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## Social & Sensory Dynamics

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### A Social Dynamics & Sensory Implications of Yawning

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Research gathered for The Great Big Yawn CIC collated from 15 questions completed by 73 participants from around the globe shows the following results from March 2024 – 10<sup>th</sup> November 2024:-

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#### Abstract

The analysis from The Great Big Yawn's inaugural survey provides additional insights into the nuanced experience of yawning. This paper delves into the findings related to yawning stifling behaviours, sensory and emotional responses, and contagious yawning effects as experienced by the 73 international participants. Collectively, these results highlight the sensory impact, emotional relief, and interconnectedness triggered by yawning, contributing to a deeper understanding of its roles in stress regulation, self-awareness, and social bonding.

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#### Introduction

Yawning continues to be a behaviour steeped in mystery, social significance, and potential physiological benefits. Beyond its common associations with fatigue and boredom, yawning appears to hold complex social and sensory implications, as demonstrated in growing bodies of research in neuroscience and psychology (Guggisberg et al., 2010; Provine, 2005). This study, extending The Great Big Yawn's 2023 survey, examines the sensory effects, stifling reasons, and perceived relief associated with yawning. Our findings further underscore yawning's physiological relevance and its role as a subtle yet powerful tool for social cohesion.

#### Methodology

The initial survey included responses from 73 participants across a diverse age range and multiple occupations. Through 15 questions, the survey explored yawning frequency, reasons for stifling yawns, sensory effects, emotional states, and the subjective relief associated with yawning. Data was analysed to identify trends and correlate them with existing scientific research on yawning's physiological and social aspects.

## Results and Discussion

### 1. Sensory and Physical Experiences During Yawning

Many participants reported distinct sensory experiences associated with yawning:

- **Auditory Changes:** 63% experienced a “cutting out” effect in surrounding sounds during a yawn, a phenomenon supported by research suggesting that yawning can induce temporary changes in auditory sensitivity, potentially reducing external distraction (Baenninger, 1987).

- **Visual Sensations:** 19% observed colors behind their eyes, and 13% noted patterns and shapes, experiences that align with studies indicating that yawning might briefly alter sensory processing, particularly in visual perception (Efron et al., 2003)

- **Feelings of Lightness:** 41% described feeling a sense of lightness, consistent with findings that yawning may activate vagus nerve pathways associated with relaxation and even euphoria (Gallup & Gallup, 2007).

### 2. Emotional Responses Post-Yawning

Participants’ responses regarding how they felt post-yawn suggest a powerful emotional component to yawning:

- **Relief and Relaxation:** 53% felt more relaxed, while 52% experienced a sense of relief, indicating that yawning may serve as a quick tool for stress alleviation. Studies in psychophysiology have noted that yawning increases dopamine and other neurotransmitters that contribute to feelings of relief (Walusinski, 2014).

- **Mood Elevation:** 13% felt happier post-yawn, supporting hypotheses that yawning has mood-elevating properties. Dopamine release, often triggered by yawning, has been linked to feelings of pleasure and positive mood shifts (Sander & Scheich, 2001).

### 3. Yawning Stifling Behaviour and Social Norms

A strong social stigma surrounding yawning was evident in the reasons participants provided for stifling their yawns:

- **Social Etiquette:** 40% of participants felt yawning was “rude,” while 30% deemed it “impolite” to yawn in public. Research suggests yawning, despite being a natural

reflex, is often suppressed in social or professional settings to avoid misinterpretation as boredom or disrespect (Provine, 2012).

- **Self-Regulation and Perception:** 46% reported incomplete yawns due to stifling, suggesting that social regulation significantly affects one's ability to complete a yawn. Studies on self-regulation show that individuals often suppress physiological urges to meet social expectations, impacting relaxation and emotional expression (VanderWerff, 2005).

#### 4. Relief Ratings and Well-being

Participants rated their yawning-related relief on a scale from 0-10, 10 indicating the most effective relief and 0 non:

- 43% giving a rating of 8-10 and 49% between 5-7. This pattern demonstrates the significant relief yawning provides, resonating with theories that link yawning to parasympathetic activation and muscle relaxation (Guggisberg et al., 2011).

#### 5. Contagious Yawning and Social Bonding

Contagious yawning, reported by 99% of participants, showcases yawning's role in empathy and social connection. This finding is consistent with studies indicating that yawning is linked to mirror neurons, which help individuals synchronize with others' emotional states, promoting empathy and shared experiences (Platek et al., 2003). Furthermore, 38% felt a sense of connection when witnessing another person yawn, underscoring yawning's function as a subtle mechanism of social cohesion.

#### 6. Physical Movements Accompanying Yawning

Participants also reported various physical actions that accompanied yawning:

- **Stretching:** 32% engaged in stretching when yawning, while 28% experienced tearing, both of which align with research suggesting that yawning is often coupled with physical responses such as limb stretching, possibly to enhance muscular relaxation and oxygen intake (Provine, 2005).

- **Quiet vs. Loud Yawns:** 23% were loud yawners, while 20% kept it quiet. Such distinctions may reflect individual differences in self-expression and comfort in social settings, impacting the volume and visibility of yawns.

## Conclusion

The Great Big Yawn survey findings contribute to a nuanced understanding of yawning as a socially regulated and sensory-rich behaviour with implications for mental well-being and social bonding. The physiological sensations and emotional relief reported support theories that yawning may aid in resetting sensory perception and promoting relaxation. Additionally, yawning's contagion effect underscores its value in social synchronization, empathy, and group cohesion. These insights invite further research into yawning as a potential therapeutic tool in stress reduction, social interaction, and emotional resilience.

## Acknowledgements

We would like to thank all contributors from around the world who randomly consented to complete the survey for our first batch of yawning results.

This study contributes to a growing body of research on yawning, offering insights into its subjective and therapeutic interpretations within diverse community settings. Further research may reveal even more nuanced applications for yawning in therapeutic practices, particularly in the context of mental and emotional well-being.

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