

FEELING GOOD: PROVING EFFICACY OF FRAGRANCE (LAVENDER, YLANG YLANG) ON WELL-BEING



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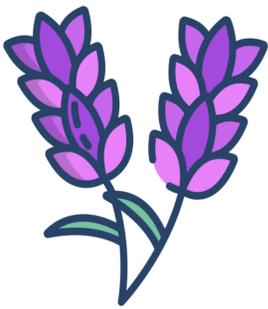


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KEY TAKEAWAY:

Using a combination of neuro-physiological (EEG and biometrics) and psychology tools (mood assessments) with a behavioral sciences paradigm, we show how a multi-modal approach helps better understand how sensory cues and perceptions can drive product efficacy in the wellness space.

With the rapidly evolving and growing wellness space, consumers are demanding more from their products than just their basic function—they need to deliver a higher-order benefit. HCD Research has seen strong industry trend towards end-clients investigating invigoration/energy and relaxation.



Hypotheses: (Lavender was chosen for its historic use in the relaxation space. However, it should be noted that literature points to inconsistent 'relaxation' results.)

Fragrance exposure affects **physiological and perceptual measures** when compared to negative control (no fragrance exposure), with measurable differences over time.

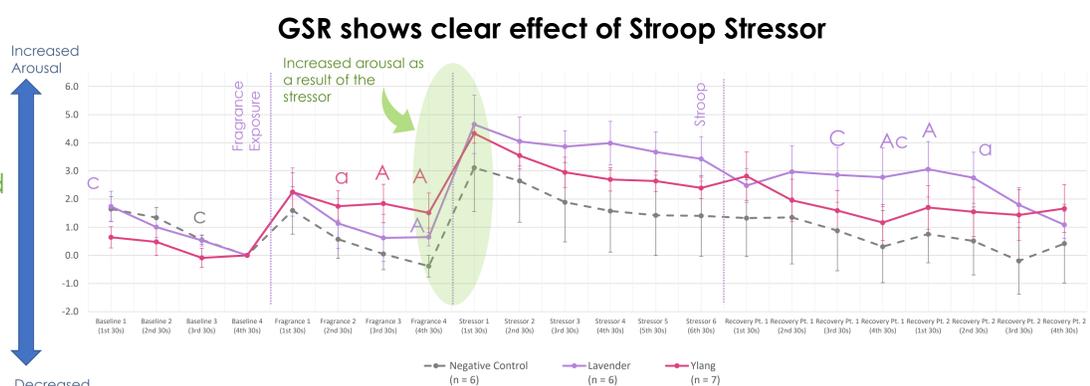
The **Stroop Test** is effective for **increasing stress/arousal levels**, setting context.

Study Design

SAMPLE: WOMEN
N=7 completed all conditions, N=1 completed two conditions.

FRAGRANCES:
Lavender Jungle Essence (MANE) | Ylang Filipina (IBA Botanicals) | Negative Control: No Fragrance

PHYSIOLOGICAL	PERCEPTUAL & PSYCHOLOGICAL
<p>HEART RATE VARIABILITY (HRV) Measuring fluctuations in beat intervals of HR (HF-HRV (relax), LF-HRV, (stim) Sympathetic ratio)</p>	<p>GALVANIC SKIN RESPONSE (GSR) Measuring skin conductance (arousal)</p>
<p>ELECTROENCEPHALOGRAPH (EEG) Measuring brain's synaptic waves in across its surface (engagement, workload, emotional index)</p>	<p>PERCEPTUAL & PSYCHOLOGICAL MEASURES State Trait Anxiety Inventory, Visual Analog Scales, Self-Assessment Manikin, Hedonics & self-report</p>



Results

When comparing the fragrances to negative control (i.e., non-fragranced jar), we **did not find consistent results to say that the fragrances are effective at increasing relaxation** (i.e., helping to manage the stressor or helping respondents recover from the stressor more quickly).

	Overall Performance		Fragrance Exposure Only		Stressor Response		Recovery	
	Lavender	Ylang	Lavender	Ylang	Lavender	Ylang	Lavender	Ylang
PHYSIOLOGICAL								
HRV (Sympathetic Ratio)								
GSR (Arousal)								
EEG Engagement								
EEG Emotional Index (Frontal Alpha Asymmetry)								
PERCEPTUAL & PSYCHOLOGICAL								
STAI (State)								
Relaxed								
Stressed								
Calm								
Agitated								
Sleepy								
SAM Pleasantness								
SAM Arousal								
SAM Dominance								

Why is There No Relaxation Effect?

While we did expect to see a relaxing impact of the fragrances, there are a few potential responses why this was not shown in this study:

- The current relaxation literature on lavender is **inclusive with different forms of lavender**.
- Overall liking for **ylang** was low with many respondents finding the fragrance to be **too strong**, even off-putting.
- There is **some association between lavender and relaxation** though possibly delayed (moment-by-moment emotional response).

