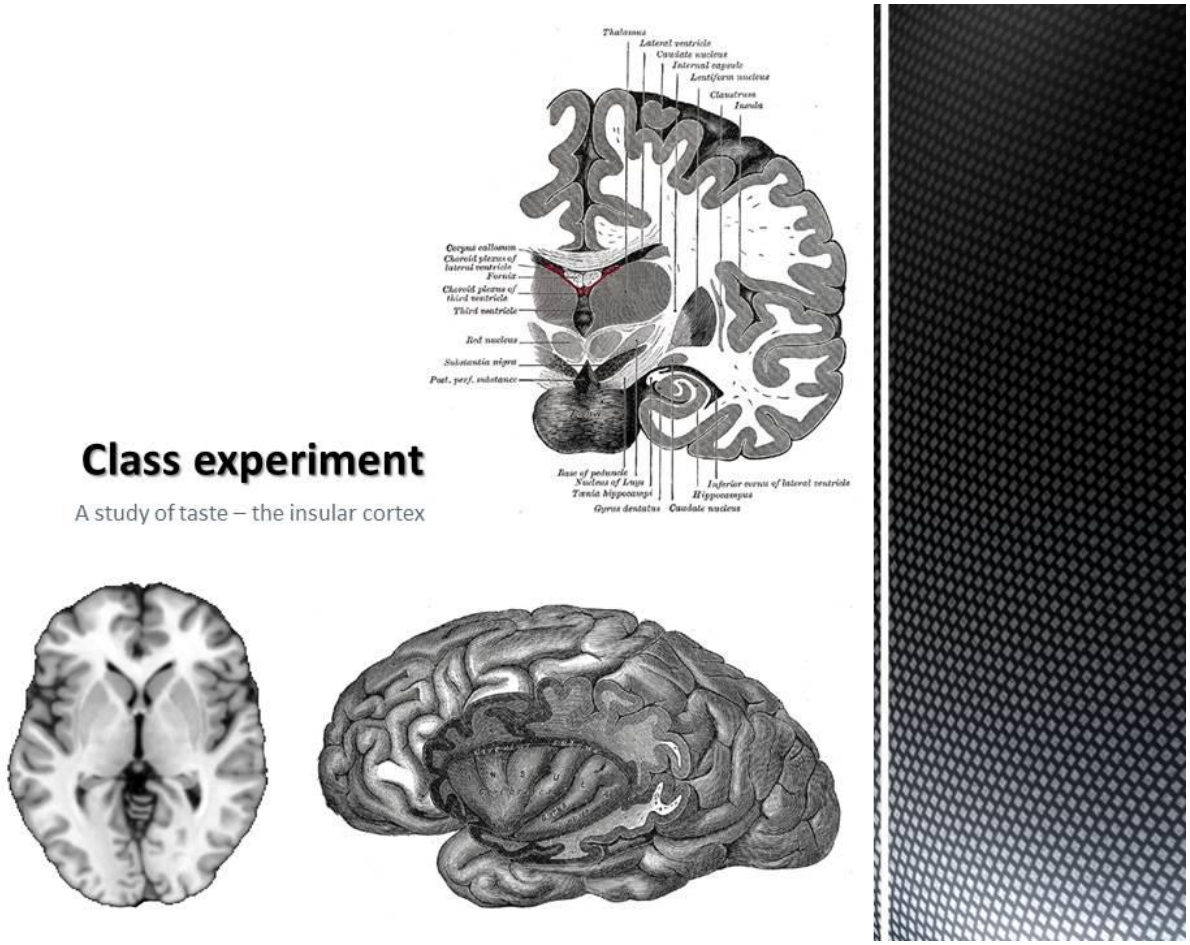
In-class experiment

Course: Biological Psychology

In this course, students are expected to learn about the biological basis of human behaviors and to understand the research techniques that are used in Biological Psychology. In one of the lessons, students are invited to conduct an experiment on themselves. The experiment was designed based on a study published on the scientific journal, *Science* (Willaims and Bargh 2008). The study aims to demonstrate the concept of emotion embodiment that our emotion can be altered by the physical status of the body. In the class experiment, half of the students were given a cup of hot water while the other half was given a cup of cold water. Then, they were all given the same neutral description of a person (Person A) and were asked to rate the personality of that person using a 7-point likert scale. Without knowing the rationale of the experiment beforehand, students who held a cup of hot water rated Person A as a warmer person than the students who held a cup of cold water. Although the difference was not statistical significance due to the small sample size, students got a sense about the effect of how physical warmth can promote interpersonal warmth and how a biological psychology experiment can be conducted with simple manipulations.

Experiment procedures:

1. As a cover up of the experiment, students were told that the experiment was about taste sensation.



2. During the lecture, students were given a 10-minute break and invited to participate in the experiment after the break. When the students came back to the lecture theater after the break, each of them was given a cup of "solution" which was either a cup of hot or cold water. Without knowing what exactly the "solution" was, students had to carry the cup back to their seats and to fill in a questionnaire.

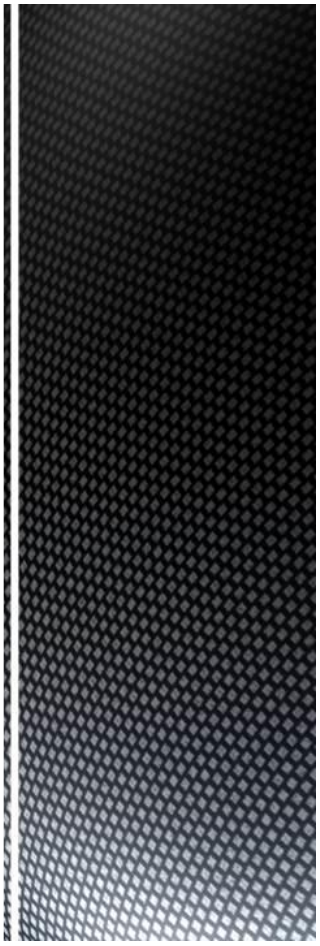
Please leave the theater now and come back in 10 mins.

When you come back, please pick up a cup of solution.

Please don't talk to anyone until the end of the experiment.

The experiment is divided into 2 parts.
In Part A, you need to fill in a questionnaire.

In Part B, you need to taste the solution. So don't put the cup on the floor.



3. The questionnaire is consisted of two parts. Part A is a dummy questionnaire about the taste of different beverages. The purpose of having PartA is to make the students believing that it is an experiment about taste sensation.

A taste study (PART A)

Coca-Cola

1 2 3 4 5 6 7
not tasty at all very tasty

1 2 3 4 5 6 7
Not healthy at all very healthy

Starbucks coffee

1 2 3 4 5 6 7
not tasty at all very tasty

1 2 3 4 5 6 7
not healthy at all very healthy

Chinese tea

1 2 3 4 5 6 7
not tasty at all very tasty

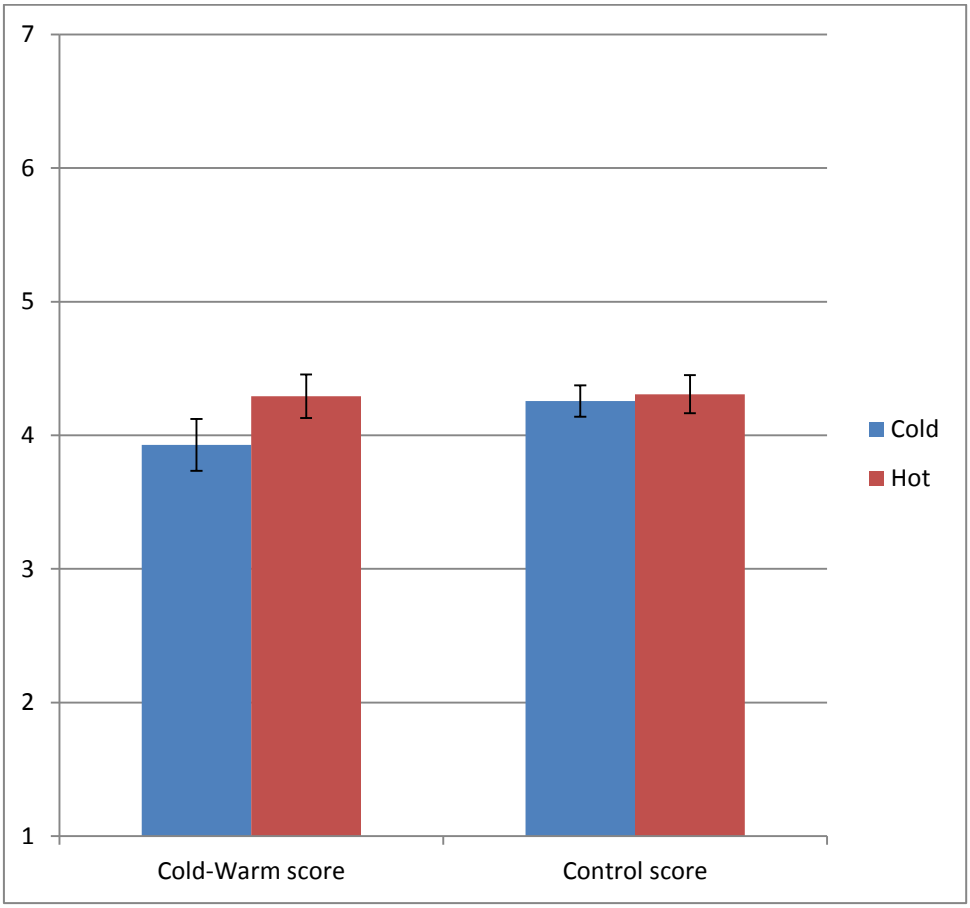
1 2 3 4 5 6 7
not healthy at all very healthy

4. The second part of the questionnaire was adopted from the original study (Willaims and Bargh 2008) which aims to assess the interpersonal judgment of the students.

Person A is intelligent, skillful and industrious. Person A is also determined, practical and cautious. You think Person A is:

1 ungenerous	2	3	4	5	6	7 generous
1 unattractive	2	3	4	5	6	7 attractive
1 serious	2	3	4	5	6	7 carefree
1 unhappy	2	3	4	5	6	7 happy
1 irritable	2	3	4	5	6	7 good-natured
1 quiet	2	3	4	5	6	7 talkative
1 anti-social	2	3	4	5	6	7 sociable
1 selfish	2	3	4	5	6	7 caring
1 weak	2	3	4	5	6	7 strong
1 dishonest	2	3	4	5	6	7 honest

5. Half of the questions in Part B assessed the personality of a person in a cold-warm dimension. The average score of the cold-warm questions and the control questions were calculated and compared with a pre-programmed excel file in the class.



Reflection:

Although the experiment results did not reach statistical significance, students found the experiment interesting that holding a cup of hot or cold water for a very briefly may be enough to alter their judgment on a person in the cold-warm dimension but not the control questions. Through the experiment, students got a first-person experience about the concept of emotion embodiment and how scientific experiment on human behaviors can be conducted. The experiment also motivated students to think about the implications of the theory of emotion embodiment. Some of them expressed interest to conduct some similar experiment for their research project course.

Reference:

Williams, L. E. and Bargh, J. A. (2008). Experiencing physical warmth promotes interpersonal warmth. *Science*, 322, 606-607.

Experiencing Physical Warmth Promotes Interpersonal Warmth

Lawrence E. Williams[1*] and John A. Bargh[2]

"Warmth" is the most powerful personality trait in social judgment, and attachment theorists have stressed the importance of warm physical contact with caregivers during infancy for healthy relationships in adulthood. Intriguingly, recent research in humans points to the involvement of the insula in the processing of both physical temperature and interpersonal warmth (trust) information. Accordingly, we hypothesized that experiences of physical warmth (or coldness) would increase feelings of interpersonal warmth (or coldness), without the person's awareness of this influence. In study 1, participants who briefly held a cup of hot (versus iced) coffee judged a target person as having a "warmer" personality (generous, caring); in study 2, participants holding a hot (versus cold) therapeutic pad were more likely to choose a gift for a friend instead of for themselves.

Science 322, 606 (2008)