

Updating the Asch conformity study

Kazuo Mori re-examines the original Asch study of conformity using some very modern techniques, and shows how different factors can affect conformity

We behave under the influence of others, such as parents, teachers, friends, and even unknown others. We tend to choose the merchandise our favourite stars or athletes recommend in television adverts. Many people consult comments on the internet when they choose where to dine in a city, even though they were written by totally unknown others.

We are a species of social animals. Therefore, it is no wonder we are under the

influence of the society to which we belong. Researchers in social psychology named this influenced behaviour 'conformity', and have experimentally studied a variety of factors affecting conformity behaviour in the laboratory.

Asch's study of conformity

Solomon Asch was a Polish-born social psychologist in the USA. Asch presented a series of figures as shown in Figure 1 and asked a participant to choose the line from

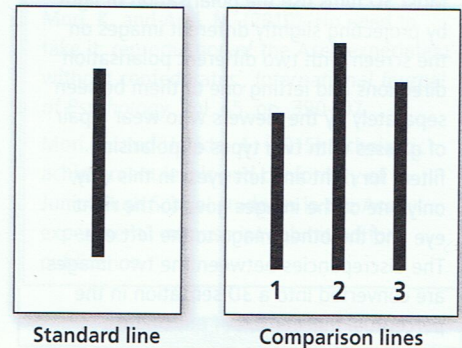


Figure 1 The classic Asch task. Participants were asked to choose the comparison line that matched the standard line in length

Mori and Arai repeated Asch's study but this time used 3D glasses to view the lines



Box 1

The presentation trick

Mori and Arai (2010) used polarised light and special glasses so that one participant would see the lines differently to the others. Polarised light can pass through a polarising filter placed along the polarising direction while it cannot pass through one placed perpendicularly.

Most 3D films use the polarisation of light by projecting slightly different images on the screen with two different polarisation directions and letting one of them be seen separately by the viewers who wear a pair of glasses with two types of polarising filters for right and left eyes. In this way, only one of the images goes to the right eye and the other image to the left eye. The discrepancies between the two images are converted into a 3D sensation in the perceptual mechanism of our brains.

the right side that appeared to be the same length as the line on the left.

It was a simple task, so no one should make an erroneous choice under normal conditions. However, Asch demonstrated that about 30% of participants made wrong choices when the other responders (confederates) gave the wrong answer unanimously. Asch had trained those confederates beforehand to pretend they were participants and give wrong answers in order to apply social pressure to the genuine participants.

The Asch study has been replicated under various conditions in a variety of cultural backgrounds. Now it is regarded as a psychological fact that people tend to conform to the majority even in a simple perceptual task.

The drawbacks of using confederates

It seems easy to replicate an Asch study. All we need is to prepare some confederates who will pretend to be participants responding in a way determined beforehand. However, it is not so easy. People are not so naïve as to be fooled by the research setting used in the Asch study.

The present author tried to demonstrate this study in an introductory psychology class

several times. The lecturer thought he would use the latecomers as naïve participants in the demonstration of the Asch study. First, he explained the study and chose some students to take on the role of the confederates. Then, when a student came in late, they started the line judgement tasks in the same way as Asch.

Did it work as intended? No. The latecomers detected some unnaturalness in the class atmosphere and seldom showed the conforming behaviour as expected. Those students may have thought, 'It's something strange. Oh, it must be a sort of trick because it is a psychology class.' If this was the case, why didn't Asch's participants think in the same way when they took part in his psychology study?

The fundamental drawback of using confederates in this research is that we are interested in everyday conformity — and the natural suspicions that are raised by confederates mean that people don't behave normally. It is difficult to manipulate 'normal' interpersonal relationships among the minority (genuine participants) and the majority (confederates). This represents a crucial disadvantage for examining our conformity behaviour. As stated earlier, we live under the influence of the society we belong to, but the influences come mostly from our family members or friends, and less from unfamiliar others like the ones in the classical Asch experiments.

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A new experimental procedure

Recently, I replicated the original Asch study with my colleague Miho Arai (Mori and Arai 2010). We did not depend on the performance of actors but, instead, used a presentation trick involving polarised light. See Box 1.

The same technology used in 3D films can be used to present two different images to two different groups of viewers by letting them wear two different types of polarising sunglasses. Crucially the two groups of viewers would not notice the duality because they watch the same screen together and wear dark glasses that appear the same type to the naked eye.

We presented the same set of line judgement tasks as Asch had. However, a special pair of polarising sunglasses was

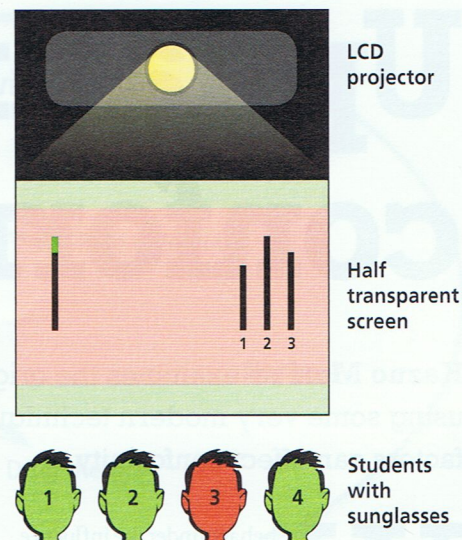


Figure 2 The experimental situation used by Mori and Arai (2010). Only the third participant, wearing a different type of polarising sunglasses, observed the standard line differently from the other three. The top of the standard line in green would be displayed as black or would melt into the background depending on the types of sunglasses. The third responder, thus, was in the same situation as the minority participant in the original Asch experiment.

used for one of the participants. The effect was that this one participant saw a different length standard line to the other three participants (as shown in Figure 2). The other three participants, who formed the majority, wore another type. In this way, only the minority participant observed the standard line differently from the other three. The situation was therefore virtually the same as the one created in the original Asch experiment.

It is important to note that the foursome who participated in this study were friends studying at the same university campus. Therefore, it was not a simple replication of the Asch study, but an examination of conformity behaviour among friends without using confederates. We found that the minority participants made statistically more errors than the majority. The conformity occurred under the social pressure of familiar members as well as strangers.

The breakthrough using fNIRS

What is going on in our brains when we make a decision under a conflicting condition, such as the Asch task situation? Researchers can probe brain activity by using sophisticated brain imaging techniques such as fMRI. However, fMRI is not suitable for this

Signposts

majority influence, Asch effect

THE RESEARCHERS FOUND AN INCREASED RATE OF HAEMOGLOBIN IN THE FRONTAL POLE OF THE PARTICIPANTS' BRAINS UNDER SOCIAL PRESSURE IN THE ASCH SITUATION

problem because it can only measure the brain activity of one participant lying in the fMRI tunnel. Therefore, Fujisawa and his colleagues (2010) used fNIRS to measure the brain activities of a solitary participant in the new Asch procedure.

The fNIRS is another type of brain imaging technique emitting near infrared (NIR) light beams from the skull surface and measuring the amount of reflection from the brain. More active brain areas contain greater amounts of blood, which contains haemoglobin. Haemoglobin reflects the light more. Therefore, the more reflections that come back to the detectors, the more active these areas are.

This technique could be used with the original Asch procedure with a group of actors, but it would be unnatural to ask a genuine participant to wear the sophisticated headgear without him or her becoming suspicious of the research purpose. In the Fujisawa study, to reduce the possibility of arousing suspicion, the target participants were chosen randomly among those who came to the laboratory together.

The researchers found an increased rate of haemoglobin in the frontal pole of the participants under social pressure in the Asch situation (Figure 3). The frontal parts of the brain were working actively under social pressure.

Towards a conclusion

The new experimental procedure allows researchers to manipulate the interpersonal relations among the groups in the Asch conformity study. We assume that people with a lower social status may conform to high-status people. It is more reasonable for a subordinate to defer to his/her boss than for the boss to defer to his/her subordinates. However, how do we demonstrate this? It would be difficult to ask one's bosses to participate as actors in the Asch study.

Working with Akitoshi Uchida, I carried out a series of Asch studies with Japanese junior high school pupils in the new, without-confederate procedure (Mori and Uchida 2015). We first divided the pupils into three groups according to their scholastic levels: high, middle and low. Then, we made five different groupings of pupils for the conformity studies. A low-level pupil was grouped either with three high- or low-level pupils, and a high-level pupil with either high- or low-level classmates. Middle-level pupils were grouped with the same scholastic level pupils to serve as the control groups. The research results showed that low-level pupils tended to conform more frequently irrespective of the scholastic levels of the majorities than high-level pupils did.

Progress and puzzlement

While the new research procedure helped to discover new findings, it also threw doubts on the past findings obtained with the original Asch procedure. For example, Mori and Arai (2010) found that the minority participants showed conformity even when some majority participants had made errors. According to the standard dogma of conformity, the social pressure would be effective only when the

References

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majority answered unanimously. However, the error rates were almost equal irrespective of the presence of the errors of the majority. In the new research procedure, all the participants were friends of each other, so the embarrassing situation might have led the majority of participants to make some errors deliberately to break the awkward situation. This shows that errors can be made deliberately as a form of normative conformity.

In short, the Asch study appears simple, but the factors involving the actual behaviours of the participants are much more complicated than Asch originally thought. As Ben Goldacre (2010) has written, 'Popular science tends to talk as if we have clear answers, but genuine studies constantly produce magnificently conflicting results.' The Asch study has become a legend, appearing in every social psychology textbook. However, the findings of the Asch study are not as legitimately clear cut as we believed.

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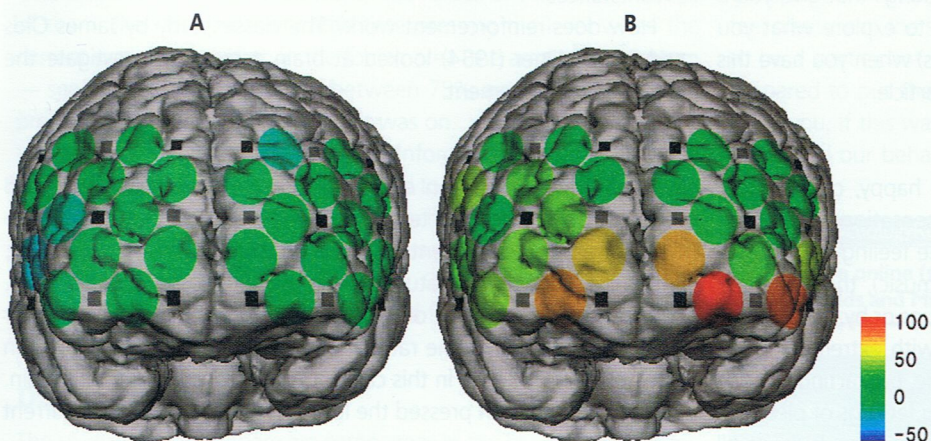


Figure 3 Brain activity under normal (A) and social pressure (B) conditions. The red parts reflected more NIR light to show there was more haemoglobin (Fujisawa et al. 2010)