COGNITIVE CONSEQUENCES OF FORCED COMPLIANCE

Leon Festinger & James M. Carlsmith[1] (1959)

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What happens to a person's private opinion if he is forced to do or say something contrary to that opinion? Only recently has there been any experimental work related to this question. Two studies reported by Janis and King (1954; 1956) clearly showed that, at least under some conditions, the private opinion changes so as to bring it into closer correspondence with the overt behavior the person was forced to perform. Specifically, they showed that if a person is forced to improvise a speech supporting a point of view with which he disagrees, his private opinion moves toward the position advocated in the speech. The observed opinion change is greater than for persons who only hear the speech or for persons who read a prepared speech with emphasis solely on execution and manner of delivery The authors of these two studies explain their results mainly in terms of mental rehearsal and thinking up new arguments. In this way, they propose, the person who is forced to improvise a speech convinces himself. They present some evidence, which is not altogether conclusive, in support of this explanation. We will have more to say concerning this explanation in discussing the results of our experiment.

Kelman (1953) tried to pursue the matter further. He reasoned that if the person is induced to make an overt statement contrary to his private opinion by the offer of some reward, then the greater the reward offered, the greater should be the subsequent opinion change. His data, however did not support this idea. He found, rather, that a large reward produced less subsequent opinion change than did a smaller reward. Actually this finding by Kelman is consistent with the theory we will outline below but, for a number of reasons is not conclusive. One of the major weaknesses of the data is that not all subjects in the experiment made an overt statement contrary to their private opinion in order to obtain the offered reward. What is more, as one might expect, the percentage of subjects who complied increased as the size of the offered reward increased. Thus, with self-selection of who did and who did not make the required overt statement and with varying percentages of subjects in the different conditions who did make the requsted statement, no interpretation of the data can be unequivocal.

Recently Festinger (1957) proposed a theory concerning cognitive dissonance from which come a number of derivations about opinion change following forced compliance. Since these derivations are stated in detail by Festinger (1957, Ch. 4), we will here give only a brief outline of the reasoning.

Let us consider a person who privately holds opinion "X" but has, as a result of pressure brought to bear on him publicly stated that he believes "not X."

1. This person has two cognitions which, psychologically, do not fit together: one of these is the knowledge that he believes "X," the other the knowledge that he has publicly stated that he believes "not X." If no factors other than his private opinion are considered it would follow, at least in our culture, that if he believes "X" he would publicly state "X." Hence, his cognition of his private belief is dissonant with his cognition concerning his actual public statement.

2. Similarly, the knowledge that he has said "not X" is consonant with (does fit together with) those cognitive elements corresponding to the reasons, pressures, promises of rewards and/or threats of punishment which induced him to say "not X."

3. In evaluating the total magnitude of dissonance one must take account of both dissonances and consonances. Let us think of the sum of all the dissonances involving some particular cognition as "D" and the sum of all the consonances as "C." Then we might [p. 204] think of the total magnitude of dissonance as being a function of "D" divided by "D" plus "C."

Let us then see what can be said about the total magnitude of dissonance in a person created by the knowledge that he said "not X" and really believes "X." With everything else held constant, this total magnitude of dissonance would decrease as the number and importance of the pressures which induced him to say "not X" increased.

Thus, if the overt behavior was brought about by, say, offers of reward or threats of punishment, the magnitude of dissonance is maximal if these promised rewards or threatened punishments were just barely sufficient to induce the person to say "not X." From this point on, as the promised rewards or threatened punishment become larger, the magnitude of dissonance becomes smaller.

4. One way in which the dissonance can be reduced is for the person to change his private opinion so as to bring it into correspondence with what he has said. One would consequently expect to observe such opinion change after a person has been forced or induced to say something contrary to his private opinion. Furthermore, since the pressure to reduce dissonance will be a function of the magnitude of the dissonance, the observed opinion change should be greatest when the pressure used to elicit the overt behavior is just sufficient to do it.

The present experiment was designed to test this derivation under controlled, laboratory conditions. in the experiment we varied the amount of reward used to force persons to make a statement contrary to their private views. The prediction [from 3 and 4 above] is that the larger the reward given to the subject, the smaller will be the subsequent opinion change.

PROCEDURE

Seventy-one male students in the introductory psychology course at Stanford University were used in the experiment. In this course, students are required to spend a certain number of hours as subjects (*S*s) in experiments. They choose among the available experiments by signing their names on a sheet posted on the bulletin board which states the nature of the experiment. The present experiment was listed as a two-hour experiment dealing with "Measures of Performance."

During the first week of the course, when the requirement of serving in experiments was announced and explained to the students, the instructor also told them about a study that psychology department was conducting. He explained that, since they were required to serve in experiments, the department was conducting a study to evaluate these experiments in order to be able to improve them in the future. They were told that a sample of students would be interviewed after having served as *S*s. They were urged to cooperate in these interviews by being completely and honest. The importance of this announcement will become clear shortly. It enabled us to measure the opinions of our Ss in a context not directly

connected with our experiment and in which we could reasonably expect frank and honest expressions of opinion.

When the *S* arrived for the experiment on "Measures of Performance" he had to wait for a few minutes in the secretary's office. The experimenter (*E*) then came in, introducing himself to the *S*and, together, they walked into the laboratory room where the *E* said:

This experiment usually takes a little over an hour but, of course, we had to schedule it for two hours. Since we have that extra time, the introductory psychology people asked if they could interview some our subjects. [Offhand and conversationally.] Did they announce that in class? I gather that they're interviewing some people who have been in experiments. I don't know much about it. Anyhow, they may want to interview you when you're through here.

With no further introduction or explanation the *S* was shown the first task, which involved putting 12 spools onto a tray, emptying the tray, refilling it with spools, and so on. He was told to use one hand and to work at his own speed. He did this for one-half hour. The *E* then removed the tray and spools and placed in front of the *S* a board containing 48 square pegs. His task was to turn each peg a quarter turn clockwise, then another quarter turn, and so on. He was told again to use one band and to work at his own speed. The *S* worked at this task for another half hour.

While the S was working on these tasks the *E* sat, with a stop watch in his hand, busily making notations on a sheet of paper. He did so in order to make it convincing that this was [p. 205] what thc *E* was interested in and that these tasks, and how the *S* worked on them, was the total experiment. From our point of view the experiment had hardly started. The hour which the S spent working on the repetitive, monotonous tasks was intended to provide, for each *S* uniformly, an experience about which he would have a somewhat negative opinion

After the half hour on the second task was over, the *E* conspicuously set the stop watch back to zero, put it away, pushed his chair back, lit a cigarette, and said:

O.K. Well, that's all we have in the experiment itself. I'd like to explain what this has been all about so you'll have some idea of why you were doing this. [*E* pauses.] Well, the way the experiment is set up is this. There are actually two groups in the experiment. In one, the group you were in, we bring the subject in and give him essentially no introduction to the experiment. That is, all we tell him is what he needs to know in order to do the tasks, and he has no idea of what the experiment is all about, or what it's going to be like, or anything like that. But in the other group, we have a student that we've hired that works for us regularly, and what I do is take him into the next room where the subject is waiting -- the same room you were waiting in before -- and I introduce him as if he had just finished being the subject in the experiment. That is, I say: "This is so-and-so, who just finished the experiment, and I've asked him to tell you a little of what it's about before you start. The fellow who works for us then, in conversation with the next subject, makes these points: [The *E* then produced a sheet headed "For Group B" which had written on it: It was very enjoyable, I had a lot of fun, I enjoyed myself, it was very interesting, it was intriguing, it was exciting. The *E* showed this to the *S* and then proceeded with his false explanation of the purpose of the experiment.] Now, of course, we have this student do this, because if the experimenter does it, it doesn't look as realistic, and what we're interested in doing is comparing how these two groups do on the experiment -- the one with this previous expectation about the experiment, and the other, like yourself, with essentially none.

Up to this point the procedure was identical for *S*s in all conditions. From this point on they diverged somewhat. Three conditions were run, Control, One Dollar, and Twenty Dollars as follows:

Control Condition

The *E* continued:

Is that fairly clear? [Pause.] Look, that fellow [looks at watch] I was telling you about from the introductory psychology class said he would get here a couple of minutes from now. Would you mind waiting to see if he wants to talk to you? Fine. Why don't we go into the other room to wait? [The *E* left the *S* in the secretary's office for four minutes. He then returned and said:]1 OK. Let's check and see if he does want to talk to you.

One and Twenty Dollar Conditions

The *E* continued:

Is that fairly clear how it is set up and what we're trying to do? [Pause.] Now, I also have a sort of strange thing to ask you. The thing is this [Long pause, some confusion and uncertainty in the following, with a degree of embarrassment on the part of the *E*. The mariner of the *E* contrasted strongly with the preceding unhesitant and assured false explanation of the experiment. The point was to make it seem to the *S* that this was the first time *E* had done this and that he felt unsure of himself.] The fellow who normally does this for us couldn't do it today -- he just phoned in, and something or other came up for him -- so we've been looking around for someone that we could hire to do it for us. You see, we've got another subject waiting [looks at watch] who is supposed to be in that other condition. Now Professor --------, who is in charge of this experiment, suggested that perhaps we could take a chance on your doing it for us. I'll tell you what we had in mind: the thing is, if you could do it for us now, then of course you would know how to do it, and if something like this should ever come up again, that is, the regular fellow couldn't make it, and we had a subject scheduled, it would be very reassuring to us to know that we had somebody else we could call on who knew how to do it. So, if you would be willing to do this for us, we'd like to hire you to do it now and then be on call in the future, if something like this should ever happen again. We can pay you a dollar (twenty dollars) for doing this for us that is, for doing it now and then being on call. Do you think you could do that for us?

If the *S* hesitated, the *E* said things like, "It will only take a few minutes," "The regular person is pretty reliable; this is the first time he has missed," or "If we needed you we could phone you a day or two in advance; if you couldn't make it of course, we wouldn't expect you to come." After the *S* agreed to do it, the *E* gave him the previously mentioned sheet of paper headed "For Group B" and asked him to read it through again. The *E* then paid the *S* one dollar (twenty dollars), made out a hand-written receipt form, and asked the *S* to sign it. He then said:

OK., the way we'll do it is this. As I said, the next subject should be by now. I think the next one is a girl. I'll take you into the next room and introduce you to her, saying that you've just finished the experiment and that we've asked you to tell her a little about it. And what we want you to do is just sit down and

get into a conversation with her and try to get [p. 206] across the points on that sheet of paper. I'll leave you alone and come back after a couple of minutes. O.K.?

The *E* then took the *S* into the secretary's office where he had previously waited and where the next *S* was waiting. (The secretary had left the office.) He introduced the girl and the *S* to one another saying that the *S* had just finished the experiment and would tell her something about it. He then left saying he would return in a couple of minutes. The girl, an undergraduate hired for this role, said little until the *S* made some positive remarks about the experiment and then said that she was surprised because a friend of hers had taken the experiment the week before and had told her that it was boring and that she ought to try to get out of it. Most *S*s responded by saying something like "Oh, no, it's really very interesting. I'm sure you'll enjoy it." The girl, after this listened quietly, accepting and agreeing to everything the *S* told her. The discussion between the *S* and the girl was recorded on a hidden tape recorder.

After two minutes the *E* returned, asked the girl to go into the experimental room, thanked the *S* for talking to the girl, wrote down his phone number to continue the fiction that we might call on him again in the future and then said: "Look, could we check and see if that fellow from introductory psychology wants to talk to you?"

From this point on, the procedure for all three conditions was once more identical. As the *E* and the *S* started to walk to the office where the interviewer was, the *E* said: "Thanks very much for working on those tasks for us. I hope you did enjoy it. Most of our subjects tell us afterward that they found it quite interesting You get a chance to see how you react to the tasks and so forth." This short persuasive communication was made in all conditions in exactly the same way. The reason for doing it, theoretically, was to make it easier for anyone who wanted to persuade himself that the tasks had been, indeed, enjoyable.

When they arrived at the interviewer's office, the *E* asked the interviewer whether or not he wanted to talk to the *S*. The interviewer said yes, the *E* shook hands with the *S*, said good-bye, and left. The interviewer, of course, was always kept in complete ignorance of which condition the *S* was in. The interview consisted of four questions, on each of which the *S* was first encouraged to talk about the matter and was then asked to rate his opinion or reaction on an 11-point scale. The questions are as follows:

1. Were the tasks interesting and enjoyable? In what way? In what way were they not? Would you rate how you feel about them on a scale from -5 to +5 where -5 means they were extremely dull and boring, +5 means they were extremely interesting and enjoyable, and zero means they were neutral, neither interesting nor uninteresting.

2. Did the experiment give you an opportunity to learn about your own ability to perform these tasks? In what way? In what way not? Would you rate how you feel about this on a scale from 0 to 10 where 0 means you learned nothing and 10 means you learned a great deal.

3. From what you know about the experiment and the tasks involved in it, would you say the experiment was measuring anything important? That is, do you think the results may have scientific value? In what way? In what way not? Would you rate your opinion on this matter on a scale from 0 to 10 where 0 means the results have no scientific value or importance and 10 means they have a great deal of value and importance.

4. Would you have any desire to participate in another similar experiment? Why? Why not? Would you rate your desire to participate in a similar experiment again on a scale from -5 to +5, where -5 means you would definitely dislike to participate, +5 means you would definitely like to participate, and 0 means you have no particular feeling about it one way or the other.

As may be seen, the questions varied in how directly relevant they were to what the *S* had told the girl. This point will be discussed further in connection with the results.

At the close of the interview the *S* was asked what he thought the experiment was about and, following this, was asked directly whether or not he was suspicious of anything and, if so, what he was suspicious of. When the interview was over, the interviewer brought the *S* back to the experimental room where the *E* was waiting together with the girl who had posed as the waiting *S*. (In the control condition, of course, the girl was not there.) The true purpose of the experiment was then explained to the *S* in detail, and the reasons for each of the various steps in the experiment were explained carefully in relation to the true purpose. All experimental *S*s in both One Dollar and Twenty Dollar conditions were asked, after this explanation, to return the money they had [p. 207] been given. All *S*s, without exception, were quite willing to return the money.

The data from 11 of the 71 *S*s in the experiment had to be discarded for the following reasons:

1. Five *S*s (three in the One Dollar and two in the Twenty Dollar condition) indicated in the interview that they were suspicious about having been paid to tell the girl the experiment was fun and suspected that that was the real purpose of the experiment.

2. Two *S*s (both in the One Dollar condition) told the girl that they had been hired, that the experiment was really boring but they were supposed to say it was fun.

3. Three *S*s (one in the One Dollar and two in the Twenty Dollar condition) refused to take the money and refused to be hired.

4. One *S* (in the One Dollar condition), immediately after having talked to the girl, demanded her phone number saying he would call her and explain things, and also told the *E* he wanted to wait until she was finished so he could tell her about it.

These 11 *S*s were, of course, run through the total experiment anyhow and the experiment was explained to them afterwards. Their data, however, are not included in the analysis.

Summary of Design

There remain, for analysis, 20 *S*s in each of the thee conditions. Let us review these briefly: 1. *Control condition.* These *S*s were treated identically in all respects to the *S*s in the experimental conditions, except that they were never asked to, and never did, tell the waiting girl that the experimental tasks were enjoyable and lots of fun. 2. *One Dollar condition.* These Ss were hired for one dollar to tell a waiting *S* that tasks, which were really rather dull and boring, were interesting, enjoyab1e, and lots of fun. 3. *Twenty Dollar condi*tion. These *S*s were hired for twenty dollars to do the same thing.

RESULTS

The major results of the experiment are summarized in Table 1 which lists, separately for each of the three experimental conditions, the average rating which the *S*s gave at the end of each question on the interview. We will discuss each of the questions on the interview separately, because they were intended to measure different things. One other point before we proceed to examine the data. In all the comparisons, the Control condition should be regarded as a baseline from which to evaluate the results in the other two conditions. The Control condition gives us, essentially, the reactions of *S*s to the tasks and their opinions about the experiment as falsely explained to them, without the experimental introduction of dissonance. The data from the other conditions may be viewed, in a sense, as changes from this baseline.

TABLE 1

AVERAGE RATINGS ON INTERVIEW QUESTIONS FOR EACH CONDITION

Question on Interview	Experimental Condition		
	Control (N = 20)	One Dollar (N = 20)	Twenty Dollars (N = 20)
How enjoyable tasks were (rated from −5 to +5)	−.45	+1.35	−.05
How much they learned (rated from 0 to 10)	3.08	2.80	3.15
Scientific importance (rated from 0 to 10)	5.60	6.45	5.18
Participate in similar exp. (rated from −5 to +5)	−.62	+1.20	−.25

How Enjoyable the Tasks Were

The average ratings on this question, presented in the first row of figures in Table 1, are the results most important to the experiment. These results are the ones most directly relevant to the specific dissonance which we experimentally created It will be recalled that the tasks were purposely arranged to be rather boring and monotonous. And, indeed, in the Control condition the average rating was -.45, somewhat on the negative side of the neutral point.

In the other two conditions, however, the *S*s told someone that these tasks were interesting and enjoyab1e. The resulting dissonance could, of course, most directly be reduced by persuading themselves that the tasks were, indeed, interesting and enjoyable. In the One Dollar condition, since the magnitude of dissonance was high, the pressure to reduce this dissonance would also be high. In this condition, the average rating was +1.35, considerably on the positive side and significantly different from the Control condition at the .02 level[2] (t = 2.48).

[p. 208] In the Twenty Dollar condition, where less dissonance was created experimentally because of the greater importance of the consonant relations, there is correspondingly less evidence of dissonance reduction. The average rating in this condition is only -.05, slightly and not significantly higher than the Control condition. The difference between the One Dollar and Twenty Dollar conditions is significant at the .03 level (t = 2.22). In short, when an *S* was induced, by offer of reward, to say something contrary to his private opinion, this private opinion tended to change so as to correspond more closely with what he had said. The greater the reward offered (beyond what was necessary to elicit the behavior) the smaller was the effect.

Desire to Participate in a Similar Experiment

The results from this question are shown in the last row of Table 1. This question is less directly related to the dissonance that was experimentally created for the *S*s. Certainly, the more interesting and enjoyable they felt the tasks were, the greater would be their desire to participate in a similar experiment. But other factors would enter also. Hence, one would expect the results on this question to be very similar to the results on "how enjoyable the tasks were" but weaker. Actually, the result, as may be seen in the table, are in exactly the same direction, and the magnitude of the mean differences is fully as large as on the first question. The variability is greater, however, and the differences do not yield high levels of statistical significance. The difference between the One Dollar condition (+1.20) and the Control condition (-.62) is significant at the .08 level (t = 1.78). The difference between the One Dollar condition and the Twenty Dollar condition (-.25) reaches only the .15 level of significance (t = 1.46).

The Scientific Importance of the Experiment

This question was included because there was a chance that differences might emerge. There are, after all, other ways in which the experimentally created dissonance could be reduced. For example, one way would be for the *S* to magnify for himself the value of the reward he obtained. This, however, was unlikely in this experiment because money was used for the reward and it is undoubtedly difficult to convince oneself that one dollar is more than it really is. There is another possible way, however. The *S*s were given a very good reason, in addition to being paid, for saying what they did to the waiting girl. The *S*s were told it was necessary for the experiment. The dissonance could, consequently, be reduced by magnifying the importance of this cognition. The more scientifically important they considered the experiment to be, the less was the total magnitude of dissonance. It is possible, then, that the results on this question, shown in the third row of figures in Table 1, might reflect dissonance reduction.

The results are weakly in line with what one would expect if the dissonance were somewhat reduced in this manner. The One Dollar condition is higher than the other two. The difference between the One and Twenty Dollar conditions reaches the .08 level of significance on a two-tailed test (t = 1.79). The difference .between the One Dollar and Control conditions is not impressive at all (t = 1.21). The result that the Twenty Dollar condition is actually lower than the Control condition is undoubtedly a matter of chance (t = 0.58).

How Much They Learned From the Experiment

The results on this question are shown in the second row of figures in Table 1. The question was included because, as far as we could see, it had nothing to do with the dissonance that was experimentally created and could not be used for dissonance reduction. One would then expect no differences at all among the three conditions. We felt it was important to show that the effect was not a completely general one but was specific to the content of the dissonance which was created. As can be readily seen in Table 1, there are only negligible differences among conditions. The highest t value for any of these differences is only 0.48.

DISCUSSION. OF A POSSIBLE ALTERNATIVE EXPLANATION

We mentioned in the introduction that Janis and King (1954; 1956) in explaining their findings, proposed an explanation in terms of the self-convincing effect of mental rehearsal [p. 209] and thinking up new arguments by the person who had to improvise a speech. Kelman (1953), in the previously mentioned study, in attempting to explain the unexpected

finding that the persons who complied in the moderate reward condition changed their opinion more than in the high reward condition, also proposed the same kind of explanation. If the results of our experiment are to be taken as strong corroboration of the theory of cognitive dissonance, this possible alternative explanation must be dealt with.

Specifically, as applied to our results, this a1ternative explanation would maintain that perhaps, for some reason, the *S*s in the One Dollar condition worked harder at telling the waiting girl that the tasks were fun and enjoyable. That is, in the One Dollar condition they may have rehearsed it more mentally, thought up more ways of saying it, may have said it more convincingly, and so on. Why this might have been the case is, of course, not immediately apparent. One might expect: that, in the Twenty Dollar condition, having been paid more, they would try to do a better job of it than in the One Dollar condition. But nevertheless, the possibility exists that the *S*s n the One Dollar condition may have improvised more.

Because of the desirability of investigating this possible alternative explanation, we recorded on a tape recorder the conversation between each *S* and the girl. These recordings were transcribed and then rated, by two independent raters, on five dimensions. The ratings were of course done in ignorance of which condition each *S* was in. The reliabilities of these ratings, that is, the correlations between the two independent raters, ranged from .61 to .88, with an average reliability of .71. The five ratings were:

1. The content of what the *S* said *before* the girl made the remark that her friend told her it was boring. The stronger the *S*'s positive statements about the tasks, and the more ways in which he said they were interesting and enjoyable, the higher the rating

2. The content of what the *S* said *after* the girl made the above-mentioned remark. This was rated in the same way as for the content before the remark.

3. A similar rating of the over-all content of what the *S* said.

4. A rating of how persuasive and convincing the *S* was in what he said and the way in which he said it.

5. A rating of the amount of time in the discussion that the *S* spent discussing the tasks as opposed to going off into irrelevant things.

The mean ratings for the One Dollar and Twenty Dollar conditions, averaging the ratings of the two independent raters, are presented in Table 2. It is clear from examining the table that, in all cases, the Twenty Dollar condition is slightly higher The differences are small, however, and only on the rating of "amount of time" does the difference between the two conditions even approach significance. We are certainly justified in concluding that the *S*s in the One Dollar condition did not improvise more nor act more convincingly. Hence, the alternative explanation discussed above cannot account for the findings.

TABLE 2

AVERAGE RATINGS OF DISCUSSION BETWEEN SUBJECT AND GIRL

Dimension Rated	Condition		
	One Dollar	Twenty Dollars	Value of *t*
Content before remark by girl (rated from 0 to 5)	2.26	2.62	1.08
Content after remark by girl (rated from 0 to 5)	1.63	1.75	0.11
Over-all content (rated from 0 to 5)	1.89	2.19	1.08
Persuasiveness and conviction (rated from 0 to 10)	4.79	5.50	0.99
Time spent on topic (rated from 0 to 10)	6.74	8.19	1.80

SUMMARY

Recently, Festinger (1957) bas proposed a theory concerning cognitive dissonance. Two derivations from this theory are tested here. These are:

1. If a person is induced to do or say something which is contrary to his private opinion, there will be a tendency for him to change his opinion so as to bring it into correspondence with what he has done or said.

2. The larger the pressure used to elicit the [p. 210] overt behavior (beyond the minimum needed to elicit it) the weaker will be the above-mentioned tendency.

A laboratory experiment was designed to test these derivations. Subjects were subjected to a boring experience and then paid to tell someone that the experience had been interesting and enjoyable. The amount of money paid the subject was varied. The private opinions of the subjects concerning the experience were then determined.

The results strongly corroborate the theory that was tested.

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Footnotes

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[2] All statistical tests referred to in this paper are two-tailed.