

## 6 Glossary

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2AFC	<i>Two-alternative forced choice.</i> An experimental procedure by which the user is constrained to select one solution from two alternatives.
$A'$ ( $A'$ -prime)	A measure of sensitivity analogous to $d'$ . In contrast to $d'$ , this statistical procedure does not require the assumption that the underlying distribution has to be normally distributed. The upper limit of $A'$ is 1. A level of performance equivalent to chance would yield an $A'$ score of .5 (Valentine et al., 1995)
Activation	The momentary intensity perceived by an observer
Afterimages	After exposure to a bright stimulus, an image remains visible after its removal, most commonly producing reverse contrast
Ambiguous	A stimulus which can be interpreted in more than one way
ANOVA	Analysis of Variance
Ballistic (movement)	A movement, which is completely determined (excepting environmental influences) already before it has begun, and cannot be changed while it is occurring. Saccades are commonly ballistic
Change Blindness	A phenomenon in visual perception in which very large changes, occurring in full view in a visual scene, are not noticed (O'Regan, 2001)
Correct Rejection	The observer correctly decides that the target signal was not present
Criterion	The minimum level of activation necessary for an observer to claim detection of a signal
$d'$ ( $d'$ -prime)	A measure of the average intensity difference, perceived by an observer between samples including a signal and samples not including a signal. The value of $d'$ is independent of any bias of the subject to make one response than the other. A $d'$ of 0.0 reflects chance performance (Valentine et al., 1995)
Dependent Variable	The variable measured and recorded by the experimenter
Ecology Validity	Ecological Validity has typically been taken to refer to whether or not one can generalize from observed behavior in the laboratory to natural behavior in the world (Schmuckler, 2001)
ERP	Event-Related (Brain) Potentials. The method of evoked potentials is valuable mainly for detecting behavior common to large populations of neighboring cells; it cannot differentiate functionally between areas of cortex smaller than about $1 \text{ mm}^2$ (Hubel & Wiesel, 1962)
Express Saccades	Short-latency eye movements that form the first mode of a bimodal distribution of saccadic latencies, the second mode of which is called (regular) saccades or briefly saccades. Express saccades occur after extensive training to singly appearing visual targets

Eyetracker	Device that analyzes the eye movement during inspecting a visual stimulus
False Alarm	The observer incorrectly claims that the target signal was presented
FFA	Fusiform Face Area. A face area in a remarkably restricted area of the prefrontal cortex (Scalaidhe, Wilson, & Goldman-Rakic, 1997)
FIE	Face Inversion Effect. In an upside-down presentation faces are recognized and detected slower and with lower accuracy than when presented upright
FINST	The minimal mechanism for linking perceptual and cognitive levels of processing is a set of spatial indexes or attentional tokens, called <i>Fingers of INSTantiation</i> (Pylyshyn, 1989)
Fixation	An eye movement that causes the image of an object or location to focus at the fovea of the eye
fMRI	Functional Magnetic Resonance Imaging. FMRI is a technique for determining which parts of the brain are activated by different types of physical sensation or activity
Fovea	The part of the retina which contains the highest density of cones and therefore has the best visual acuity
Greebles	Artificial stimulus class, which is highly complex. Often used by the Gauthier research group (e.g., Gauthier & Tarr, 1997) for testing putative face specific effects
Hit	The observer correctly claims that the target signal was presented
Iconic Memory	Very brief sensory memory of some visual stimuli, that occur in the form of mental pictures
Identikit	The general technique of face reconstruction
Independent Variable	The variable manipulated by the experimenter
Interaction Effects	Experimental results that occur when the effects of one independent variable depend on the values of other independent variables
Inversion	The upside-down turning of an object. All inversions used in this work were realized by turning the face by 180°, because than this version is ecologically equal to the original; other researchers have also made an inversion by flipping the image (e.g., Leder et al., 2001), but this means, that the picture is mirrored and therefore changed, because especially faces are never fully symmetrical to their y-axis
IOR	<i>Inhibition Of Return</i> . Posner and Cohen (1984) found that a peripheral cue produced an RT advantage for targets presented at the cued position within the first 150 ms after cue onset (priming). This facilitation was then, after about 300 ms, replaces by an RT disadvantage for targets on the cued side relative to the uncued side
IT	Inferotemporal Cortex. In the cortical areas of the inferior temporal cortex, neurons process stimuli even more complexly than those described in area V4
Main Effect	The effect of one independent variable independent of the values of another independent variable
McGurk Effect	Different auditory and visual inputs combine to form a percept of a new utterance that was not present in either modality alone (see McGurk & MacDonald, 1976)
MDS	Multi Dimensional Scaling. The goal of a MDS is to find a configuration of points and an appropriate function that transforms the interpoint distances such that the transformed distances exactly match the experimental dissimilarities (Steyvers & Busey, 2000)
Mean	The arithmetic average of a group of numbers
Median	The center value in an ordered list of numbers
Mental Imagery	A visual mental image as a pattern of activation in the visual buffer that is not caused by immediate sensory input (Kosslyn, 1994; for a critical view on mental imagery see Pylyshyn, in press)
Miss	The observer incorrectly claims that the target signal was not presented
Mode	The most common value in a group of numbers

N170	The N170 is a posterior negativity of the event-related potential (ERP), which putatively reflects an early stage of face processing
Noise	Any stimulus, internal or external, other than the signal to which one wishes to attend
PCA	Principal Component Analysis. The most commonly used form of PCA in psychology is the Factor Analysis technique, developed for multivariate statistics
PET	Positron Emission Tomography measures the regional cerebral blood flow distribution (Dubois et al., 1999)
Photokit	A specific face reconstruction technique
Prosopagnosia	Selective face recognition impairments, first presented by Bodamer (1947). Prosopagnosia is one of the many forms of visual associative agnosia, in which familiar objects—here <i>faces</i> —lose their distinctive association (Takamura, 1996)
PT	Presentation Time
Random	An event whose probability of occurrence is independent of surrounding events
Repeated Measurement	An experimental design in which each subject is tested under more than one level of the independent variable
RT	Reaction Time (measured from stimulus onset until the response comes)
Saccade	A very fast, ballistic movement of the eye. Because the human eye can focus clearly only a very small visual angle, the eyeball must make many movements to interpret the visual world. Perception of new information is suppressed during the movement, allowing the perception of a stable world. The saccades are ballistic motions of up to 900 °/s during which visual information processing is severely limited (Volkman, 1986)
<i>SD</i>	Standard deviation
<i>SE</i>	Standard error
Sensitivity	A measure of how strongly an observer reacts to a signal, usually called $d'$
Signal	A target stimulus, usually recurring
Skew Distribution	One of the tails of the distributions contains more observations than the other. The skew is towards the longer tail, and the mean, and, to a lesser degree, the median shift towards that tail
Subliminal	Visually masked, often unidentifiable objects of about 50 ms (Abrams et al., 2002). The subliminal is below the liminal (the smallest detectable sensation)
Supraliminal	Being above the threshold of consciousness or of sensation
Systematic	A correlation exists between the given variables; they are not independent
TAE	<i>Thatcher advantage effect</i> . The effect that inverted faces are recognized faster than original faces if the stimuli are only presented very briefly (term coined by the author)
Thatcher-Effect	Also known as Thompson-Effect (Thompson, 1980) or Thatcher-Illusion. By turning the eyes and mouth areas upside-down in an inverted face, this very strong manipulation is hardly recognizable. Whereas in an upright face it can be perceived easily and results in a grotesque looking face
V1	Visual area of the cortex, named <i>primary visual area</i>
V2	An extrastriate visual area extensively interconnected with other occipital, parietal and temporal visual areas
V4	A later extrastriate visual area than V2, also extensively interconnected with other occipital, parietal and temporal visual areas
Within-Subjects Design	An experimental design in which each subject is tested under more than one level of the independent variable