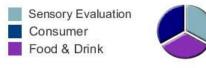
GLOBAL, ETHICAL AND SAFE: CHALLENGES AND SOLUTIONS FOR MODERN SENSORY AND CONSUMER SCIENCE



The Challenges of Individual Differences and Perceptions

Is Gender a Challenge for Your Sensory Panel?

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Why might gender be a challenge?

 We may assume that the sensory panellist/assessor is an analytical instrument and can be trained and calibrated and used interchangeably but . . .

- More women than men participate on sensory panels, and panel leaders are often women too.
- Different levels and types of sensory acuities?
- Are gender differences larger than expected individual variations





Gender and the senses – some findings and generalisations



More men are colour blind than women.

Women are better at discriminating among colours, while males are better at tracking fastmoving objects and discerning detail from a distance. Women have 43% more cells in the olfactory bulb than men.

Women have better odour memory in general and a higher level of acuity for some substances.

More women are supertasters than men.



Women have been found to be significantly better than men at bitter identification, and bitter, sour and sweet intensity assessment. Women are more sensitive to sound than men.

Men are more likely than women to experience hearing loss as they age.

Women are more sensitive to pain.

Women are better at oral stereognosis but men have better chewing ability.

Some relevant facts/observations

- There could be a biological role of increased sensitivity to tastes and odours for mothers to warn their children of dangerous foods and conditions.
- Men and women exhibit different learning and communication strategies/abilities, and different inherent motivations. For example, women are known to process information differently than men when learning language.
- It can be difficult to separate out the physiological and psychological elements of perception and sensitivity.
- In a large recent study, men were found to have higher food neophobia scores than women, although some previous studies found gender effects to be unclear or showing opposite trends.
- An equal percentage of men and women are likely to be synesthetes.
- Other demographic factors such as age can also have a large effect.

Summary differences

- ✓ Women, on average, are more sensitive/discriminatory in many areas relevant to general sensory panel work, but not all
- Women, on average, may have better memory, language and communication skills as necessary for *some* areas of sensory panel work
- Importantly, most areas individual variation within gender is significant and individual motivation cannot be ignored. . .

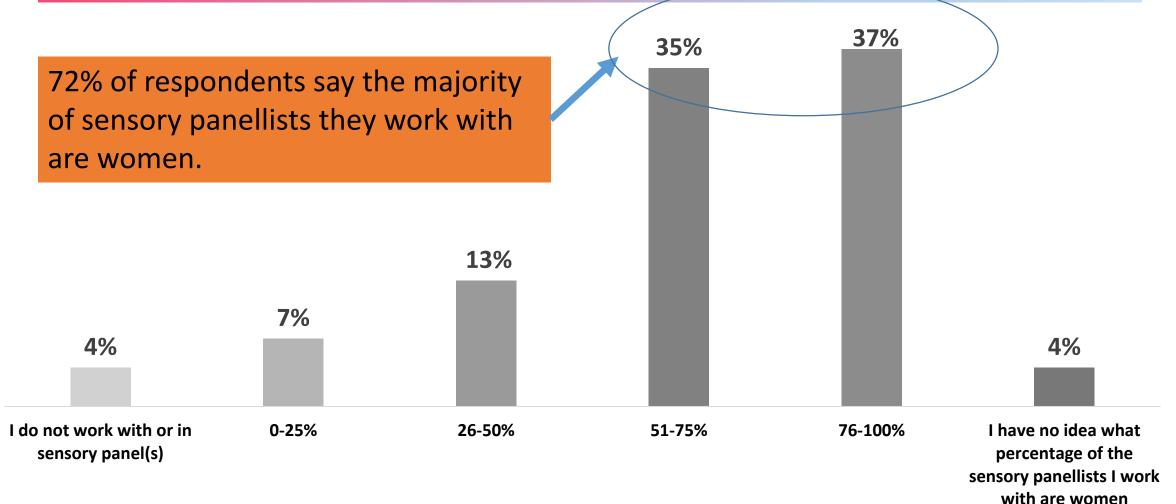
What do sensory professionals think?

- Online survey posted on Sensory Evaluation (over 6000 members) and IFST Food Sensory (over 350 members) groups on Linkedin and circulated to personal contacts
- Simple questions about gender and sensory panels
- Fieldwork mid May 2016 to early June 2016
- 46 anonymous responses obtained
 - 93% working with or in sensory panels regularly
 - 24% men, 72% women, 4% prefer not to state gender
- Some interesting discussion posts





Can you estimate what percentage of the panellists you work with are women?



Which of the statements below do you most agree with?

The majori responden	ty of ts think there	Women and men make equally good sensory panellists	
is no difference between genders.		59%	
	Women make		I don't know if men or women make better
Men make better sensory panellists than	better sensory panellists than men 15%		sensory panellists 26%
women 0%	1370		

In general, which qualities do you think men have that can make them good sensory panellists?

	% respondents saying
Confident/not self-conscious/less affected by others	13
Decisive/single-minded/to the point/straightforward	13
No difference between men and women	11
Team/group working/collaboration	11
Work focus/committed	7
General sensory skills, acuity and awareness	7
Verbal skills/use of language/communication	7
Attention/concentration/focus	7
Don't know	9
Other	52

In general, which qualities do you think women have that can make them good sensory panellists?

	% respondents saying
Verbal skills/use of language/communication	15
General sensory skills, acuity and awareness	13
Analytical/detailist/follow instructions/precise	13
No difference between men and women	13
Team/group working/collaboration	11
Sense of smell	9
More detailed descriptions/answers	9
Calm/patient/persistent/experienced	7
Don't know	<1
Other	50

Overcoming the challenges

"I don't understand why gender is an issue if panelists have been screened for ability to do the task. By that I mean not only their acuity, but also their ability to verbalize, interact well, etc on a panel. I find it somewhat disconcerting that we would suggest that a particular gender has a certain characteristic that makes them a good or poor panelist. It is the characteristics of individuals and then how they work in a group that I am concerned with. Gender, age, ethnic or racial profiles, are sort of irrelevant if they meet all the qualifications and can perform well."

Edgar IV Chambers, Director, Sensory Analysis Center and University Distinguished Professor, Kansas State University

Want to Learn More?

- He Smells Apple She Smells Golden Delicious: Gender Differences in Flavour Perception Do men and women have the same perceptions and abilities when it comes to flavour evaluation? Anecdotal evidence and opinion points towards women being the more sensitive gender. But is this really the case? Carol Raithatha explores this fascinating question
- Flavour Horizons Issue 16, December 2015



An innovative quarterly bulletin for the food, flavour and ingredients industries

Further references

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- <u>http://www.sciencedirect.com/science/article/pii/S1550857905800427</u>
- Oliveira-Pinto A. V., et. al. (2014). Sexual Dimorphism in the Human Olfactory Bulb: Females Have More Neurons and Glial Cells than Males. PLOS One, Volume 9, Issue 11
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- Michon C., O'Sullivan M.G., Delahunty C.M., Kerry J.P. (2009). The investigation of gender-related sensitivity differences in food perception. Journal of Sensory Studies, Volume 24, Issue 6, pages 922–937.
- <u>http://www.sussex.ac.uk/synaesthesia/faq#women</u>
- <u>http://www.mcrcad.org/2010-Sax-hearing.pdf</u>
- http://www.scientificamerican.com/article/are-women-really-better-with-language/