

Introduction of Psychology

Tutorial 3 Scientific Base of Psychology



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Scientific Base of Psychology

1. 財多身子弱
2. 十個光頭九個富
3. 頭尖額窄、無離貴格
4. 鼻隆大、性無能
5. 矮仔多偈
6. 屯門多色魔

Are they scientific?

How are they different from scientific hypothesis?

Basics of Scientific Studies

1. Validity and reliability
2. Presence of IVs and DVs
3. Validity of sampling: size, randomness, representativeness
4. Experimental vs correlational
5. Power of predictability

4 major Components of a Scientific Experimental Research

1. Independent variable (IV)
2. Dependent variable (DV)
3. Random Assignment of participants to different groups (experimental vs. control)
4. A hypothesis that predicts the effect the IV will have on the DV

Group Work

In the following psychological experiments, examine if they contain the **four major components** of a scientific experimental research.

(1) Theory of Diffusion of Responsibility (Latane & Larley, 1970)

Experiment:

1. Participants were placed in a room and told them that the purpose of the experiment was to hold a discussion about personal problems associated with college.
2. The discussion was to be held over an intercom, supposedly to avoid the potential embarrassment of face-to-face contact. Chatting about personal problems was not, of course, the true purpose of the experiment.

3. The sizes of the discussion groups were two, three and six people.
4. Participants were random assigned to these groups upon their arrival at the laboratory.
5. As the participants in each group were holding their discussion, they suddenly heard through the intercom one of the other participants (in reality a trained confederate, or employee, of the experimenters: in each group, one of the participants was a confederate, so that in each two-person group there was only one real “bystander”) having what sounded like an epileptic (癲症患者) seizure and calling for help.

6. The participants’ behavior was now what counted. The **time** that elapsed from the start of the “seizure” to the time a participant began trying to help the “victim” was counted. If six minutes went by without a participant’s offering help the experiment was ended.

7. As predicted, the size of the group had a significant effect on whether a participant provided help. **The more people** who were present, **the less likely** it was that someone would **supply help**.

Group Discussion 1

In your group, identify the **four major components** of a scientific experimental research in the “Diffusion of Responsibility” experiment.

(2) Halo Effect in Elderly (Larose & Standing, 1998)

1. This study examined whether elderly people would show the typical halo effect of attributing more desirable personality traits to those individuals who have attractive faces (Dion, Bercheid & Walster, 1972).

2. It was predicted that age should bring wisdom, leading to the elimination of this judgmental bias in older people.
3. Fifty-two female subjects (aged 65 or above) were required to match photographs of stimulus persons (attractive or unattractive) with descriptive paragraphs (positive or negative).

4. Contrary to predictions, the usual halo effect occurred: positive personality characteristics were attributed more frequently to the attractive individuals, indicating that this bias occurs across the life-span, from childhood to old age. Also, female faces were judged more positively than male faces.

Group Discussion 2

1. In your group, identify the **four major components** of a scientific experimental research in the “Halo Effect” experiment.
2. Discuss whether the experiments are **ethical**.

(3) Schachter-Singer Theory of emotion (Schachter & Singer, 1962)

Participants were **told** that they would receive an injection of a **vitamin**. In reality, they were given epinephrine (腎上腺素), a drug that causes an increase in physiological arousal, including higher heart and respiration rates and reddening of the face, responses that typically occur during strong emotional reactions.

2. The members of both groups were then placed individually in a situation where a confederate of the experimenter acted in one of the two ways.
3. In one condition he **acted angry and hostile**, and in the other condition he behaved as if he were exuberantly (生氣勃勃地) **happy**.
4. The purpose of the experiment was to determine **how the participants would react emotionally to the confederate's behavior**.

5. When they were asked to describe their own emotional state at the end of the experiment, the participants **exposed to the angry confederate** reported that they **felt angry**, while those **exposed to the happy confederate** reported **feeling happy**.

In sum, the results suggest that **participants turned to the environment and the behavior of others for an explanation of the physiological arousal they were experiencing**.

Group Discussion 3

1. In your group, identify the **four major components** of a scientific experimental research in the “**Schachter-Singer Theory of emotion**” experiment.
2. Discuss whether the experiments are **ethical**.