

## 20.11: Stereograms

### Learning Objectives

- Study to determine the effects of information for an embedded image given ahead of time to a person

### Research conducted by

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### Case study prepared by

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### Overview

The rectangles below appear to be composed of random dots. However, if the images are viewed with a stereo viewer, the separate images will fuse and reveal an embedded 3D figure. In this example, fusing the images of these random dot stereograms will reveal a diamond. (Another way for you to fuse the images is to fixate on a point in between them and defocus your eyes. This technique takes practice, but you can try it out with the links below.)

This experiment sought to determine whether giving someone information about the embedded image can help speed up how long it takes to view this image. Seventy-eight participants were given no information, verbal information, and/or visual information (a drawing of the object) about what the embedded image should look like before attempting to fuse the images and actually view the 3D design.



Figure 20.11.1: Random dots form an embedded image when viewed with a stereo viewer

### Questions to Answer

Does giving someone information about an embedded image in a stereogram affect the amount of time it takes to see this image? More specifically, does the amount of time it takes to fuse the image in a stereogram differ when the person is given both verbal and visual information about what the image should look like as opposed to when the person is only given verbal information or no information at all?

### Descriptions of Variables

Table 20.11.1: Description of Variables

| Variable | Description   |
|----------|---|
| Time     | Time to produce a fused image of the random dot stereogram  |
| Group    | Treatment group divided by type of information received:<br>1 = no information or only verbal information<br>2 = both verbal and visual information |

### Data Files

Fusion.xls

## Links

View random dot stereograms. Information about random dot stereograms

## References

- Frisby, J. P. & Clatworthy, J.L., (1975) Learning to see complex random-dot stereograms, Perception, 4, 173-178.

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