

“I Cheated, but Only a Little”: Partial Confessions to Unethical Behavior

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Confessions are people’s way of coming clean, sharing unethical acts with others. Although confessions are traditionally viewed as categorical—one either comes clean or not—people often confess to only part of their transgression. Such partial confessions may seem attractive, because they offer an opportunity to relieve one’s guilt without having to own up to the full consequences of the transgression. In this article, we explored the occurrence, antecedents, consequences, and everyday prevalence of partial confessions. Using a novel experimental design, we found a high frequency of partial confessions, especially among people cheating to the full extent possible. People found partial confessions attractive because they (correctly) expected partial confessions to be more believable than not confessing. People failed, however, to anticipate the emotional costs associated with partially confessing. In fact, partial confessions made people feel worse than not confessing or fully confessing, a finding corroborated in a laboratory setting as well as in a study assessing people’s everyday confessions. It seems that although partial confessions seem attractive, they come at an emotional cost.

Keywords: confessions, unethical behavior, negative emotions, decision making, credibility

When people commit immoral, unethical, or illegal transgressions, they sometimes have the opportunity to confess. Indeed, they often do. People confess for various reasons, including relieving guilt, gaining promised or implied leniency, or ending a forceful interrogation (Kassin & Gudjonsson, 2004). Whereas the reasons people provide for their confessions have been extensively documented (e.g., Baldwin & McConville, 1980; Gudjonsson & Petursson, 1991; Gudjonsson & Sigurdsson, 2000; Holmberg & Christianson, 2002; Medford, Gudjonsson, & Pearse, 2003; Moston, Stephenson, & Williamson, 1992; Pearse & Gudjonsson, 1999; Pearse, Gudjonsson, Claire, & Rutter, 1998), very little is known about the *extent* of people’s confessions and their emotional consequences. When people confess, do they fully “come clean,” or do they, sometimes, disclose only some (but not all) of the details of their misbehavior?

Confessions tend to be regarded as binary, “all-or-nothing” decisions. Most of the studies examining confessions have measured whether participants confessed to their unethical conduct (e.g., Russano, Meissner, Narchet, & Kassin, 2005). Here, we focus on situations in which people only partially confess—that is,

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situations in which people restrict their honesty about their prior dishonesty. For example, some sex offenders have been found to be reluctant to fully recount their offenses, even after they have admitted to having committed the crimes they are charged with (Birgisson, 1996; Faller, Birdsall, Henry, Vandervort, & Silverschanz, 2001; Pearse et al., 1998). Explaining these offenders’ tendency to use such partial confessions, Kassin and Gudjonsson (2004) proposed that offenders try to “strike a personal compromise by satisfying their desire to confess while at the same time minimizing feeling of shame” (p. 48).

The notion that confessions may vary in their extent (from partial to full confession) has rarely been empirically studied. For example, Pearse et al. (1998) differentiated between various levels of confessions among criminals confessing to criminal behaviors (e.g., full confession, partial confession) and contrasted those to the absence of confession. In their analysis, however, all confession were collapsed into one confession index, allowing testing of how different situational factors as well as individual differences affected the likelihood to confess (vs. not). For example, the authors found that the presence of a legal advisor reduced the likelihood that a person would confess. Such work, however, does not shed light on the existence of partial confessions or the specific

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situations in which these partial confessions are likely to occur.

An important exception comes from the work of Sternglanz (2009), who examined admitting to a lesser offence as means to exonerate serious wrongdoing. Sternglanz surveyed the potential strategies people use to exonerate themselves when others accuse them of acting inappropriately or immorally. Such strategies include (a) ignoring the accusation, (b) claiming complete innocence, (c) suggesting the accuser holds ulterior motive, or (d) admitting to a lesser offence. Sternglanz found that people accused of committing a serious offence (e.g., cheating on an exam) were perceived as less guilty when they admitted to a relevant lesser

offence (e.g., noticing another person cheating on an exam and failing to report it) compared with when they denied the accusation (with or without offering an explanation or making a counter accusation).¹ Apparently, when being accused of conducting serious wrongdoing, admitting to a lesser offence can be a useful strategy to appear less guilty in others' eyes.

Confessions, however, do not always follow accusations. Here, we studied whether people confess to only part of their transgressions, even when they are not accused of committing any. Reaching beyond people's attempts to fend off allegations of improper behavior, we sought to assess whether people use partial confessions as means to feel better about their wrongdoings. We further investigated how successful this strategy is. In the current article, we report five studies examining the extent of people's confessions, when and why they choose to confess only partially, and the consequences of partial confessions. We provide evidence about the extent people use partial confessions both in the lab and real life, and the psychological underpinnings of doing so.

Partial Confessions

We define the difference between full and partial confession as the extent to which a person assumes responsibility for *all* or *part* of the transgressions he or she has committed. For example, if a person stole \$100, admitting to stealing \$100 would constitute a full confession. Claiming to have stolen only \$50, on the other hand, would constitute a partial confession. Critical to our view, we consider confessions on a spectrum ranging from not confessing at all to fully confessing, with a range of partial confessions stretching between these two ends.

Partial confessions may be a form of a neutralization or minimization technique, designed to reduce or avoid the severe social consequences of full confessions. When confronted with evidence about their unethical behavior, people tend to use a variety of neutralization techniques to justify and rationalize their deviant or unethical behavior to others (Robinson & Kraatz, 1998; Sykes & Matza, 1957). These strategies include denial of responsibility (attributing the behavior to accident), denial of injury (downplaying the harm caused), or denial of the victim (blaming the victim; Robinson & Kraatz, 1998). Admitting to only part, rather than all, of one's transgression may additionally be a strategy people use to

minimize the social costs of the transgressions they commit, especially when these transgressions are severe. As a strategy to appear better to others, partial confessions may help offenders to "get off the hook." For example, drivers accused of speeding may tell the officer, "I was only driving 10 mph above the limit"; a dieter may say, "I ate only one piece of chocolate"; a sexist manager may say, "I told only one dirty joke"; a cheating partner may say, "It happened only once"; and a dishonest employee may say, "I added only one extra hour to my timesheet." Such partial confessions may help offenders to benefit from their bad behaviors, without getting the full punishment for doing so.

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Partial confessions may also be aimed at oneself, serving as a useful tool to minimize feeling guilty about one's unethical behavior, even when such behavior is completely private. Research in behavioral ethics provides indirect evidence for this possibility and has revealed that people suffer a psychological cost when behaving unethically and therefore restrict the extent of their unethical acts (Ayal & Gino, 2011; Gino & Ariely, 2012; Gneezy, 2005; Hilbig & Hessler, 2013; Lundquist, Ellingson, Gribbe, & Johannesson, 2009; Shalvi, Handgraaf, & De Dreu, 2011). People restrict the amount of their dishonesty in a manner that allows them to maintain an honest self-concept while benefiting from acting unethically (Mazar, Amir, & Ariely, 2008). As a result, people lie to the extent they feel their behavior could be justified (Schweitzer & Gibson, 2008; Shalvi, Dana, Handgraaf, & De Dreu, 2011; Shalvi, Eldar, & Bereby-Meyer, 2012). This line of research suggests that psychological considerations (such as maintaining feeling good about one's behavior) influence people's decision of whether, and to what extent, they behave unethically (see also Bazerman & Tenbrunsel, 2011). Here, we propose that such self-concept maintenance considerations might affect not only the amount of ethical transgressions but also the willingness to admit to committing them.

Some questions, however, remain open: *why* do people use partial rather than full confessions? Do partial confessions and full confessions have the same influence on people's feelings about their unethical acts? Guilt is a common feeling following unethical behavior (de Hooge, Nelissen, Breugelmans, & Zeelenberg, 2011; Wolf, Cohen, Panter, & Insko, 2010; Zeelenberg & Breugelmans, 2008), and confessions are often used as a means of relieving oneself of such negative feelings (e.g., Pennebaker, 1997). But how (if at all) do partial confessions help to relieve such negative feelings? When considering the costs and benefits of confessing, two possibilities seem equally reasonable: First, partial confessions may allow people to *feel good about doing bad*. That is, partial confessions may alleviate the negative emotions associated with acting unethically by confessing, while not having to deal with the negative self-signal of being a major liar. Second, and alternatively, partial confessions may make people *feel bad about not doing good*. That is, when people engage in partial confessions they may experience amplified negative emotions because they do not take

¹ We thank Weylin Sternglanz for supplying us with these examples extracted from his research.

full responsibility for the act. These are the possibilities we tested and describe here.

Overview of Studies

In five studies, we assessed the prevalence, antecedents, and consequences of partial confessions both in simulated and real-life settings. In Study 1, we used a coin-tossing prediction task to give participants an opportunity to cheat to benefit financially and then to confess to some, all, or none of their cheating. We investigated whether, and to what extent, participants confessed to cheating and how the likelihood of partial versus full confessions varied as a function of the degree of cheating. In Study 2, we studied the psychological mechanism leading people to choose not to confess versus to choose to partially versus fully confess. Specifically, the cost–benefit calculus between the likelihood that others would find the confession believable and the anticipated negative affect after (not vs. partial vs. full) confessions. In Study 3, we assessed the actual rather than anticipated impact of not confessing versus partially and fully confessing on people’s negative affect. Specifically, we tested whether partial confessions allow people to *feel good about doing bad* (i.e., lying) or alternatively if partial confessions make people *feel bad about not doing good* (i.e., not confessing). In Study 4, we tested whether partial confessions are, as people may think, more believable than not confessing at all. Finally, in Study 5 we asked participants to recall a partial versus a full confession they made in real life, their reasons for confessing, and how they subsequently felt.

Study 1

Study 1 explored the relationship between the extent of cheating and the likelihood of confessing to all or some of one’s cheating. Participants were asked to predict the outcome of 10 coin tosses, report how many of their predictions were correct, and earn money accordingly. Because participants were paid according to their self-reported number of correct guesses, they had an opportunity to lie by overreporting (see Batson, Kobrynowicz, Dinnerstein, Kampf, & Wilson, 1997; Schurr, Ritov, Kareev, & Avrahami, 2012; Shalvi, 2012). Afterward, participants were given the opportunity to confess and could do so by admitting all, some, or none of their cheating. We assessed the prevalence of partial confessions—admitting to inflating the actual outcome but not to the full extent—and its relation with the extent of cheating.

Method

Participants. We recruited 2,113 participants (58.45% males; $M_{age} = 29.79$ years, $SD_{age} = 9.97$) from Amazon Mechanical Turk (henceforth, MTurk). The large sample size was chosen because we wished to have a sufficient number of participants predicting all potential outcomes of 10 coin tosses (from 0 to 10 correct predictions). The expected binomial distribution of 10 random coin tosses dictated that many participants would predict correctly about half (five) of time, whereas much fewer would have more extreme number of correct predictions (e.g., 0 or 10). To have enough participants predicting correctly less than two times (i.e., 0 or 1; expected to occur in about 1% of the cases) as well as enough

participants predicting correctly nine times or more (i.e., nine or 10), we aimed for a minimal sample of 2,000 participants. This provided an expected 20 participants in each of these extreme groups. During data collection, we assessed how many people participated every day and stopped data collection once our target was met.

Procedure. Participants were invited to complete a forecasting skills survey. Participants first completed a 10-min forecasting questionnaire in which they were asked to predict the outcome of various events—such as the weather in their region and price changes of various commodities. At the end of the forecasting study, participants were asked to predict the results (heads or tails) of 10 coin tosses, toss a coin appearing on a “random coin” website, and check how many of their guesses were correct. Participants were told that they would get a 10-cent bonus for each correct guess (in addition to an initial payment of 10 cents for participation). After tossing, participants reported how many of their guesses were correct (between 0 and 10).

Thereafter, participants were given an opportunity to confess to overreporting the number of correct guesses they had, by stating how many correct guesses they *actually* had. We assured participants that even if they admitted to having less correct guesses than they previously claimed, they would still be paid according to their original report. In addition, we assured participants that their participation would still be approved on MTurk, regardless of whether they confessed or not. These assurances were crucial to ensure that confessions would not be given for strategic purposes (e.g., to avoid being punished). Participants were asked to indicate how many correct guesses they actually had by typing in any number between 0 and 10.

Last, participants indicated whether they felt the online coin was genuine and their thoughts about the study objectives. Less than 1% of participants doubted the authenticity of the online coin (these participants were excluded from the analysis). Upon completion, participants were debriefed and paid according to the number of correct guesses they reported (regardless of their confessing or not). In the debriefing, participants were explicitly told that the actual objective of the study was to examine how people sometimes behave in dishonest ways and when do they choose to confess to these behaviors. Participants read our apology for misinforming them about the actual objective of the study and were told that this misinformation was critical to the study’s objectives. Participants were given the contact details for both the researchers and for the institutional review board and were encouraged to contact either if they felt they have been treated unfairly (none of them did). At the end of the debriefing, participants were asked to answer a question to allow us to ascertain whether they read and understood the debriefing. Participants were not allowed to proceed until they provided the correct answer.

Per the guidance of the institutional review board, which approved this and all subsequent studies reported in this article, we further verified the harmlessness of our task using a pilot lab study conducted prior to Study 1. The procedure of this pilot study ($n = 69$) was the same as those employed in Study 1, except that after the debriefing participants were asked by the experimenter if they (a) understood the objective of the study and (b) had any complaints or

problems with the study. None of the participants expressed any concerns.

Measures.

Cheating. Unbeknownst to participants, we traced each individual's actual outcomes of the 10 coin tosses. By comparing participants' guesses to the actual 10 tosses recorded on the random coin website, we computed, for each participant, the degree to which they cheated. To account for the extent to which participants *could* have cheated, which is determined by the actual number of correct guesses, we followed Atanasov and Dana (2011) and computed a *cheating ratio*, dividing the number of overreports a participant made with the number of overreports the participant *could* have made (i.e., 10—actual result). For example, participants who had six correct guesses (i.e., could maximally lie by claiming four more guesses) and reported eight instead (i.e., overreported by two) were given a cheating ratio of .50 (i.e., 2/4). A value of 0 on the cheating ratio means no cheating, whereas a value of 1 means cheating to the fullest degree possible.

Confession. We computed a *confessed reported outcome* index by subtracting the number of tosses that the participant confessed to overreporting from his or her original number of reported correct guesses. When a participant confessed to the full extent, this index equals zero. Partial confessions, in contrast, lead to positive values. We also computed a *confession ratio*, which expresses the extent to which participants confessed out of the maximum extent that was available for them to do so. For example, if a participant cheated by six (e.g., claiming eight correct guesses instead of two) and then confessed to cheating by three (e.g., claiming five correct guesses), that participant's confessions ratio was .50 (i.e., 3/6).

Results

Cheating. We found that 35.16% (743 participants), overreported by a mean degree of 3.10 ($SD = 1.92$) more correct guesses than they actually had. In total, 10.09% of the cheaters cheated to the full extent (reporting 10 regardless of what they actually had), and the average cheating ratio, among those who cheated, was 0.51 ($SD = 0.27$).

Confessions. Among participants who cheated, 18.79% (139 participants) confessed to doing so. Negligible amounts of participants either falsely confessed (1.10% of the sample) or claimed they actually had more correct guesses than they initially claimed (e.g., initially claiming to correctly predict five out of 10 guesses and later "confessing" that they actually predicted six out of 10 guesses; .71% of the sample). Results supported the observation that participants were partially confessing. Specifically, the average *confessed reported outcome* ($M = 5.57$, $SD = 1.77$) was higher than the actual average number of correct guesses ($M = 5.05$, $SD = 1.62$), $t(2112) = 11.80$, $p < .001$, $d = 0.31$. This was the case also when we analyzed only *confessed reported outcomes* of those participants who confessed ($M = 4.66$, $SD = 2.26$) compared with their actual number of correct guesses ($M = 4.10$, $SD = 1.89$), $t(138) = 3.45$, $p < .001$, $d = 0.31$. These analyses supported to the idea that at least some of the reported confessions were incomplete.

A linear regression analysis showed that among the cheaters, the cheating ratio (the proportion of overreported outcome out of the possible number of overreports) positively predicted confession

ratio (the proportion of confessed reported outcome out of the possible confession), $.50$, $SE = .08$, $p < .001$. This indicates that larger lies were associated with larger confessions.

Partial confessions. We next assessed the likelihood of participants cheating to different degrees to confess to a full versus a partial extent. Among the 139 confessors, 40.44% confessed to only part of their cheating (i.e., confession ratio < 1), whereas 59.56% confessed to the full extent of their cheating (i.e., confession ratio $= 1$). A multinomial logistic regression on the type of confession (none, partial, or full) with cheating ratio as a continuous independent variable showed that the likelihood to confess partially or fully increased as the cheating ratio increased ($b_{\text{partial}} = 3.68$, $SE_{\text{partial}} = .57$; $b_{\text{full}} = 4.00$, $SE_{\text{full}} = .5$, $ps < .001$). This suggests that as cheating increased, so did the likelihood to confess (to part or all) of one's cheating. Larger lies did not just lead to larger confessions but to more acts of confession.

To further understand whether full versus partial confessions were more likely as cheating increased, we examined the likelihood to confess partially versus fully between those who cheated to some extent (i.e., cheating ratio < 1) versus those who cheated to the fullest extent possible (i.e., cheating ratio $= 1$). As can be seen in Figure 1, we found that whereas those who cheated to a partial extent were more likely to fully (rather than partially) confess (63.89%), the opposite was found for those who cheated to the fullest degree, who were less likely to fully (rather than partially) confess (42.86%), $\chi^2(1) = 4.08$, $p = .04$.

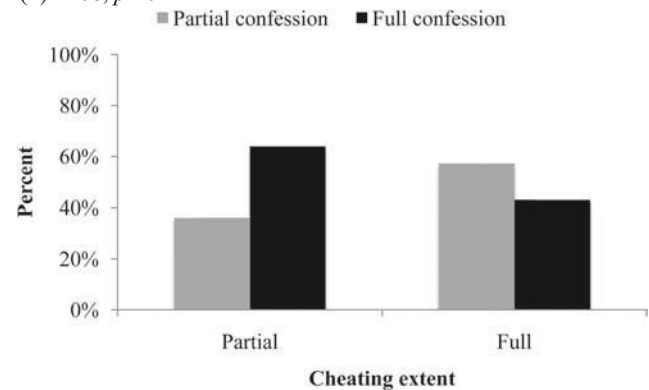


Figure 1. Percentage of confessions (partial vs. full) according to the extent of cheating in Study 1.

Discussion

Results of Study 1 suggested that confessions are positively correlated with cheating: The more people cheated, the more likely they were to confess. Whereas this may seem obvious, because high-level cheaters have more to confess about than low-level cheaters, it is less obvious how the degree of cheating affects the propensity to confess (vs. not) or to confess partially (vs. fully). Different types of confession patterns were found among participants who cheated to a high versus full extent. People who cheated to the full extent were more likely to partially confess, whereas people who cheated to a high extent were more likely to fully confess.

But why do partial confessions seem attractive? One possible explanation for why people who cheat a lot confess only partially is that these offenders are trying to strike a compromise between their desire to relieve the negative emotions arising from acting unethically by confessing, their desire to appear credible in others' eyes, and their desire to still enjoy (some of) the fruits of their unethical behavior. Partial confessions allow balancing these desires because by not confessing to the full transgression, people may appear relatively honest to themselves and others and potentially also relieve some of the guilt associated with cheating. In this sense, partial confessions may seem an attractive option because they allow one to enjoy both worlds: feeling good (after confessing) while benefiting from doing bad (cheating). Our second study was designed to test whether this indeed is the psychological mechanism behind partial confessions.

Study 2

We conjectured that if one cheated (by overstating her performance) but then confessed to (some of) her cheating, other people would find the performance report more credible than when a person claimed a high performance score and did not confess to cheating at all. Key to our reasoning is that, as far as appearance goes, confessing partially might be more advantageous than fully confessing, because it allows one to appear more credible to others compared with not confessing at all. Thus, confessing partially might be preferable to confessing fully because one can reap part of the benefits of lying (which is not possible when fully confessing) but still appear more credible to others than when not confessing at all. The other side of such cost–benefit analysis is that when one does not confess, one is likely to feel guilty about not taking responsibility to one's wrongdoing (cheating). We tested whether people anticipate that compared with not confessing, partially confessing would reduce the negative emotions experienced after behaving unethically. Taken together, people may be attracted to confess only partially because they may anticipate that compared with not confessing, partial confessions would (a) make others believe their reports more and (b) lead to reduced levels of feeling negatively about their behavior, but also (c) leave them with more profit (or cause them less harm) than if they fully confess.

To investigate these accounts, we assessed people's anticipations regarding others' suspicions and own negative feelings after different types of confessions. We used hypothetical scenarios, based on the procedure employed in Study 1, and asked participants to imagine themselves cheating to a relatively high degree and either confessing to all, part, or none of their cheating. We asked participants to forecast two things: (a) how believable would their confession seem to others (given that their actual extent of cheating was known only to themselves), and (b) how they anticipated feeling after they made such a full, partial, or no confession.

Method

Participants. We collected responses from 518 MTurk participants (58.80% males, M_{age} 34.22 years, SD_{age} 12.12). Sample size was determined from a pilot study with a smaller sample size (n 163) that revealed that a sample of 500 participants would produce a study with a power level of 80% allowing us to

detect effects at the (expected) magnitude of d 0.25. Participants were all U.S. residents and were paid 50 cents for their participation. We used a customized script to prevent MTurk workers from taking part in more than one of the studies reported in this article (see Dr.M. Sakthivel , Paolacci, Chandler, & Mueller, 2012).

Design and procedure. Participants were presented with a description of a hypothetical scenario that modeled the procedure of Study 1. Participants were asked to imagine taking part in an experiment, in which they are asked to guess the outcomes of 10 coin tosses, enter their guess for each toss, and then check their guesses using a website that simulates a random coin. They were told to envision that for every correct guess, they would have received a bonus of 10 cents. Then, participants were told to imagine that after checking their 10 guesses, they found out that four of them were correct, which means they would have been eligible for a 40 cents bonus. They were further instructed that as they realized that no one, including the researcher, could know how many correct guesses they actually had, they had decided to report correctly predicting eight (rather than the actual four) guesses. At this point, participants were asked to summarize these instructions in their own words allowing us to assess task comprehension (all participants understood it).

The next, and final, part of the scenario involved the confession manipulation. Participants were asked to imagine that after the researcher informed them that they would receive 80 cents as a bonus, the researcher also gave them the opportunity to confess by stating how many correct guesses they *actually* had (participants read the exact same invitation to confess as used in Study 1). A third of the participants (n 171) were asked to imagine they fully confessed (admitting to having only four correct guesses), a third that they partially confessed (claiming they had six correct guesses; n 174), and a remaining third that they did not confess at all (claiming they had eight correct guesses; n 173). Participants again were asked to summarize this description (all participants understood it).

Following this vignette, participants were asked to estimate how they would feel in such a situation and enter their forecast using the Positive and Negative Affect Scales (PANAS; Watson, Clark, & Tellegen, 1988). In addition, participants indicated how likely it would be that the researcher would believe that they actually had four/six/eight correct guesses on a scale ranging from 1 (*not at all*) to 7 (*very much*). At the very end of the study, participants were asked to recall how many correct guesses they allegedly had (four), how many guesses they reported as correct in the first time (eight), and how many guesses they reported as correct after being asked the second time (four, six, or eight, depending on the condition).

Measures: Positive and negative affect. The PANAS assesses people's mood (or prospective mood) by asking them to indicate the extent to which they (would) experience various feelings, including positive (e.g., excited, interested) and negative (e.g., guilt, shame) feelings. Participants read the list of feelings and were asked to indicate the extent to which they anticipate experiencing each of the feelings (from 1, *not at all*, to 5, *extremely*). Using items from the PANAS scale, we assessed people's anticipated feelings after confessing to all, some, or none of their cheating. A confirmatory factor analysis on the PANAS items showed the two

main factors that could be classified as negative feelings (nervous, distressed, afraid, scared, ashamed, upset, guilty, irritable, and hostile; loadings between .48 and .86; Cronbach's .92) or positive feelings (enthusiastic, strong, excited, determined, inspired, active, interested, proud, attentive, alert; loadings between .52 and .79; Cronbach's .88). These two factors accounted for 55.21% of the total variance, with eigenvalues of 5.97 and 5.07, respectively. We thus averaged these items into composite scores of negative and positive affect. We measured both negative and positive affect items merely to avoid modifying an existing scale, although our theory concerned differences only on the negative affect (but results for positive affect are reported in footnotes).

Results

Attention check. Twenty-three participants (4.44%) incorrectly answered the attention-check question regarding the extent of the confession and were thus excluded from further analyses. Including these participants did not change any of the reported results.

Credibility. The confession's credibility varied significantly between the confession conditions, $F(2, 492) = 134.67, p < .001$. We explored this effect using post hoc comparisons following Bonferroni's correction for multiple comparisons. As can be seen in Table 1, and key to our reasoning, participants rated a partial confession as more credible than no confession, $t(492) = 4.93, p < .01, d = 0.44$. Participants further rated partial confessions as less credible than a full confession, $t(492) = 11.16, p < .01, d = 1.01$,

Table 1

Credibility and Negative Affect Ratings in the Different Confessions Conditions in Study 2

Confession	Mean (<i>SD</i>)		Difference (Cohen's <i>d</i>) from partial confession [95% CI]	
	Credibility	Negative affect	Credibility	Negative affect
Full	6.17 (1.16)	2.31 (0.86)	1.36 [1.22, 1.49]	.06 [0.04, 0.16]
None	3.68 (1.63)	2.36 (0.87)	0.51 [0.35, 0.67]	.11 [0.02, 0.22]
Partial	4.44 (1.38)	2.26 (0.87)	—	—

Note. CI confidence interval. Statistically significant at $p < .05$, after Bonferroni's correction.

and rated a full confession as more credible than no confession, $t(492) = 16.02, p < .01, d = 1.44$.²

Affective forecasts. A one-way analysis of variance (ANOVA) showed no statistically significant differences in the level of negative affect participants expected after making a full, partial, or no confession at all, $F(2, 492) = 0.61, p > .55$. As can be seen in Table 1, the mean forecasts for the negative affect did not differ among the three conditions.³ This null finding suggests that people do not hold differential anticipations regarding the extent of negative feelings they will have after confessing to different degrees.

Obviously, conclusions regarding null findings should be taken with caution. However, two pieces of evidence suggest the lack of findings might be worth considering. First, the study had sufficient power to detect differences between conditions (see Greenwald, 1975). Second, the confidence interval for each of the null findings' effect size includes the value zero (see Table 1). Together, we feel comfortable interpreting the obtained results as suggesting participants had no differential anticipations regarding how they would feel after not versus partially versus fully confessing.⁴

Discussion

Compared with not confessing, people anticipated that partial, as well as full, confessions to be perceived as more credible to others. They did not anticipate, however, that confessing would make them feel different than not confessing. These findings shed initial light on why people may choose to confess only partially. It seems that people who choose to confess do so in an attempt to appear more credible compared to not confessing. Although people expect full confessions to be even more credible than partial confessions, full confessions come at a higher price. Clearly, when people come clean to the full extent of their wrongdoings, they have to face the potentially more severe consequences associated with such confession. It seems that what drives people to opt for partial confessions is their relative gain in credibility compared with not confessing and relative gain in not having to face the consequences of admitting to a major wrongdoing compared with fully confessing. Partial confessions seem like an optimal option when

weighing the costs and benefits of admitting to one's transgression.

An interesting finding obtained in Study 2 concerns the lack of differences in anticipation of how (not) confessing affects people's feelings. Although the study was sufficiently powered to detect differences between the conditions, had they existed, we obtained no evidence that people anticipated feeling any differently after not versus partially versus fully confessing. The fact that people do not anticipate that (partial) confessions would alleviate negative feelings does not mean that confessing, partially or fully, would *actually* allow them to achieve that goal. If people's intuitions, as

² In our pilot study, we found the similar differences between the conditions, except that the difference between full and partial confessions was smaller ($d = 0.12$) and not statistically significant, $t(121) = 0.54, p > .99$. We attribute this null finding to the pilot study's low power. We thank the Editor for encouraging us to perform this study again with a larger, well-powered sample. ³ Note, however, that in the low-powered pilot study, differences were observed on the negative affect forecasting

scale between the participants in the no-confession condition (who anticipated they would experience higher levels of negative affect; $M = 3.09, SD = 1.14$) compared with both full ($M = 2.43, SD = 1.11$) and partial ($M = 2.60, SD = 1.09$) confessions, $F(2, 121) = 3.74, p < .03$. ⁴ Experimental conditions did not differ on the positive affect composite measure, $F(2, 492) = 0.65, p > .52$.

reflected by Study 2's result, are correct, partial confessions should have no differential effect on their negative feelings (such as guilt or shame) compared with not confessing or confessing to the full extent. However, it is possible that confessing to part, and not all, of one's cheating can actually increase, rather than decrease, these negative feelings. Potentially, such negative emotions may rise because partially confessing people admit to behaving unethically while not taking full responsibility for their actions. Attempting to cleanse one lie (i.e., the original transgression), by engaging in another lie (i.e., minimizing the magnitude of the transgression), might have negative emotional consequences.

The idea that people fail to predict how they would feel after partially confessing is in line with work on empathy gaps (Van Boven & Loewenstein, 2000, 2005) and affective forecasting (e.g., Gilbert, Pinel, Wilson, Blumberg, & Wheatley, 1998), suggesting people's ability to predict how they will feel in the future is rather limited. If this is true, then partial confessions may hold a paradoxical effect: people who cheat and then confess only partially end up feeling worse than those who confess to the full extent or those who do not confess at all. Put differently, although partial confessions seem to reduce emotional aggravation, partial confessions may actually increase people's negative feelings because of the lack of ability to feel that one has "fully came clean."

Study 3

To test these two possibilities—that partial confessions may decrease or increase post-confession negative feelings—and to replicate the results of Study 1—we conducted a third experiment. In this study, we asked participants to report their negative (and positive) feelings either just before receiving the opportunity to confess or right after it. If partial confessions help people feel good while behaving badly, we should observe lower levels of negative feelings among people engaging in partial (compared with full) confessions. On the other hand, if partial confessions provide less moral cleansing than full confessions do, we should observe higher levels of negative feelings among the partial (compared with full) confessors.

Method

Participants and procedure. We recruited 719 participants from MTurk (65.36% males; M_{age} 28.87 years, SD 9.14) and used the exact same procedure as in Study 1, except for adding the Positive and Negative Affect Scale (PANAS; Watson et al., 1988). We manipulated whether participants completed the PANAS immediately after they reported how many correct guesses they had (i.e., after cheating) but before the confession question versus only after they were given the opportunity to confess.

Measures.

Negative affect. Participants completed the PANAS (Watson et al., 1988) either before or after they could confess to cheating by indicating the extent in which they currently were experiencing each emotion (from 1, *not at all*, to 5, *extremely*). A factor analysis showed the original two factors (negative and positive affects) accounted for 63.25% of total variance, with eigenvalues of 7.58 and 5.07, respectively. The negative affect factor, the focal point of our investigation, included the items of "afraid," "ashamed,"

"scared," "guilty," "nervous," "jittery," "upset," "irritable," "distressed," and "hostile" (with loadings from .57 to .88; .93). The positive affect factor included the items of "active," "strong," "inspired," "interested," "excited," "enthusiastic," "determined," "proud," "attentive," and "alert" (with loadings from .67 to .86, .92).

Cheating. As in Study 1, we traced individuals' actual outcome (the number of correct guesses) and compared it with their self-reported outcome to obtain a measure of cheating.

Confessions. As in Study 1, we computed a confession ratio, which expresses the extent to which participants confessed out of the maximum extent that was available for them to do so.

Results

Cheating. Results revealed similar magnitudes of cheating as in Study 1, with 313 (43.59%) participants cheating by adding, on average, 3.47 (SD 1.96) reported correct guesses. Most of the cheaters (74.12%) did so to a partial degree, and the rest (25.88%) cheated to the full extent possible.

Confessions. Among those who cheated, 24.60% confessed to cheating. Of those who confessed, 55.84% confessed the full extent of their cheating, and 44.16% partially confessed. A binary logistic regression showed that the propensity to confess increased with cheating ratio, b 3.62, SE 0.48, p .01. Participants who cheated to a partial extent were somewhat more likely to confess to all of their cheating versus those who cheated to the fullest extent possible (59.52% vs. 51.43%), but this difference was not statistically significant.

Negative affect. Among the participants who were asked how they felt right after their cheating (but before confessing), we found statistically significant differences in the levels of expressed negative affect according to the extent of cheating (full, partial, or none), $F(2, 361)$ 4.82, p .01. Specifically, we found highest negative affect among those who cheated to the fullest extent (M 2.09, SD 1.11), which was significantly higher than the negative affect expressed by those who did not cheat, (M 1.62, SD 0.82), $t(361)$ 3.14, p .01, d 0.33, and also significantly higher than the negative affect expressed by those who cheated to a partial extent (M 1.50, SD 0.68), $t(361)$ 3.83, p .01, d 0.40. However, the difference between those who cheated to a partial extent and those who did not cheat at all was not statistically significant, $t(361)$ 1.34, p .55, d 0.14 (all p values are Bonferroni-corrected).

To examine how participants' feelings were affected by their degree of confession (conditional on their having cheated), we classified the participants who completed the PANAS after their confessions to the following four groups: those who did not cheat (and thus did not confess, N 211), those who cheated but did not confess (N 108), those who cheated and confessed partially (N 16), and those who cheated and confessed fully (N 20). An ANOVA revealed significant differences in the degree of negative affect between these four groups, $F(3, 350)$ 6.00, p .01. As can be seen in Figure 2, the negative affect among those who cheated and partially confessed was higher than the negative affect of all of the other groups. After partially confessing, people felt worse compared with people who did not cheat, $t(350)$ 3.53, p .001, d 0.38, compared with people who did not confess, $t(350)$ 2.15, p

.03, $d = 0.23$, and compared with people who confessed fully, $t(350) = 2.07$, $p = .04$, $d = 0.22$ (all after Bonferroni's correction). People who did not confess felt worse compared with those who did not cheat, $t(350) = 2.86$, $p = .01$, $d = 0.31$. No differences were found between people who fully confessed, and people who did not cheat, $t(350) = 0.94$, $p = .35$,

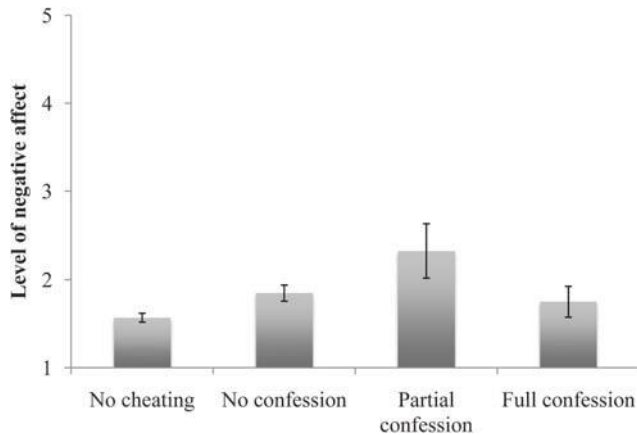


Figure 2. Negative affect as a function of cheating and confessing in Study 3. Error bars represent 1 standard error.

$d = 0.10$, or those who did not confess, $t(350) = 0.49$, $p = .62$, $d = 0.05$.³

Discussion

Not surprisingly perhaps, the results of Study 3 showed that people who cheated to the full extent felt worse than people who cheated less or did not cheat at all. However, Study 3 revealed that the emotional cost associated with confessing to only part of one's lies is higher. Specifically, partial confessors expressed higher levels of negative affect than those who confessed to a full extent, did not confess, or did not cheat. Contrary to people's anticipations as measured in Study 2, partial confessions did have a different effect on negative emotions than full confessions or no confessions. In fact, partial confessions aggravated people's negative feelings about their unethical behavior. It appears that although people did not anticipate that partial confessions would impact their emotional state, people who partially confessed actually experienced the worst emotional outcome.

As mentioned earlier, beyond the emotional component that may drive (or at least not push people away from engaging in) partial confessions, people may opt to partially confess expecting such confession will be (a) more credible than not confessing at all and

(b) not result in the costs associated with confessing to the full extent. Just as people erred in forecasting that partial confessions would not have a negative (or in fact any) emotional effect compared with not confessing or confessing to the full extent (as the results of Study 3 indicate), it is possible that their expectations regarding the credibility of partial confessions may actually be wrong as well. In Study 4, we tested that possibility.

Study 4

Method

Participants. We recruited 460 participants from MTurk (65.41% males, $M_{age} = 33.66$ years, $SD = 10.90$). We arrived at this sample size following a pilot study with a smaller sample ($N = 124$) that indicated a sample size of 4750 participants would yield a statistical power of about 80% to detect effect sizes of about $d = 0.25$ magnitude. Participants were paid 50 cents for completing the study.

Design and procedure. Participants were asked to evaluate a (hypothetical) person who allegedly took part in one of our previous experiments. Participants were further told that in that previous experiment, respondents were asked to secretly roll a die to determine their payment for completing the experiment (with reporting 1 leading to earning \$1, 2 \$2, 3 \$3, 4 \$4, 5 \$5, and 6 \$6; see Shalvi, Dana, et al., 2011). Participants were reminded that a die has six equally probable outcomes and shown a figure depicting the uniform distribution of a single die roll. Then, participants were given a description of a person who completed the experiment who, after secretly rolling a dice, reported he received a 6, and earned \$6 accordingly. Thereafter, participants were told the other person was asked what the *actual* outcome of his die roll was (after being assured that he would be allowed to keep the \$6 regardless of his reply). Participants were asked to summarize this description so that we could make sure they understood it (all did).

Then, participants were randomly assigned to one of three conditions: In the full-confession condition, participants were told that the person confessed that he actually rolled a 1. In the no-confession condition, the person said he actually rolled a 6. Finally, in the partial-confession condition, the person said he actually rolled a 5. As one can note, in the full-confession condition, there is a 100% likelihood (excluding false confessions) that the person fully confessed. In the no-confession condition, there is a 17% probability (one out of six cases) that person was telling the truth and an 83% probability (five out of six cases) he was not. In the partial-confession condition, because the person admitted to not getting a 6, there were now two options: that he really got a 5 (20% chance) or that he really got a number that was lower than 5 (80% chance). Thus, the no-confession and partial-confession conditions

³ On the Positive Affect Scale, participants who cheated to the full extent expressed the highest positive affect ($M = 3.66$, $SD = 0.80$), followed by those who cheated to a partial extent ($M = 3.22$, $SD = 0.86$) and those who did not cheat ($M = 3.07$, $SD = 0.96$), $F(2, 361) = 6.33$, $p = .01$. Post hoc comparisons (with Bonferroni's correction) showed that the difference between the full and partial cheaters and the difference between the full cheaters and noncheaters were both statistically significant ($ps = .03$ & $.001$, respectively), but the difference between partial cheaters and noncheaters was not ($p = .47$). This observation is in line with recent work showing a "cheater's high"

effect—people reporting feeling good after cheating (Ruedy, Moore, Gino, & Schweitzer, 2013). An ANOVA further revealed that people who did not confess expressed the highest positive affect ($M = 3.62$, $SD = 0.79$), followed by partial confessors ($M = 3.44$, $SD = 0.99$), noncheaters ($M = 3.02$, $SD = 0.93$), and full confessors ($M = 2.69$, $SD = 1.08$), $F(3, 350) = 13.08$, $p = .01$. Post hoc comparisons showed significant differences only between nonconfessors and full confessors ($p = .01$) and between nonconfessors and noncheaters ($p = .01$).

were comparable, because in both of them there were about 80% chance the other person was not telling the truth—either by not fully confessing or by not confessing at all. The only difference between these settings was that in the partial confession condition the other person had confessed to some (potentially not all) of his cheating.

Measures. Following this description, participants were asked, “Do you believe the person really got a 1 [6, 5]?” (on a scale from 1, *definitely not*, to 7, *definitely yes*). Last, to assess participants’ attention to the task, they were asked to recall the number the person originally said he rolled (i.e., 6), and the number the person said he actually rolled when he was asked the second time (i.e., 1, 6, or 5, according to condition).

Results

Twenty (4.35%) participants failed the attention check questions and were thus excluded from further analyses. Results remained the same when including these participants. We found significant differences in the extent participants believed the other person, $F(2, 437) = 86.72, p < .001$. Key to our reasoning, participants in the partial-confession condition found it more believable ($M = 4.39, SD = 1.95$) than those in the no-confession condition ($M = 3.78, SD = 1.66$), $t(437) = 3.14, p < .01, d = 0.30$. As expected, participants in the full-confession condition believed the other person more ($M = 6.28, SD = 1.37$) compared with those in the partial-confession condition, $t(437) = 9.54, p < .001, d = 0.91$, as well as those in the no-confession condition, $t(437) = 12.68, p < .001, d = 1.21$.⁴

Discussion

Results of Study 4 indicated that participants judged a partial confession to be more credible than not confessing at all. Full confessions were ranked as even more credible than either not confessing and confessing only partially, which is perhaps not surprising when considering someone acknowledging that his original report of rolling the maximum (6, which was worth \$6) was actually the lowest possible number (1, which was worth \$1). These findings are in complete accordance with participants’ projections made in Study 2. Recall that people in Study 2 expected that partial confessions would appear more credible in others’ eyes, a fact we interpret as a key reason they may opt for this type of confession. That is, people may opt for partial confessions because they provide a more credible path while not having to face the consequences of fully coming clean. Just as their expectations about the greater credibility of partial confessions were correct, so were the expectations regarding full confessions. Study 2 participants were correct in thinking—arguably an easier estimation to make—that full confessions would be more believable than not confessing and partially confessing.

The key objective of Study 4 was to compare two behaviors that had the same probability: confessing partially versus not confessing at all. For our purposes, the full-confession condition was taken as a benchmark, with which judgments of partial and no confessions could be compared. This is important to note because the full-

confession setting had participants evaluate a situation in which it was clear that the person confessing did so and was not concealing any further information, whereas in the other two settings this was not certain. This study’s results support the notion that partial confessions are perceived more credible than not confessing at all, even when their probability of being true is close to identical.

The four studies we reported thus far revealed (a) that cheaters sometimes choose to confess to only part, and not all, of their misbehavior and (b) that they do so anticipating that compared with not confessing, their partial confession will be perceived as more credible to others, while not having an impact on their emotional state. In fact, people are only partially correct in their expectation: Although partial confessions are indeed perceived more credible than not confessing, people who partially confess end up feeling worse than others who avoid confessing at all or who confess to the full extent of their wrongdoings. All of our studies focused on a setting allowing participants to cheat and to confess about overreporting their performance levels in an incentive-compatible and controlled task. Our last study was designed to assess whether the findings related to the prevalence and emotional consequences of partial confessions flesh out also in daily circumstances.

Study 5

Method

Participants. We recruited 357 participants from two online sources: 225 from MTurk (59.82% males, $M_{\text{age}} = 30.20$ years, $SD = 9.89$) and 132 (37.40% males, $M_{\text{age}} = 27.76$ years, $SD = 11.43$) from an online participant pool (henceforth, OPP) managed by a research center in a large northeastern U.S. university. Participants from MTurk were paid 50 cents for completing the survey; OPP participants were entered into a lottery for one \$50 gift card and one \$25 gift card. We did not find any differences between the two samples and thus report them as one.

Design and procedure. Both samples followed the same design and procedure. After entering their age and gender, participants were asked to recall an event in their adult life in which they voluntarily confessed to something they had done wrong. Participants were told

When people confess to something wrong they have done, they may sometimes make a *full* confession (revealing all of the details of their misbehavior), or they may make a *partial* confession (revealing only some, and not all, of the details of their misbehavior).

We manipulated confession recollection between participants. Participants in the *full-confession* condition were asked to recall a time in which they made a *full* confession (“meaning that you confessed to all of the details of your misbehavior and did not [intentionally or not] leave out any parts of what you did wrong”). Participants in the *partial-confession* condition were asked to recall a time in which they made a *partial* confession (“meaning that you confessed to some, but not all, of the details of your misbehavior, [intentionally or not] leaving out some parts of what you did

⁴ The results of the pilot study were consistent and similar to the results of the reported study.

wrong"). Finally, participants in the *open-ended* condition were asked to recall a time they made *any* sort of confession, "whether it was full or partial." This last condition allowed assessment of the extent to which people spontaneously recall partial confessions, tapping into how prevalent such confessions really are. All participants were then asked to describe (using one openended question) their misbehavior, as well as how, when, and to whom they confessed about it.

Next, participants answered the following four question: "In your opinion, how severe was what you have done wrong (that you later confessed about)?" "How hard was it for you to confess about what you have done wrong?" "How hard was it for you to recall your confession?" and "How hard was it for you to write about your confession?" (all on scale ranging from 1 *not at all* to 7 *very much*). Participants then completed a modified version of the Gudjonsson Confession Questionnaire-Revised (GCQ-R, Gudjonsson & Sigurdsson, 1999).

Measures.

Modified GCQ-R. The GCQ-R originally contained 52 items that relate to various reasons and factors pertaining to confessions made by accused offenders during police investigations. For the purposes of this study, the GCQ-R was modified to (a) exclude some of the questions that pertain to the role of police or police investigations in the confession and (b) rephrase some of the items so that they would be relevant for everyday confessions. The current version of the GCQ-R contained 31 items with a response scale ranging from 1 (*not at all*) to 7 (*very much*). A factor analysis with varimax rotation showed that these 31 items could be classified into five factors that accounted for 54.30% of the variance.

These factors were labeled as *fear of consequences* (e.g., "Did you confess because you were afraid about what would happen if you did not confess?"; six items, .85), *external pressures* (e.g., "Do you feel someone else 'bullied' you into confessing"; nine items, .82), *public shame* (e.g., "Did you find it difficult to confess because you did not want others to know what you have done?"; six items, .80), *relieving guilt* (e.g., "Did you experience a sense of relief after confessing?"; seven items, .77), and *regret* (e.g., "Do you now regret having confessed?"; two items, .65). The Appendix includes the full list of items and final loading matrix.

Confessions' extent. Three additional items asked participants to evaluate the extent of the confession that they have described (e.g., "Did you confess to all of the details of your wrongdoing?"; see Appendix for the complete text) as a form of a manipulation check question. The three items showed a high internal reliability (.91) and were thus averaged to a composite *confession extent* score.

Topic of confession. To categorize participants' confessions, we asked 22 experienced categorizers from MTurk (known as "categorization masters") to classify confessions to one of 10 categories of transgressions, which we devised after reading the majority of confessions: *breaking the law* (e.g., "I told my mom I was once arrested for shoplifting"), *careless behavior* (accidents or unintentional harm, e.g., "I kicked a ball around and smashed my friend's painting. Later I admitted it to him."), *cheating* (in school, in a game, and so on, e.g., "I told a friend that I plagiarized most of the parts of my work at school"), *drug/alcohol use* (e.g., "I told my children that I was a drug addict and lost them for 2 years,"

excluding driving under the influence, which was classified as breaking the law), *infidelity/adultery* (any physical or emotional disloyalty to one's, or with another's, partner or spouse, e.g., "I confessed to my husband that I was flirting with a coworker."), *inappropriate intimacy* (any intimate relations the confessor was ashamed of, excluding infidelity, e.g., "I once had sexual acts on a leather couch my roommate likes very much"), *lying or hiding the truth* (excluding cheating or infidelity, e.g., "I confessed to my girlfriend . . . that I had spent money on books when I was supposed to be saving it to visit her"), *physical violence* (toward humans or animals, e.g., "I confessed to a friend that I once socked my ex-wife in the stomach"), *stealing* (including "borrowing" without permission, e.g., "I took \$25 from my sister and felt so guilty then I ended up confessing to her"), or *other*. Two different raters read each confession, and the raters agreed with one another on 83% of the confessions. Disagreements were resolved by the first author who reviewed them without any knowledge of the conditions in which they were given.

Results

Twenty-four of the confessions (13 in the MTurk and 11 in the OPP samples) were either incoherent or not about actual confessions and were thus excluded from further analyses.

Manipulation check. As expected, the confession extent score differed significantly between conditions, $F(2, 329) = 98.28, p < .001$. Specifically, and demonstrating the success of our manipulation, participants in the full-confession condition gave a higher score ($M = 6.06, SD = 1.30$) than those in the partialconfession condition ($M = 2.91, SD = 1.60$), $t(329) = 13.94, p < .01, d = 1.54$. Participants in the open-ended condition had a score that fell between the two conditions ($M = 4.80, SD = 2.00$), lower than the full-confession condition, $t(329) = 5.73, p < .01, d = 0.63$, and higher than the partial-confession condition, $t(329) = 8.36, p < .01, d = 0.92$.

Recalling partial confessions. We included the open-ended condition as means of assessing if people spontaneously recall not only full but also partial confessions. The fact the participants in the open-ended condition provided confession-extent ratings falling between the full and partial conditions (as mentioned earlier) assured us that when people are asked to recall a confession, at least some of them recall partial confessions. To further assess if this was the case, we examined the distribution of answers participants in the open-ended condition provided to the confessionextent index. The index score ranged between 1 and 7, with an average of 4.78 ($SD = 2.04$) and a median of 5.33. The distribution was negatively skewed (skewness = -.46), suggesting more full than partial confessions. Although we could not assess the exact frequency of partial versus full confession (which requires determining an arbitrary cutoff point), we find it important to point out that 44.74% of participants had a score lower than 5, allowing us to conservatively suggest that these participants recalled confessions that could be classified as less than full (i.e., partial).

Differences between partial and full confessions. Table 2 shows the differences between the partial and full confession condition on all measured scales. Participants in the full confession condition rated the transgression as more severe than those in the

partial confession. They also reported that it was harder for them to recall the confession (see Table 2).

Why do people confess? Next, we examined participants' responses to the modified version of the GCQ–R using the index scores for the five factors it contained. Table 2 shows the differences in means on these five factors comparing participants in the partial-confession versus full-confession conditions. A multivariate analysis of variance on all of the five factors, with confession type (partial vs. full) as an independent variable, showed an overall effect for confession type, Wilk's λ .91, $F(5, 320) = 6.33$, $p = .01$, $\eta^2 = .09$. Subsequent comparisons showed that compared with people who confessed to the full extent, partial confessors showed higher scores on fear of consequences, $F(1, 324) = 7.06$, $p = .05$; $d = 0.30$; external pressure, $F(1, 324) = 12.38$, $p = .05$; $d = 0.39$; and regret, $F(1, 324) = 10.87$, $p = .05$; $d = 0.31$.

Furthermore, compared with people confessing to the full extent, partial confessors showed lower scores on relieving guilt, $F(1, 324) = 7.88$, $p = .05$; $d = 0.37$, but no differences were obtained for public shame, $F(1, 324) = 0.45$, $p = .50$.

What do people confess about? Although it was not part of our research agenda, the richness of people's confessions compelled us to examine their content as well. Figure 3 shows the frequency of the different transgression categories among full versus partial confessions. As can be seen, lying or hiding the truth was the most common category in both conditions, and it was more frequent among the people recalling a partial confession (39.81%) compared with those recalling a full confession (24.55%), $\chi^2(1) = 5.83$, $p = .02$. The overall differences between the frequency of categories in the full versus partial confessions was not statistically significant, $\chi^2(9) = 15.4$, $p = .08$.

Table 2

Differences Between Partial and Full Confessions in Study 5

Variable	Fullconfession		Partialconfession		<i>t</i>	<i>p</i>	<i>d</i>	95% CI
	Mean	<i>SD</i>	Mean	<i>SD</i>				
Severity of transgression	3.45	1.18	3.22	1.24	1.36	.09	0.19	[.05, .49]
Hard to confess	3.62	1.38	3.41	1.38	1.13	.13	0.15	[.1, .52]
Hard to recall	2.01	1.22	2.38	1.32	2.15	.02	0.29	[.66, .09]
Hard to write about	2.46	1.36	2.60	1.36	0.75	.23	0.10	[.44, .17]
GCQ–R factors: Fear of consequences	2.63	1.55	2.87	1.50	1.16	.12	0.16	[.58, .1]
External pressure	1.79	0.97	2.09	1.13	2.09	.02	0.28	[.53, .06]
Shame	3.69	1.53	3.67	1.54	0.10	.46	0.01	[.32, .36]
Relieve guilt	4.51	1.32	4.17	1.30	1.92	.03	0.26	[.05, .63]
Regret	1.59	1.00	1.93	1.25	2.22	.01	0.30	[.59, .09]

Note. CI = confidence interval; GCQ–R = Gudjonsson Confession Questionnaire–Revised.

Discussion

The results of Study 5 provide several insights. First, partial confessions are prevalent in many real-life situations and circumstances. Interestingly, the proportions of partial versus full confessions in Study 5 closely resembled the proportions we found in both laboratory studies (Study 1 and Study 3): about 40% of the confessions in the control group (asked to recall any type of confession) could be classified as partial, whereas about 60% were full confessions. This consistent finding suggests that people engage in partial confessions in a fairly large portion of the cases when admitting to their wrongdoings. This finding is especially

interesting given the relative scarcity of empirical evidence regarding the prevalence of partial confessions (including Sternglanz, 2009, which did not try to assess it). Although partial confessions were more difficult to recall than full ones, the ratings for both types of confessions were quite low, indicating that most participants did not find it very difficult to recall their (partial or full) confessions.

Second, and in line with the finding obtained in Study 3, people who reported their partial confessions regretted their confession more than people reporting full confessions. We could not tell if people regretted their categorical decision to confess (or not) versus their decision to confess only partially (rather than fully). This notwithstanding, the results of Study 5 are consistent with the experimental findings observed in Study 3, suggesting full confessors are more content and feel less negatively about their confessions, relative to people engaging in partial confessions. Potentially, those who recounted full confessions were more ready to move on with their lives after coming clean. It seems that also when people think about their confessions retrospectively, people confessing only partially experience lower success in relieving their guilty feelings about their transgressions compared with people confessing to the full extent. The finding suggests that partial confessors do pay an emotional price for not coming clean about all their wrongdoings, or in other words, they *feel bad about not doing good*.

General Discussion

Five studies showed that people sometimes restrict their honesty about their dishonesty and engage in partial confessions. Study 1 demonstrated that people sometimes confess to only part, and not all, of their cheating. Partial confessions were more common than full confessions among those who cheated to the full extent possible. Study 2 began to shed light on the possible reasons to confessing partially, focusing on people’s intuitions that such confessions would be more credible than not confessing at all. Full confessions were perceived to be even more credible than partial confessions, but when one confesses to the full offence, one has to face up to the full consequences of admitting a major unethical act. Partial confessions thus balance the need to appear credible with the negative consequences of confessing to the full extent.

Study 2 further revealed that people do not anticipate feeling any different after not, partially, or fully confessing. Paradoxically perhaps, the results of Study 3 showed that partial confessions, confessions that are attractive due to their relative high credibility (compared to not confessing) and low cost in terms of facing up to the admitted offence (compared to fully confessing), lead people to experience more negative feelings compared with others who do not confess or confess to the full extent. Although people were wrong in their anticipations regarding their emotional reactions to partially confessing, Study 4 revealed they were well calibrated in predicting the credibility of such an act. Specifically, people correctly anticipated partial confessions to be more credible than not confessing at all. Finally, Study 5 corroborated the findings obtained in the lab in a setting that prompted people to report confessions they made in real life. When people recalled partial confessions, they reported lower levels of guilt relief compared with people who recalled a full confession. Our results provide evidence that although partial confessions might seem attractive, they come at an emotional cost.

Theoretical Contributions

Recent work on deception and dishonesty in behavioral economics, management, and social psychology has shifted from adopting a normative approach to how people should behave toward a more descriptive approach of how people actually behave (for reviews, see Bazerman & Gino, 2012; Bazerman & Tenbrunsel, 2011; De Cremer, 2009). This line of work focuses on employing behavioral economic and social psychological methods to assess the extent to which people lie and deceive in different situations (e.g., Schweitzer, Ordóñez, & Douma, 2004; Steinel & De Dreu, 2009). Chiefly, the focus of this line of work is to understand such behaviors in incentivized settings in which dishonesty is beneficial to the person committing it. As such, this line of work builds on the long tradition of deception and lie detection literature developed in

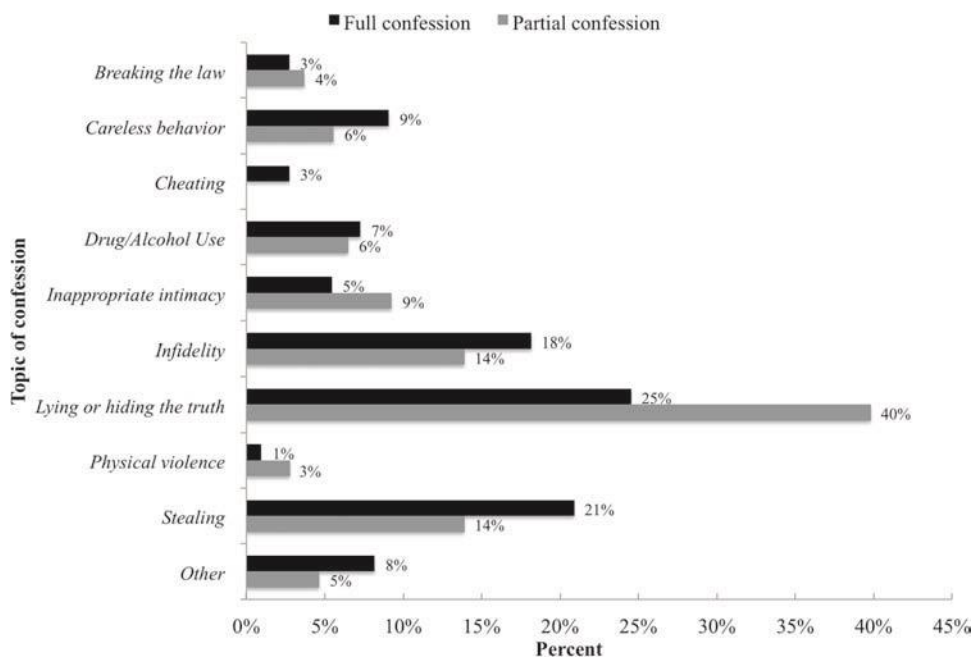


Figure 3. Frequency of transgressions categories among full and partial confessions in Study 5.

recent decades in social psychological science (e.g., DePaulo, Kirkendol, Kashy, Wyer, & Epstein, et al., 1996; Ekman, 2001; Vrij, Granhag, Mann, & Leal, 2011). Our work squarely fits within this field of attempting to understand the settings and processes leading people to lie and deceive, but also to come clean. Such endeavors are clearly important to theory building as well as holding concrete implications to organizations and society.

Our results are consistent with theories suggesting that people choose partial confessions in an attempt to balance between appearing credible to others, reducing negative emotions, and not facing up to the full extent of their transgressions. Previous studies (Gneezy, 2005; Hilbig & Hessler, 2013; Lundquist et al., 2009; Shalvi, Dana, et al., 2011) showed that people achieve *feeling good while doing bad* by limiting the amount of their cheating (Mazar et al., 2008). The current study shows that when people engage in unethical behavior—lying to earn more money—some seek to regain their credibility by engaging in partial confessions. Although they do not expect that such behavior will make them feel any better, partially confessing actually aggravates, rather than alleviates, negative feelings. The results of Study 3 suggest that the people who pay the least emotional price are those who either do not cheat at all or, if guilty of having cheated, confess to the full extent of their cheating.

The observation that people engage in partial confession relates to Sternglanz's (2009) studies on admitting to a lesser offence as means to exonerate serious wrongdoing. When people are accused of committing a serious offence like cheating on an exam, they are perceived by others as less guilty if they admit to a relevant lesser offence like noticing another person cheating on an exam and failing to report about it, compared with a situation in which they deny the accusation altogether. When being accused of conducting a serious wrongdoing, admitting to a lesser offence is clearly a useful strategy to appear less guilty in others' eyes. Contributing to the understanding of this phenomenon, we focused on confessions that followed no accusation whatsoever. The findings reported here revealed that people confess to only part of their transgressions, even when they are not accused of committing it. Reaching beyond people's attempts to fend off allegations of improper behavior, we observed that people proactively use partial confessions as means to appear more credible in others' eyes, not realizing the negative emotional costs such partial confession entails. We believe that studying the relation and psychological underpinnings of partial confessions triggered by another person's accusation versus self-generated partial confessions is especially promising.

Avenues for Future Research

Our finding communicates with the idea that people may display moral hypocrisy (Batson et al., 1997; Batson, Thompson, Seufferling, Whitney, & Strongman, 1999; Valdesolo & DeSteno, 2007; for a review, see Merritt & Monin, 2011)—displaying good intentions to others (i.e., choosing fair procedures to determine distribution of outcomes among self and other) but abusing ambiguity in procedures to benefit themselves at others' expense. People who give partial confessions seem to engage in a similar type of behavior. They perform the positively evaluated act of confessing but make sure not to damage themselves too much by

restricting the extent of their confession. However, we have discovered that such acts of moral balancing (Jordan, Mullen, & Murnighan, 2011; Monin & Miller, 2001) are not as beneficial as they may appear to be. People who opted for confessing only partially ended up feeling worse about their actions than those confessing to the full extent.

Another possible reason why people confess to only part, and not the full extent, of their cheating is people's inclination to act within the boundaries of what they can justify to themselves (Gino & Ariely, 2012; Schweitzer & Gibson, 2008; Shalvi, Dana, et al., 2011). Thus, people may also confess only to the degree they can explain to themselves and to others. In this sense, a partial confession might be easier to justify than a full confession, especially when the severity of the transgression is high. For example, in the context of our first study, if one cheated by reporting eight instead of six correct guesses, claiming to cheat by overreporting only one or two guesses is easier to justify than explaining overreporting four guesses. Whereas fully confessing forces people to face the fact that they intentionally and purposely inflated their reports to gain more money, a partial confession can help people to feel that they only made a "small mistake" when overreporting their outcomes. Such interpretation regarding the potential strategic use of dishonesty (see Koning, Van Dijk, Van Beest, & Steinel, 2010) or even self-deception (Chance, Norton, Gino, & Ariely, 2011) requires further investigation. Exploring the extent to which being able to justify one's lies impacts a person's confession tendencies, whether strategic or self-deceptive, seems an intriguing direction for future work.

Aside from improving our understanding regarding people's unethical behavior, our results may also have interesting implications for survey research on unethical behavior (De Paulo et al., 1996; Halevy, Shalvi, & Verschuere, in press; Serota, Levine, & Boster, 2010). In many cases, when surveyors try to estimate the frequency of immoral actions, self-reported responses are generally considered as underestimations of the actual proportion in reality, and corrections to such underestimation are made uniformly for the entire sample (e.g., Marquis, Marquis, & Polich, 1986). Our results suggest that different responses should receive different corrections, because some people might be admitting to the full extent of their unethical behavior, whereas others to only a partial extent. To better estimate the actual rate of immoral actions in a given population, the rates of partial and full confessions should also be estimated and used appropriately. Our studies suggest a preliminary rule-of-thumb, estimating that 40% of admissions are, in fact, only partial. Future work is still needed to (a) assess whether some misbehaviors are more or less likely to produce full versus partial confessions and (b) try to discover the reasons behind such partial and full confessions. The results reported in Study 5 may be a good starting point for such attempts.

The results obtained in Study 4 suggest that partial confessions are more credible than not confessing at all. This finding ties nicely with the literature on suspicion regarding others' (dis)honesty. For example, the work by Levine and colleagues (Levine, 2010; Levine, Feeley, McCornack, Hughes, & Harms, 2005; Levine et al., 2011) suggests that people are able to detect another's lies but that this ability falls just above chance level (see also O'Sullivan, 2003). Levine (2010) suggested that it is those few liars who cannot

conceal their lies who are driving the aggregate lie detection just above what would be predicted if people were detecting lies at chance level. The results of Study 4 lead us to propose that in investigating these effects further, one may want to assess people's suspicion in situations where the liar has confessed to some degree of lying, but it is unclear whether the confession was full or not. The possibility that people have differential lie detection abilities when evaluating someone's confession, compared with someone claiming not to have lied, seems a very promising direction for future research. Because training seems to help with detecting dishonesty to only to a limited degree (Levine et al., 2005), it seems very interesting to figure out whether one can be trained to figure out if a confessor is still concealing part of the truth, a question of major societal relevance.

The results reported here include confessions to lies generated in a laboratory (Studies 1–4) as well as in real-life settings (Study 5). Whereas in the first four studies both cheating and confessions were only *measured*, in Study 5, we *manipulated* confession type (partial vs. full) by a recall task. We believe such method triangulation is important because it allows both assessing actual dishonesty and confession and tapping into the causal relationships between these two factors. Future work investigating the relation between these variables may focus more directly on individual differences that may account for people's likelihood to engage in partial confessions and also retrospectively feel bad about doing so. For example, one group that seems relevant to explore are people who engage in confessions as part of their religious routines. Indeed, recent work revealed that religious reminders are associated with moral behavior. Exposure to religious reminders is associated with higher levels of self-control (Rounding, Lee, Jacobson, & Ji, 2012), generosity (Shariff & Norenzayan, 2007), helping behaviors (Pichon, Boccato, & Saroglou, 2007), and honesty (Mazar et al., 2008). Recent work has revealed that Orthodox Jewish female students did not exhibit lying on tasks commonly producing lying in general samples (Shalvi & Leiser, 2013), and further work revealed that nuns even lied in a disadvantageous way (i.e., lied to get less money than they deserved) when such behavior allowed them to signal their honesty to others (Fischbacher & Utikal, 2011). In sum, studying the extent and magnitude of confessions conducted by people with high moral firmness seems as a very valuable path to explore.

In all of our studies, the incentives for cheating were rather low (ranging between 10 cents and \$1). This notwithstanding, the fact that a considerable amount of cheating was found in both Studies 1 and 3 suggest that our results provide a rather conservative estimate for such behavior. It is possible that in higher stakes situations, people may cheat more. It is further possible that in those cases, the propensity to confess to only part of one's cheating would be even larger. To conclusively address the role of financial incentives in determining the propensity to confess to all versus part of one's transgressions, more empirical work is needed.

Finally, in real life, people often confess to someone meaningful to them—such as their priest, partner, or colleague. In Studies 1 and 3, people confessed to the experimenter, a person with whom they have no long-term relationship and thus suffer little long-term consequences from coming clean. In reality, however, coming clean about one's wrongdoing may have life-changing consequences

such as divorce, losing one's job, or damaging one's friendship with a close friend. We intentionally did not vary the (expected or real) punishments following partial versus full confessions as well as the (expected or real) leniency a confession might grant. In Study 5, however, which focused on real-life confessions, we found a similar proportion of partial confessions in multiple meaningful domains and circumstances, suggesting that making explicit the impending punishment is not necessary to evoke confessions. Arguably, people feel the need to confess to their wrongdoings—whether partially or fully.

Conclusion

Whereas the vast majority of previous work treated confessions as a binary decision between confessing or not (e.g., Gudjonsson & Sigurdsson, 2000), the current work assessed confessions on a spectrum allowing people to display an array of potential confessions—both partial and full confessions. We studied the prevalence (i.e., existence and frequency), antecedents (i.e., extent of lies), and consequences (i.e., negative feelings and credibility) of partial confessions uncovering that people sometimes prefer to partially confess to their sins. While people on the whole did not feel very badly after cheating on the tasks used here, those who partially confessed felt worse than those who did not confess or who confessed to the full extent. Paradoxically, people seeking redemption by partially admitting their big lies feel guilty because they do not take complete responsibility for their bad behaviors. True guilt relief requires people to fully come clean.

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Appendix Modified Version of the GCQ–R Used in Study 5: Items’ Original and New Numbers and Loading on the Different Factors

Number		Item	Fearof consequences	External pressure	Shame	Relieve guilt	Regret
Old	New						
37	31	Did you confess because you believed the consequences would be less severe than if you did not confess?	.784				
15	10	Did you confess because you were afraid about what would happen if you did not confess?	.764				
6	3	Did you think that someone would eventually prove you did it?	.710				
23	13	Did you confess because you were frightened of being punished for what you did wrong?	.690				
35	23	Did you confess because you were frightened?	.612				
10	5	Did you confess because you believed that other people might “turn you in”?	.587				
47	28	Did you confess because someone else implicated you?	.437	.601			
18	12	Do you feel someone else “bullied” you into confessing?	.328	.613			
48	29	Were you under the influence of alcohol when you confessed?		.799			
49	30	Were you under the influence of other intoxicating substances when you confessed?		.785			

46	27	Did you find it difficult to confess because you wanted to cover up what happened in order to protect someone else?		.564	
11	6	Did you confess to protect somebody else?		.563	
34	22	Did you confess because someone persuaded you it was the right thing to do?		.530	.329
41	25	Did you confess because you felt isolated from your family and friends?		.415	.436
28	16	Did you at first deny having committed the wrongdoing?		.375	
42	26	Did you find it difficult to confess because you wanted to avoid the consequences?	.472	.494	
26	14	Did thoughts of (or talks with) your family and friends make it more difficult for you to confess?	.311	.469	.335
32	20	Did you find it difficult to confess because you did not want others to know what you have done?		.771	
40	24	Did you find it difficult to confess because you were ashamed about what you have done?		.730	.322
29	17	Did the thought that others might view you as a “bad person” made you less likely to confess?		.674	
33	21	Did you find it difficult to confess because you did not want to accept what you have done?		.656	
9	4	Did you think it was in your own interest to confess?	.352		.616
2	1	Did you confess because you felt guilty about what you have done?		.484	.549
4	2	Did you feel you wanted to get it off your chest?		.365	.685
12	7	Are you now pleased that you confessed?			.741 .365
14	9	Did you experience a sense of relief after confessing?			.736
30	18	Did you confess because you had the need to talk to somebody?			.483 .535
31	19	Did you confess because at the time you felt you needed help?			.380 .416
17	11	Do you think you confessed too readily or hastily?	.389		.494
27	15	Do you now regret having confessed?			.510
13	8a	Do you think you would have confessed if at the time you had fully realized the consequences of doing so?			.612
—	32 ^b	Did you confess to all of the details of your wrongdoing?			
—	33 ^b	When you confessed, did you (deliberately or not) omit some of the details of what you did wrong?			
—	34 ^b	When you confessed, did you “come clean” completely, revealing all of the details of what you have done?			

Note. Factor loadings that were lower than .3 are not shown; bolded loadings indicate final classification to that factor). GCQ–R Gudjonsson Confession Questionnaire–Revised.

^a This item (after reversed coded) reduced this factor’s reliability and was thus excluded. Items 32–34 were not in the original GCQ–R and were added to examine the extent of the confession (partial vs. full). These items were not included in the factor analysis and are given here to provide the reader with their full wording.

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