Science Education Collection

Realism in Experimentation

URL: https://www.jove.com/science-education/10033

Overview

Source: Laboratories of Gary Lewandowski, Dave Strohmetz, and Natalie Ciarocco—Monmouth University

In an ideal world researchers would conduct their studies in real world settings where behaviors naturally happen. For example, if you want to see what influences individuals' voting behavior, it would be best to watch them vote. However, research in these settings is not always ethical or even practical. Further, a researcher may want more control over the setting to better pinpoint the exact variables that are influencing an outcome.

When researchers need to conduct studies in a lab, they try to optimize mundane realism, which means that they do everything they can to make the lab feel like a real-life experience. This video demonstrates a two-group design that examines how researchers use mundane realism in a lab to determine whether positive restaurant reviews are connected to diners' level of tipping.

Psychological studies often use higher sample sizes than studies in other sciences. A large number of participants helps to ensure that the population under study is better represented and the margin of error accompanied by studying human behavior is sufficiently accounted for.

In this video, we demonstrate this experiment using just two participants, one for each condition. However, as represented in the results, we used a total of 200 (100 for each condition) participants to reach the experiment's conclusions.

Procedure

1. Define key variables.

1. Create an operational definition (*i.e.*, a clear description of exactly what a researcher means by a concept) of online restaurant reviews.
    1. For the purposes of this experiment, online restaurant reviews are reviews provided on a website that offer diners' insights into the restaurant.
        1. A positive review is one that gives a general rating of 4 stars (out of 5) or higher and also compliments the service.
        2. A negative review is one that gives a general rating of 2 stars (out of 5) or lower and also criticizes the service.

2. Create an operational definition of tip amount.
    1. For purposes of this experiment, tip amount is defined as the amount of money the participant allocates to the server in paying the bill.

2. Conduct the study.

1. Welcome participants at the lab door, which is set-up as the "Hawk Villa" restaurant.
    1. Dress and act like a restaurant server (*e.g.*, wear white shirt and black apron, folded at waist).

2. Sit participant down at a table.
3. Provide participant with informed consent, a brief description of the research (influences on spending behavior), a sense of the procedure, an indication of potential risks/benefits, the right of withdrawal at any time, and a manner to get help if they experience discomfort.
4. Give participant a wallet containing $136.10 (3-$20, 4-$10, 5-$5, 10-$1, and $1.10 in coins).
5. Independent variable = restaurant review
    1. Say to participant: "Before you dine, to give you a bit more context, I thought you'd like to see the most recent online review of our restaurant."
    2. Provide participant with the positive review (**Figure 1**).

Figure 1. Positive restaurant review. This review was shown to participants in the positive review group.

6. Play a video depicting a subpar dining scene.
    1. Instruct the participant to imagine themselves as one of the diners in the video and to imagine that the researcher is the server in the video.

7. Dependent variable = the bill
    1. Return with the bill (**Figure 2**) placed in a restaurant billfold and say: “Here is your bill. I’ll take that when you’re ready.”

HAWKS VILLA
400 CEDAR AVE WEST LONG
BRANCH, NJ
(732) 263-5212
****

DATE:	12/12/2014
TIME:	8:30 PM
CHECK:	1112
TABLE:	4
SERVER:	34 DS
1 ICED TEA	$ 2.25
1 DIET COKE	$ 2.25
SHRIMP APPETIZER	$ 9.75
CHICKEN PARMESAN	$15.50
BAKED ZITI	$12.00
Subtotal:	$41.75
Tax	$ 2.92
TOTAL:	$44.67

Please come again!

Figure 2. Restaurant receipt. This bill was given to all participants at the end of watching the dining scene.

    2. After the participant places money in billfold, return and ask, “do you need any change?”
        1. Participant responds, “No thanks. Keep the change.”

3. Debrief

1. Report the nature of the study.
    1. “Thank you for participating. In this study I was trying to determine if reading an online restaurant review influences how much a person tips. There were two conditions, both of which watched the same video of subpar service. However, one group read a positive online review, while the other read a negative online review. We hypothesized that the group who read the positive online review would be more forgiving of the subpar service and give a higher tip.”

2. Explain explicitly why the experiment was run this way.
    1. “We want to tell you why we ran this study this way. First, we couldn’t explicitly tell you that we were studying online reviews because it may have affected how you tipped. We also had to run this study in a laboratory setting because, as you can easily imagine, a real

restaurant would not want to be part of a study involving subpar service where the key variable was their online reviews (particularly the negative ones)."

4. Conduct sections 2 and 3 with a new participant.

1. Provide the negative review (**Figure 3**).

Figure 3. Negative restaurant review. This review was shown to participants in the negative review group.

2. Everything else should be the same.

5. Data Analysis

1. Count the money the participant placed in the billfold.
2. Use a calculator to subtract the bill total ($44.67) from the amount the participant left.
    1. $55.00 in the positive condition = $10.33 tip
    2. $45.00 in the negative condition = $0.33 tip
3. Calculate tip percentage.
    1. Positive = 23%
    2. Negative = 0.7%

Results

Data were collected from 200 participants overall during a different instance of this study. This large number of participants helps to ensure that the results are reliable. If this research were conducted using just two participants, it's likely that the results would have been much different, and not reflective of the greater population. A t-test was performed for independent means comparing the positive review condition to the negative review condition to see how they influenced tip amount (**Figure 4**).

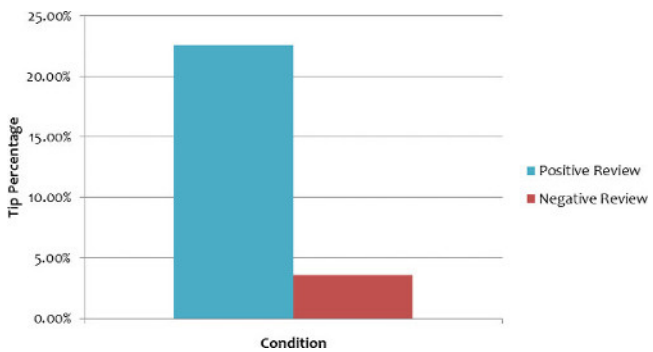

Figure 4. Tip amount by condition. Shown is the mean tip amount, represented by the percentage of the bill, from participants who read positive or negative restaurant reviews before watching a subpar dining service.

Applications and Summary

Some tipping experiments can occur in actual restaurants. For example, Guéguen and Jacob studied how the color of a waitresses' tee shirt influenced tipping.[1] To do this, servers at five restaurants wore red, blue, black, yellow, green, or white shirts. The results indicated that servers who wore red tee shirts received higher tips, but only when the customer was a male. In another study, Stohmetz *et al.* showed that customers who received candy with their bill tipped more than those who did not.[2]

The use of mundane realism in research is particularly common when researchers want to study variables that cannot be easily manipulated for ethical or practical reasons.

Because it is often impractical to conduct experimental studies in casinos, gambling researchers commonly have participants come to a laboratory to gamble in a simulated setting. For example, researchers wanted to determine if gamblers' beliefs in their own skill level or rituals influenced gambling behavior on a slot machine.[3] Their results indicated that perceived skills (*e.g.*, a false sense of control) led participants to want to continue gambling following a near-miss; however, ritual beliefs (*e.g.*, superstitions) did not influence desire to continue playing.

References

1. Guéguen, N., & Jacob, C. Clothing color and tipping: Gentlemen patrons give more tips to waitresses with red clothes. *Journal of Hospitality & Tourism Research.* **38**(2), 275-280. doi:10.1177/1096348012442546 (2014).
2. Strohmetz, D. B., Rind, B., Fisher, R., & Lynn, M. Sweetening the till: The use of candy to increase restaurant tipping. *Journal of Applied Social Psychology.*, **32**(2), 300-309. doi:10.1111/j.1559-1816.2002.tb00216.x (2002).
3. Billieux, J., Van der Linden, M., Khazaal, Y., Zullino, D., & Clark, L. Trait gambling cognitions predict near#miss experiences and persistence in laboratory slot machine gambling. *British Journal of Psychology.* 103 (3), 412-427. doi:10.1111/j.2044-8295.2011.02083.x (2012).