THOUGHTS OUT OF TUNE

Festinger, L., & Carlsmith, J. M. (1959). Cognitive consequences of forced compliance. *Journal of Abnormal and Social Psychology, 58*, 203-210.

Have you ever been in a position of having to do or say something that was contrary to your attitudes or private opinions? Chances are you have; everyone has at some time. When you behaved that way, what happened to your true attitude or opinion? Nothing? Well, maybe nothing. However, studies have shown that in some cases, when your behavior is contrary to your attitude, your attitude will change in order to bring it into alignment with your behavior. For example, if a person is forced (by the demands of an experiment) to deliver a speech in support of a viewpoint or position opposed to his or her own opinion, the speaker's attitudes will shift toward those given in the speech.

In the early 1950s, various studies explained this opinion shift as a result of (1) mentally rehearsing the speech and (2) the process of trying to think of arguments in favor of the forced position. In performing those mental tasks, the early theories argued, subjects convince themselves of the position they were about to take. In pursuing this line of reasoning further, additional studies were conducted that offered monetary rewards to subjects for giving convincing speeches contrary to their own views. It was expected that the greater the reward, the greater would be the resulting opinion change in the speaker. (Seems logical, doesn't it?) However, as one of many examples of how common sense is a poor predictor of human behavior, just the opposite was found to be true. Larger rewards produced less attitude change than smaller rewards. Based on the theories of learning that were popular at the time (operant conditioning, reinforcement theory, etc.), such findings were difficult for researchers to explain.

A few years later, Leon Festinger (1919-1989), a research psychologist at Stanford University, proposed the highly influential and now famous theory of *cognitive dissonance*, which could account for the seemingly discrepant findings. The word *cognitive* refers to any mental processes, such as thoughts, ideas, units of knowledge, attitudes, or beliefs; dissonance simply means *out of tune*. Therefore, Festinger suggested, you will experience cognitive dissonance when you simultaneously hold two or more cognitions that are psychologically inconsistent. When this condition exists, it creates discomfort and stress to varying degrees, depending on the importance of the dissonance to your life. This discomfort then motivates you to change something in order to reduce it. Since you cannot change your behavior (because you have already done it, or because the situational pressures are too great), you change your attitudes.

Festinger's theory grew out of reports of the rumors that spread throughout India following a 1934 earthquake there. In the areas outside the disaster zone, the rumors predicted that there would be additional earthquakes of even greater proportions and throughout an even greater portion of the country. These rumors were without any scientific foundation. Festinger wondered why people would spread such catastrophic and anxiety-increasing ideas. It occurred to him over time that perhaps the rumors were not anxiety-increasing, but *anxiety-justifying*. That is, these people were very frightened, even though they lived outside the danger area. This created cognitive dissonance: The cognition of fear was out of tune with the lack of any scientific basis for their fear. So, their spreading the rumors of greater disasters justified their fears and reduced their dissonance. They made their view of the world fit with what they were feeling and how they were behaving.

THEORETICAL PROPOSITIONS

Festinger theorized that normally in our society what you publicly state will be substantially the same as your private opinion or belief. Therefore, if you believe X, but publicly state *not* X, you will experience the discomfort of cognitive dissonance. However, if you know that the reasons for your statement of not X were clearly justified by pressures, promises of rewards, or threats of punishment, then dissonance will be reduced or eliminated. Therefore, the more you view your inconsistent behavior to be of your own choosing, the greater will be your dissonance.

One way for you to reduce this unpleasant dissonance is to alter your private opinion to bring it into agreement or consonance with your behavior (making the statement). Festinger contended that changes in attitudes and opinions will be greatest when dissonance is large. Think about it for a moment. Suppose someone offers you a great deal of money to state, in public, views that are the opposite of your true views, and you agree to do so. Then suppose someone else makes the same request, but offers you just a little money, and even though it hardly seems worth it, you agree anyway. In which case will your dissonance be the greatest? Logically, you would experience more dissonance in the less-money situation, because of insufficient justification for your attitude-discrepant behavior. Therefore, according to Festinger's theory, your private opinion will shift more in

the little-money condition. Let's see how Festinger (with the help of his associate James Carlsmith) set about testing this theory.

METHOD

Imagine you are a university student enrolled in an introductory psychology course. One of your course requirements is to participate for three hours during the semester as a subject in psychology experiments. You check the bulletin board that posts the various studies being carried out by professors and graduate students, and you sign up for one that lasts two hours and deals with *measures of performance*. In this study by Festinger and Carlsmith, as in many psychology experiments, the true purpose of the study cannot be revealed to the subjects, since this could seriously bias their responses and invalidate the results. The actual original group of subjects consisted of 71 male, lower division, psychology students.

You arrive at the laboratory at the appointed time (here, the laboratory is nothing more than a room). You are told that this experiment takes a little over an hour, so it had to be scheduled for two hours. Since there will be some time remaining, the experimenter informs you that some people from the psychology department are interviewing subjects about their experiences as subjects, and asks you to talk to them after participating. Then you are given your first task.

A tray containing 12 spools is placed in front of you, and you are told to empty the tray onto the table, refill the tray with the spools, empty it again, refill it, and so on. You are to work with one hand and at your own speed. While the experimenter looks on with a stopwatch and takes notes, you do this over and over for 30 minutes. Then the tray is removed and you are given a board with 48 square pegs. Your task now is to turn each peg a quarter of a turn clockwise, and repeat this over and over for 30 minutes more! If this sounds incredibly boring to you, that was precisely the intention of the researchers. This part of the study was, in the authors' words, "intended to provide, for each subject uniformly, an experience about which he would have a somewhat negative opinion." Undoubtedly, you would agree that this objective was accomplished. Following completion of the tasks, the experiment really began.

The subjects were randomly assigned to one of three conditions. In the control condition, the subjects, after completing the tasks, were taken to another room where they were interviewed about their reactions to the experiment they had just completed. The rest of the subjects were lured a little further into the experimental manipulations. Following the tasks, the experimenter spoke to them as if to explain the purpose of the study. He told each of them that they were among the subjects in group A, who performed the tasks with no prior information, while subjects in group B always received descriptive information about the tasks prior to entering the lab. He went on to say that the information received by group B subjects was that the tasks were fun and interesting and that this message was delivered by an undergraduate student posing as a subject who had already completed the tasks. It is important to keep in mind that none of this was true. It was a fabrication intended to make the next crucial part of the study realistic and believable. This was, in other words, the cover story.

The experimenter then left the room for a few minutes. Upon returning, he continued to speak, but now appeared somewhat confused and uncertain. He explained, a little embarrassed, that the undergraduate who usually gives the information to group B subjects had called in sick, there was a subject from group B waiting, and they were having trouble finding someone to fill in for him. He then very politely asked the subject if he would be willing to join in on the experiment and be the one to inform the waiting subject.

The experimenter offered some of the subjects a dollar each for their help, while others were offered $20. After a subject agreed, he was given a sheet of paper marked For *Group B* on which was written, "It was very enjoyable, I had a lot of fun, I enjoyed myself, it was intriguing, it was exciting." The subject was then paid either $1 or $20 and taken into the waiting room to meet the incoming *subject*. They were left alone in the waiting room for 2 minutes, after which time the experimenter returned, thanked the subject for his help, and led him to the interview room, where he was asked his opinions of the tasks exactly as had been asked of the subjects in the control condition.

If this whole procedure seems a bit complicated, it really is not. The bottom line is that there were three groups: one group who received $1 each to lie about the tasks, one group who were paid $20 each to lie about the tasks, and a control group who did not lie at all. The data from 11 of the subjects were not included in the final analysis because of procedural errors, so there were 20 subjects in each group.

RESULTS

The results of the study were reflected in how each of the subjects actually felt about the boring tasks in the final interview phase of the study. They were asked to rate the experiment as follows:

1. Were the tasks interesting and enjoyable? Measured on a scale of -5 (extremely dull and boring) to +5 (extremely interesting and enjoyable). The 0 point indicated the tasks were neutral, neither interesting nor uninteresting.

2. How much did you learn about your ability to perform such tasks? Measured on a 0 to 10 scale, where 0 means nothing learned and 10 means a great deal learned.

3. Do you believe the experiment and tasks were measuring anything important? Measured on a 0 to 10 scale, where 0 means no scientific value and 10 means great scientific value.

4. Would you have any desire to participate in another similar experiment? Measured on a scale of -5 (definitely dislike to participate) to +5 (definitely like to participate), with 0 indicating neutral feelings.

The averages of the answers to the interview questions are presented in Table 1. Questions 1 and 4 were designed to address Festinger's theory of cognitive dissonance, and the differences indicated are clearly significant. Contrary to previous research interpretations in the field, and contrary to what most of us might expect using common sense, those subjects who were paid $1 for lying about the tasks were the ones who later reported liking the tasks more, compared with both those paid $20 to lie and those who did not lie. This finding is reflected both in the first direct question and also in the $1 group's greater willingness to participate in another similar experiment (question 4).

TABLE 1 Average Ratings on Interview Questions for Each Experimental Condition

QUESTION	CONTROL GROUP	$1 GROUP	$20 GROUP
1. How enjoyable tasks were (−5 to +5)*	−0.45	+1.35	−0.05
2. How much learned (0 to 10)	3.08	2.80	3.15
3. Scientific importance (0 to 10)	5.60	6.45	5.18
4. Participate in similar experiences (−5 to +5)*	−0.62	+1.20	−0.25

*Questions relevant to Festinger and Carlsmith's hypothesis. (from p. 207)

DISCUSSION

The theory of cognitive dissonance states, in Festinger's words:

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

2. The larger the pressure used to elicit the overt behavior, the weaker will be the above-mentioned tendency.

Festinger and Carlsmith's findings clearly support this theory. Festinger's explanation for this was that when people engage in attitude-discrepant behavior (the lie), but have strong justification for doing so ($20), they will experience only a small amount of dissonance and, therefore, not feel particularly motivated to make a change in their opinion. On the other hand, people who have insufficient justification ($1) for their attitude-discrepant behavior will experience greater levels of dissonance and, therefore, alter their opinions more radically in order to reduce the resultant discomfort. The theory may be presented graphically as follows:

Attitude-discrepant behavior →	*Sufficient justification for behavior* →	*Dissonance small* →	*Attitude change small*
Attitude-discrepant behavior →	*Insufficient justification for behavior* →	*Dissonance large* →	*Attitude change large*

QUESTIONS AND CRITICISMS

Festinger himself anticipated that previous researchers whose theories were threatened by this new idea would attempt to criticize the findings and offer alternate explanations for them (such as mental rehearsal and thinking up better arguments). In order to counter these criticisms, the sessions in which the subject lied to the incoming subject were recorded and rated by two independent raters who had no knowledge of which condition ($1 vs. $20) they were rating. Statistical analyses of these ratings showed no differences in the content or persuasiveness of the lies between the two groups. Therefore, the only apparent explanation remaining for the findings is what Festinger termed cognitive dissonance .

Over the years since cognitive dissonance was demonstrated by Festinger and Carlsmith, other researchers have refined—but not rejected the theory. The refinements were summarized by Cooper and Fazio (1984), who outlined four necessary steps for an attitude change to occur through cognitive dissonance. The first step is that the attitude-discrepant behavior must produce unwanted negative consequences. Festinger and Carlsmith's subjects had to lie to fellow students and convince them to participate in a very boring experiment. This produced the required negative consequences. This also explains why when you compliment someone on their clothes even though you can't stand them, your attitude toward the clothes probably doesn't change.

The second step is that personal responsibility must be taken for the negative consequences. This usually involves a choice. If you choose to behave in an attitude-discrepant way resulting in negative consequences, you will experience dissonance. However, if someone forces you to behave in that way, you will not feel personally responsible and no cognitive dissonance will result. Although Festinger and Carlsmith's article uses the phrase *forced compliance* in the title, the subjects actually believed that their actions were voluntary.

It has also been demonstrated that physiological arousal (the third step) is a necessary component of the process of cognitive dissonance. Festinger felt that dissonance is an uncomfortable state of tension that motivates us to change our attitudes. Studies have shown that, indeed, when subjects freely behave in attitude-discrepant ways, they experience physiological arousal. Festinger and Carlsmith did not measure this with their subjects, but it is safe to assume that physiological arousal was present.

Finally, the fourth step is that the person must be aware that the arousal experienced is being caused by the attitude-discrepant behavior. The discomfort the subjects felt in Festinger and Carlsmith's study would have been easily and clearly attributed to the fact that they were lying about the experiment to a fellow student.

Festinger and Carlsmith's conceptualization of cognitive dissonance has become a widely accepted and well-documented psychological phenomenon. Most psychologists agree that two fundamental processes are responsible for changes in our opinions and attitudes. One is persuasion—when other people actively work to convince you to change your views—and the other is cognitive dissonance.

RECENT APPLICATIONS

Social science research continues to rely on, demonstrate, and confirm Festinger and Carlsmith's theory and findings. One interesting study found that you may experience cognitive dissonance and change your attitude about an issue simply by *observing* people whom you like and respect engaging in attitude discrepant behavior, without any personal participation on your part at all (Norton et al., 2003). The authors referred to this process as *vicarious dissonance*. In the study, college students heard speeches disagreeing with their attitudes on a controversial issue (a college fee increase). For some, the speech il) favor of the increase was given by a member of their own college (their "ingroup"), while for others, the speech was made by a member of another college (their "outgroup"). When an ingroup member delivered the speech, the subjects' experienced cognitive dissonance and decreased their negative attitudes toward the increase. In an even stronger demonstration of vicarious dissonance, the researchers found that the subjects did not even have to hear the speech itself; simply *knowing* that the ingroup member agreed to make the speech created enough dissonance to cause the hypothesized attitude change.

A fascinating study in a completely different vein used the theory of cognitive dissonance to explain why drug abusers continue to drive while under the influence, *after* completing a court-mandated treatment program for previous drug-and-driving infractions (Albery et al., 2000). Results indicated that offenders who continued to use drugs and drive, believed only alcohol posed a significantly greater risk behind the wheel, but not other drugs. Again, Festinger and Carlsmith's theory plays a central role in these findings, because driving while using drugs, after enduring a lengthy treatment program, would likely create a great deal of uncomfortable cognitive dissonance that could only be resolved by a major attitude shift about the drugs' effects (in this case, it would be called *denial*).

Finally, very important research based on Festinger's theory of cognitive dissonance, conducted by the psychologist Elliot Aronson at the University of California, Santa Cruz, focused on changing students' risky sexual behaviors (Shea, 1997). Sexually active students were asked to make videotapes about how condom use can reduce the risk of HIV infection. After making the tapes, half of the students were divided into groups and encouraged to discuss why college students resist using condoms and to reveal their own experiences of not using condoms. In other words, these subjects had to admit that they did not always adhere to the message they had just promoted in the videos; they had to face their own hypocrisy. The other students who engaged in making the videos did not participate in the follow-up discussions. When all the students were then given the opportunity to buy condoms, a significantly higher proportion of those in the hypocrisy group purchased them compared to the video-only group. More importantly, three months later, when the subjects were interviewed about their sexual practices, 92% of the students in the hypocrisy group said they had been using condoms every time they had intercourse compared to only 55% of those who participated in making the videotapes, but who were not required to publicly admit their attitude-discrepant behavior. This is a clear example of cognitive dissonance at work. The more you are forced to confront the discrepancy between your beliefs and your behavior, the more dissonance you experience, and the more you are motivated to change your behavior. Aronson, a strong proponent of the importance of cognitive dissonance in bringing about real-life behavioral change, explains that, "Most of us engage in hypocritical behavior all the time, because we can blind ourselves to it. But if someone comes along and forces you to look at it, you can no longer shrug it off" (Shea, 1997, p. AI5).

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