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## Exploring the Ethics and Psychological Impact of Deception in Psychological Research

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The determination of what experimental practices constitute potential harm to research participants is an area fraught with conflicting opinions, in part due to past examples of exploitation and abuse. Psychological studies involving deception in research studies have been especially controversial.<sup>1</sup> The debate regarding the ethics of the practice continues to this day.<sup>2</sup> Deception in psychological research is often stated as acceptable only when all of the following conditions are met: 1) no other nondeceptive method exists to study the phenomenon of interest; 2) the study makes significant contributions to scientific knowledge; 3) the deception is not expected to cause significant harm or severe emotional distress to research participants; and 4) the deception is explained to participants as soon as the study protocol permits.<sup>3</sup> Many institutional review boards (IRBs) have placed substantial restrictions on researchers' use of deceptive methodology in social science research,<sup>4</sup> and some disciplines and institutions have banned the practice altogether.<sup>5</sup> In recent years, there have been repeated calls for empirical examination of the assumptions underlying IRB policies when determining risk and harm<sup>6</sup> and the effects of deception in human subjects research.<sup>7</sup>

Although there have been some empirical studies examining the effect of deception on research participants,<sup>8</sup> much of this literature is philosophical in nature.<sup>9</sup> Because the empirical literature on the effects of deception in research is somewhat limited, IRB policies are often primarily based upon principled arguments about what constitutes harm.<sup>10</sup> Our study empirically tested the hypothesis that deception in psychological research negatively influences research participants' self-esteem, affect, and their perceptions of psychological researchers and researchers' deceptive practices.

### Ethical Concerns about Deception

Although often regarded as a single construct, in practice deception in research encompasses a variety of methodologies. *Indirect* deception occurs when participants agree to postpone full disclosure of the true purpose of the research or when the goals of the study are not conveyed in their totality to the participant. This methodology has few, if any, ill effects.<sup>11</sup> Much of the debate surrounding the potential harm of deception focuses on *direct* deception—deliberate misinformation provided to participants about some essential component of the

study's procedure, including deceptive study descriptions or instructions, staged manipulations, false feedback, or the use of confederates.<sup>12</sup>

One deceptive element commonly cited as potentially harmful is false feedback ostensibly derived from an evaluative task or test. Some have suggested that participants may feel demeaned or have decreased self-esteem if they believe this feedback.<sup>13</sup> Participants' sense of autonomy may also be harmed if they are not given the requisite information to have made a truly informed decision about study participation in the first place.<sup>14</sup> Thus, some researchers argue that deception contains elements that have potentially negative effects on a participant's emotional state and self-esteem.<sup>15</sup>

In addition to concerns about harms to participants, questions of methodological and reputational harms have also been raised. Deception may result in more suspicious or contaminated pools of research participants.<sup>16</sup> Participants may be aware of deception but not say so because they are embarrassed or trying to be compliant.<sup>17</sup> Increasing suspicions and reactance (i.e., strengthening a negative view of researchers and/or combative participant behavior) among participants may not only threaten the validity of psychological research but also the reputation and legitimacy of psychology as a science by fostering negative attitudes toward psychological researchers and their practices.<sup>18</sup>

Despite these concerns, others believe that deception in psychological research can be acceptable in at least some circumstances.<sup>19</sup> Psychological discomfort resulting from deception is viewed as a regrettable but defensible cost given the knowledge that will be gained by both the researcher and participants.<sup>20</sup> The acceptance of deception is based on the belief that any psychological discomfort resulting from deception is likely fleeting<sup>21</sup> and no greater than what an individual might experience in interpersonal encounters in everyday life.<sup>22</sup> Indeed, evidence suggests that most participants are not at all bothered by deception<sup>23</sup> and may even be more likely to enjoy and learn from their experience participating in a study using this methodology.<sup>24</sup>

In brief, those in favor of the judicious use of deception believe that its potential benefits to participants, science, and society are worth the largely negligible psychological costs. Because research participants may withdraw from participation at any time, presumably individuals who find deceptive research objectionable can exercise their autonomy by withdrawing their participation.<sup>25</sup> Also, some have posited that a thoughtfully executed debriefing can ameliorate the ill effects of a study that uses deception.<sup>26</sup>

One potentially important aspect of research ethics that garners rare mention in the literature is experimenter professionalism. Benham argued that the researcher-participant relationship is first and foremost a professional relationship, similar to that between teacher and student or physician and patient.<sup>27</sup> Consequently, the professional demeanor of the research staff is likely to be extremely important to participants' perceptions of their research experiences, especially in combination with the use of deception. As Baumrind noted in her critique of research deception, "Perhaps the seminal problem in social and behavioral research is that not all investigators ... respect their subject-participants as persons."<sup>28</sup> Despite this astute observation, no studies on the ethics of psychological research to date have explicitly

examined experimenter professionalism. This may be in part because professional conduct encompasses multiple aspects of social interactions and therefore is difficult to operationalize. Research on physician professionalism is informative in this regard.<sup>29</sup> A systematic review identified five dimensions of professionalism.<sup>30</sup> Of those, effective patient interactions (e.g., politeness) and reliability (e.g., punctuality) are the most germane to experimental psychological research, and therefore are the focus of the experimenter professionalism manipulation in this study.

The present study examined the effect of three elements central to understanding the potential harms of deception in research: 1) deceptive task instructions; 2) false feedback; and 3) the interpersonal deception of experimenter professionalism. The task deception manipulation examines the effect of deceiving participants about the true purpose of a study. The false feedback manipulation examines the impact of leading people to believe something about themselves that is not actually true. The interpersonal manipulation allows us to determine the effect of unprofessional experimenter conduct, as well as the knowledge of this interpersonal deception after a funnel debriefing. Importantly, including multiple forms of deception in the same study permitted their relative impact to be evaluated with respect to each other and to experimenter professionalism.

Examining both task deception and experimenter behavior required two simultaneous layers of deception. The deception surrounding the nature of the study task was surrounded by a layer of deception related to the experimenter's behavior. Measures administered prior to the funnel debriefing assessed the effect of unprofessional experimenter behavior because as far as the participants were aware, the experimenter's behavior was authentic. The effect of the unprofessional behavior manipulation on any postfunnel debriefing measures can be considered the effect of an interpersonal deception because at that point in the study all participants were aware of the unprofessional experimenter behavior manipulation. This design permitted us to examine the unique impact of all three types of deception on participants' self-esteem, emotional state (i.e., positive and negative affect), and trust in psychological researchers. It also permitted a test of the unprofessional experimenter behavior manipulation on these outcomes. We hypothesized that: 1) task deception would not negatively influence participants; 2) participants receiving false feedback and/or who were treated unprofessionally would report higher levels of negative emotion and less trust in psychological researchers; and 3) the funnel debriefing would mitigate negative effects of the interpersonal deception.

## Study Methods and Design

Given that university students are the population most likely to participate in psychological research,<sup>31</sup> they were the group selected for participation in this study. Participants were 183 undergraduates, 56.3% female, from a large university in the northeastern United States. Participants were recruited from the university's psychology participant pool and received research credit for their participation.

Participants signed up for a study whose objective was described as "looking at how people rate certain objects and people." Because our study involved more than one independent

variable, we used a  $3 \times 2 \times 2$  between-subject factorial design (*task deception: none, indirect, or direct*  $\times$  *false feedback: informed that task performance feedback was personally meaningful vs. not*  $\times$  *experimenter professionalism: courteous/reliable vs. discourteous/unreliable*). Two male and two female undergraduate research assistants were involved in the development of the procedure and conducted all experimental sessions. Multiple role-playing sessions were conducted with the research assistants to ensure consistency and comfort with the procedure.

The experimenter professionalism manipulation alternated based on predetermined blocks of experimental sessions. For all other experimental factors, assignment was randomized. In both professionalism conditions the content of the verbal instructions, which briefly described the nature of the computer task to the participant and provided an opportunity for questions, were identical except for the salutation and farewell that constituted the verbal aspect of the professionalism manipulation. In the professional conditions ( $n = 90$ ), the experimenter was efficient and punctual and administered the verbal instructions using a polite demeanor, eye contact, and a smile. In the unprofessional conditions ( $n = 93$ ), the experimenter administered the verbal instructions using a brusque demeanor, made little or no eye contact, expressed no positive facial expressions, and after admonishing the participant to “hurry up,” had the participant wait while sending a text message on a cell phone. Apart from the professionalism manipulation, the experimenter was kept blind to condition. Immediately after placing a participant in a private cubicle and providing the verbal instructions, the experimenter recorded perceptions of the participant’s nonverbal responses to the interaction.

At the start of the computer task, participants viewed a series of screens that administered the majority of information and instructions about the experimental task. For the task deception manipulation, participants were informed of the true purpose of the computer task (no task deception,  $n = 58$ ), given a vague but accurate description of the task (indirect task deception,  $n = 61$ ), or given a false description of the task (direct task deception,  $n = 64$ ). For the false feedback manipulation, participants were either informed that the computer task was being validated and the performance feedback was generated at random and therefore invalid, or that their performance feedback was “a statistically reliable predictor of cognitive ability and future decision-making capacity.” After reading the task description and instructions, participants completed the Rosenberg self-esteem scale ( $\alpha = 0.87$ ).<sup>32</sup>

Participants then began the computer task, an exact replication of a study of in-group bias.<sup>33</sup> This procedure measures an individual’s bias for remembering more positive information about one’s own perceived in-group. Participants completed 12 trials of a visual estimation task and were subsequently falsely told that they were “overestimators.” Participants were then asked to review behaviors purportedly extracted from interviews with overestimators (their in-group) and underestimators (the out-group) and to form an impression of each group. Following a brief distracter task, participants then recalled the list of behaviors for each group.

After completing the computer task, participants were debriefed by the computer about the true purpose of the experimental task (i.e., that it was a measure of in-group bias) and either

notified that they were deceived about the task and/or feedback or reminded that they had not been deceived. Specifically, participants were told that “The test you completed was rigged ... you were randomly assigned to one of the groups. ... despite what we may have told you, there is no such distinction between overestimators and underestimators.” Immediately after this disclosure participants completed a series of questions assessing study participation perceptions ( $\alpha = 0.83$ ), researcher traits ( $\alpha = 0.71$ ), positive and negative emotions ( $\alpha = 0.83$ ;  $\alpha = 0.77$ ) using the Positive and Negative Affect Schedule (PANAS),<sup>34</sup> and a trust in psychological researchers scale ( $\alpha = 0.80$ ), which was modified from the Trust in Medical Researchers Scale.<sup>35</sup>

Finally, a screen appeared directing the participant to alert the experimenter who was waiting in the lobby that the computer task had ended. Once both the participant and experimenter were again in the private cubicle together, the experimenter fully debriefed the participant about the purpose of the entire study, including the professionalism manipulation. A funnel debriefing procedure was employed in order to maximize the positive impact and methodological integrity of the participant debriefing. In this debriefing the researcher asked a series of increasingly specific questions before finally revealing and discussing the interpersonal deception. After the debriefing procedure was complete, participants privately completed a brief survey readministering a subset of the study participation perceptions, positive emotions ( $\alpha = 0.84$ ), negative emotions ( $\alpha = 0.89$ ), and trust in psychological researchers’ measures.

## Study Results

The analyses presented below employed analysis of variance models for continuous outcomes and logistic regression models for dichotomous outcomes. To examine our first hypothesis, that there would be no negative effect of the task deception on the participants, we examined the participant study perception and emotion scales administered directly after participants were debriefed about the task and false feedback manipulations but before the funnel debriefing revealing the interpersonal deception. Consistent with the hypothesis, task deception had no impact on study perceptions, positive emotion, negative emotion, or trust in psychological researchers (all  $p$  values  $> 0.05$ ).

The second hypothesis was that the participants would feel a greater sense of violation if they received false feedback and/or if they were treated unprofessionally. The false feedback manipulation had no impact on any of the posttask debriefing measures ( $p > 0.05$ ). Also, neither the task nor false feedback manipulations had a significant impact on any of the postfunnel debriefing measures ( $p > 0.05$ ). The sole significant effect was that after the funnel debriefing, participants in the direct task deception arm felt *less* concern about deception when compared to those in the indirect and no deception arms ( $F [1, 155] = 5.69$ ,  $p < 0.05$ ).

Although false feedback did not have a negative psychological impact on participants, the professionalism manipulation had a significant effect. Participants who were treated unprofessionally reported greater negative perceptions about their study experience ( $F [1, 178] = 225.3$ ,  $p < 0.001$ ) and greater negative emotions ( $F [1, 178] = 1,210.0$ ,  $p < 0.001$ )

compared to those treated professionally by the research assistant. Moreover, participants in the unprofessional condition expressed significantly less trust in psychology researchers ( $F [1, 178] = 6.91, p < 0.01$ ) and were more likely to exhibit nonverbal anger or confusion during their interaction with the researcher ( $OR = 46.5, 95\% CI [6.15, 351.2]$ ), as recorded by the experimenter. Positive emotions and self-esteem were unaffected by experimenter professionalism ( $p > 0.05$ ).

The third hypothesis was that the funnel debriefing procedure would ameliorate any negative psychological impacts of the deceptive manipulations. To test this hypothesis we examined the measures administered directly after the funnel debriefing that revealed the interpersonal deception. For all outcomes where a predebriefing score was available, it was entered as a covariate in the analysis in order to control for baseline levels. Confirming hypothesis three, the funnel debriefing appeared to undo the negative effects of the interpersonal deception of unprofessional experimenter behavior, returning participants to levels similar to those who were treated professionally. Controlling for the prefunnel debriefing scores, the interpersonal deception did not have a significant effect on perceptions of how enjoyable or interesting the study was (all  $p$  values  $> 0.05$ ). There was also no effect on perceptions of how well the study was explained by the experimenter or on negative emotions (all  $p$  values  $> 0.05$ ). There was a positive effect of interpersonal deception on whether the individual would recommend study participation to a friend ( $F [1, 149] = 35.3, p < 0.001$ ) and a marginally significant effect on positive emotions ( $F [1, 127] = 3.22, p = 0.08$ ). Individual ANOVAs examining the effect of the experimental manipulations and controlling for prefunnel debriefing scores on each of the positive adjectives administered from the PANAS found that the ratings for interested ( $F [1, 157] = 8.09, p < 0.01$ ) and excited ( $F [1, 155] = 7.47, p < 0.01$ ) were significantly higher for participants who were interpersonally deceived.

Finally, although we did not have a measure of past experiences with deceptive research studies, we were able to examine whether past experience participating in any psychological research ( $M = 5.8, SD = 4.0$ ), in conjunction with the manipulations in this study, predicted a greater likelihood of guessing that there was some additional purpose to the study, correctly guessing the interpersonal deception, or a decreased trust in psychological researchers. The only manipulation that was significantly predictive in these analyses was that individuals in the direct task manipulation were more likely to guess during funnel debriefing that there was an alternative purpose to the study ( $OR = 2.54, 95\% CI [1.09, 5.90]$ ), although they were no more likely to correctly guess the specific nature of the deceptive interpersonal manipulation ( $OR = 3.84, 95\% CI [0.74, 19.8]$ ).

## Discussion

Although some past forms of deception in research certainly constitute a violation of dignity, this study suggests that a unilateral moratorium on experimental deception may not be the best way to protect participants or the integrity of psychological science. We found that relatively benign forms of deception, such as receiving false feedback or obfuscating the true hypotheses of a study, pose little psychological harm to participants and may not generally require more than a basic debriefing procedure to counteract the deception. In



contrast, unprofessional behavior on the part of the experimenter had a substantial negative effect on participant perceptions and negative emotions. However, the negative effect of the fairly potent interpersonal deception that unprofessional researcher conduct represents was ameliorated by the funnel debriefing procedure. Taken together, this evidence suggests that the debate on the ethics of deception may be overlooking the impact of other seemingly mundane risks, such as experimenter professionalism, which may do much more to impact the participants' thoughts and feelings than a deceptive manipulation per se.

Indeed, these results showed a significant negative behavioral and psychological impact associated with unprofessional experimenter behavior. In the wake of unprofessional treatment, participants demonstrated greater negative reactions in their body language and self-reported emotions. Those who were treated unprofessionally had substantially worse perceptions of the experimenter they interacted with, as well as of psychological researchers in general. Importantly, all of the negative effects of the unprofessional behavior on mood and trust in psychological researchers appeared to be eliminated by the detailed funnel debriefing procedure. In fact, a number of participants reacted *positively* to the revelation of the interpersonal deception during the debriefing, with those who had been treated professionally frequently expressing some regret at having not been in the other group. This anecdotal evidence is supported by the empirical finding that individuals in the unprofessional group reported higher "interested" and "excited" PANAS positive emotion subscale scores than did participants in the professional group. Also, individuals in the unprofessional group indicated a significantly greater likelihood of recommending participation in the study to a friend. We infer from these findings that college student participants are largely unconcerned with our specific experimental hypotheses and that some may find an engaging deceptive manipulation to be an interesting diversion. This conclusion is not meant to imply that deceptive methods should be preferred, but it gives further evidence that the psychological risks associated with deceptive procedures that evoke strong negative reactions in the short term—such as interpersonally oriented deceptions—are not likely to be psychologically harmful when coupled with a thorough and thoughtful debriefing.

In his seminal paper on the issue of the ethics of deception in social psychological research, Kelman<sup>36</sup> postulated what our research illuminates: that the relationship between an experimenter and participant is meaningful, albeit temporary, and that experimenters have a responsibility toward their participants' human dignity. Although the *Belmont Report* identified respect for persons as one of the fundamental ethical principles of human subjects research,<sup>37</sup> it did not specifically include professionalism under that category. One might argue that it should be unnecessary to note such a basic tenet; however, given that psychology experiments with human subjects are most typically conducted by undergraduate or graduate students with limited training and oversight, unprofessional behaviors such as poor time management and an indifferent demeanor may be far too common. A recent national survey of psychology graduate students reflects this possibility: one in four respondents felt that graduate research assistants were confused about their roles and responsibilities, one in five indicated that their mentors did not provide sufficient research guidance, and one in three felt that their research was inadequately supervised.<sup>38</sup>

This situation is ripe for the unprofessional treatment of research participants, which may pose a much greater risk of psychological harm and decline in researcher trust than deception.

We note several limitations to our study. In order to ensure that the study was ethical, certain compromises were made. For example, the false feedback manipulation was fairly benign in nature. The feedback, although similar to what is often used in psychology experiments, did not allow us to examine the full range of false feedback that may be used in such studies. Thus, we cannot draw conclusions on all types of false feedback.

Because we did not track participants beyond their brief participation in our study, we were unable to examine in the long term if or how these series of deceptions possibly affected future participation in other psychology studies. Analyses of our data did not show that greater previous experience participating in psychological research increased the likelihood of reporting suspicions of additional deceptive elements. These results cannot be considered conclusive given that we did not measure the number of deceptive studies in which the participants had previously participated; however, it is important to note that those who had been actively deceived about the experimental task were more likely to guess that there may have been other deceptive elements present in the study. Individuals in the direct task deception arm also reported less concern about the use of deception in general. These findings support the notion that while prior experience with deception may make participants somewhat more suspicious of the veracity of an experiment's cover story, they do not seem especially bothered or influenced by the idea that they may be deceived. This finding corroborates prior research showing that most participants seemed to have the expectation that they cannot and should not know the entire purpose of a psychological experiment before its completion.<sup>39</sup> Determining the extent to which deceptive methods may influence participant suspicions in the long term would provide further insight into the possible scientific costs of their use in research.

Our operationalization of professionalism simultaneously manipulated aspects of both courteousness and reliability. While this approach is true to prior research in the domain of physician-patient interactions, one could argue that it fails to specifically identify the precise mechanism underlying the effect of the unprofessional manipulation. Although this methodology may lack absolute experimental vigor, it has considerable ecological validity and has been previously employed to demonstrate similar psychological phenomena.<sup>40</sup> Moreover, this approach provides a broader theoretical base for future research illuminating the specific aspects of deception and professionalism most essential to positive research participant experiences.

## Conclusion

Despite well-intentioned philosophical concerns about the use of deception in psychological research, the present study found limited negative psychological effects. Further, any negative effects of the interpersonal deception on mood and attitudes toward psychological researchers were alleviated by the debriefing procedure. These results suggest that the necessary use of deception, when paired with correct experimenter training and



experimental procedures, poses limited psychological harm to participants. Deceptive research is not free of risk, but this study suggests that its short-term psychological risk can be largely mitigated by conscientious behavior and considerate debriefing procedures enacted by well-trained experimenters.

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## References

1. Milgram S. Behavioral study of obedience. *Journal of Abnormal and Social Psychology*. 1963; 67(4):371–378. Humphreys L. Tearoom trade. *Society*. 1970; 7(3):10–25.
2. Kelman HC. Human use of human subjects: The problem of deception in social psychological experiments. *Psychological Bulletin*. 1967; 67(1):1–11. [PubMed: 6035775] Hertwig R, Ortmann A. Deception in experiments: Revisiting the arguments in its defense. *Ethics and Behavior*. 2008; 18(1):59–92. Broder A. Deception can be acceptable. *American Psychologist*. 1998; 53(7):805–806. Ortmann A, Hertwig R. Is deception acceptable? *American Psychologist*. 1997; 52(7):746–747.
3. American Psychological Association. Ethical principles of psychologists and code of conduct. 2002. <http://www.apa.org/ethics/code/index.aspx>
4. Kimmel, AJ. *Ethical Issues on Behavioral Research: Basic and Applied Perspectives*. 2nd ed. Blackwell Publishing; Oxford, U.K.: 2007. Cook KS, Yamagishi T. A defense of deception on scientific grounds. *Social Psychology Quarterly*. 2008; 71(3):215–221.
5. Riach PA, Rich J. Deceptive field experiments of discrimination: Are they ethical? *Kyklos*. 2004; 57(3):457–470. Oakes JM. Risks and wrongs in social science research: An evaluator's guide to the IRB. *Evaluation Review*. 2002; 26(5):443–479. [PubMed: 12243104]
6. Grady C. Do IRBs protect human research participants? *JAMA*. 2010; 304(10):1122–1123. [PubMed: 20823440] Kim S, Ubel P, de Vries R. Pruning the regulatory tree. *Nature*. 2009; 457(7229):534–535. [PubMed: 19177111]
7. Hertwig R, Ortmann A. Deception in social psychological experiments: Two misconceptions and a research agenda. *Social Psychology Quarterly*. 2008; 71(3):222–227.
8. Epley N, Huff C. Suspicion, affective response, and educational benefit as a result of deception in psychology research. *Personality and Social Psychology Bulletin*. 1998; 24(7):759–768.
9. Christensen L. Deception in psychological research. *Personality and Social Psychology Bulletin*. 1988; 14(4):664–675.
10. Singer E, Levine FJ. Research synthesis: Protection of human subjects of research: Recent developments and future prospects for the social sciences. *Public Opinion Quarterly*. 2003; 67(1): 148–164.
11. Fillenbaum S. Prior deception and subsequent experimental performance: The “faithful” subject. *Journal of Personality and Social Psychology*. 1966; 4(5):532–537. [PubMed: 5972085] Finney PD. When consent information refers to risk and deception—implications for social research. *Journal of Social Behavior and Personality*. 1987; 2(1):37–48.
12. Baumrind D. Research using intentional deception: Ethical issues revisited. *American Psychologist*. 1985; 40(2):165–174. [PubMed: 3985477] Portnoy, DB. Deception (methodological technique). In: Baumeister, RF.; Vohs, KD., editors. *Encyclopedia of Social Psychology*. Sage Publications; Thousand Oaks, CA: 2007. p. 222–223.
13. Oczak M, Nied wie ska A. Debriefing in deceptive research: A proposed new procedure. *Journal of Empirical Research on Human Research Ethics*. 2007; 2(3):49–59. [PubMed: 19385851]
14. See ref. 12, Baumrind. 1985

15. Baumrind D. IRBs and social science research: The costs of deception. *IRB: A Review of Human Subjects Research*. 1979; 1(6):1–4. [PubMed: 11661753] Ortmann A, Hertwig R. The costs of deception: Evidence from psychology. *Experimental Economics*. 2002; 5(2):111–131.
16. Sharpe D, Adair J, Roese NJ. Twenty years of deception research: A decline in subjects' trust? *Personality and Social Psychology Bulletin*. 1992; 18(5):585–590. Edlund JE, Sagarin BJ, Skowronski JJ, et al. Whatever happens in the laboratory stays in the laboratory: The prevalence and prevention of participant crosstalk. *Personality and Social Psychology Bulletin*. 2009; 35:635–642. [PubMed: 19234298]
17. Taylor KM, Shepperd JA. Probing suspicion among participants in deception research. *American Psychologist*. 1996; 51(8):886–887.
18. McDaniel T, Starmer C. Experimental economics and deception: A comment. *Journal of Economic Psychology*. 1998; 19(3):403–409.
19. See ref. 2, Broder. 1998; Babbie E. Laud Humphreys and research ethics. *The International Journal of Sociology and Social Policy*. 2004; 24(3-5):12–19.
20. Bortolotti L, Mameli M. Deception in psychology: Moral costs and benefits of unsought self-knowledge. *Accountability in Research: Policies and Quality Assurance*. 2006; 13(3):259–275.
21. Pihl R, Zaccchia C, Zeichner A. Follow-up analysis of the use of deception and aversive contingencies in psychological experiments. *Psychological Reports*. 1981; 48(3):927–930.
22. Benham B. The ubiquity of deception and the ethics of deceptive research. *Bioethics*. 2008; 22:147–156. [PubMed: 18257801]
23. See ref. 8, Epley, Huff. 1998; Smith CP. How (un)acceptable is research involving deception? *IRB: A Review of Human Subjects Research*. 1981; 3(8):1–4. [PubMed: 11650527] ; Soliday E, Stanton AL. Deceived versus nondeceived participants' perceptions of scientific and applied psychology. *Ethics and Behavior*. 1995; 5(1):87–104. [PubMed: 11654172]
24. Smith SS, Richardson D. Amelioration of deception and harm in psychological research: The important role of debriefing. *Journal of Personality and Social Psychology*. 1983; 44(5):1075–1082.
25. Elms, AC. Keeping deception honest: Justifying conditions for social scientific research stratagems. In: Beauchamp, TL.; Faden, RR.; Wallace, RJ.; Walters, L., editors. *Ethical Issues in Social Science Research*. Johns Hopkins University Press; Baltimore, MD: 1982. p. 232-245.
26. Holmes DS. Effectiveness of debriefing after a stress-producing deception. *Journal of Research in Personality*. 1973; 7(2):127–138. Holmes DS, Bennett DH. Experiments to answer questions raised by the use of deception in psychological research. *Journal of Personality and Social Psychology*. 1974; 29(3):358–367. [PubMed: 4814125]
27. See ref. 22, Benham. 2008
28. See ref. 15, Baumrind. 1979:4.
29. Tsugawa Y, Ohbu S, Cruess R, et al. Introducing the professionalism mini-evaluation exercise (P-MEX) in Japan: Results from a multicenter, cross-sectional study. *Academic Medicine*. 2011; 86(8):1026. [PubMed: 21694563] Ginsburg S, Regehr G, Lingard L. Basing the evaluation of professionalism on observable behaviors: A cautionary tale. *Academic Medicine*. 2004; 79(10):S1–S4. [PubMed: 15383374]
30. Wilkinson TJ, Wade WB, Knock LD. A blueprint to assess professionalism: Results of a systematic review. *Academic Medicine*. 2009; 84(5):551–558. [PubMed: 19704185]
31. Sears DO. College sophomores in the laboratory: Influences of a narrow data base on social psychology's view of human nature. *Journal of Personality and Social Psychology*. 1986; 51(3): 515. Henry PJ. College sophomores in the laboratory redux: Influences of a narrow data base on social psychology's view of the nature of prejudice. *Psychological Inquiry*. 2008; 19(2):49–71.
32. Rosenberg, M. *Society and the Adolescent Self-Image*. Princeton University Press; Princeton, NJ: 1965.
33. Gramzow RH, Gaertner L. Self-esteem and favoritism toward novel in-groups: The self as an evaluative base. *Journal of Personality and Social Psychology*. 2005; 88(5):801–815. [PubMed: 15898876]

34. Watson D, Clark LA, Tellegen A. Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*. 1988; 54(6): 1063–1070. [PubMed: 3397865]
35. Mainous AG III, Smith DW, Geesey ME, Tilley BC. Development of a measure to assess patient trust in medical researchers. *The Annals of Family Medicine*. 2006; 4(3):247–252. [PubMed: 16735527]
36. See ref. 2, Kelman. 1967
37. National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. *The Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects of Research*. U.S. Government Printing Office; Washington DC: 1979. <http://www.hhs.gov/ohrp/humansubjects/guidance/belmont.html>
38. Fisher CB, Fried AL, Feldman LG. Graduate socialization in the responsible conduct of research: A national survey on the research ethics training experiences of psychology doctoral students. *Ethics and Behavior*. 2009; 19(6):496–518. [PubMed: 23641128]
39. See ref. 24, Smith, Richardson. 1983
40. Cohen D, Nisbett RE, Bowdle BF, Schwarz N. Insult, aggression, and the southern culture of honor: An “experimental ethnography.”. *Journal of Personality and Social Psychology*. 1996; 70(5):945–959. [PubMed: 8656339] Williams LE, Bargh JA. Experiencing physical warmth promotes interpersonal warmth. *Science*. 2008; 322(5901):606–607. [PubMed: 18948544]

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