or herself (e.g., "I feel I do not have much to be proud of"). The second scale consisted of twenty-five items and was more focused on what a person thinks that others think of them (e.g., "Most people would take advantage of me if they could"). The items were measured by asking participants to what extent they agreed on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). For this study, the two scales were combined into one general self-esteem scale (α = .96), in which lower scores corresponded with lower self-esteem and vice versa. 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 (α = .90). An example of an item from the affect scale is: 'My behavior in this situation made me feel uncomfortable'. The items were

measured by asking the participants to what extent they agreed on a 7-point Likert scale ranging from 1 (*not at all*) to7 (*very much*). The items were reverse coded, so that lower scores indicated more negative affect. The average of the total points was used for the analyses. A confirmatory principal components analysis revealed that there was indeed one factor for negative affect.

Perceived acceptability of lying was measured by a self-report scale, constructed by Van 't Veer, Stel, and Van Beest (2013), which consisted of six items about the perceived acceptability and morality of lying (e.g., “To what extent do you think lying is acceptable?”) Participants could answer by scoring the item on a scale from 0 to 100. Higher scores indicate a higher perceived acceptability of lying. The average of the total points was used for the analyses. A confirmatory principal components analysis revealed one factor for acceptability perception of lying (α = .94).

Finally, participants were asked how vividly they remembered the situation in which they lied. The vividness was measured by asking the participants to what extent they could vividly remember how they felt during and 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, 87.1% answered with a score of 5 or above on the question to what extent they vividly remembered experiencing the dilemma (M = 6.28, SD = 1.09), indicating that participants generally found it easy to remember being in a similar dilemma. Out of the 101 participants that were assigned a self-centered 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 100 participants that were assigned an other-oriented dilemma, 45 told a lie (45%), 49 told the truth (49%) and 6 had not experienced a similar dilemma before (6%). There was no significant association between behavior (lying vs. truth telling) and type of dilemma (self-

centered vs. other-oriented), X^2 (1, N = 185) = .06, p = .82. The 16 participants who never experienced a similar dilemma before were excluded from further analyses, leaving a final sample size of 185 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 Supplemental Materials for full results of diagnostic tests).

Self-Esteem

A Kruskal-Wallis H test showed that there was a significant difference in self-esteem between the four combinations of behavior and type of dilemma, $\chi^2(3) = 13.48$, p = .004, with a mean rank self-esteem score of 74.69 for lying during a self-centered dilemma, 79.96 for lying during an other-oriented dilemma, 106.81 for telling the truth in a self-centered dilemma, and 105.27 for telling the truth in an other-oriented dilemma.

Post-hoc Mann Whitney U tests revealed that for self-centered dilemmas, participants reported lower levels of self-esteem when lying than when telling the truth, U = 611.50, p = .001. The post-hoc Mann Whitney U tests also showed that the mean rank scores for telling the truth in an other-oriented dilemma significantly differed from lying during an other-oriented dilemma, U = 825, p = .04. There were no significant differences between the rank scores of self-centered lying and other-oriented lying, U = 914.50, p = .80, and between the rank scores of self-centered truth-telling and other-oriented truth-telling, U = 1149, p = .85.

Affect

The results of a 2 (type of dilemma: self-centered vs. other-oriented) x 2 (behavior: lying vs. truth-telling) ANOVA revealed that there was a significant main effect of type of behavior on affect, $F(1,181) = 25.03$, $p < .001$, $\eta_p^2 = .12$. Participants who lied, experienced more negative affect (M = 4.14, SD = 1.55) than participants who told the truth (M = 5.27, SD = 1.53). There was no significant main effect of type of dilemma on negative affect, F(1,181)

= 2.53, $p = .11$, $\eta_p^2 = .01$. There was no significant interaction between the effects of behavior and type of dilemma on negative affect, $F(1,181) = .24$, $p = .62$, $\eta_p^2 = .001$ (see Table 1).

Table 1

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

Type of dilemma	Behavior	*M*	*SD*	95% Confidence Interval	
				Lower Bound	Upper Bound
Self-centered	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 noncommon subscripts differ significantly ($p < .05$).

Acceptability Perception

The results of a 2 type of dilemma (self-centered vs. other-oriented) x 2 behavior (lying vs. truth-telling) ANOVA revealed that there was a significant main effect of type of behavior on acceptability perception, $F(1,180) = 33.30$, $p < .001$, $\eta_p^2 = .16$. Participants who lied, regarded lying as more acceptable ($M = 29.84$, $SD = 18.18$) than participants who told the truth ($M = 15.80$, $SD = 14.68$). It also revealed that there was no significant main effect of type of dilemma on acceptability perception, $F(1,180) = .03$, $p = .87$, $\eta_p^2 < .001$. There was no significant interaction between the effects of behavior and type of dilemma on acceptability perception, $F(1,180) = .38$, $p = .54$, $\eta_p^2 = .002$. Table 2 presents means, standard deviations, and confidence intervals of a 2 type of dilemma (self-centered vs. other-oriented) x 2 behavior (lying vs. truth-telling) ANOVA.

Point biserial correlations showed a significantly moderate positive association between acceptability perception and lying, $r_{pb} = .39$, $p < .001$, indicating that participants who lied perceived lying as more acceptable than people who told the truth. This relationship was present for self-centered lying, $r_{pb} = .43$, $p < .001$, and other-oriented lying, $r_{pb} = .36$, $p < .001$.

Table 2

Participants' acceptability perception of lying for behavior (lying vs. truth telling) per dilemma (Study 1)

Type of dilemma	Behavior	*M*	*SD*	95% Confidence Interval	
				Lower Bound	Upper Bound
Self-centered	lie	30.82_a	17.63	25.58	36.05
	truth	15.26_b	15.10	10.42	20.11
Other-oriented	lie	28.93_a	18.83	23.87	33.98
	truth	16.36_b	14.37	12.89	22.58

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

Discussion

Both self-centered and other-oriented lying, in comparison to telling the truth, were associated with a decrease in self-esteem. However, the expectation that the effect of lying on self-esteem would be stronger for self-centered lies than for other-oriented lies was not confirmed. Similar results were found for the effect of self-centered and other-oriented lying on affect.

Finally, Study 1 showed that people who either told a self-centered lie or an other-oriented lie, perceived lying as more acceptable than people who told the truth. There was no difference in the perceived acceptability of people who just described a self-centered lie and people who just described an other-oriented lie.

Study 1 had two limitations. First, the Rosenberg self-esteem scale that was used to measure self-esteem may be less sensitive to how people feel in one particular moment than to how people generally feel about themselves. 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. Moreover, the way in which we used scenarios to measure lying behavior in Study 1 relied completely on how well a person could remember a situation from

their past. It could have been difficult for participants to remember exactly how they felt after telling a lie they told a long time ago. Therefore, Study 2 used a diary study in which participants tracked and reported their lying behavior for one day.

Study 2

Study 2 was conducted to test whether the results as obtained in Study 1 could be replicated. In this study, we measured self-esteem with three items that measure one's self-esteem in a specific moment, namely after they either lied or told the truth in a self-centered or other-oriented dilemma.

Method

Participants and Design

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

Procedure and Materials

Participants were asked to keep track of their lying behavior for one day. They had to report whether they lied or not and if they did lie, describe their lies and motive. Five people coded their lies as either self-centered or other-oriented and had an intercoder reliability of 100%. After describing their lying behavior, participants who reported to have lied were asked in an online questionnaire if they had planned the lie and how serious they perceived

their lie to be. Next, self-esteem and positive and negative affect of all participants were measured.[1]

Participants' self-esteem was measured using a self-esteem scale designed by Vonk, Radstaak, De Heus and Jolij (2017) with a total of three items (α = .80). An example of an item from the self-esteem scale is: 'I was satisfied with myself'. The items were measured by asking the participants to what extent they agreed on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The average score was used for the analyses. The items that were negatively worded were reverse coded, so that higher scores indicate 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 are related to lying/truth-telling were measured with four items: comfortable, happy, relieved, and proud. Negative affect that are related to lying/truth-telling were measured with six items: guilty, embarrassed, ashamed, discredited, sorry and angry. The items that were negatively worded were reverse coded, so that higher scores indicate more positive affect. The average of the total points was used for the analyses. The Cronbach's Alpha of the affect scale was .74.

Results

Participants that could not be categorized, or that did not describe a situation in which they told either a self-centered or an other-oriented lie were excluded from the analyses. Out of the remaining 267 participants, 59 (22.1%) told a self-centered 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.

[1] Study 2 also measured experienced comfort before and after telling a lie and experienced stress symptoms of the participants. These results were however not included in this paper as they were not relevant for answering this paper's hypotheses.

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 Supplemental Materials for full results of diagnostic tests).

Self-Esteem

A one-way ANOVA with the independent variable 'behavior' (self-centered lying vs. other-oriented lying vs. not lying) and the dependent variable 'self-esteem' showed that there was a significant difference in the average self-esteem score of the three groups of participants; self-centered liars, other-oriented liars, and people who did not lie, F (2,264) = 24.99, $p < .001$, $\eta_p^2 = .16$.

A post-hoc Tukey test showed that people who lied either for self-centered reasons (M = 3.88, SD = 1.35) or for other-oriented reasons (M = 4.40, SD = 1.22) reported a lower self-esteem compared with people who did not lie (M = 5.25, SD = 1.35), respectively $p < .001$ and $p = .02$. There was no significant difference in self-esteem between self-centered liars and other-oriented liars, $p = .26$.

Affect

A one-way ANOVA with behavior as the independent variable (self-centered lying vs. other-oriented lying vs. not lying) and affect as the dependent variable showed that there was a significant difference in the average affect score of the three groups of participants, F (2,264) = 46.66, $p < .001$, $\eta p^2 = .26$.

A post-hoc Tukey test showed that people who did not lie (M = 5.34, SD = .07) felt significantly more positive than people who told self-centered lies (M = 4.03, SD = .98) and people who told other-oriented lies (M = 4.38, SD = .19), respectively $p < .001$ and $p < .001$. There was no significant difference in affect between self-centered liars and other-oriented liars, $p = .30$.

Discussion

The results from Study 2 showed that people who lied either for self-centered reasons or for other-oriented reasons reported lower self-esteem compared with people who did not lie. Similar to the results of Study 1, the effect of lying on self-esteem was not stronger for self-centered lies than for other-oriented lies.

Furthermore, the results showed that people who lied, either for self-centered reasons or other-oriented reasons, experienced more negative affect than people who did not lie. Again, participants who told a self-centered lie did not experience a stronger increase in negative affect or stronger decrease in positive affect than the participants who told an other-oriented lie.

One limitation of Study 2 was that the self-esteem of liars was compared to the self-esteem of non-liars, but not to the self-esteem of liars before telling a lie. In Study 3 we examined within-person changes in self-esteem. That is, we tested whether lying would lead to a decrease in self-esteem compared to an individual's level of self-esteem on the previous day. We also examined whether people's self-esteem on one day influences their lying behavior on the next day.

Study 3

Study 3 tested whether lying causes within-person changes in self-esteem. The expectation was that when participants lie on a given day, they would experience a decrease in self-esteem compared to their self-esteem on the previous day. Study 3 also explored whether the relationship between lying and self-esteem is reciprocal. That is, we tested whether participants' level of self-esteem on one day was associated with their lying behavior on the next day. In this study, we measured self-esteem with the same three items focusing on self-esteem in one particular moment as in Study 2.

Method

Participants and Design

In total, 100 Amazon Mechanical Turk (MTurk) workers (59 females, 34 males, 7 unspecified) participated in this study for €1. Their ages ranged from 19 to 58 (M = 32.26, SD = 9.34). This study used a within-subject diary study design with as independent variables behavior (lying vs. truth telling) and type of dilemma (self-centered vs. other oriented) and as dependent variable 'self-esteem'.[2] Out of all participants, 69% filled in the questionnaire on each of the five days.

Procedure and Materials

Participants were asked to keep track of their lying behavior for five days by filling in the questionnaire at the end of each day. First, self-esteem of participants was measured. Then the participants were asked to report whether they lied or not and if they did lie, to describe their lies and motive (self-centered or other-oriented). After describing their lying behavior, participants who reported to have lied were asked to rate on a 7-point Likert scale 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' self-esteem was measured with a self-esteem scale (Vonk et al., 2017) that consisted of three items (α = .91). An example of an item from the self-esteem scale is: 'I was satisfied with myself". The items were measured by asking the participants to what extent they agreed on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The average of the total points was used for the analyses.

[2] As 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.

Results

Average levels of self-esteem (across all five 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 participants reporting that they had lied on each day and 19% reporting that they had not lied on any day.

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 Supplemental Materials for full results of diagnostic tests).

Cross-Sectional Analysis

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, β = -0.19, SE = 0.084, 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 five days (n = 68), β = -0.18, SE = 0.09, 95% CI [-0.35, -0.01], $t(284)$ = 2.09, p = .037.

The moderating role of the type of lie (self-centered 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-centered lie, or an other-oriented lie. There was no significant difference between the effect of self-centered lie (vs. no lie) and the effect of

[3] Models that also included random slopes for the effect of lying on self-esteem per participant, $\chi^2(2)$ = 2.08, p = .35, or per day, $\chi^2(2)$ = 5.50, p = .064, did not show superior fit.

other-oriented lie (vs. no lie) on self-esteem, $z = 0.003$, $p = .997$. Again, only focusing on participants without any missing data yielded similar results, $z = 0.20$, $p = .84$.

Time Series Analysis

In the previous analyses, we focused on the effects of lying on participants' self-esteem on the same day. However, our time series data also allowed us to examine 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 $t - 1$, $\beta = 0.60$, $SE = 0.04$, 95% CI [0.52, 0.68], $z = 14.46$, $p < .001$. 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, $\beta = -0.21$, $SE = 0.11$, 95% CI [-0.42, -0.01], $z = 2.02$, $p = .04$. 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 one day was associated with their lying behavior on the next day. Self-esteem at $t - 1$ did not significantly predict the probability of lying behavior 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

Results of Study 3 showed that people who lied reported lower levels of self-esteem compared with people who did not lie. Similar to the results of Studies 1 and 2, the effect of lying on self-esteem was not stronger for self-centered lies than for other-oriented lies. Importantly, we also found evidence that lying causes within-person changes in self-esteem: People who had lied on a given day experienced a decrease in self-esteem compared to their self-esteem on the previous day and also compared to their average level of self-esteem

measured over five days. Finally, results from Study 3 suggest that self-esteem does not predict the probability of lying behavior in the future.

Across three studies, we consistently found that lying decreases self-esteem and increases negative affect, regardless of whether the lie was self-centered or other-oriented. These results reject our hypothesis that the effects of lying on self-esteem and affect would be stronger for self-centered lies than for other-oriented ones. An explanation for these unexpected results could be that previous research suggesting that other-oriented lying is seen as more acceptable than self-centered lying (Cantarero et al., 2018; Seiter, Bruschke & Bai, 2002) only examined the general concept of lying and not lies that people had actually told. That is, people might generally perceive other-oriented lies as more acceptable, but when they tell a lie themselves, they might find both types of lies equally unacceptable. Therefore, Study 4 examined if there is a difference between perceived acceptability of self-centered and other-oriented lies people actually told and the perceived acceptability of self-centered and other-oriented lying as a general concept.

Study 4

Studies 1, 2, and 3 showed that lying decreases self-esteem and affect regardless of whether the lies were self-centered or other-oriented. We expected that the perceived acceptability of the type of lie would influence its effect on self-esteem and affect but found no support for this hypothesis. This raises the question if people perceive their own lies the same as lying in general, as previous studies focused on lying in general, while we focused on lies people actually had told.

In Study 4 we first tested whether self-esteem and affect could be predicted by the perceived acceptability of people's own lies, by their perceived acceptability of lying in general, or by both. We then tested if there was a difference between perceived acceptability

of people's own lies and the perceived acceptability of lying as a general concept. We explored whether there is a difference between the perceived acceptability of people's own self-centered lies and other-oriented lies, like there is for lying in general according to Cantarero and others (2018), and Seiter and others (2002). If there would be no difference between the acceptability perception of people's own self-centered lies and other-oriented lies, then that could explain why we found no significant differences between the self-esteem of people who lied for self-centered reasons and people who lied for other-oriented reasons.

Finally, we tested our main hypotheses again in Study 4 to see if we could replicate the results as obtained in Studies 1, 2, and 3.

Method

Participants and Design

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

This study used a between-subject design with behavior (lying vs. truth telling) and type of dilemma (self-centered vs. other oriented) as the independent variables and behavior and acceptability of own lies, acceptability of the concept of lying, self-esteem and affect as dependent variables. Five participants that did not fill in the questionnaire correctly, for example, by describing a situation that did not describe a lie were excluded from the study. In addition, one participant was excluded from the analyses for answering every question with a value of either 1 out of 7 or 10 out of 100.

Procedure and Materials

Participants were asked to describe one of the following four situations: 1) A situation in which they lied for their own benefit (self-centered lie); 2) A situation in which they could have lied for their own benefit but chose to tell the truth instead (self-centered 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 instead (other-oriented truth). They were instructed to ty 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-centered lie (28.1%), 43 participants described a self-centered 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%).

Participants' self-esteem was measured using a self-esteem scale (Vonk et al., 2017) with three items (α = .87). An example of an item from the self-esteem scale is: 'I was satisfied with myself'. The items were measured by asking the participants to what extent they agreed 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*). The average of the total points was used for the analyses. 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 higher scores indicate more positive affect. The Cronbach's Alpha of the affect scale was .82.

The perceived acceptability of people's own lies was measured among the participants that were asked to describe a lie by a self-report scale, constructed by Van 't Veer, Stel, and Van Beest (2013). This scale consisted of six items about the perceived acceptability and

morality of lying. An example of a question about one's own lie is: 'To what extent do you think your lie was acceptable?'. Participants could answer by scoring the items on a scale from 0 to 100. Higher scores indicate a higher perceived acceptability of lying. The average of the total points was used for the analyses. A confirmatory principal components analysis revealed one factor for acceptability perception of people's own lies, α = .84.

The perceived acceptability of self-centered and other-oriented lying as a general concept was measured among all participants with the same measuring scale that was used for measuring the perceived acceptability of people's own lies. An example of a question about self-centered lying in general is: 'According to you, to what extent is it all right to lie for one's own benefit?' and an example of a question about other-oriented lying in general is 'According to you, to what extent is it innocent to lie for someone else's benefit?'. A confirmatory principal components analysis revealed one factor for acceptability perception of lying in general, α = .91.

Finally, participants were asked how vividly they remembered the situation in which they lied. The vividness was measured by asking the participants to what extent they could vividly remember how they felt during and after the situation they described on a 7-point Likert scale ranging from 1 (*not at all*) to7 (*very much*).

Results

Of all participants, 87.6% answered with a score of 5 or above on the question to what extent they vividly remembered experiencing the dilemma (M = 5.31, SD = 1.41), indicating that participants generally succeeded in remembering being in a similar dilemma.

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 Supplemental Materials for full results of diagnostic tests). We started by replicating Study 1,2 and 3 before conducting the analyses for our main hypotheses of Study 4.

Self-esteem

First, we examined the effect of lying and the type of lie that was told on participants' self-esteem. The results of a 2 type of dilemma (self-centered vs. other-oriented) x 2 behavior (lying vs. truth-telling) ANOVA revealed that there was no significant main effect of type of dilemma on self-esteem, $F(1,187) = .33$, $p = .57$, $\eta_p^2 = .002$. It did reveal that there was a significant main effect of type of behavior on self-esteem, $F(1,187) = 14.59$, $p < .001$, $\eta_p^2 = .072$. Participants who lied, experienced lower self-esteem ($M = 4.14$, $SD = 1.52$) than participants who told the truth ($M = 4.95$, $SD = 1.35$). There was no significant interaction between the effects of behavior and type of dilemma on self-esteem, $F(1,187) = 1.01$, $p = .32$, $\eta_p^2 = .01$ (Table 3). Thus, we again found that lying decreased self-esteem and this effect was not moderated by which type of lie participants told (self-centered vs. other-oriented).

Table 3

Participants' self-esteem for behavior (lying vs. truth telling) per dilemma (N=191)

Type of dilemma	Behavior	*M*	*SD*	95% Confidence Interval	
				Lower Bound	Upper Bound
Self-centered	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 noncommon subscripts differ significantly ($p < .05$).

Affect

We also examined the effects of lying on affect. The results of a 2 type of dilemma (self-centered vs. other-oriented) x 2 behavior (lying vs. truth-telling) ANOVA revealed that there was no significant main effect of type of dilemma on affect, $F(1,187) = .70$, $p = .40$, $\eta_p^2 = .004$. It did reveal that there was a significant main effect of type of behavior on self-esteem, $F(1,187) = 9.03$, $p = .003$, $\eta_p^2 = .05$. Participants who lied, experienced less positive affect ($M = 4.13$, $SD = 1.13$) than participants who told the truth ($M = 4.61$, $SD = 1.11$). There was no

significant interaction between the effects of behavior and type of dilemma on affect, $F(1,187) = .19$, $p = .67$, $\eta_p^2 = .001$. Table 4 presents means, standard deviations, and confidence intervals of a 2 type of dilemma (self-centered vs. other-oriented) x 2 behavior (lying vs. truth-telling) ANOVA.

Table 4

Participants' affect for behavior (lying vs. truth telling) per dilemma (N=191)

Type of dilemma	Behavior	*M*	*SD*	95% Confidence Interval	
				Lower Bound	Upper Bound
Self-centered	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 noncommon subscripts differ significantly ($p < .05$).

Predictor of self-esteem and affect

Next, we examined whether people's perceptions of how acceptable lying is can explain participants' self-esteem an affect after telling a lie. Two multiple regression analyses were run to predict self-esteem and affect from the perceived acceptability of people's own lies and of lying in general. The results of the first regression with self-esteem as the dependent variable indicated that the model explained 32.2% of the variance and that the model was a significant predictor of self-esteem, $F(3,100) = 15.86$, $p < .001$. While the perceived acceptability of people's own lies contributed significantly to the model (B = .03, $SE = .01$, $p < .001$), the perceived acceptability of self-centered lying in general ($B = .02$, $SE = .01$, $p = .08$) and other-oriented lying in general ($B = .004$, $SE = .01$, $p = .61$) did not.

The results of the second regression with affect as the dependent variable indicated that the model explained 34% of the variance and that the model was a significant predictor of affect, $F(3,100) = 17.21$, $p < .001$. While the perceived acceptability of people's own lies contributed significantly to the model ($B = .03$, $SE = .01$, $p < .001$), the perceived

acceptability of self-centered lying in general (B = .01, SE = .01, p = .09) and other-oriented lying in general (B = -.003, SE = .01, p = .62) did not. So, people's self-esteem and affect can only be partially predicted by the perceived acceptability of their own lies but not by their perceived acceptability of lying in general.

Acceptability Perception

We also tested whether there was a difference between perceived acceptability of self-centered and other-oriented lies people actually told and the perceived acceptability of self-centered and other-oriented lying as a general concept. Paired *t*-tests were conducted to compare the perceived acceptability of lying in general with the perceived acceptability of people's own lies for both self-centered and other-oriented lies in order to find out if people perceive their own lies differently than lying in general.

The first paired *t*-test was conducted to see if we could replicate the results of previous studies (Cantarero et al., 2018; Seiter et al., 2002), namely that self-centered lying is generally considered to be less acceptable than other-oriented lying. The results showed that between the perceived acceptability of self-centered lying in general (M = 31.71, SD = 16.28) was significantly lower than the perceived acceptability of other-oriented lying in general (M = 44.94, SD = 18.14), $t(190) = 11.86$, $p < .001$, d = .77. So, participants considered self-centered lying in general to be less acceptable than other-oriented lying in general, which is in line with previous research (Cantarero et al., 2018; Seiter et al., 2002).

Secondly, we tested whether people still perceived self-centered lying to be less acceptable than other-oriented lying when they described their own lies. An independent t-test was used to compare the perceived acceptability of people's own self-centered lies with people's own other-oriented lies, as these variables were measured using a between-subject. The independent t-test showed that the perceived acceptability of people's own self-centered lies (M = 45.68, SD = 20.17) was lower than the perceived acceptability of people's own

other-oriented lies (M = 61.16, SD = 19.03), $t(102) = 4.03$, $p < .001$, $d = .79$. This suggests that participants also perceived their own self-centered lies as more acceptable than their own other-oriented lies.

Discussion

Study 4 showed the same pattern of results as our previous three studies. People who lied either for self-centered reasons or for other-oriented reasons reported a lower self-esteem compared with people who did not lie. The effect of lying on self-esteem was not stronger for self-centered lies than for other-oriented lies. Furthermore, the results showed that people who lied, either for self-centered reasons or other-oriented reasons, experienced more negative and less positive affect than people who did not lie. Again, participants who told a self-centered lie did not experience a stronger increase in negative affect or stronger decrease in positive affect than the participants who told an other-oriented lie.

Furthermore, the results from Study 4 showed that liars' self-esteem and affect can be predicted by people's perceived acceptability of their own lies and not by their perceived acceptability of lying in general. Meaning, the self-esteem and affect of liars are influenced by how acceptable they thought their own lie was, instead of how acceptable they think it is to tell a lie in general. Participants perceived self-centered lying as less acceptable than other-oriented lying, regardless of whether they described their own lie or the concept of lying in general. This is in line with the results of previous studies on the acceptance of lying (Cantarero et al., 2018; Seiter et al., 2002), but does not explain why self-centered lying has an equally strong effect on self-esteem and affect as other-oriented lying has. Therefore, other factors might play a role in the fact that the difference in perceived acceptability of people's self-centered and other-oriented lies do not translate to a difference in self-esteem and affect between self-centered and other-oriented liars.

General discussion

The present paper tested whether lying decreases the self-esteem and affect of liars, and whether this effect is strongest for lies that are told for one's own benefit compared to lies that are told for someone else's benefit. Across four studies, evidence for these effects of lying on self-esteem and affect were found (see also figure 1 and 2). However, there were no differences in the strengths of these effects between self-centered lies and other-oriented lies, as we had expected. Specifically, Study 1 found that both self-centered and other-oriented lying, in comparison to telling the truth, decreased people's self-esteem and increased their negative affect. Furthermore, people perceived lying as more acceptable when they had lied instead of told the truth in various situations. There was no difference in people's perceived acceptability of lying between the people that lied for self-centered reasons and the people that lied for other-oriented reasons.

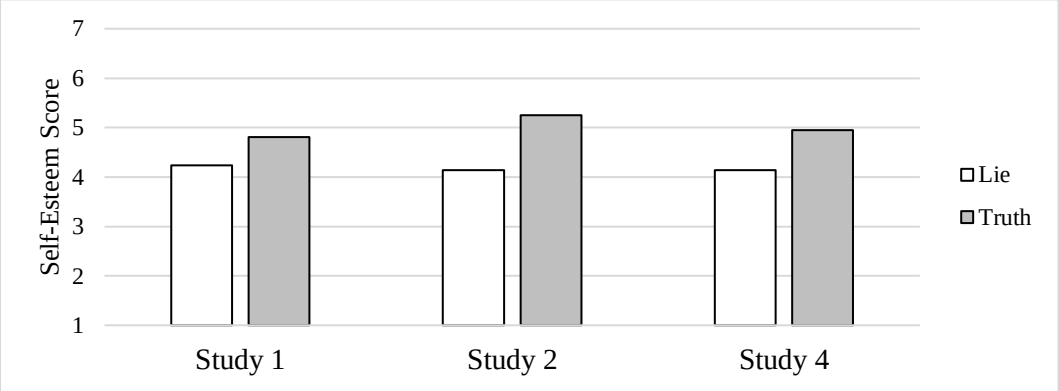
Study 2 replicated these findings while using a diary study design that minimized memory errors among its participants. It also showed not only an increase in negative affect after telling a lie, but also a decrease in positive affect. Again, participants who told a self-centered lie did not experience a stronger increase in negative affect or stronger decrease in positive affect than the participants who told an other-oriented lie.

Study 3 again replicated the results of Studies 1 and 2 and found that people who lied for either self-centered or other-oriented reasons experienced a lower self-esteem compared with people who did not lie. Moreover, 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 measured over five days. This confirms that lying decreases self-esteem, instead of the other way around (low self-esteem increases lying behavior). Finally, results from Study 3 suggest that self-esteem does not predict the probability of lying behavior in the future.

Study 4 replicated the results from Studies 1, 2 and 3 and identified the acceptability perception of people's own lies as a predictor of self-esteem and affect. The results showed that participants perceived their own self-centered lies as less acceptable than their own other-oriented lies, which is similar to the perceived acceptability of lying in general. Therefore, it is likely that other factors than acceptability perception play a role in the fact that self-esteem and affect are equally decreased after telling self-centered and other-oriented liars.

Figure 1

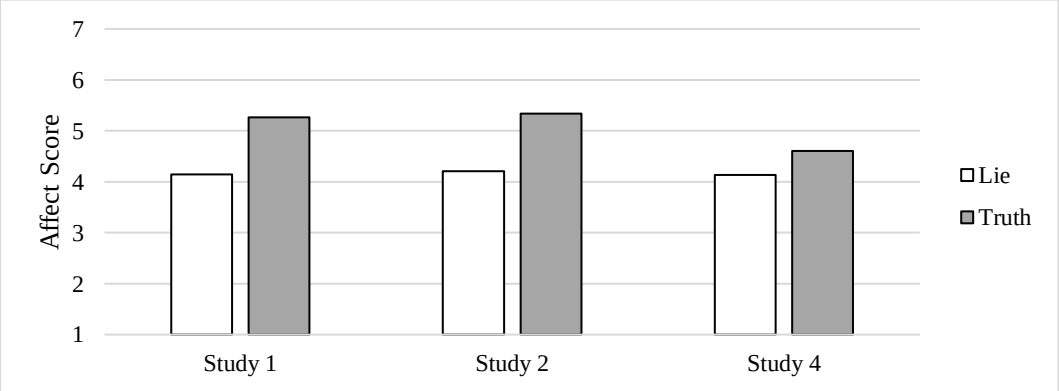
Self-Esteem of Liars Compared to Truth Tellers



Note. The self-esteem scores of liars significantly differed from those of truth tellers in all studies.

Figure 2.

Affect of Liars Compared to Truth Tellers



Note. The affect scores of liars significantly differed from those of truth tellers in all studies.

Implications

The present paper has two important theoretical implications. First, 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. Studies on the effects of lying on the liars themselves do not measure self-esteem or take into account the different motives behind lying. Therefore, the present paper gives new insights into the topic of the effects of lying by showing that lying decreases self-esteem and increases negative affect. Moreover, this is the first study that examines if there is a difference between the effects of telling a self-centered and an other-oriented lie.

Limitations and Future Research

A limitation for studies 1 and 4 was that both of these 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 paper (Study 2 and 3). When asked to rate their vividness, 87% of the participants indicated having no trouble remembering being in a similar dilemma.

Lastly, we could not find any possible explanations for why the effect of lying on self-esteem and affect was similar for self-centered and other-oriented lies. We expected that this effect would be stronger for self-centered lies, due to the difference in acceptability perception between self-centered lying and other-oriented lying, but our results rejected this hypothesis. Results from study 4 suggests that the reason does not lie in the differences between lying in general and actually telling a lie yourself. Future research should look for and test other possible explanations for why self-esteem and affect are not dependent on what type of lie a person tells.

Conclusion

The present paper extends previous research on the effects of lying on the senders of lies by demonstrating that lying decreases self-esteem and positive affect. Although this paper and several previous studies showed that self-centered lying is considered to be less acceptable than other-oriented (Cantarero et al., 2018; Seiter et al., 2002), self-centered lying has no stronger negative effect on a liar's self-esteem and affect than other-oriented lying does. Finally, this paper extends previous research on the perceived acceptability of deceptive behavior, by showing that people perceive their own self-centered lies as less acceptable than their own other-oriented lies, similar to how they perceive lying as a general concept.

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