A Short History of Deception in the Experimental Social Psychology Literature

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Introduction

According to Korn (1997), the first psychological study to use deception was likely Solomons’s 1897 study on sensory perception. Solomons was interested in subjects’ ability to distinguish a single touch from a dull compass point from two simultaneous touches. The author originally found that untrained subjects could reliably distinguish one touch from two only when the two simultaneous touches were at least 1.5 inches apart. In a second experiment, he told subjects whether they were about to be touched in one or two places. Naturally, this information improved subjects’ accuracy. In a third experiment, Solomons again told subjects whether they were about to be touched in one or two places but warned them that they might be deceived (e.g., told they would receive one touch when actually they would receive two). According to Solomons, “the influence of the expectation predominated, so that when touched by one point he would perceive two if he had been led to expect two; and when touched by two, set farther apart than was necessary for perceiving them as two ordinarily, he would perceive them as one if told to expect one” (p. 248).

In the 113 years since Solomons’s study, the use of deception has become one of the defining characteristics of experimental social psychology. According to Hertwig and Ortmann’s (2008a) survey of experimental social psychology research, 54% of the studies published in the Journal of Experimental Social Psychology in 2002 involved deception of one kind or another. Remarkably, this number is down from 85% of studies published in that journal in 1965 (Gross and Fleming 1982). Figure 1 tracks the frequency of deception in articles published in the Journal of Experimental Social Psychology and the more frequently cited Journal of Personality and Social Psychology from 1965 to 2002.
Though remarkably common, the use of deception in social psychology experiments receives surprisingly little attention. For example, a bestselling social psychology textbook (Aronson, Wilson, and Akert 2010) devotes just two sentences to deception:

Deception in social psychological research involves misleading participants about the true purpose of a study or the events that transpire. (Note that not all research in social psychology involves deception.) [p. 44]

And the American Psychological Association’s code of conduct devotes only three sentences to the issue:

8.07 Deception in Research

(a) Psychologists do not conduct a study involving deception unless they have determined that the use of deceptive techniques is justified by the study’s significant prospective scientific, educational or applied value and that effective nondeceptive alternative procedures are not feasible.

(b) Psychologists do not deceive prospective participants about research that is reasonably expected to cause physical pain or severe emotional distress.

(c) Psychologists explain any deception that is an integral feature of the design and conduct of an experiment to participants as early as is feasible, preferably at the conclusion of their participation, but no later than at the conclusion of the data collection, and permit participants to withdraw their data.

By comparison, the code of conduct devotes seven sentences to the care and use of animals in psychological research.

Sieber, Iannuzzo, and Rodriguez (1995) divide deceptive practices into the following eight categories.
1) Providing subjects with false information about a study’s main purpose.

2) Exposing subjects to a “bogus device” that does not function the way subjects are led to believe it does.

3) Providing subjects with false feedback about their own performance in the study.

4) Providing subjects with false feedback about other subjects’ performance in the study.

5) The use of confederates who appear to be bystanders or other participants in a study but are actually following the experimenter’s instructions.

6) Subjects may be unaware that they are participating in a study. That is, they are being observed without their consent.

7) Subjects may be aware they are part of a study but are not aware of how and when they are being observed.

8) The experimenter invites the subject to participate in two related studies but tells the subjects that the studies are actually unrelated.

After carefully reading all 117 articles that appeared in the *Journal of Experimental Social Psychology* in 2002, Hertwig and Ortman (2008a) found that 63 used at least one form of deception. However, the authors found that only the first five deceptive practices from the list above were commonly used. In the following section I discuss each of these five common deceptive practices in more detail.

**Common forms of deception**

*False information about a study’s main purpose*

The most common form of deception in social psychology research is to lie to subjects about a study’s aim. Hertwig and Ortman (2008a) find that 87% of deceptive studies use this technique.
For example, Babula (2013) asked fifty undergraduate economics students to complete a survey on their attitudes toward religiosity and wealth before arriving on the day of the study. The experimenter then gave subjects these instructions:

You are participating in a study about career choices for college students with completed economics coursework. What we have called you in for today is to provide us with some additional material of the role of religion in choosing your career than does the questionnaire material we have gathered thus far. Questionnaires are helpful, but tend to be somewhat oversimplified. Therefore, we would like to have you provide a 3–5 minute talk based on the following passage… (p. 902)

where the passage that followed asked the reader either (a) to consider whether investment banking was the best career path for economics students, or (b) to consider how the biblical parable of the Good Samaritan would affect their career choice. After giving a subject time to compose his thoughts, the experimenter instructed him to walk across the building to a room where he would give his talk.

However, this study was not actually about career choice. The goal of the study was to test whether a subject’s attitudes about wealth and religion made him more or less likely to help an anxious-looking confederate who would approach him as he walked across the building and say “My cell phone just died. My family member was in an accident. I really need to make a call and have no change on me for the pay phone” (p. 902).

In justifying this kind of deception, Weiss (2001) draws a distinction between what he calls “IQ tests” with one correct answer and studies designed to “pry” into aspects of a subject’s personality or character. According to Weis, “when there appears to be a correct response, the participant can do little to improve self-presentation other than try to get the right answer. On the
other hand, when the research appears to be probing personal issues, then many participants
inevitably try to hide attitudes or behaviors they think reflect badly on themselves” (p. 431).
Lying about the actual goal of a study, as in Babula (2013), is one way to avoid this self-
presentation bias.

The bogus device

The term “bogus device” refers to something the experimenter presents to subjects that does not
work the way the experimenter suggests it does. For example, this could be a machine that does
not actually perform the task the experimenter says it does, or it could be a sign-up sheet with
what appear to be the names of other potential subjects but are actually names added by the
experimenter. Hertwig and Ortmann (2008a) find that 62% of deceptive studies use a bogus
device. The best known example is from Milgram’s (1963) study on obedience. Milgram’s forty
subjects believed they were participating in a study on memory and learning. Each subject was
paired with a confederate. As a first example of a bogus device, the subject and the confederate
drew slips of paper to determine who would play the role of teacher and who would play the role
of learner in the experiment. This drawing was rigged so that the subject would always be
assigned the role of teacher. The experimenter then strapped the confederate into what appeared
to be an electrified chair—another bogus device—under the pretense that the confederate would
be shocked each time he failed to remember the second word in a series of word-pair memory
tasks. The experimenter seated the subject at an instrument panel with thirty levers marked with
voltages ranging from 15 to 450 volts. The levers also included text descriptions of the shock
they purportedly delivered to the confederate, such as “Slight Shock”, “Strong Shock”, “Danger:
Severe Shock”, and finally “XXX”. The instrument panel was a third bogus device. The panel
delivered no current, but the confederate was trained to act as if he was suffering as a result of electrical shocks. All forty subjects administered at least twenty shocks to the confederate. After the twentieth shock the confederate kicks the walls and refuses to answer further word-pair questions. Twenty-six subjects delivered all thirty increasingly powerful shocks, continuing to the final 450-volt lever marked “XXX”.

As a more recent example of a bogus device, Ariely (2012) summarizes the results of several studies on honesty. Gino, Ayal, and Ariely (2009) is a typical example. In this study subjects have four minutes to complete as many arithmetic problems as possible with the understanding that they will receive $1 for each correct answer. In the control group, the experimenter checks each subject’s answers, leaving no room for cheating. In the treatment group, subjects run their answer sheet through a paper shredder before telling the experimenter how many correct answers they had, opening the door for cheating. The authors report only group averages. Specifically, they find that subjects in the control group correctly answered an average of four questions, while subjects in the treatment group claimed to correctly answer an average of six questions. In a radio interview, Ariely reveals that “What the people in the experiment don’t know is that we’ve played with the shredder, and so the shredder only shreds the sides of the page but the main body of the page remains intact. ... What we find is people basically solve four and report six. ... We find that lots of people cheat a little bit; very, very few people cheat a lot” (NPR 2012).

*False feedback about themselves*

Hertwig and Ortmann (2008a) find that in studies that use deception, 30% involve the experimenter providing subjects with false or misleading information about their own
performance in the experiment. For example, Stukas and Snyder (2002) test whether subjects change their behavior in conversations when told that another subject they have just had a conversation with has identified them as either an introvert or an extrovert. After a 10-minute telephone conversation with a male subject, one fourth of female subjects received the following feedback:

It seems that your partner liked you. He put down that he liked you especially because you seemed to be really true to yourself—you openly displayed your real personality in front of a stranger. As you can see, he gave you high ratings on the adjectives below: thoughtful, soft-spoken, reserved, relaxed, calm, passive, shy, withdrawn, sincere, and discreet. In other words, he feels that it was pretty obvious that you have an introverted personality. He said he acted differently because he perceived that you were shy. (p. 34)

None of this was true. The script the experimenter read to each female subject was determined in advance and at random.

As another example, De Cremer and Van Vugt (2002) analyze the role of leadership in the provision of a public good. After being assigned to groups, individual subjects contribute between 0 and 300 pence to a group fund. All money in the group fund is doubled and distributed equally to all group members regardless of their contribution to the group fund. What makes this study different from standard public goods experiments is that each group was supposedly overseen by a leader. That leader would punish the low contributor in each of eight giving rounds. Every subject was punished for being the low contributor in the fifth round regardless of the relative size of their contribution in that or any other round.
False feedback about others

Hertwig and Ortmann (2008a) find that in studies that use deception, 24% involve the experimenter providing subjects with false or misleading information about other subjects’ performance in the experiment. For example, Nelissen, Van Someren, and Zeelenberg (2009) study responses to fair offers in an ultimatum game with an outside option. Though the experimenter told subjects that half of would play the role of proposer and half would play the role of responder, all subjects in fact played the role of responder. The experimenter falsely told responders that the proposer had offered and even split, €5 for both subjects. What differentiated this experiment from the standard ultimatum game was that the responder was guaranteed a €7 payoff if he rejected the proposer’s offer (in which case the proposer would receive nothing). The authors found that 55% of subjects accepted the proposer’s offer. Subjects who showed a preference for egalitarian outcomes in survey were more likely to accept the proposer’s €5 offer even though doing so lowered their payoff by €2.

One important point to make about this ultimatum experiment and De Cremer and Van Vugt’s (2002) public good experiment from the previous subsection is that they are very similar to experiments used for decades in the economics literature (e.g., Güth, Schmittberger, and Schwarze 1982; Isaac, Walker, and Thomas 1984). The principle difference being that studies published in economics journals virtually never involve deception. This is particularly remarkable given that the code of conduct I cite in the introduction states that psychologists should not use deception “unless they have determined that the use of deceptive techniques is justified by the study’s significant prospective scientific, educational or applied value and that effective nondeceptive alternative procedures are not feasible.”
Confederates

A confederate poses as a bystander or as another experimental subject but is actually working closely with the experimenter. Hertwig and Ortmann (2008a) find that 24% of deceptive studies use this technique. As mentioned earlier, Milgram (1963) used a confederate learner in his obedience study. Use of confederates is especially common in the conformity literature. In a classic study, Asch (1956) asked a subject to publicly state which of three lines was the same length as a comparison line. (See Figure 2 for an example.) In a control treatment with no confederates, subjects’ error rate was less than 1%. In the experimental treatment, a single subject would be grouped with six to eight confederates who the experimenter had instructed to give the same wrong answer. In this experimental treatment, subjects’ error rate increased to 37%.

According to Hertwig and Ortmann (2008b), conformity experiments are the only area where social psychologists have systematically studied the impact of deception on subjects’ behavior. Hertwig and Ortmann (2008a) found fourteen studies where experimenters tried to identify suspicious subjects with post-experiment questions like “Do you feel this experiment was deceptive (involved lying) in any way?” (Geller and Endler 1973:49). Hertwig and Ortmann (2008a) found that in ten of these fourteen studies suspicious subjects displayed significantly less conformity than unsuspicious subjects.

More recent examples of confederates include a variant on the honesty studies discussed in Ariely (2012). As mentioned in the previous subsection, Gino, Ayal, and Ariely (2009) asked subjects to solve a series of straightforward but time consuming arithmetic problems. The number of problems (twenty) and the amount of time allowed (5 minutes) were chosen so that it would be impossible for any subject to solve all of the problems. In one variation on this study,
the authors instructed a confederate posing as a subject to stand up after one minute and announce to the group “I’ve solved everything. What should I do?” (p. 395). After shredding his answer sheet, the confederate left with the maximum payoff possible. The presence of this confederate led to a significant increase in cheating on the part of subjects.

In the marketing literature, Nunes and Boatwright (2004) use confederates to test whether bids in field auctions are influenced by prices posted for unrelated goods. Subjects submitting bids for a music CD were differentiated by their passive exposure to the price posted for an unrelated product (a sweatshirt) by a nearby confederate vendor. The price of the unrelated good, which the authors refer to as an “incidental price,” presumably should have no impact on participants’ WTP for the CD. However, the authors find that increasing the posted price of the sweatshirt from $10 to $80 increases the mean bid for the CD from $7.29 to $9.00.
References


Figure 1. Percentage of studies using deception in the *Journal of Personality and Social Psychology* and the *Journal of Experimental Social Psychology*

Sources: Gross and Fleming (1982); Nicks, Korn, and Mainieri (1997); Epley and Huff (1998); Hertwig and Ortmann (2008a).
Figure 2. An example of standard and comparison lines from Asch (1956)