

## H0: & RH: Practice

### The Story (same as before)

A social psychologist wanted to examine how students select their friends. In particular, she wanted to begin to understand things related to how someone decides whether or not to befriend an "odd person". Twenty-four volunteers from an Introductory Psychology class participated in the study. Each was asked to report their **gender** (1=men 2=women), **age**, and to indicate the type of person they were most likely to become friends with (**friend**: 1=someone with shared interests, 2=someone interesting to be around). Also, each person completed the Odd Friends Scale (**OFS**: the author claims persons with higher scores are more likely to have odd friends, 30 items).

The last part of the questionnaire included a vignette. There were two versions of this **vignette**, and 12 participants were randomly assigned to receive each version. Both versions contained a story about a new neighbor who had moved in next door and describes them as having a job as "an independent deep sea gilet recovery expert, with hobbies that all involve imminent death or dismemberment". One version (coded 1) of the questionnaire tells that this new neighbor makes a concerted and polite effort to "become friends", while the other version (coded 2) tells that they are "quite standoffish". After reading the story, each participant was asked to rate the likelihood (**likerate**) of their befriending this new neighbor, using a 10-point scale (on which a "10" means they would certainly want to make friends with this person and a "1" means they would definitely not want to make friends with this person).

Each of the participants came back one week later to complete a follow-up data collection session. First they were asked to take the OFS again (**OFS2**). Next they were asked to remember the vignette they had read and to again rate the likelihood of their befriending this new neighbor, using the same scale (**likerat2**). Then they read two additional vignettes that described new neighbors who had different "senses of humor" and rated the likelihood of turning each neighbor over to the police for their actions (using a 10-point for which a "10" meant they would definitely inform the police and a "1" meant they would definitely not inform the police). The first vignette (the "Joker vignette") told of a neighbor who loved practical jokes -- harmless things like putting your car in a tree or kidnapping your child for a day or two. The second vignette (the "Borrower vignette") described a neighbor who had a tendency to borrow things and take them to his house without asking -- small things such as your refrigerator or your bed. In the dataset, these variables are referred to as **jokepol** and **borowpol**, respectively. They were also asked whether or not they had ever called the police to report a neighbor (**polever**). Finally they were asked to tell the number of close friends they had that were male (**mclsfrnd**) and female (**fclsfrnd**).

#### 1. Identify the type (qualitative or quantitative) of each variable

Variable	Type	Variable	Type
gender		OFS2	
age		likerat2	
friend		jokepol	
OFS		borowpol	
vignette		polever	
likerate		mclsfrnd	
		fclsfrnd	

## 2. Working with correlations

What key phrase should be in the H0: for a correlation?

What are the three phrases one of which should be in a RH: for a correlation?

a. RH: I expect that people with higher OFS scores will give higher likelihood ratings.

- Expected r is + 0 - ?? Null is + 0 - ??
- State the associated H0:, using proper phrasing for this statistical test.

- Restate the RH:, using proper phrasing for this statistical test.

b. RH: I think that older participants will tend to have lower OFS scores

- Expected r is + 0 - ?? Null is + 0 - ??
- State the associated H0:, using proper phrasing for this statistical test..

- Restate the RH:, using proper phrasing for this statistical test.

c. RH: I don't think that OFS scores will be related to the number of close friends participants have.

- Expected r is + 0 - ?? Null is + 0 - ??
- State the associated H0:, using proper phrasing for this statistical test.

- Restate the RH:, using proper phrasing for this statistical test.

### 3. Working with BG ANOVA

What key phrase/idea should be in the H<sub>0</sub>: for an ANOVA?

What are the three phrases/ideas one of which should be in a R<sub>H</sub>: for an ANOVA?

a. R<sub>H</sub>: I expect that men (G<sub>1</sub>) will have higher OFS scores than women (G<sub>2</sub>).

- Expected  $G_1 > G_2$     $G_1 = G_2$     $G_1 < G_2$    ??   Null is    $G_1 > G_2$     $G_1 = G_2$     $G_1 < G_2$    ??
- State the associated H<sub>0</sub>:, using proper phrasing for this statistical test.
  
- Restate the R<sub>H</sub>:, using proper phrasing for this statistical test.

b. R<sub>H</sub>: People who have ever called the police to report a neighbor (G<sub>1</sub>) will have lower OFS scores than people who have never done so (G<sub>2</sub>).

- Expected  $G_1 > G_2$     $G_1 = G_2$     $G_1 < G_2$    ??   Null is    $G_1 > G_2$     $G_1 = G_2$     $G_1 < G_2$    ??
- State the associated H<sub>0</sub>:, using proper phrasing for this statistical test.
  
- Restate the R<sub>H</sub>:, using proper phrasing for this statistical test.

c. R<sub>H</sub>: People who read the "friendly" vignette (G<sub>1</sub>) will give the same likelihood to befriend rating as people who read the "standoffish" vignette (G<sub>2</sub>).

- Expected  $G_1 > G_2$     $G_1 = G_2$     $G_1 < G_2$    ??   Null is    $G_1 > G_2$     $G_1 = G_2$     $G_1 < G_2$    ??
- State the associated H<sub>0</sub>:, using proper phrasing for this statistical test.
  
- Restate the R<sub>H</sub>:, using proper phrasing for this statistical test.

#### 4. Working with WG ANOVA

What key phrase/idea should be in the H<sub>0</sub>: for an ANOVA?

What are the three phrases/ideas one of which should be in a R<sub>H</sub>: for an ANOVA?

a. R<sub>H</sub>: I expect that people will have fewer male friends (G<sub>1</sub>) than female friends (G<sub>2</sub>).

- Expected  $G_1 > G_2$     $G_1 = G_2$     $G_1 < G_2$    ??      Null is    $G_1 > G_2$     $G_1 = G_2$     $G_1 < G_2$    ??
- State the associated H<sub>0</sub>:, using proper phrasing for this statistical test.
  
- Restate the R<sub>H</sub>:, using proper phrasing for this statistical test.

b. R<sub>H</sub>: I don't expect any difference between the OFS scored from the first session (G<sub>1</sub>) and the second (G<sub>2</sub>).

- Expected  $G_1 > G_2$     $G_1 = G_2$     $G_1 < G_2$    ??      Null is    $G_1 > G_2$     $G_1 = G_2$     $G_1 < G_2$    ??
- State the associated H<sub>0</sub>:, using proper phrasing for this statistical test.
  
- Restate the R<sub>H</sub>:, using proper phrasing for this statistical test.

c. R<sub>H</sub>: I expect that people will give higher likelihood ratings during the first session (G<sub>1</sub>) than during the second (G<sub>2</sub>).

- Expected  $G_1 > G_2$     $G_1 = G_2$     $G_1 < G_2$    ??      Null is    $G_1 > G_2$     $G_1 = G_2$     $G_1 < G_2$    ??
- State the associated H<sub>0</sub>:, using proper phrasing for this statistical test.
  
- Restate the R<sub>H</sub>:, using proper phrasing for this statistical test.

## 5. Working with $X^2$

What key phrase should be in the  $H_0$ : for a  $X^2$ ?

What key phrase should be in a  $H_A$ : for a  $X^2$ ?

- a.  $H_A$ : I expect that men are more likely to pick friends because they are interesting than because they have similar backgrounds, whereas women are more likely to pick friends that have similar backgrounds than because they are interesting

- Use  $<$ ,  $>$  and  $=$  portray this  $H_A$ : in the boxes below

	Gender	
Pick friends who...	Men	Women
Are interesting		
Have a similar background		

- State the associated  $H_0$ :, using proper phrasing for this statistical test.
- Restate the  $H_A$ :, using proper phrasing for this statistical test.

$H_A$ : I expect that most men will not have reported a neighbor to the police, and that most women will not have reported a neighbor to the police.

- Use  $<$ ,  $>$  and  $=$  portray this  $H_A$ : in the boxes below

	Gender	
Ever report a neighbor to the police?	Men	Women
No		
Yes		

- State the associated  $H_0$ :, using proper phrasing for this statistical test.
- Restate the  $H_A$ :, using proper phrasing for this statistical test.