



Designation: E253 – 23a

Standard Terminology Relating to Sensory Evaluation of Materials and Products¹

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1. Referenced Documents

1.1 *ASTM Standards*:²

E284 Terminology of Appearance

2. Terminology

absolute judgment, *n*—an evaluation of a stimulus made without direct comparison to other stimuli. (2007)

acceptability/unacceptability, *n*—degree to which a stimulus is judged to be favorable or unfavorable. (2006)

acuity, *n*—the ability to detect or discriminate sensory stimuli. (2007)

adaptation, sensory, *n*—a decrease in sensitivity to a given stimulus which occurs as a result of exposure to that stimulus. (2006)

affective test, *n*—any method to assess acceptance, liking, preference, or emotions for a stimulus or stimuli. (2008)

after effects, *n*—total array of sensations that occur after removal of the stimulus from the sensing field (for example, with foods) or after application of the stimulus (for example, with non-foods). (2008)

after feel, *n*—feel of the skin after application of a sample, with or without touching, usually measured at a specified time point. (2008)

aftertaste, *n*—the oral or nasal sensations that occur after the stimulus has been removed from the oral cavity. (2007) (See also **after effects**.)

agusia, *n*—lack of sensitivity to taste stimuli. (1996)

α (alpha) risk, *n*—the probability of concluding that a perceptible difference exists when, in reality, one does not. (2014)

DISCUSSION— α risk also is known as Type 1 Error or significance level.

alternative forced choice (AFC), *n*—method in which two, three, or more stimuli are presented, and assessors are given a criterion by which they are required to select one stimulus. (2008)

DISCUSSION—Typical examples include 2-AFC (directional different test) and 3-AFC (selecting the one stimulus among a set of three that differs in a defined attribute).

alternative forced choice (AFC) test, *n*—method in which two, three, or more stimuli are presented, and assessors are given a criterion by which they are required to select one stimulus. (2008)

DISCUSSION—Typical examples include 2-AFC (directional difference test) and 3-AFC (selecting the one stimulus among a set of three that differs in a defined attribute).

anchoring point, *n*—a reference point against which other items are judged. (1996)

anosmia, *n*—lack of sensitivity to odor stimuli. (1996)

A-not-A test, *n*—a method of discrimination testing comprised of at least two samples; at least one sample is a previously identified sample (“A”) and at least one is a test sample; all samples are presented blindly, and the assessor’s task is to assign the label “A” or “not-A” to each of the samples. (2001)

antagonism, *n*—joint action of two or more stimuli whose combination elicits a level of sensation lower than that expected from combining the effects of each stimulus taken separately. (1996)

aroma, *n*—perception resulting from stimulating the olfactory receptors; in a broader sense, the term is sometimes used to refer to the combination of sensations resulting from stimulation of the entire nasal cavity. (1996)

DISCUSSION—Aroma, odor, and smell have the same basic meaning; however, in common usage they may have different connotations.

aromatic, *n*—perception resulting from stimulating the olfactory receptors retronasally. (2010)

assessor, *n*—a general term for any individual responding to stimuli in a sensory test. (2006)

DISCUSSION—The terms *assessor*, *judge*, *panelist*, *panel member*, and *respondent* all have the same basic meaning, although sometimes different connotations. Usage of these terms varies with the training and experience of the investigator, habit, tradition, personal preference, and other factors.

¹ This terminology is under the jurisdiction of ASTM Committee E18 on Sensory Evaluation and is the direct responsibility of Subcommittee E18.01 on Terminology. Current edition approved July 15, 2023. Published August 2023. Originally approved in 1965. Last previous edition approved in 2023 as E253 – 23. DOI: 10.1520/E0253-23A.

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard’s Document Summary page on the ASTM website.

assessor drift, *n*—a trend in which an assessor’s response to a specific stimulus shifts over time even though the stimulus has not changed. (2018)

DISCUSSION—Drift happens over a long duration of time, usually weeks or months.

astringency, *n*—the complex of sensations due to shrinking, drawing, or puckering of the epithelium as a result of exposure to substances such as alums or tannins. (1996)

attitude, *n*—a predisposition to respond in a characteristic way toward a class of objects, concepts, or stimuli. (1996)

attitude scale, *n*—a means for eliciting indications of the attitudes or opinions held, usually on a measuring system using marks or value designations. (1996)

attribute, *n*—a perceived characteristic. (1996)

audition, *n*—the sense of hearing. (1996)

aversion, *n*—a predisposition to avoid a stimulus based on a feeling of discomfort or dislike. (2011)

β (beta) risk, *n*—the probability of concluding that no perceptible difference exists when, in reality, one does. (2014)

DISCUSSION—β risk also is known as Type II Error.

bias, *n*—a systematic error manifested as a persistent positive or negative deviation of the method average from its accepted true value. (2013)

DISCUSSION—Bias is a general term for any systematic deviation in a method’s average from its accepted true value. In sensory, there are several commonly used terms that relate to specific types or causes of bias. These include: sensory adaptation, context effect, contrast effect, convergence effect, error of expectation, order effect, position effect, and response bias.

bipolar scale, *n*—scale where the end anchors are semantic opposites and there is an implied or anchored mid-point. (2008)

DISCUSSION—Examples of semantic opposites are “too thin” to “too thick,” “dislike extremely” to “like extremely.”

bite, chemical, *n*—stinging experienced primarily in the oral cavity as a result of exposure to substances such as highly carbonated beverages. (1997)

bitter, *adj*—pertaining to the taste produced by substances such as quinine or caffeine when in solution. (2012)

blinded, *adj*—an element of experimental control in which the identity or an aspect of a treatment, condition, or substance is hidden from the participant (single blind) or both the participant and the experimenter (double blind). (2008)

body (food), *n*—the quality of a food or beverage relating either to its consistency, compactness of texture, fullness, flavor, or combination thereof. (1997)

brightness, *n*—see **color (of an object)**. (2001) (For consensus technical definition see **brightness** in Terminology E284.)

burn, chemical, *n*—perception of irritation resulting from exposure to substances such as ethyl alcohol, acetic acid, and benzoate; the sensation tends to persist after the stimulus is removed. (2013)

calibration (trained assessor), *n*—the process of aligning trained assessors’ responses to either established or agreed upon qualitative or quantitative references.

DISCUSSION—Descriptive analysis methodologies may or may not include trained assessor calibrations.

central location test (CLT), *n*—a test where stimuli are evaluated by consumers at a common designated location(s); the stimuli preparation and presentation are controlled. (2019) (See also **home use test**.)

DISCUSSION—Examples of designated locations include market research facilities, academic laboratories, grocery stores, or hotel conference rooms.

check-all-that-apply (CATA) scale, *n*—a question format in which any number of items from a list may be selected to indicate which items pertain to the stimulus being measured. (2018)

DISCUSSION—Check-, choose-, and select-all-that-apply are used interchangeably.

chemesthesis, *n*—perception derived from chemical stimulation of the skin or other tissues, for example, menthol cooling, ammonia pungency. (2015)

chroma, *n*—see **color**. (2001) (For consensus technical definition see **chroma** in Terminology E284.)

color (of an object), *n*—the appearance of an object dependent upon the spectral composition of radiant and incident light, the spectral reflectance or transmittance of the object, and the psychological response of the observer; the experience may be described in terms of three attributes: brightness, chroma, and hue. (2001) (For consensus technical definition see **color** in Terminology E284 as defined by Committee E12.)

brightness, *n*—aspect of visual perception whereby an area appears to emit more or less light.

chroma, *n*—experienced as color purity, attribute of color used to indicate the degree of departure of the color from a gray of the same brightness.

hue, *n*—attribute of color related to the wavelength of electromagnetic energy and experienced as “red,” “green,” “blue,” and other elements of the visible spectrum.

color blindness, *n*—total or partial inability to differentiate certain hues. (1997)

consumer, *n*—the user or potential user of a product or service, who may participate in research tests to provide opinions of products, concepts or services. (2010)

context effect, *n*—effect upon the perception of a stimulus arising from its interrelationship with other stimuli in a presentation set, the test design, or the environment. (2023)

contrast, visual, *n*—the degree of dissimilarity in appearance of two parts of a field of view seen simultaneously or successively. (1998)

contrast effect, *n*—special case of context effect in which the perceived degree of difference between stimuli is exaggerated as a result of their interrelationship. (1997)