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Methods of Stimuli collection

ManyFaces

Goal is to develop/improve things in facial/visual stimuli research

A community for interested researchers to join or reach

Source of ‘ How to‘s, ‘ Why‘s and expertise

No dogmatic standards of what is ‘correct‘

Replication crisis

Crisis of theory and concepts ✓

Crisis of hypotheses testing ✓

Crisis of statistics ✓

Shmeasurements ✓

Vague methods:

Yet another reason for Replication crisis

We cannot replicate findings when methods are not clear and repeatable.

Methods are like cooking recipes.

[To make bread] … we mixed flour, H_2O (26 °C), sodium chloride and yeast, all in recommended ratios (in g). The mixture was then put into a hot oven (Samsung) until done.

Current state

[Participants were photographed]… while standing in front of a white wall from a distance of two metres, with the participants directly facing the camera (Canon EOS 350D) and asked to show a neutral facial expression.

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?

Photographs were taken in a small windowless room against a constant background and under standardized diffuse lighting conditions. Camera-to-head distance and camera settings were held constant. A white smock covered clothing when participants were photographed. Photographs were taken using a Nikon D300S digital camera and a GretagMacbeth 24-square ColorChecker chart was used.

?

Each participant was photographed in full-face perspective. Subjects were seated at 1.80 m distance to the camera and were instructed to look straight into the lens(Nikon D90, 70 mm lens equivalent to 105 mm for 35mm film) while maintaining a neutral facial expression. A scale bar (in cm) was included in each image.

?

Face photographs of all participants were taken with the same digital still camera (Nikon D7100 with Tamron SP AF 17-50 mm F/2.8 XR DiII LD IF camera lens) at a distance of 2.0 m, using the same general camera setting and constant lighting conditions.

?

Current state

Photographs were taken in a photobooth (117 × 90 × 210 cm), which was painted with Munsell N5 neutral grey paint.

Fifteen Phillips T12/D65 daylight simulating fluorescent tubes were used to illuminate the booth in an otherwise darkened room. Flicker was reduced through high frequency fixtures and even light distribution was achieved by Perspex diffusers.

A Canon EOS 70D DSLR camera with an 18–55 mm lens (focal length held constant for all images), was mounted on a tripod 1 m above the floor and 3 m away from the booth.

Camera settings were the same for all images at 1/50 s exposure time, a lens aperture of F/5.6, white balance set at 6500 K and an ISO speed rating of 200.

Current state

Little knowledge?

Too many unknown options?

Students‘ work?

No one cares?

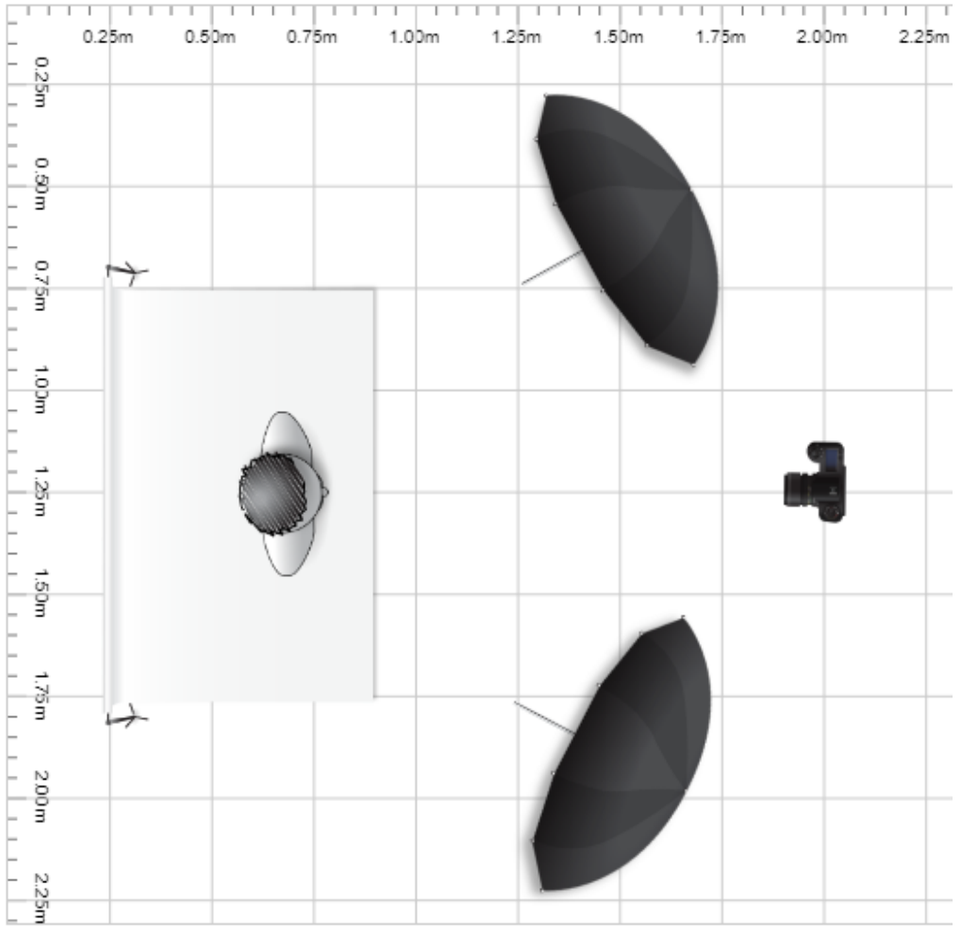
Limited space?

No right answer...

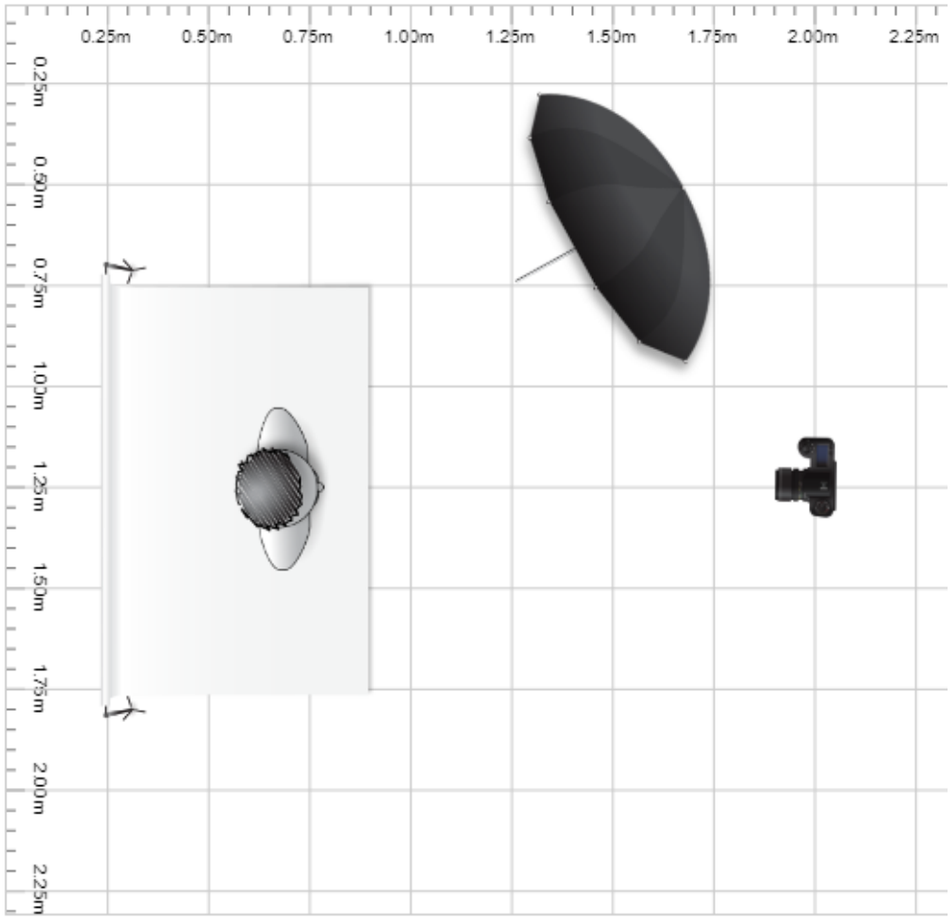
The results of vagueness

Lighting

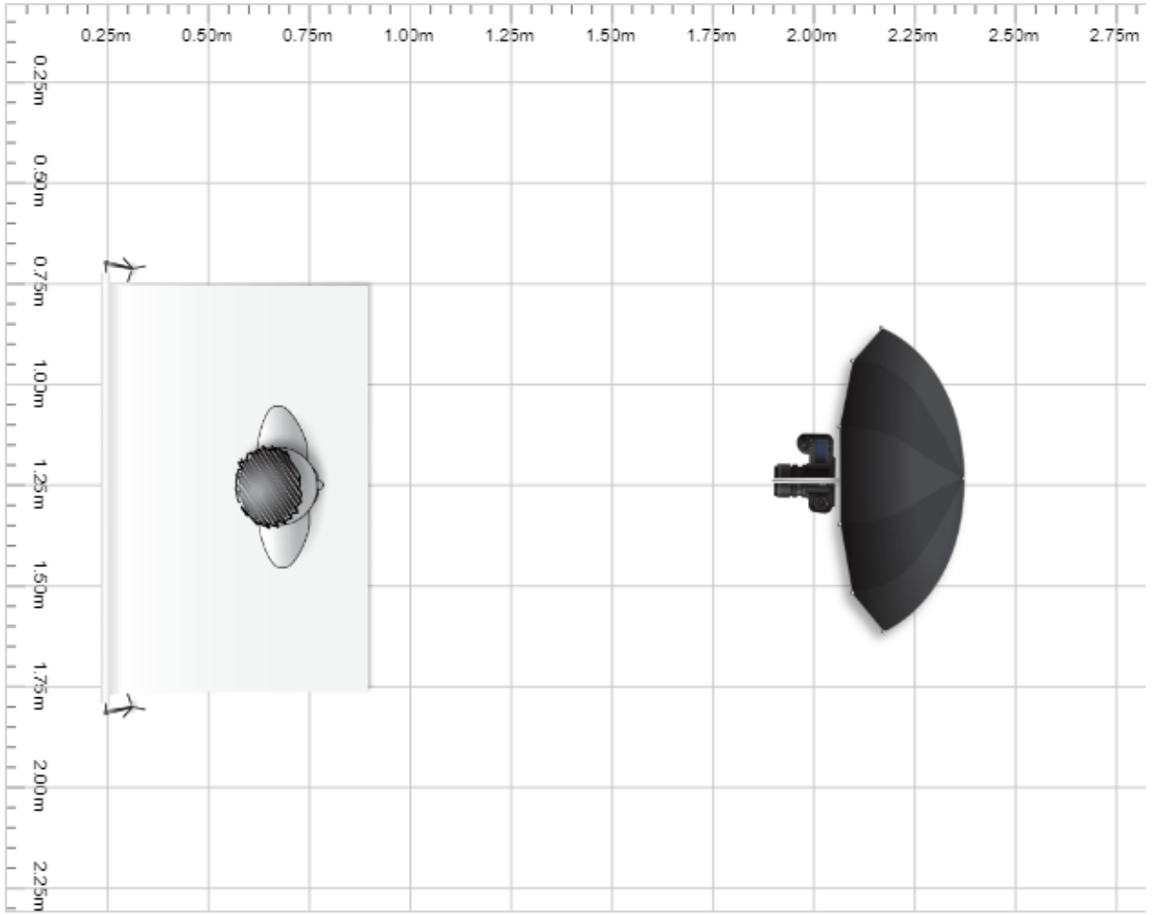
Lighting - two lights



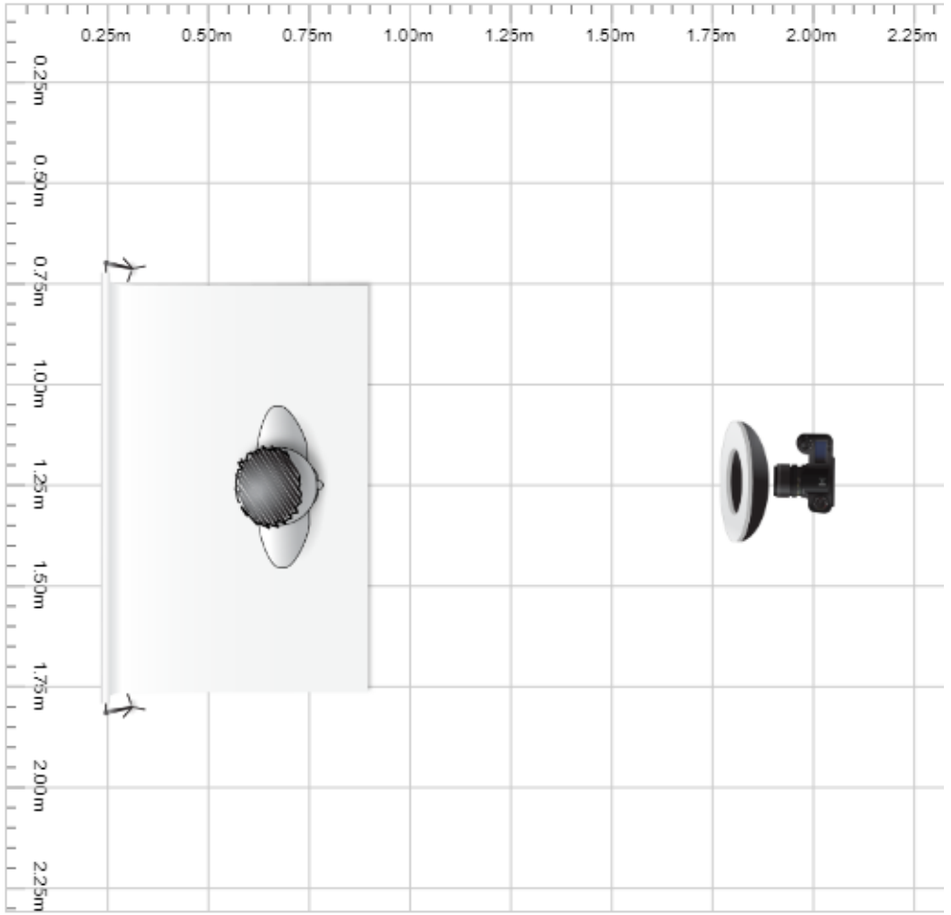
Lighting - one light from side



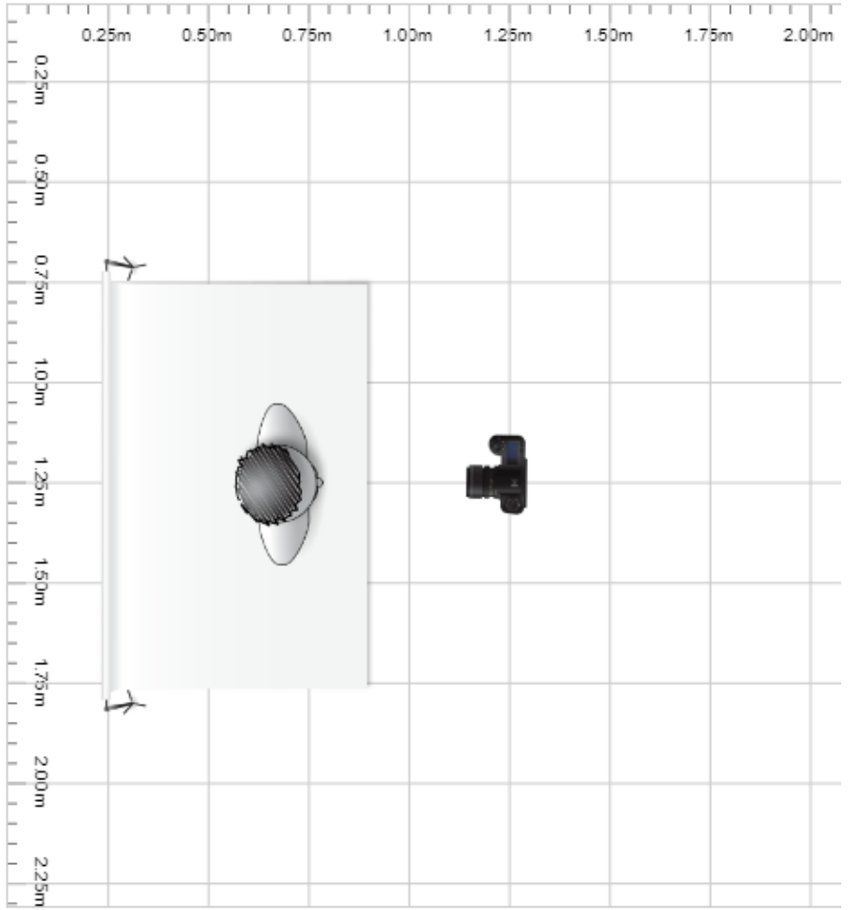
Lighting - one light



Lighting - ring light

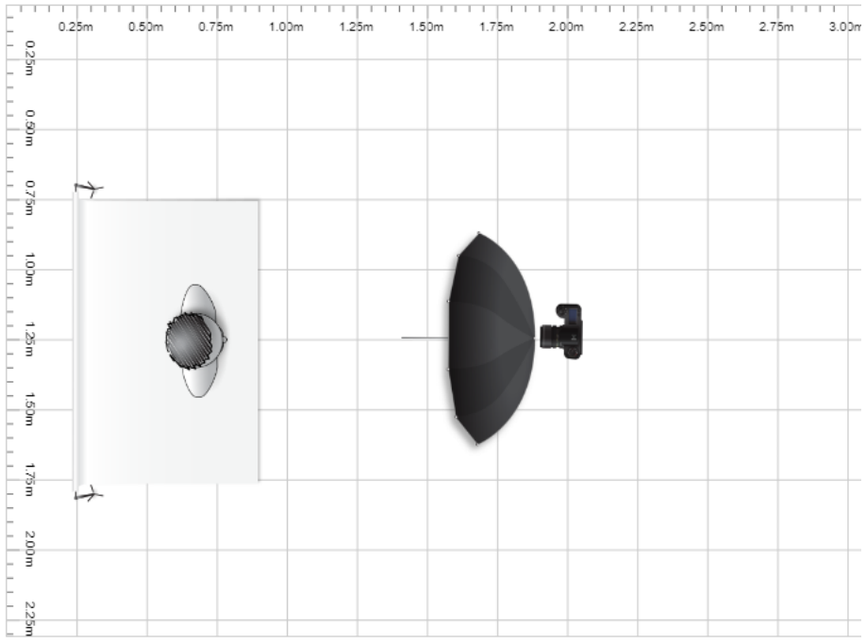


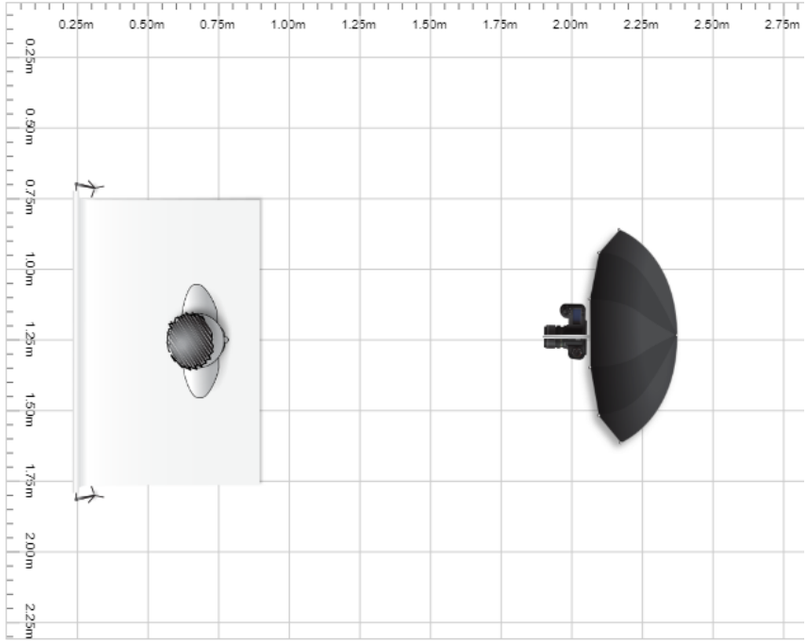
Lighting - built-in flash

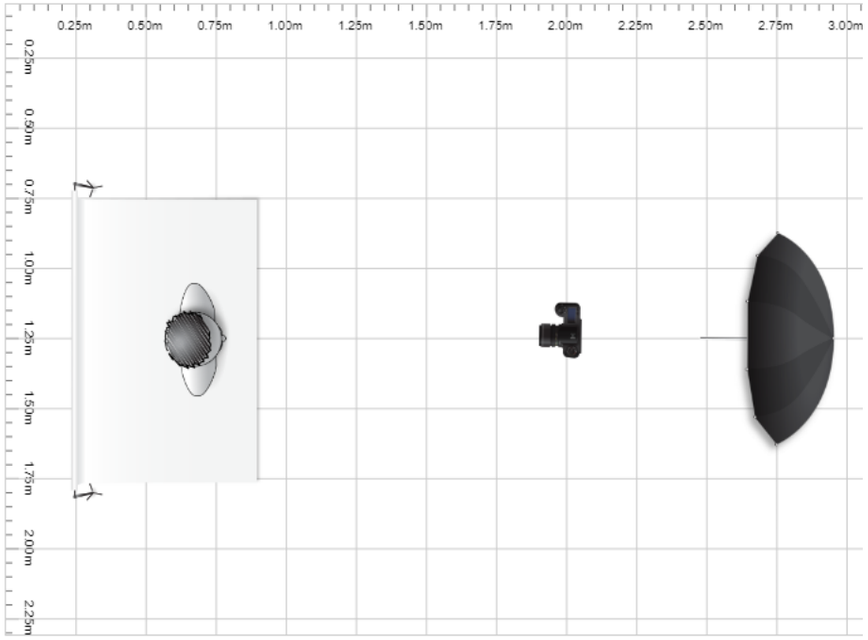


Lighting - Comparison

Light source distance

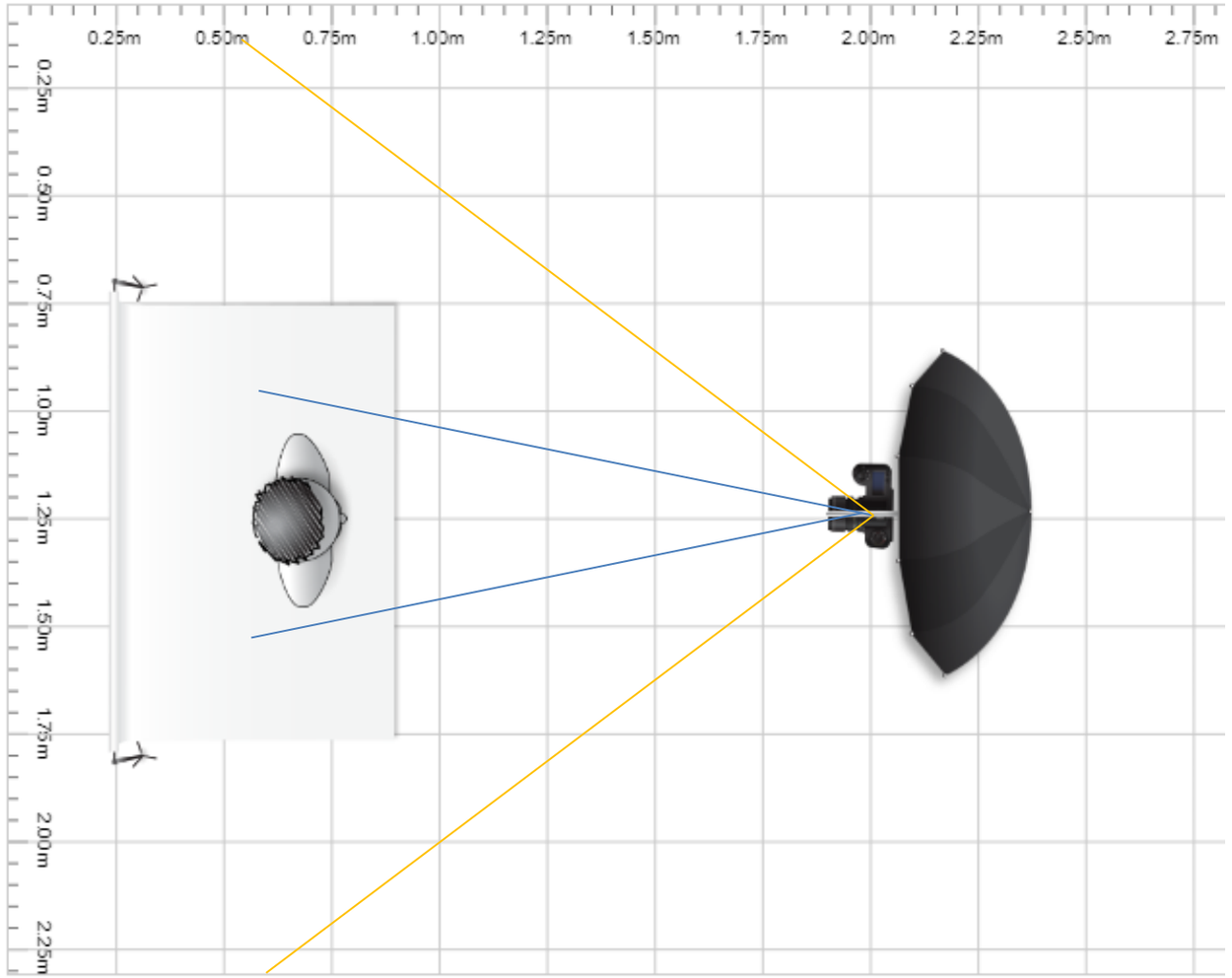




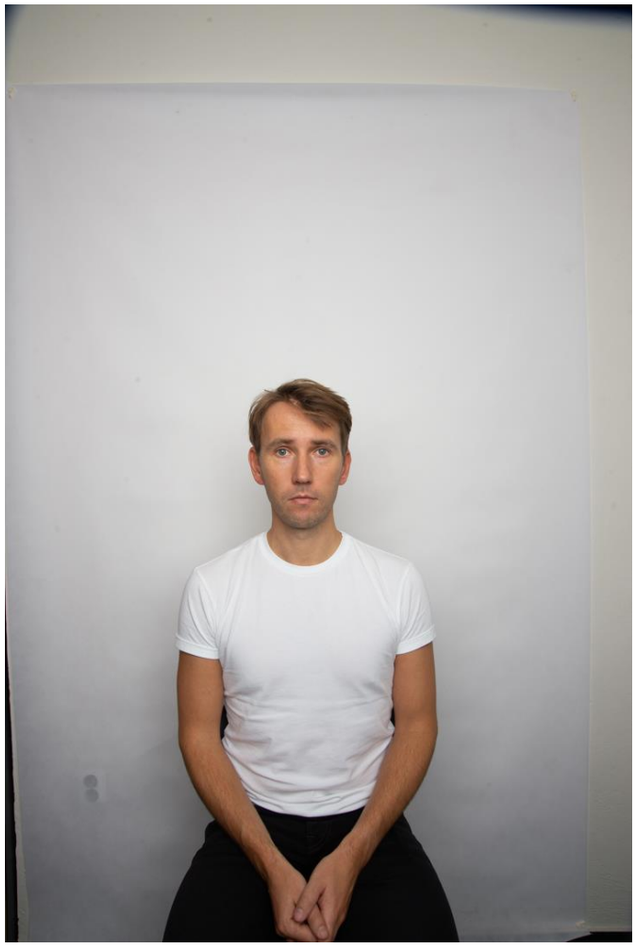


Light source distance

Focal length - aka zoom



Focal length – aka zoom

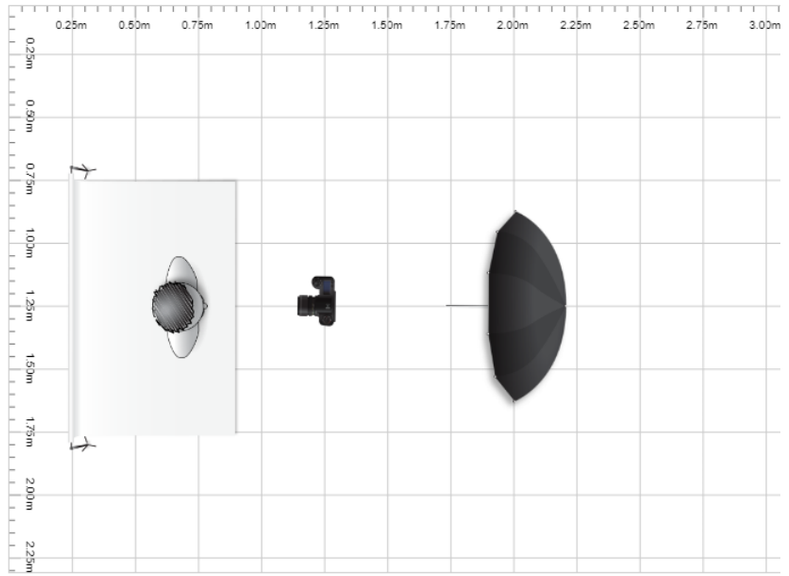


24 mm

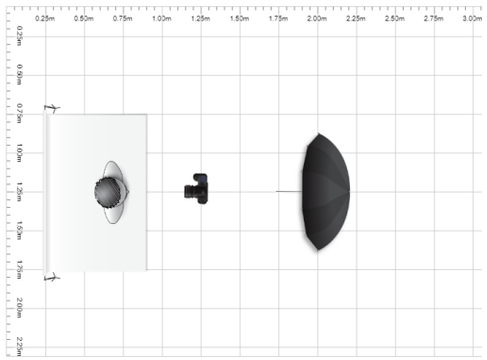
105 mm

Distortion

24 mm, close up

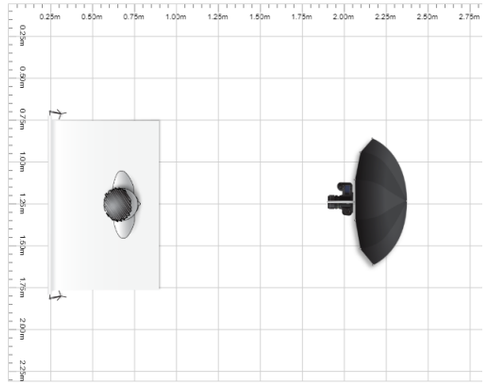


Distortion



24 mm, close up

105 mm from 125cm



Backgrounds and clothing

Black on black

Black on white

White on white

White on white

Environment and light spill

Little spill

Lot of spill

When the description
is good
and detailed

Phone vs Camera

Phone camera
(Xiaomi Mi9, 26mm)

DSLR camera
(Nikon D610, 26mm)

Only detailed descriptions can allow for replication (comparison between studies...).

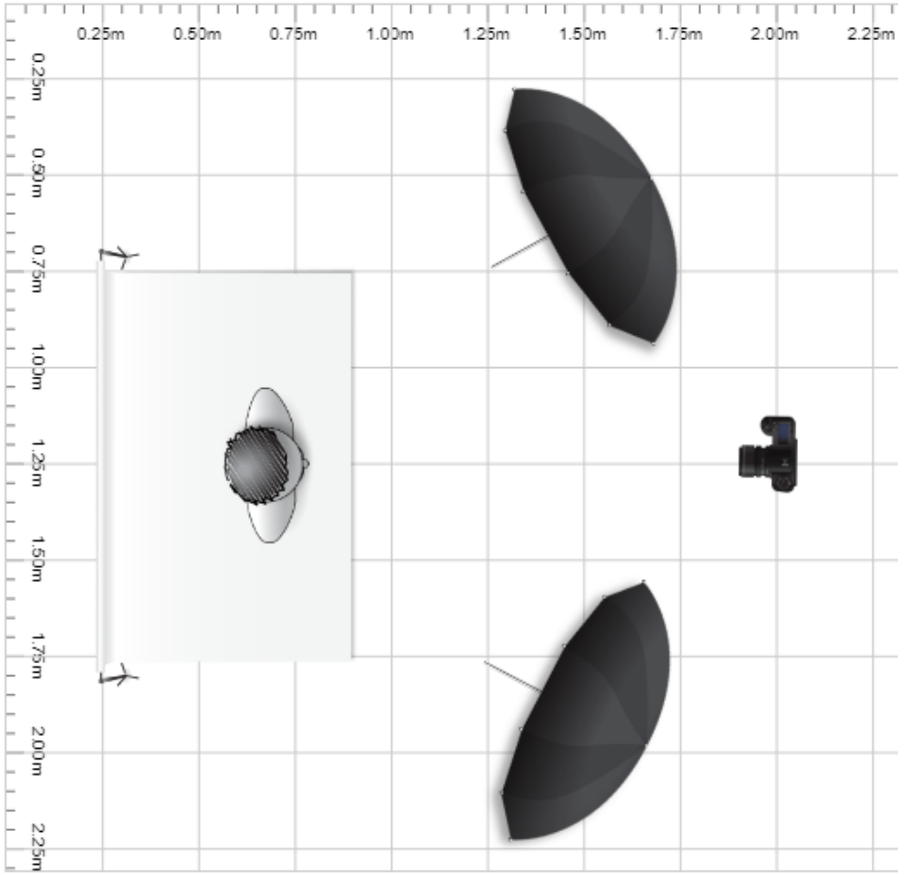
...But text alone may not be enough.

Scene diagram

A diagram of the scene setup

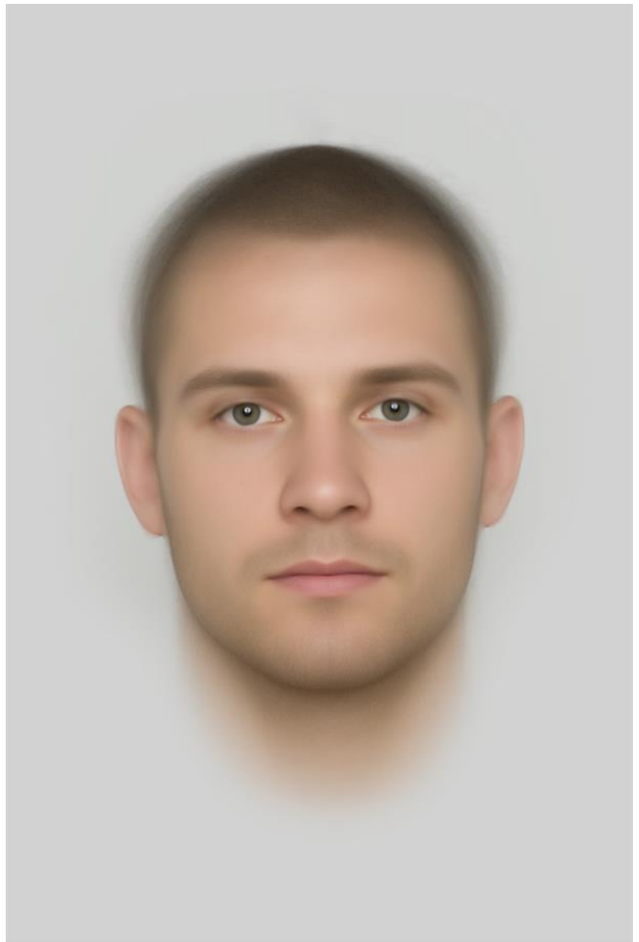
e.g. Sylights.com

MS paint is better than nothing



Sample image

Illustration
(author, participant, model)



Composite image

Improved reporting: A draft

Environment

All photographs were acquired on-site. We used a purpose-built portable photographic booth (140 × 140 × 255 cm; white insides and backdrop) to achieve standardisation and control for changes in ambient illumination and colour reflections.

Lighting

We used one 800 W studio strobe (Photon Europe MSN HSS-800) aimed into a white reflective umbrella light modifier (Photon Europe, 109 cm diameter), mounted on a 175 cm high light stand, and tilted 10° downwards toward the booth. The light was positioned 125 cm from the target. Even exposure across the whole scene was verified (before each session) by a digital light meter (Sekonic L-308S).

Gear

Images were acquired using a 24-megapixel, full-frame (35.9 × 24mm CMOS sensor, a 35mm film equivalent) digital SLR camera Nikon D610 equipped with a fixed focal length lens Nikon AF-S NIKKOR 85mm f/1.8 G.

File type

Photographs were shot into 14-bit uncompressed raw files (NEF) and AdobeRGB colour space.

Exposure & Color

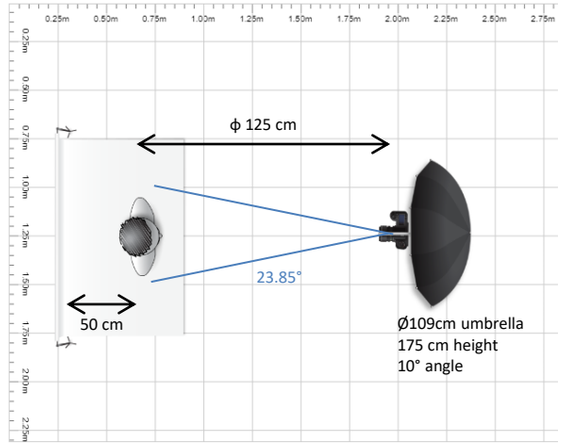
Exposure values were set to ISO 100, shutter speed 1/200 s, and aperture f/11. Colour calibration was performed using X-Rite ColorChecker Passport colour targets at the beginning of each session.

Distances

The camera (in portrait orientation) was positioned 125 cm from the target (distance between the sensor plane (ϕ) and the middle of the target's forehead; verified with a digital laser rangefinder (Bosch PLR 15). The target sat 50 cm from the background. The camera's height was adjusted for each target so as to position the centre of his head in the middle of the frame.

View

This setting of the camera's distance, focal length, and sensor size yielded a 35 × 53 cm field of view (23.85° angle of view), and the aperture setting resulted in a 9 cm depth of field (4 cm before and 5 cm behind the focal plane).



Full-frame DSLR (Nikon D610), 85mm; F11, 1/200s, ISO100

What are we working on?

A beginner‘s guide to scientific portrait photography

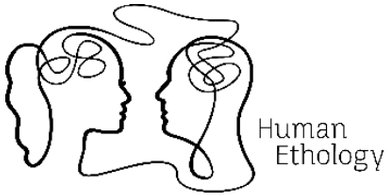
A proposal of minimal reporting standards

Recommended protocols to use in field

(Workshops and consulting?)

That‘s it.

Thank you



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