

# International Smell Survey

*December 16-31, 2022*

# Survey Background & Methodology

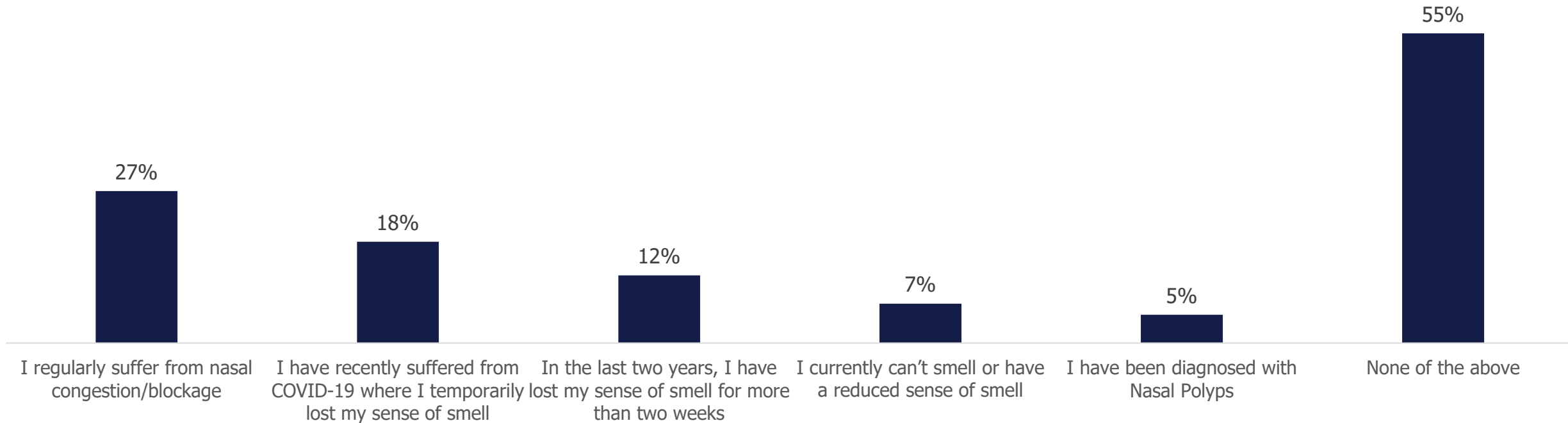
- **Objective:** Understand perspectives on the impact of smell on daily life.
- **Approach:** The Sanofi and Regeneron global communications teams fielded an international survey via email and online platforms to the general population of priority markets (France, Germany, Italy, Spain, Japan and the US) to understand how the loss of smell impacts daily life.
  - Respondents were asked questions related to their favorite and least favorite smells, situations where sense of smell is most helpful and/or important, as well as emotions associated with certain scents.
  - The survey was in the field from December 16 to 31, 2022.
- **Survey Design:** A cross-sectional international survey involving 6,000 respondents across six countries (1,000 per country) with eight total questions on smell. Analysis of results segmented by total international results and each country.
- **Responses:** 6,000 total responses across six countries (1,000 per country).

# International Data Analysis

# Overview

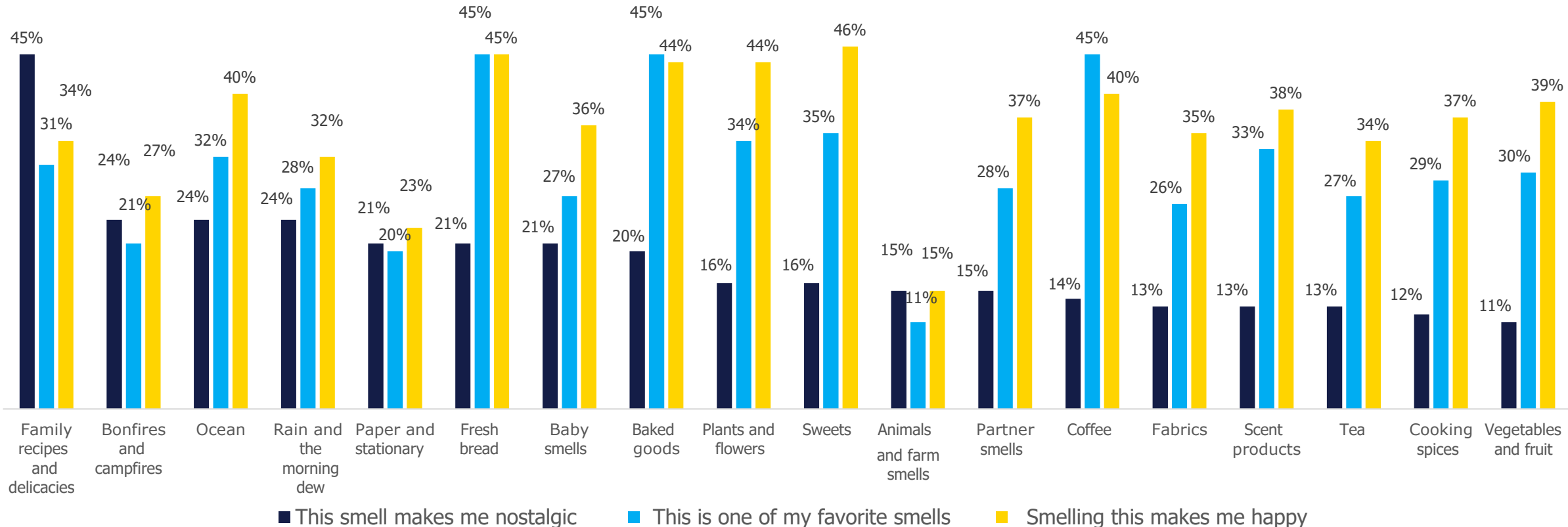
- The following slides highlight the key international results at large from each question of the survey.
- The objective of the survey was to understand perspectives on the impact of smell on daily life. Respondents were asked questions related to their favorite and least favorite smells, situations where sense of smell is most helpful and/or important, as well as emotions associated with certain scents.
- Key results include:
  - Over one-quarter (27%) of respondents indicated regularly suffering from nasal congestion/blockage.
  - Nearly 9 out of every 10 respondents said that smell is helpful and important to situations relating to their appetite and memory.
  - 9 out of every 10 respondents indicated smell as important for detecting potential issues such as the smell of smoke or gas in the household.

# Over one-quarter of those surveyed internationally regularly suffer from nasal congestion

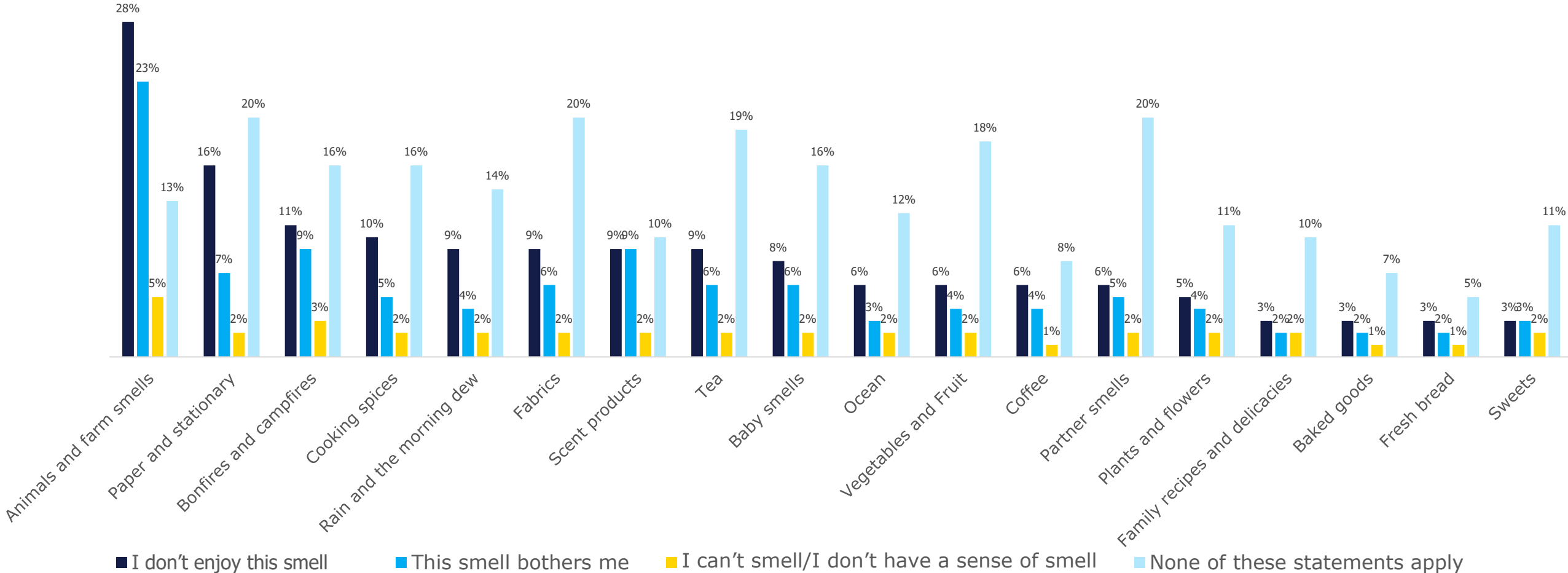


*Q. Please select all that apply.*

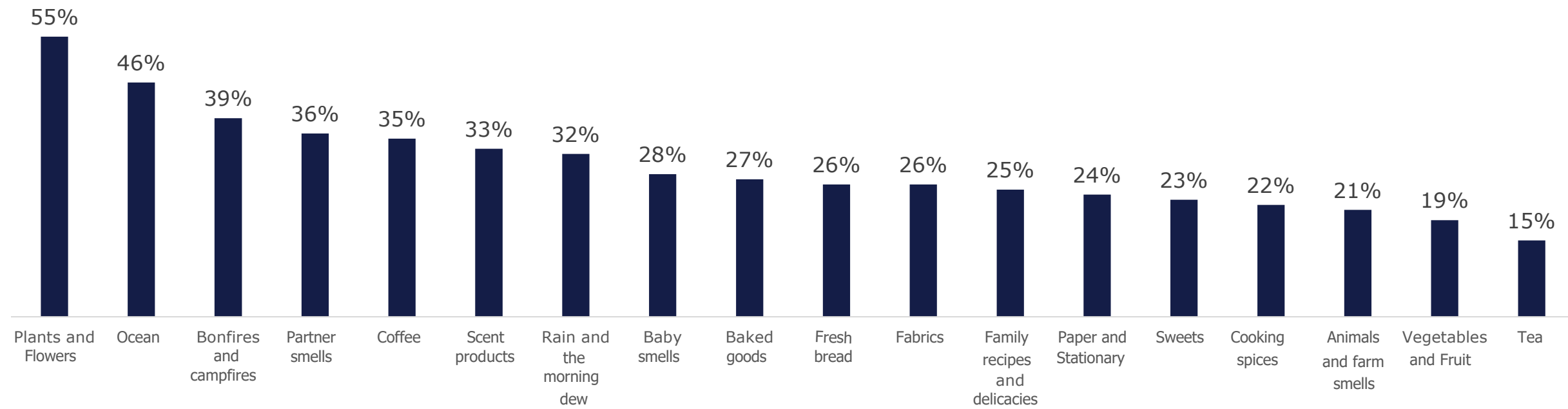
*Family recipes are the most nostalgic smells, while fresh bread, baked goods and coffee are tied as the most common favorite smells*



# Animals and farm smells are the least enjoyed smells, and they bother almost one-quarter of respondents

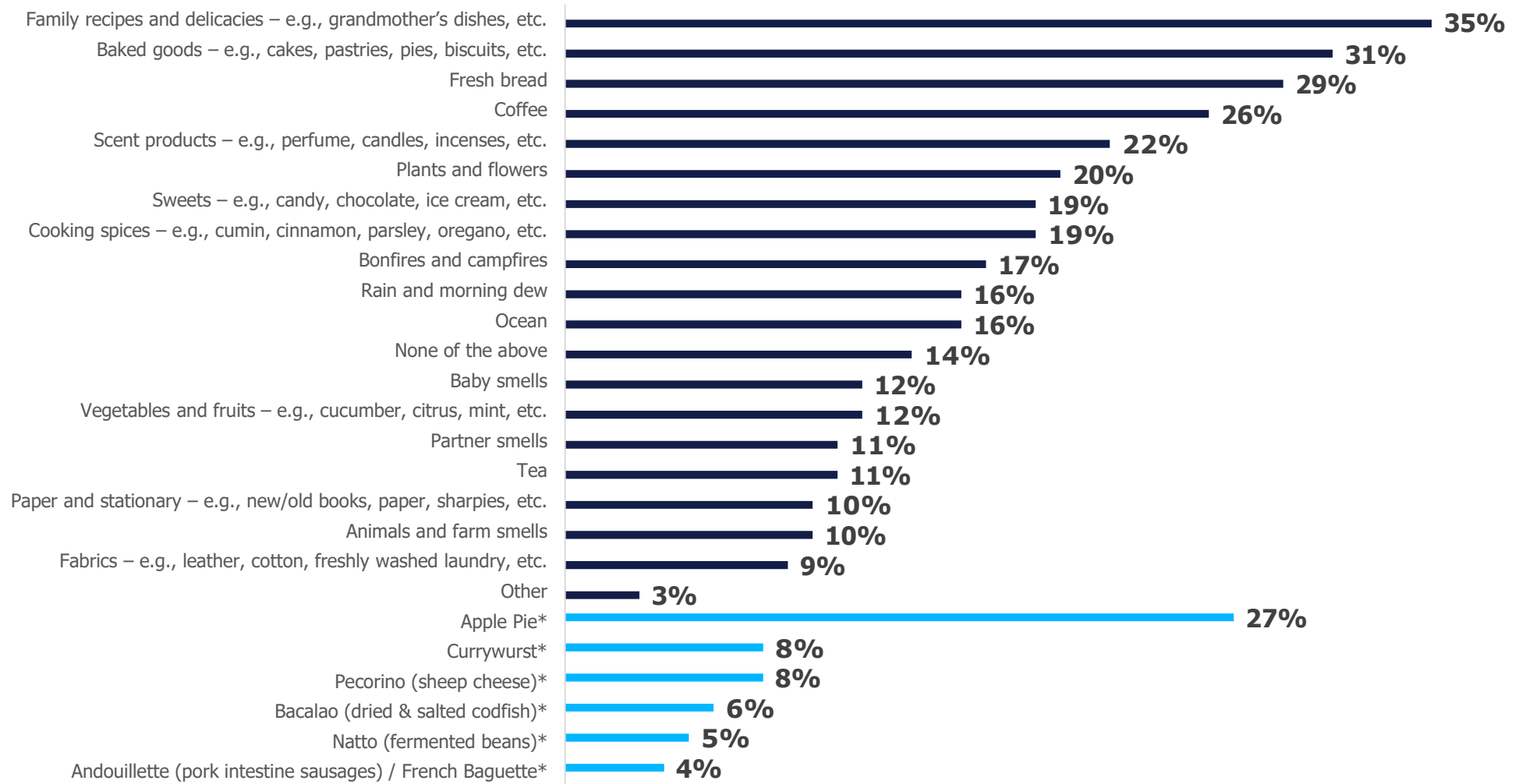


*Internationally, plants and flowers, the ocean, and bonfires and campfires are the most enjoyed smells*



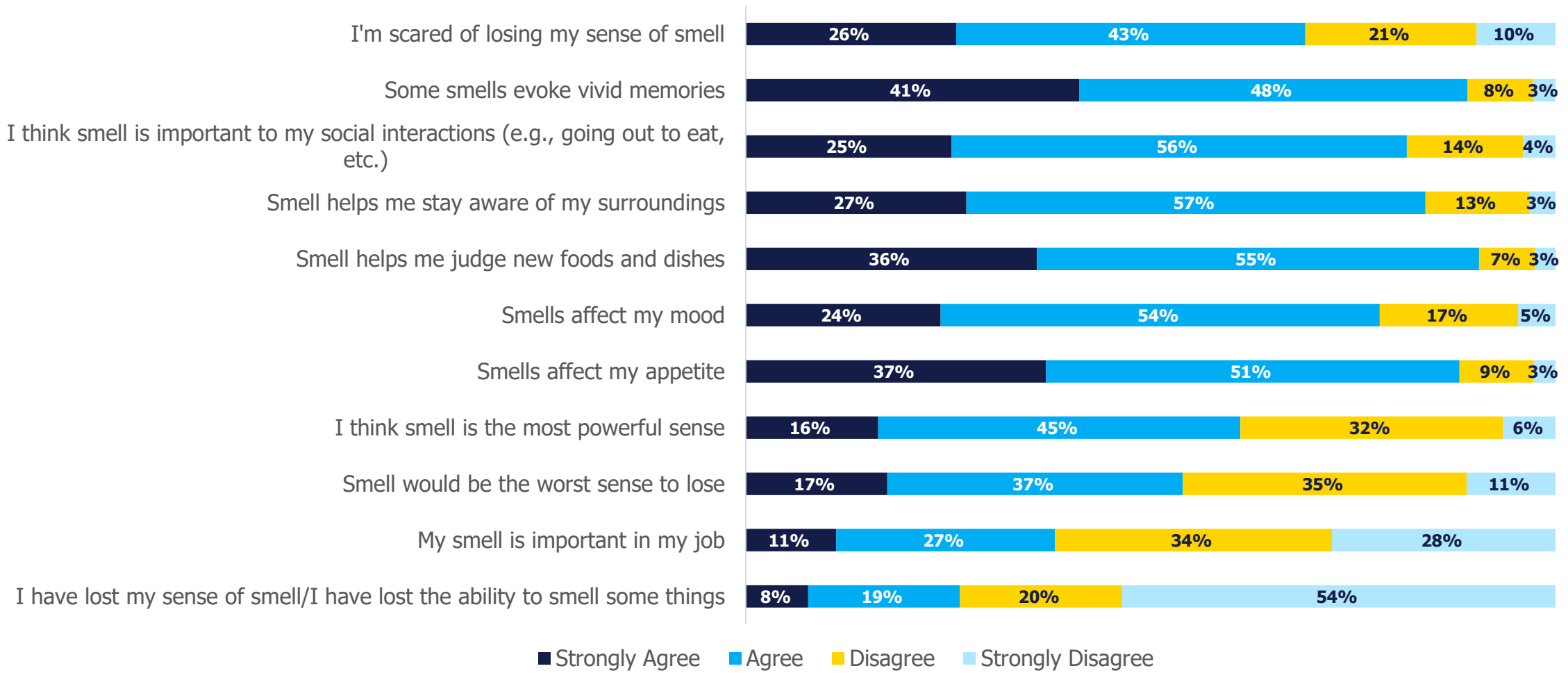


# Family recipes are the most reminiscent of important traditions

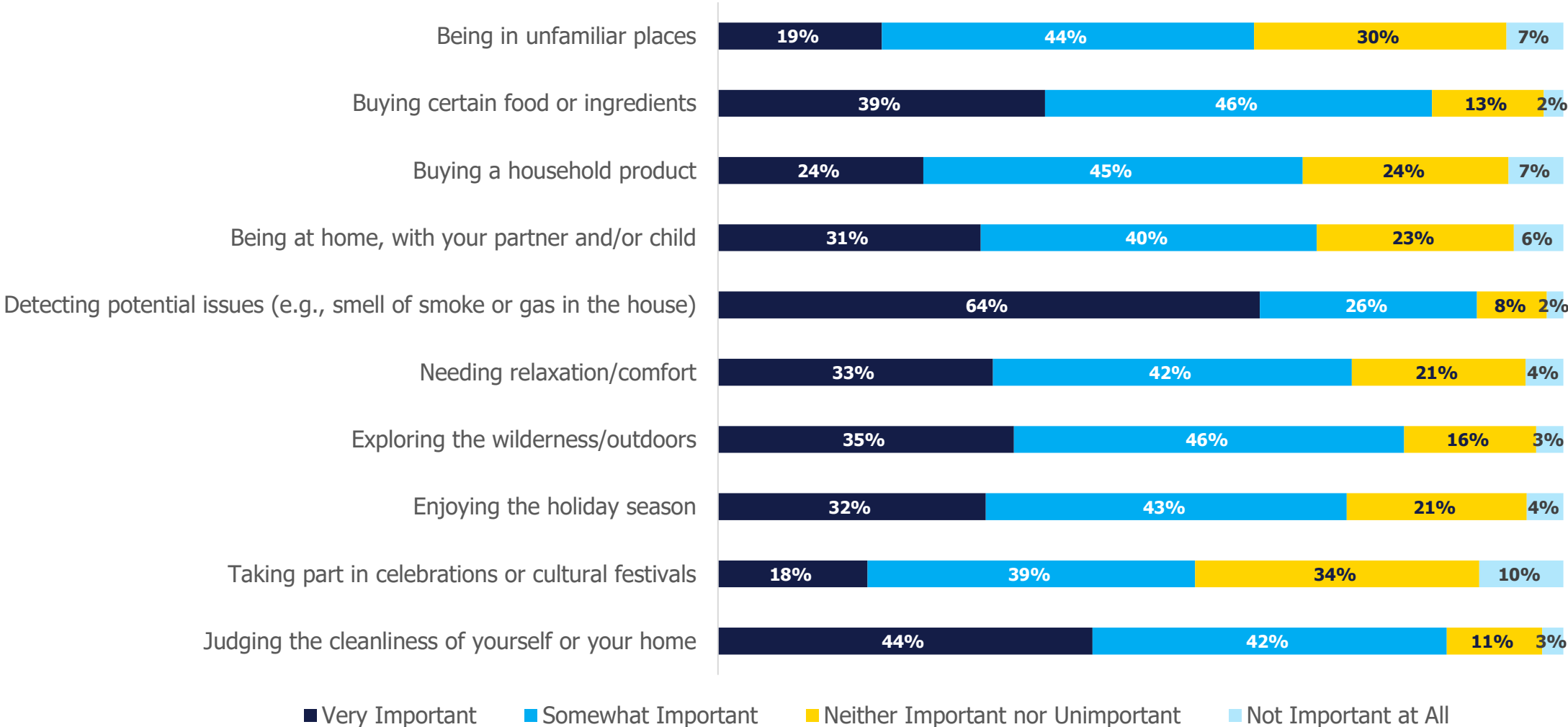


■ Presented to respondents based on country of residence ■ Asked of all respondents

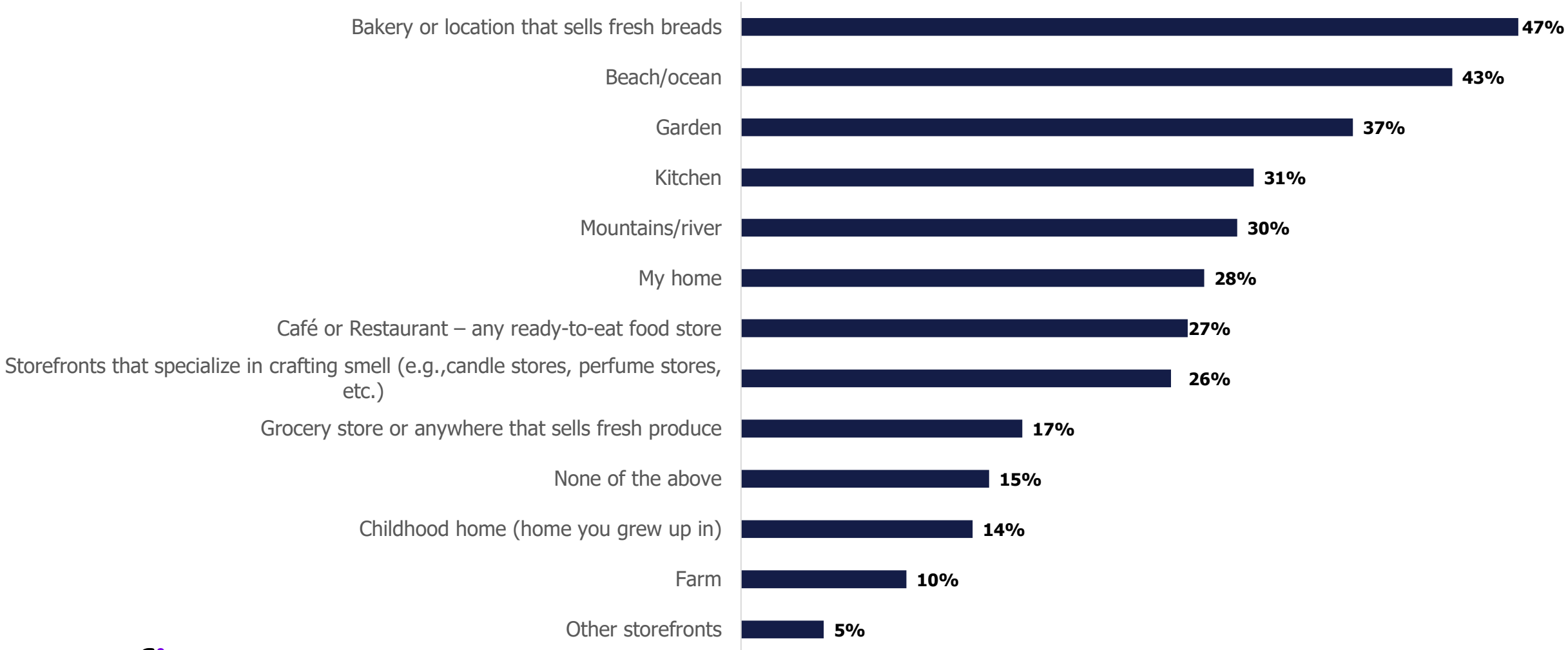
# Internationally, most respondents agreed that smell is helpful and important in situations related to appetite and memory



# Internationally, most respondents indicated smell as important in detecting potential issues



*Nearly half of the international respondents indicated seeking the smell of fresh bread or bakeries, while less than two in ten indicated the smell of their childhood home*



# Country-Specific Data Analysis

# Summary of Findings

- Across countries, respondents indicate that after the key job of keeping us safe and clean, our sense of smell is a driver of enjoyment.
- Consistently, the ocean, fresh bread, baked goods, coffee, rain/dew, and plants & flowers rise to the top of favorite smells across most countries.
- The bakery and the ocean are consistently the most commonly visited places for their pleasant smells.
- The overwhelming majority of people indicate that smells can evoke vivid memories, with family recipes being the strongest driver of nostalgia across all countries.
- France and Japan report the lowest levels of suffering from nasal issues, such as chronic congestion, loss of smell and nasal polyps.

# Analytical Notes

- In charts where statistical significance testing is applied, a letter(s) next to a number indicates that this value is significantly higher than the percentage in the corresponding column associated with that letter at the 95% confidence level.
- For ease of analysis, color coding is applied on several charts. The color coding is applied vertically to indicate the larger (darker green) and smaller (darker red) percentages within each column. The color coding does not indicate statistical significance but rather enables better visual navigation of the data.



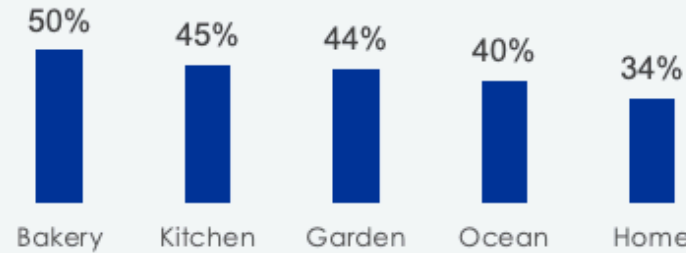
# France

- After the key job of keeping us safe and clean, our sense of smell is a driver of enjoyment
- Plants & flowers are the most enjoyable fragrances, and the one that people would miss most if they lost their sense of smell
- 9 in 10 of those in France state that smells can evoke vivid memories, with family recipes being the strongest driver of nostalgia
- Bakery items such as fresh bread, baked goods and baguettes are strong drivers of happiness, which helps to explain why the bakery and kitchen are the top 2 places people visit specifically for their smells
- Few in France report suffering from loss of smell, with only about 1 in 6 reporting frequent nasal congestion

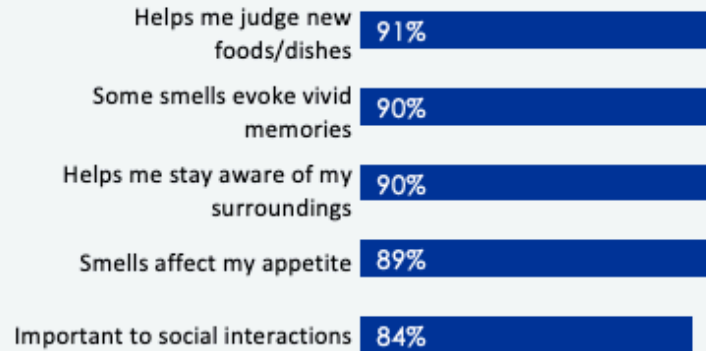
## Top 5 Important Features of Smell



## Top 5 Places Visited for the Smells



## Top 5 Characteristics of Smell



**17%** Regularly suffer from nasal congestion/blockage

	Enjoy Most Ranked 1st-3rd %	Would Miss Most Ranked 1st-3rd %	Make Me Happy %	Make Me Nostalgic %
Plants and flowers	37	36	55	11
Ocean	29	26	42	15
Coffee	29	33	51	11
Fresh bread	27	26	58	17
Baked goods	23	21	61	16
Rain and morning dew	22	18	33	15
Scented products	20	19	40	12
Family recipes and delicacies	19	21	38	26
Baguette	12	9	58	18
Bonfires and campfires	10	11	23	14
Partner smells	10	12	40	8
Spices	10	14	39	10
Vegetables and fruits	10	14	43	11
Baby smells	9	6	26	14
Animals and farm smells	7	8	12	10
Fabrics	7	7	33	11
Sweets	7	6	42	15
Paper and stationery	6	5	22	13
Tea	4	4	31	9
Andouillette	1	1	12	5

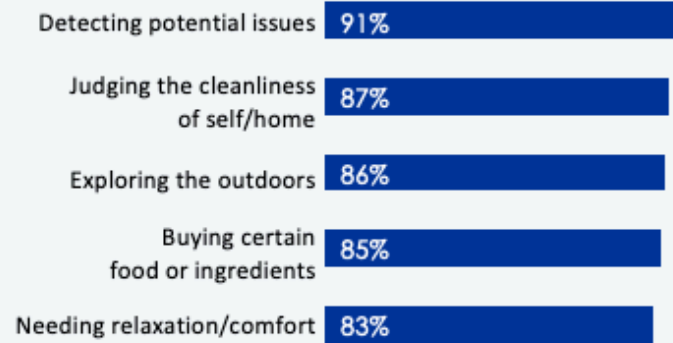




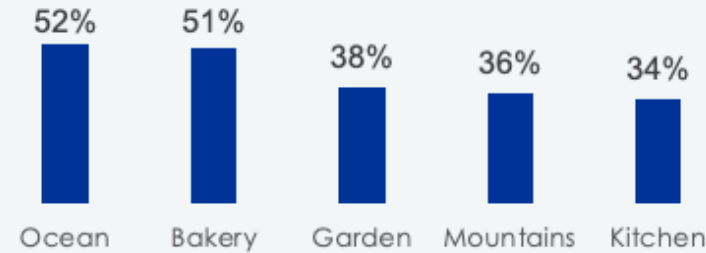
# Spain

- After the key job of keeping us safe and clean, our sense of smell is a driver of enjoyment
- For those in Spain, the ocean is the most enjoyable fragrance, the one they would miss most if they lost their sense of smell and one of the most nostalgic
- This is the most commonly visited place for its smells
- 9 in 10 in Spain indicate that smells can evoke vivid memories, and family recipes are the most nostalgic of smells
- Plants and flowers also rank among the most liked and potentially missed scents, and are among the top drivers of happiness
- Along with Italy, 1 in 4 people in Spain report having lost their sense of smell as a result of COVID-19

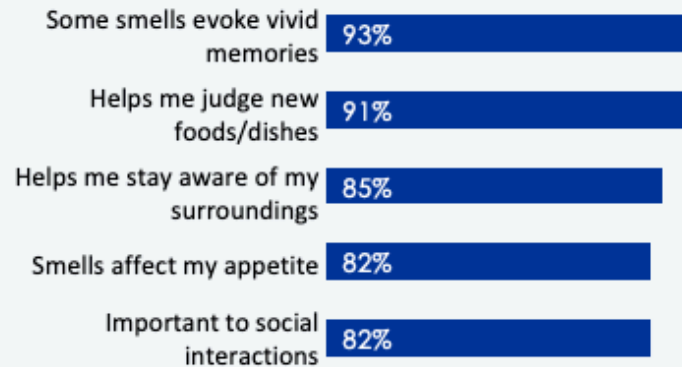
### Top 5 Important Features of Smell



### Top 5 Places Visited for the Smells



### Top 5 Characteristics of Smell



**35%** Regularly suffer from nasal congestion/blockage

**24%** Recently suffered from COVID-19 and temporarily lost sense of smell

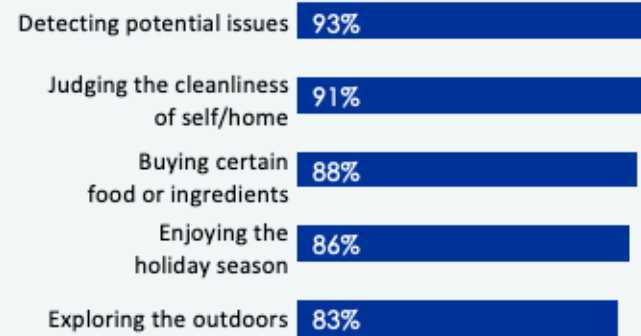
	Would Enjoy Most Ranked 1 <sup>st</sup> -3 <sup>rd</sup> %	Would Miss Most Ranked 1 <sup>st</sup> -3 <sup>rd</sup> %	Make Me Happy %	Make Me Nostalgic %
Ocean	44	45	43	31
Plants and flowers	38	41	47	13
Rain and morning dew	37	35	39	27
Coffee	28	33	41	12
Scented products	23	21	43	13
Fresh bread	21	18	43	20
Baked goods	17	14	51	16
Bonfires and campfires	14	12	30	25
Family recipes and delicacies	12	16	38	48
Partner smells	11	14	45	13
Baby smells	10	8	34	30
Paper and stationery	10	6	31	27
Sweets	9	6	46	18
Vegetables and fruits	7	9	41	9
Fabrics	6	6	39	12
Spices	6	7	42	13
Animals and farm smells	4	6	14	14
Tea	2	2	30	8
Bacalao	---	1	14	7



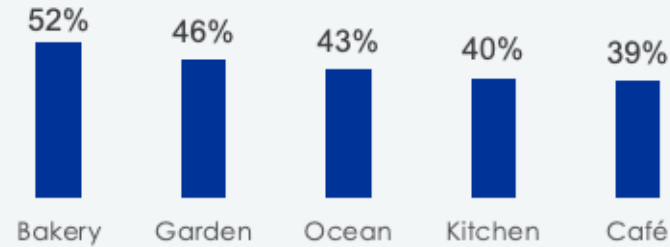
# United States

- After the key job of keeping us safe and clean, our sense of smell is a driver of enjoyment
- In the US, plants & flowers is the most enjoyable fragrance, the one they would miss most if they lost their sense of smell and a top driver of happiness
- Rain & morning dew and coffee also figure among the best liked and potentially missed fragrances
- 9 in 10 in the US indicate that smells can evoke vivid memories, with family recipes being the strongest driver of nostalgia
- About 1 in 3 report suffering from nasal congestion regularly
- Non-COVID loss of smell is somewhat more common in the US compared to other countries, with 1 in 5 reporting

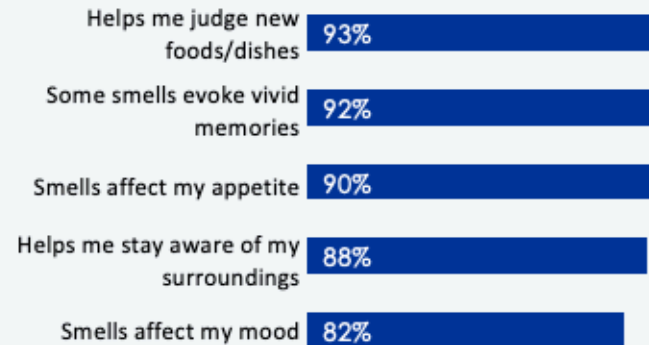
## Top 5 Important Features of Smell



## Top 5 Places Visited for the Smells



## Top 5 Characteristics of Smell



**35%** Regularly suffer from nasal congestion/blockage

**24%** In the last two years, have lost sense of smell for more than two weeks

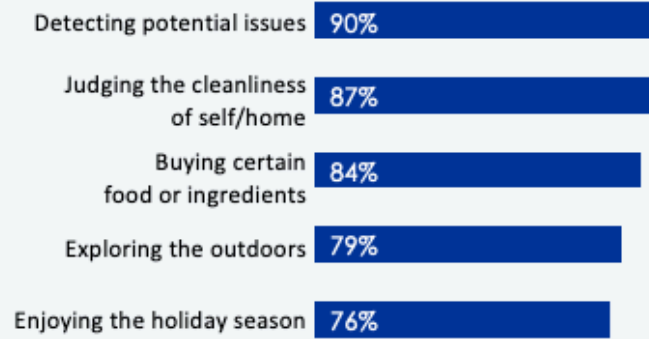
**19%** Recently suffered from COVID-19 and temporarily lost sense of smell

	Enjoy Most Ranked 1 <sup>st</sup> -3 <sup>rd</sup> %	Would Miss Most Ranked 1 <sup>st</sup> -3 <sup>rd</sup> %	Make Me Happy %	Make Me Nostalgic %
Plants and flowers	38	38	49	19
Rain and morning dew	31	28	41	27
Coffee	29	32	37	22
Scented products	25	22	41	17
Ocean	23	23	43	20
Baked goods	23	23	44	26
Fresh bread	20	16	42	28
Bonfires and campfires	17	16	34	25
Family recipes and delicacies	12	14	36	44
Partner smells	11	13	38	17
Spices	11	17	42	19
Baby smells	10	8	40	25
Fabrics	10	11	42	15
Apple Pie	8	7	44	25
Sweets	8	6	49	18
Vegetables and fruits	8	9	48	14
Animals and farm smells	6	7	17	14
Paper and stationery	4	4	24	18
Tea	4	4	40	14

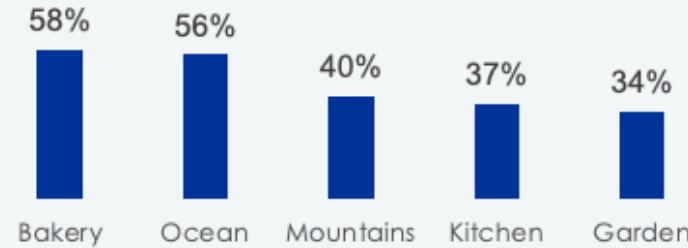


- After the key job of keeping us safe and clean, our sense of smell is a driver of enjoyment
- In Italy, the ocean, fresh bread & baked goods, coffee, and plants & flowers all rise to the top of favorite smells
- 9 in 10 indicate that smells can evoke vivid memories, with family recipes being the strongest driver of nostalgia
- Relative to other countries, Italians are nostalgic about more smells such as rain/dew, stationery, campfires, baby smells and the ocean
- The bakery and the ocean stand out as the most commonly visited places for their smells
- Along with Spain, 1 in 4 people in Italy report having lost their sense of smell as a result of COVID-19

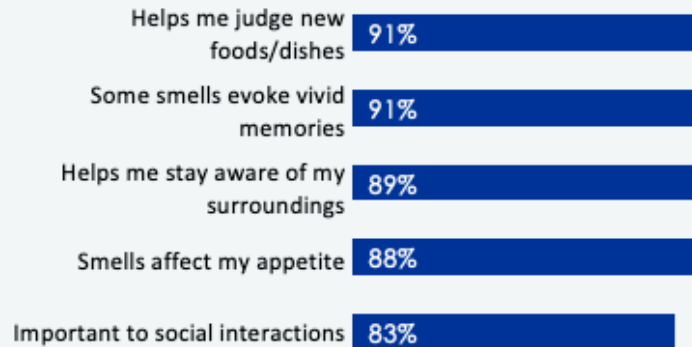
### Top 5 Important Features of Smell



### Top 5 Places Visited for the Smells



### Top 5 Characteristics of Smell



**31%** Regularly suffer from nasal congestion/blockage

**26%** Recently suffered from COVID-19 where temporarily lost my sense of smell

**15%** Recently suffered from COVID-19 and temporarily lost sense of smell

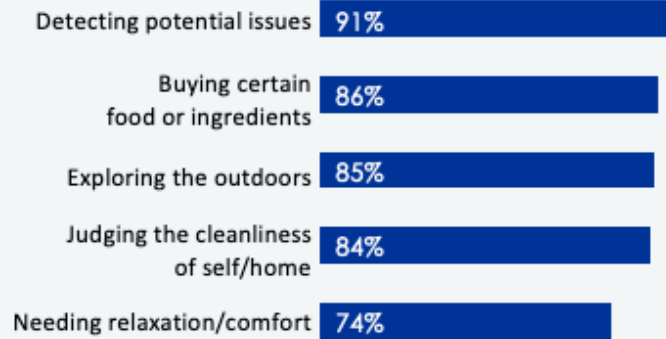
	Enjoy Most Ranked 1st-3rd %	Would Miss Most Ranked 1st-3rd %	Make Me Happy %	Make Me Nostalgic %
Ocean	32	28	44	23
Fresh bread	30	28	40	20
Coffee	28	33	36	9
Baked goods	27	26	47	16
Plants and flowers	25	27	44	11
Rain and morning dew	22	19	26	31
Scented products	21	20	38	11
Family recipes and delicacies	19	24	35	45
Partner smells	17	21	44	9
Sweets	13	11	44	12
Paper and stationery	11	9	29	26
Spices	10	12	38	8
Vegetables and fruits	10	11	37	8
Bonfires and campfires	9	10	28	24
Baby smells	8	6	30	23
Fabrics	6	5	36	10
Animals and farm smells	6	5	14	13
Tea	3	3	37	9
Pecorino	1	1	25	5



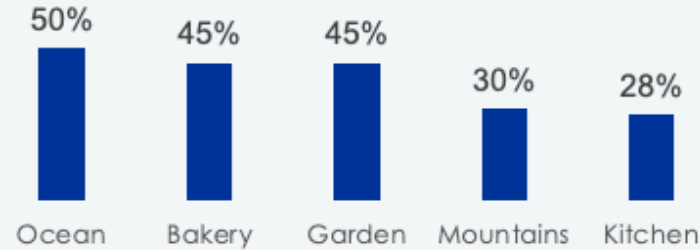
# Germany

- After the key job of keeping us safe and clean, our sense of smell is a driver of enjoyment
- In Germany, coffee and plants & flowers are the most enjoyable fragrances and the ones people would miss most if they lost their sense of smell
- The ocean is the most popular place to visit for its smells and the top driver of happiness
- Several other scents drive happiness, including fruits/vegetables, baked goods, sweets, spices and partner smells
- 9 in 10 indicate that smells can evoke vivid memories, with family recipes being the strongest driver of nostalgia
- Similar to other countries, 1 in 4 report regularly suffering from nasal congestion

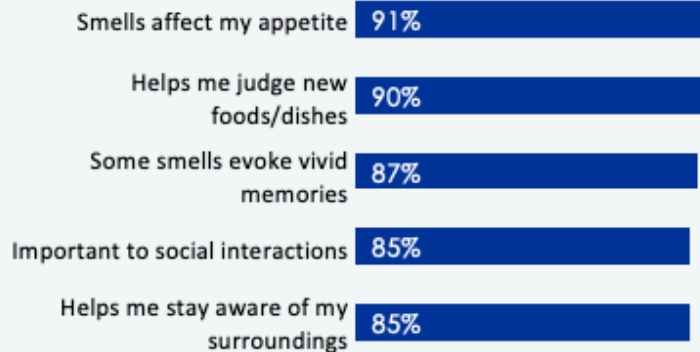
## Top 5 Important Features of Smell



## Top 5 Places Visited for the Smells



## Top 5 Characteristics of Smell



**27%** Regularly suffer from nasal congestion/blockage

**16%** Recently suffered from COVID-19 and temporarily lost sense of smell

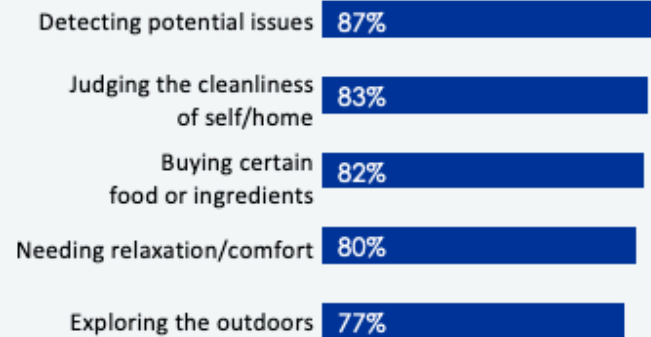
	Enjoy Most Ranked 1st-3rd %	Would Miss Most Ranked 1st-3rd %	Make Me Happy %	Make Me Nostalgic %
Coffee	40	41	41	20
Plants and flowers	38	41	45	18
Ocean	31	26	48	21
Scented products	25	23	39	18
Rain and morning dew	23	22	38	23
Fresh bread	23	22	40	27
Partner smells	17	19	42	15
Baked goods	16	16	44	23
Vegetables and fruits	13	14	46	14
Bonfires and campfires	12	11	32	29
Family recipes and delicacies	12	14	36	46
Spices	10	14	42	17
Animals and farm smells	8	8	25	22
Fabrics	8	8	38	16
Baby smells	7	4	30	18
Tea	5	4	37	18
Paper and stationery	4	3	23	19
Sweets	4	4	43	19
Currywurst	3	2	32	14



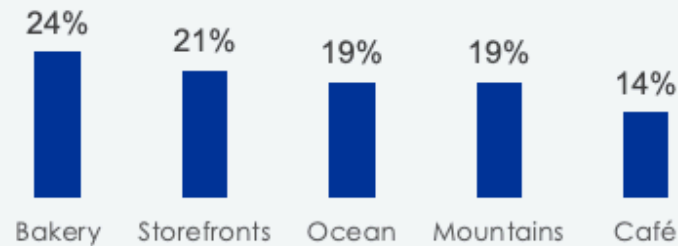
# Japan

- After the key job of keeping us safe and clean, our sense of smell is a driver of enjoyment
- In Japan, 9 in 10 report that smells affect their appetite, and coffee, fresh bread and baked goods rise to the top of favorite smells, the most missed and among the strongest drivers of happiness
- Not surprisingly then, the bakery is the most commonly visited place for its smells
- 8 in 10 indicate that smells can evoke vivid memories, with family recipes being the strongest driver of nostalgia
- The ocean, campfires, baby smells, rain/dew and plants/flowers also emerge as top nostalgia drivers
- Relative to other countries, Japan reports the lowest levels of suffering from nasal congestion, loss of smell, etc.

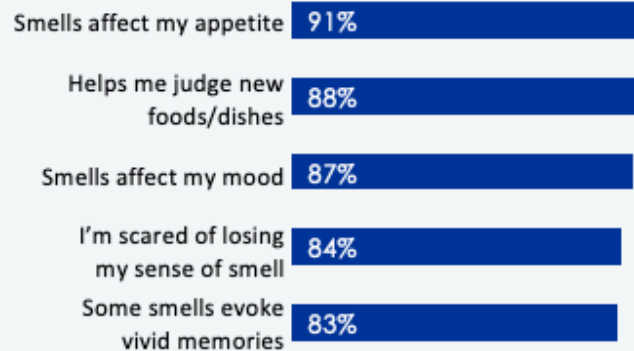
## Top 5 Important Features of Smell



## Top 5 Places Visited for the Smells



## Top 5 Characteristics of Smell



**18%** Regularly suffer from nasal congestion/blockage

	Enjoy Most Ranked 1 <sup>st</sup> -3 <sup>rd</sup> %	Would Miss Most Ranked 1 <sup>st</sup> -3 <sup>rd</sup> %	Make Me Happy %	Make Me Nostalgic %
Coffee	47	45	36	11
Fresh bread	44	37	45	14
Baked goods	32	28	42	13
Plants and flowers	22	23	27	22
Scented products	19	14	25	8
Ocean	16	16	20	33
Tea	16	12	27	20
Sweets	15	14	38	14
Vegetables and fruits	12	16	23	12
Fabrics	11	11	25	15
Rain and morning dew	11	12	13	22
Partner smells	10	17	23	10
Bonfires and campfires	10	9	19	29
Family recipes and delicacies	9	21	25	40
Baby smells	8	7	29	24
Spices	8	8	19	7
Paper and stationery	4	4	11	23
Animals and farm smells	3	4	6	15
Natto	0	1	7	9

# Appendix

# % Suffering

	France	Spain	US	Italy	Germany	Japan
	(1000) % A	(1000) % B	(1000) % C	(1000) % D	(1000) % E	(1000) % F
I regularly suffer from nasal congestion/blockage	17	35 AEF	35 AEF	31 AF	27 AF	18
I have recently suffered from COVID-19 where I temporarily lost my sense of smell	16 F	24 ACEF	19 F	26 ACEF	16 F	5
In the last two years, I have lost my sense of smell for more than two weeks	9 F	16 AEF	24 ABDEF	15 AEF	8 F	2
I currently can't smell or have a reduced sense of smell	5 F	9 AEF	10 AEF	9 AEF	6 F	2
I have been diagnosed with Nasal Polyps	3	3	9 ABDEF	5 ABF	5 ABF	3
None of the above	63 BCDE	43	46	45	56 BCD	77 ABCDE

4. Please select all that apply from the below:  
Letter indicates significantly higher than corresponding column at 95% confidence level

# Statement Agreement

-% Strongly Agree-

	France	Spain	US	Italy	Germany	Japan
	(1000) % A	(1000) % B	(1000) % C	(1000) % D	(1000) % E	(1000) % F
Smell helps me judge new foods and dishes.	35	39 F	39	37 F	36	30
Some smells evoke vivid memories.	40	50 F	44	48 F	40	26
Smell helps me stay aware of my surroundings.	35 E	26 F	32	31 BF	28	11
Smells affect my appetite.	39	31	39	35	40	40 BD
I think smell is important to my social interactions (e.g., going out to eat, etc.).	28	26 F	28	25 F	29	17
Smells affect my mood.	19	22	31 A	20	28 A	26 BD
I'm scared of losing my sense of smell.	23	32 D	25 E	22	20	34 D
I think smell is the most powerful sense.	14	12	26 AE	15	15	16 B
Smell would be the worst sense to lose.	13	14	24 AE	12	18 A	25 BD
My smell is important in my job.	10	11 F	21 AE	12 F	8	6
I have lost my sense of smell/I have lost the ability to smell some things.	7	7 F	13 AE	10 BF	6	3

23. On a scale of 1-4, how much do you agree/disagree with the following statements (1 = Strongly Disagree, 4 = Strongly Agree)? Letter indicates significantly higher than corresponding column at 95% confidence level



# Statement Agreement

-% Strongly Agree/Agree-

	France	Spain	US	Italy	Germany	Japan
	(1000) % A	(1000) % B	(1000) % C	(1000) % D	(1000) % E	(1000) % F
Smell helps me judge new foods and dishes.	91	91 F	93 E	91 F	90	88
Some smells evoke vivid memories.	90 E	93 F	92 E	91 F	87	83
Smell helps me stay aware of my surroundings.	90 E	85 F	88	89 BF	85	66
Smells affect my appetite.	89	82	90	88 B	91	91 BD
I think smell is important to my social interactions (e.g., going out to eat, etc.).	84 C	82 F	80	83 F	85 C	76
Smells affect my mood.	69	75	82 A	77	82 A	87 BD
I'm scared of losing my sense of smell.	63 E	81 D	63 E	69	56	84 D
I think smell is the most powerful sense.	60	54	69 AE	56	57	69 BD
Smell would be the worst sense to lose.	48	49 D	58 AE	43	53 A	74 BD
My smell is important in my job.	36 E	43 F	46 AE	42 F	31	32
I have lost my sense of smell/I have lost the ability to smell some things.	27 E	30 F	35 AE	33 F	20	14

23. On a scale of 1-4, how much do you agree/disagree with the following statements (1 = Strongly Disagree, 4 = Strongly Agree)? Letter indicates significantly higher than corresponding column at 95% confidence level

# Importance of Smell

-% Top Box (4)-

	France	Spain	US	Italy	Germany	Japan
	(1000) % A	(1000) % B	(1000) % C	(1000) % D	(1000) % E	(1000) % F
Detecting potential issues (e.g., smell of smoke or gas in the house)	60	67 DF	69 A	59	72 A	58
Judging the cleanliness of yourself or your home	40	46 F	53 AE	46 F	44	36
Buying certain food or ingredients	33	39 F	45 A	37	46 A	33
Exploring the wilderness/outdoors	27	45 DF	38 A	31 F	45 AC	25
Being at home, with your partner and/or child	26	40 DF	39 A	29 F	35 A	18
Enjoying the holiday season	25	37 DF	46 AE	30 F	31 A	22
Needing relaxation/comfort	24	44 DF	39 AE	26	29 A	33 D
Being in unfamiliar places	17	20 F	27 AE	20 F	20	13
Buying a household product	18	32 DF	38 AE	23 F	19	15
Taking part in celebrations or cultural festivals	12	18 F	28 AE	15 F	24 A	9

24. On a scale of 1-4, how Important is smell during any of the following experiences (1 = Not Important at All, 4 = Very Important)? Letter indicates significantly higher than corresponding column at 95% confidence level

# Importance of Smell

-% Top 2 Box (3-4)-

	France	Spain	US	Italy	Germany	Japan
	(1000) % A	(1000) % B	(1000) % C	(1000) % D	(1000) % E	(1000) % F
Detecting potential issues (e.g., smell of smoke or gas in the house)	88	91 F	93 A	90 F	91 A	87
Judging the cleanliness of yourself or your home	85	87 F	91 AE	87 F	84	83
Buying certain food or ingredients	82	85	88 A	84	86 A	82
Exploring the wilderness/outdoors	76	86 DF	83 A	79	85 A	77
Being at home, with your partner and/or child	68	77 DF	76 AE	73 F	71	61
Enjoying the holiday season	68	79 F	86 AE	76 F	72	65
Needing relaxation/comfort	64	83 D	80 AE	69	74 A	80 D
Being in unfamiliar places	61	69 DF	68 A	64 F	65	54
Buying a household product	61	80 DF	79 AE	75 F	61	58
Taking part in celebrations or cultural festivals	44	62 DF	71 A	52 F	67 A	43

24. On a scale of 1-4, how Important is smell during any of the following experiences (1 = Not Important at All, 4 = Very Important)?

Letter indicates significantly higher than corresponding column at 95% confidence level

# % Locations Visited for Smells

	France	Spain	US	Italy	Germany	Japan
	(1000) % A	(1000) % B	(1000) % C	(1000) % D	(1000) % E	(1000) % F
Bakery or location that sells fresh breads	50 EF	51 EF	52 EF	58 ABCEF	45 F	24
Kitchen	45 BCDEF	34 EF	40 BEF	37 EF	28 F	5
Garden	44 BDF	38 F	46 BDF	34 F	45 BDF	13
Beach/ocean	40 F	52 ACF	43 F	56 ACEF	50 ACF	19
My home	34 DEF	33 EF	35 DEF	29 F	28 F	10
Café or Restaurant – any ready-to-eat food store	28 DF	31 DF	39 ABDEF	23 F	27 DF	14
Mountains/river	27 F	36 ACEF	30 F	40 ACEF	30 F	19
Storefronts that specialize in crafting smell (e.g., candle stores, perfume stores, etc.)	24	24	30 ABF	32 ABEF	27 F	21
Grocery store or anywhere that sells fresh produce	22 BDEF	17 F	21 BDF	17 F	18 F	7
Childhood home (home you grew up in)	13 F	17 AEF	20 AEF	20 AEF	11 F	5
Farm	10 BF	7 F	13 ABF	13 ABF	15 ABF	4
Other storefronts	5 F	4	6 F	6 F	4	3
None of the above	12 BD	9 D	11 D	2	15 BCD	44 ABCDE

25. Which of the following locations do you go to, specifically for its smell? Select all that apply.  
Letter indicates significantly higher than corresponding column at 95% confidence level

# Smells Enjoyed Most

-% Ranked 1st-

	France	Spain	US	Italy	Germany	Japan
	(991) % A	(994) % B	(991) % C	(993) % D	(989) % E	(942) % F
Plants and flowers	19 DF	19 DF	23 ABDF	14	23 ABDF	11
Ocean	12 F	25 ACDEF	10 F	14 CF	14 CF	6
Coffee	10 B	6	11 B	9 B	14 ABD	21 ABCDE
Fresh bread	10 BCE	5	5	8 BCE	4	12 BCDE
Scented products (e.g., perfumes, candles, incense, etc.)	7	7	7	6	9 D	9 D
Baked goods (e.g., cakes, pastries, pies, cookies, etc.)	6 B	3	6 B	9 ABCE	4	10 ABCE
Rain and morning dew	6 F	13 ACDEF	10 ADF	7 F	8 F	3
Family recipes and delicacies (e.g., grandma's dishes, etc.)	5 BCEF	3	3	6 BCEF	3	2
Bonfires and campfires	4	6 F	6 F	5 F	5 F	3
Partner smells	4	3	4	8 ABCEF	5 B	4
Baguette	3	---	---	---	---	---
Spices (e.g., cumin, cinnamon, parsley, oregano, etc.)	3 B	1	3 B	3 B	2	2
Baby smells	2	3	3	3	2	2
Fabrics (e.g., leather, cotton, freshly washed laundry, etc.)	2	1	3 B	2	2	3 B
Animals and farm smells	2	1	1	1	2	1
Vegetables and fruits (e.g., cucumber, citrus, mint, etc.)	2	1	1	2	2	3 BC
Sweets (e.g., candy, chocolate, ice cream, etc.)	2 E	2 E	1 E	2 E	---	3 CE
Paper and stationery (e.g., new/old books, paper, sharpies, etc.)	1	3 ACEF	1	3 ACEF	1	1
Tea	1	---	1	---	---	3
Andouillette	---	---	---	---	---	---
Apple Pie	---	---	2	---	---	---
Bacalao (dried & salted codfish)	---	---	---	---	---	---
Currywurst	---	---	---	---	---	---
Natto (fermented beans)	---	---	---	---	---	---

8. Which smells do you enjoy the most? Please rank your top three.

Letter indicates significantly higher than corresponding column at 95% confidence level

# Smells Enjoyed Most

-% Ranked 1<sup>st</sup> – 3<sup>rd</sup>-

	France	Spain	US	Italy	Germany	Japan
	(991) % A	(994) % B	(991) % C	(993) % D	(989) % E	(942) % F
Plants and flowers	37 DF	38 DF	38 DF	25	38 DF	22
Ocean	29 CF	44 ACDEF	23 F	32 CF	31 CF	16
Coffee	29	28	29	28	40 ABCD	47 ABCDE
Fresh bread	27 BCE	21	20	30 BCE	23	44 ABCDE
Scented products (e.g., perfumes, candles, incense, etc.)	20	23 F	25 ADF	21	25 ADF	19
Baked goods (e.g., cakes, pastries, pies, cookies, etc.)	23 BE	17	23 BE	27 ABCE	16	32 ABCDE
Rain and morning dew	22 F	37 ACDEF	31 ADEF	22 F	23 F	11
Family recipes and delicacies (e.g., grandma's dishes, etc.)	19 BCEF	12 F	12 F	19 BCEF	12 F	9
Bonfires and campfires	10	14 ADF	17 ADEF	9	12 D	10
Partner smells	10	11	11	17 ABCF	17 ABCF	10
Baguette	12	---	---	---	---	---
Spices (e.g., cumin, cinnamon, parsley, oregano, etc.)	10 B	6	11 BF	10 B	10 B	8
Baby smells	9	10 E	10 E	8	7	8
Fabrics (e.g., leather, cotton, freshly washed laundry, etc.)	7	6	10 ABD	6	8	11 ABDE
Animals and farm smells	7 BF	4	6 F	6 F	8 BF	3
Vegetables and fruits (e.g., cucumber, citrus, mint, etc.)	10 B	7	8	10 B	13 ABCD	12 BC
Sweets (e.g., candy, chocolate, ice cream, etc.)	7 E	9 E	8 E	13 ABCE	4	15 ABCE
Paper and stationery (e.g., new/old books, paper, sharpies, etc.)	6	10 ACEF	4	11 ACEF	4	4
Tea	4 B	2	4 B	3	5 BD	16 ABCDE
Andouillette	1	---	---	---	---	---
Apple Pie	---	---	8	---	---	---
Bacalao (dried & salted codfish)	---	---	---	---	---	---
Currywurst	---	---	---	---	3	---
Natto (fermented beans)	---	---	---	---	---	---

# Smells Most Missed

-% Ranked 1<sup>st</sup>-

	France	Spain	US	Italy	Germany	Japan
	(991) % A	(994) % B	(991) % C	(993) % D	(989) % E	(942) % F
Plants and flowers	25 DF	24 DF	22 DF	16 F	27 CDF	11
Coffee	12 B	9	11	13 B	14 B	22 ABCDE
Ocean	11 F	23 ACDEF	9 F	13 CF	12 CF	6
Bonfires and campfires	6	5	8 BDEF	5	5	4
Family recipes and delicacies (e.g., grandma's dishes, etc.)	6 BE	3	5 BE	7 BE	2	10 ABCDE
Fresh bread	6 BC	2	3	5 BC	4 B	7 BCE
Rain and morning dew	5 F	12 ADEF	10 ADEF	6 F	7 F	3
Scented products (e.g., perfumes, candles, incense, etc.)	5	5	5	6	6	5
Partner smells	5	4	5	10 ABC	8 ABC	10 ABC
Vegetables and fruits (e.g., cucumber, citrus, mint, etc.)	4 BCE	1	2	3 B	2	4 BCE
Baked goods (e.g., cakes, pastries, pies, cookies, etc.)	3	2	5 ABE	6 ABE	2	7 ABE
Fabrics (e.g., leather, cotton, freshly washed laundry, etc.)	2	1	4 ABDE	1	2	3 BD
Animals and farm smells	2	1	2	2	3 BF	1
Spices (e.g., cumin, cinnamon, parsley, oregano, etc.)	2	2	5 ABDEF	2	3 F	1
Baby smells	1	2	2	1	2	2
Baguette	1	---	---	---	---	---
Sweets (e.g., candy, chocolate, ice cream, etc.)	1	1	1	1	---	3 ABCD
Tea	1 BE	---	1 BE	1 BE	---	2 BE
Andouillette	---	---	---	---	---	---
Apple Pie	---	---	1	---	---	---
Bacalao (e.g., dried & salted codfish)	---	---	---	---	---	---
Currywurst	---	---	---	---	---	---
Natto (e.g., fermented beans)	---	---	---	---	---	---
Paper and stationery (e.g., new/old books, paper, sharpies, etc.)	---	1	1	3 BCF	---	1

# Smells Most Missed

-% Ranked 1<sup>st</sup> – 3<sup>rd</sup>-

	France	Spain	US	Italy	Germany	Japan
	(991) % A	(994) % B	(991) % C	(993) % D	(989) % E	(942) % F
Plants and flowers	36 DF	41 ADF	38 DF	27	41 ADF	23
Coffee	33	33	32	33	41 ABCD	45 ABCD
Ocean	26 F	45 ACDEF	23 F	28 CF	26 F	16
Bonfires and campfires	11	12 F	16 ABDEF	10	11	9
Family recipes and delicacies (e.g., grandma's dishes, etc.)	21 BCE	16	14	24 BCE	14	21 BCE
Fresh bread	26 BCE	18	16	28 BCE	22 BC	37 ABCDE
Rain and morning dew	18 F	35 ACDEF	28 ADEF	19 F	22 AF	12
Scented products (e.g., perfumes, candles, incense, etc.)	19 F	21 F	22 F	20 F	23 AF	14
Partner smells	12	14	13	21 ABCF	19 ABC	17 AC
Vegetables and fruits – e.g., cucumber, citrus, mint, etc.	14 BC	9	9	11	14 BC	16 BCD
Baked goods (e.g., cakes, pastries, pies, cookies, etc.)	21 BE	14	23 BE	26 ABE	16	28 ABCE
Fabrics (e.g., leather, cotton, freshly washed laundry, etc.)	7	6	11 ABDE	5	8 D	11 ABDE
Animals and farm smells	8 DF	6	7 F	5	8 DF	4
Spices (e.g., cumin, cinnamon, parsley, oregano, etc.)	14 BF	7	17 BDF	12 BF	14 BF	8
Baby smells	6	8 E	8 E	6	4	7 E
Baguette	9	---	---	---	---	---
Sweets (e.g., candy, chocolate, ice cream, etc.)	6	6	6	11 ABCE	4	14 ABCE
Tea	4 B	2	4 B	3	4 B	12 ABCDE
Andouillette	1	---	---	---	---	---
Apple Pie	---	---	7	---	---	---
Bacalao (e.g., dried & salted codfish)	---	1	---	---	---	---
Currywurst	---	---	---	---	2	---
Natto (e.g., fermented beans)	---	---	---	---	---	1
Paper and stationery (e.g., new/old books, paper, sharpies, etc.)	5 E	6 E	4	9 ABCEF	3	4



# % Smells That Remind of Traditions

	France	Spain	US	Italy	Germany	Japan
	(1000) % A	(1000) % B	(1000) % C	(1000) % D	(1000) % E	(1000) % F
Baked goods (e.g., cakes, pastries, pies, biscuits, etc.)	42 BCEF	31 F	35 F	38 BF	35 F	7
Sweets (e.g., candy, chocolate, ice cream, etc.)	30 BCDEF	21 EF	20 EF	24 CEF	12 F	7
Fresh bread	25 F	36 ACF	29 AF	40 ACF	36 ACF	7
Bacalao (dried & salted codfish)	24 B	6	NA	NA	NA	NA
Coffee	22 F	32 AF	32 AF	29 AF	32 AF	9
Plants and flowers	20 DF	26 ADEF	24 ADF	16 F	22 DF	11
Scent products (e.g., perfume, candles, incenses, etc.)	19	22	24 AE	22	20	22
Cooking spices (e.g., cumin, cinnamon, parsley, oregano, etc.)	16 F	19 F	28 ABDEF	20 AF	23 ABF	6
Baby smells	16 DEF	17 DEF	15 DEF	10 F	10 F	4
Bonfires and campfires	14 F	24 ACDF	18 ADF	12	24 ACDF	10
Ocean	14 F	29 ACDEF	18 AEF	16 F	14 F	8
Vegetables and fruits (e.g., cucumber, citrus, mint, etc.)	12 F	12 F	13 F	12 F	14 F	7
Rain and morning dew	11 F	28 ACDEF	20 ADEF	14 AF	15 AF	6

22. Which smells remind you of traditions that are important to you (religious, cultural, etc.)? Select all that apply.  
Letter indicates significantly higher than corresponding column at 95% confidence level

# % Smells That Remind of Traditions (continued)

	France	Spain	US	Italy	Germany	Japan
	(1000) % A	(1000) % B	(1000) % C	(1000) % D	(1000) % E	(1000) % F
Animals and farm smells	11 DF	10 DF	11 DF	7	15 ABCDF	5
Paper and stationery (e.g., new/old books, paper, sharpies, etc.)	11 F	13 CEF	9	13 CEF	9	7
Partner smells	10 F	15 AF	13 AF	12 F	12 F	5
Fabrics (e.g., leather, cotton, freshly washed laundry, etc.)	9	10 F	12 ADF	9	10 F	7
Tea	7	7	13 ABD	10 AB	14 ABD	18 ABCDE
Andouillette (pork intestine sausages) / French Baguette	4	---	---	---	---	---
Apple Pie	---	---	27	---	---	---
Pecorino (sheep cheese)	---	---	---	8	---	---
Currywurst	---	---	---	---	8	---
Natto (fermented beans)	---	---	---	---	---	5
Family recipes and delicacies (e.g., grandmother's dishes, etc.)	---	43 F	46 F	48 BF	44 F	28
Other	7 BCDEF	1	1	2	2	2
None of the above	17 BCDE	6	10 BD	5	13 BCD	31 ABCDE

22. Which smells remind you of traditions that are important to you (religious, cultural, etc.)? Select all that apply.  
Letter indicates significantly higher than corresponding column at 95% confidence level

# % Respondents Don't Enjoy This Smell

	France	Spain	US	Italy	Germany	Japan
	(1000) % A	(1000) % B	(1000) % C	(1000) % D	(1000) % E	(1000) % F
Andouillette (pork intestine sausages) / French Baguette	39	---	---	---	---	---
Animals and farm smells	25	43 AEF	40 AEF	41 AEF	29 A	34 AE
Tea	18 CDEF	24 ACDEF	14 DEF	11 F	9 F	3
Paper and stationary (e.g., new/old books, paper, sharpies, etc.)	17 BD	13	29 ABDEF	11	24 ABDF	17 BD
Baby smells	14 BF	11	12 F	13 F	17 BCDF	9
Cooking spices (e.g., cumin, cinnamon, parsley, oregano, etc.)	13 BE	10	11 E	12 E	8	15 BCE
Bonfires and campfires	12	18 AEF	16 AEF	16 AEF	12	10
Scent products (e.g., perfume, candles, incenses, etc.)	11	9	10	10	11	14 ABCDE
Rain and morning dew	10	8	8	13 ABCE	8	17 ABCDE
Fabrics (e.g., leather, cotton, freshly washed laundry, etc.)	10 F	13 AF	15 AEF	12 F	11 F	6
Coffee	10 BDEF	6	8 EF	7	5	5
Partner smells	8 D	9 DE	12 ABDEF	4	6	7 D
Vegetables and fruits (e.g., cucumber, citrus, mint, etc.)	7	12 ACEF	8 EF	10 AEF	5	5
Ocean	6	4	10 ABDE	5	5	11 ABDE
Sweets (e.g., candy, chocolate, ice cream, etc.)	6 F	6 F	5 F	4	6 F	3
Plants and flowers	4	5	6	7 AE	4	9 ABCE
Baked goods (e.g., cakes, pastries, pies, biscuits, etc.)	4	4	3	3	4	3
Baguette	3	---	---	---	---	---
Family recipes and delicacies (e.g., grandmother's dishes, etc.)	3	4	6 ADE	3	3	4
Fresh bread	3	3	5 ABDEF	2	2	2
Bacalao (dried & salted codfish)	---	44	---	---	---	---
Apple Pie	---	---	6	---	---	---
Pecorino (sheep cheese)	---	---	---	29	---	---
Currywurst	---	---	---	---	19	---
Natto (fermented beans)	---	---	---	---	---	29

6. Please respond about your personal opinions regarding the following smells.  
Letter indicates significantly higher than corresponding column at 95% confidence level

# % Smelling This Makes Respondents Happy

	France	Spain	US	Italy	Germany	Japan
	(1000)	(1000)	(1000)	(1000)	(1000)	(1000)
	%	%	%	%	%	%
	A	B	C	D	E	F
Baked goods (e.g., cakes, pastries, pies, biscuits, etc.)	61 BCDEF	51 CEF	44	47 F	44	42
Baguette	58	---	---	---	---	---
Fresh bread	58 BCDEF	43	42	40	40	45 DE
Plants and flowers	55 BCDEF	47 F	49 DF	44 F	45 F	27
Coffee	51 BCDEF	41 DF	37	36	41 DF	36
Vegetables and fruits (e.g., cucumber, citrus, mint, etc.)	43 DF	41 F	48 ABDF	37 F	46 BDF	23
Ocean	42 F	43 F	43 F	44 F	48 ABCF	20
Sweets (e.g., candy, chocolate, ice cream, etc.)	42	46 F	49 ADEF	44 F	43 F	38
Scent products (e.g., perfume, candles, incenses, etc.)	40 F	43 DF	41 F	38 F	39 F	25
Partner smells	40 F	45 ACF	38 F	44 CF	42 F	23
Cooking spices (e.g., cumin, cinnamon, parsley, oregano, etc.)	39 F	42 F	42 F	38 F	42 F	19
Family recipes and delicacies (e.g., grandmother's dishes, etc.)	38 F	38 F	36 F	35 F	36 F	25
Rain and morning dew	33 DF	39 ADF	41 ADF	26 F	38 ADF	13
Fabrics (e.g., leather, cotton, freshly washed laundry, etc.)	33 F	39 AF	42 ADF	36 F	38 AF	25
Tea	31	30	40 ABF	37 ABF	37 ABF	27
Baby smells	26	34 AF	40 ABDEF	30	30	29
Bonfires and campfires	23 F	30 AF	34 ADF	28 AF	32 AF	19
Paper and stationary (e.g., new/old books, paper, sharpies, etc.)	22 F	31 ACEF	24 F	29 ACEF	23 F	11
Animals and farm smells	12 F	14 F	17 AF	14 F	25 ABCDF	6
Andouillette (pork intestine sausages) / French Baguette	12	---	---	---	---	---
Bacalao (dried & salted codfish)	---	14	---	---	---	---
Apple Pie	---	---	44	---	---	---
Pecorino (sheep cheese)	---	---	---	25	---	---
Currywurst	---	---	---	---	32	---
Natto (fermented beans)	---	---	---	---	---	7

6. Please respond about your personal opinions regarding the following smells.  
Letter indicates significantly higher than corresponding column at 95% confidence level

# % Respondents Favorite Smells

	France	Spain	US	Italy	Germany	Japan
	(1000) % A	(1000) % B	(1000) % C	(1000) % D	(1000) % E	(1000) % F
Family recipes and delicacies (e.g., grandmother's dishes, etc.)	35 BE	28	34 BE	34 BE	27	31
Bonfires and campfires	30 BDEF	16 D	26 BDE	12	16 D	25 BDE
Ocean	27	35 AEF	34 AF	37 AEF	30	29
Rain and morning dew	27 F	34 ADEF	36 ADEF	25	25	22
Paper and stationary (e.g., new/old books, paper, sharpies, etc.)	25 CE	22 CE	18 E	25 CE	10	22 CE
Baby smells	24 DE	21 E	28 ABDEF	19	16	22 E
Sweets (e.g., candy, chocolate, ice cream, etc.)	23	33 AE	37 AE	41 ABE	25	53 ABCDE
Animals and farm smells	22 BCDEF	8	12 BDF	6	10 D	9 D
Fabrics (e.g., leather, cotton, freshly washed laundry, etc.)	21	21	27 AB	25 AB	24	41 ABCDE
Vegetables and fruits (e.g., cucumber, citrus, mint, etc.)	20	26 A	28 A	32 AB	30 A	46 ABCDE
Baked goods (e.g., cakes, pastries, pies, biscuits, etc.)	20	42 A	50 ABE	50 ABE	39 A	56 ABCDE
Fresh bread	20	49 ACE	44 A	55 ABCE	43 A	61 ABCDE
Plants and flowers	19	38 AD	41 AD	30 A	37 AD	41 AD
Scent products (e.g., perfume, candles, incenses, etc.)	19	35 AE	39 ADE	34 A	30 A	39 ADE
Baguette	19	---	---	---	---	---
Cooking spices (e.g., cumin, cinnamon, parsley, oregano, etc.)	18	25 A	35 ABE	31 AB	27 A	36 ABDE
Coffee	18	46 A	51 ABE	47 A	46 A	62 ABCDE
Partner smells	17	28 A	29 A	36 ABCEF	28 A	28 A
Tea	16	17	26 AB	25 AB	25 AB	53 ABCDE
Andouillette (pork intestine sausages) / French Baguette	9	---	---	---	---	---
Bacalao (dried & salted codfish)	---	8	---	---	---	---
Apple Pie	---	---	38	---	---	---
Pecorino (sheep cheese)	---	---	---	16	---	---
Currywurst	---	---	---	---	17	---
Natto (fermented beans)	---	---	---	---	---	15

# % This Smell Bothers Respondents

	France	Spain	US	Italy	Germany	Japan
	(1000) % A	(1000) % B	(1000) % C	(1000) % D	(1000) % E	(1000) % F
Andouillette (pork intestine sausages) / French Baguette	24	---	---	---	---	---
Animals and farm smells	18 E	20 E	20 E	24 ABCE	13	21 E
Scent products (e.g., perfume, candles, incenses, etc.)	10 B	6	9 B	9 B	9 B	8
Bonfires and campfires	7 F	12 ADEF	11 AEF	9 F	8 F	3
Paper and stationary (e.g., new/old books, paper, sharpies, etc.)	7 BF	4	7 BF	5	8 BDF	4
Baby smells	7 BF	4	6 F	6 F	9 BCDF	3
Coffee	6 BEF	2	4 BF	4 BF	3	2
Fabrics (e.g., leather, cotton, freshly washed laundry, etc.)	5 F	4 F	4 F	5 F	4 F	2
Cooking spices (e.g., cumin, cinnamon, parsley, oregano, etc.)	5 CE	4	3	5 CE	3	4
Partner smells	5 DE	4 D	4 D	2	3	4 D
Rain and morning dew	4 BE	2	4 BE	4 BE	2	6 BE
Sweets (e.g., candy, chocolate, ice cream, etc.)	4 BDF	2	3 F	2	3 F	1
Plants and flowers	3	3	4 F	4 F	3	2
Ocean	3 B	1	3 B	2	2	2
Vegetables and fruits (e.g., cucumber, citrus, mint, etc.)	3	2	3	3	3	2
Tea	3 F	4 DF	4 DF	2	4 DF	1
Baked goods (e.g., cakes, pastries, pies, biscuits, etc.)	3 BF	1	2	2	2	1
Fresh bread	3 BEF	1	2	2	1	1
Baguette	2	---	---	---	---	---
Family recipes and delicacies (e.g., grandmother's dishes, etc.)	2	2	2	2	1	1
Bacalao (dried & salted codfish)	---	16	---	---	---	---
Apple Pie	---	---	3	---	---	---
Pecorino (sheep cheese)	---	---	---	17	---	---
Currywurst	---	---	---	---	9	---
Natto (fermented beans)	---	---	---	---	---	15

# % This Smell Makes Respondents Nostalgic

	France	Spain	US	Italy	Germany	Japan
	(1000)	(1000)	(1000)	(1000)	(1000)	(1000)
	%	%	%	%	%	%
	A	B	C	D	E	F
Family recipes and delicacies (e.g., grandmother's dishes, etc.)	26	48 AF	44 A	45 AF	46 AF	40 A
Baguette	18	---	---	---	---	---
Fresh bread	17	20 F	28 ABDF	20 F	27 ABDF	14
Baked goods (e.g., cakes, pastries, pies, biscuits, etc.)	16	16	26 ABDF	16	23 ABDF	13
Ocean	15	31 ACDE	20 A	23 A	21 A	33 ACDE
Rain and morning dew	15	27 AEF	27 AEF	31 AEF	23 A	22 A
Sweets (e.g., candy, chocolate, ice cream, etc.)	15	18 DF	18 DF	12	19 ADF	14
Bonfires and campfires	14	25 A	25 A	24 A	29 ABCD	29 ABCD
Baby smells	14	30 ACDEF	25 AE	23 AE	18 A	24 AE
Paper and stationary (e.g., new/old books, paper, sharpies, etc.)	13	27 ACEF	18 A	26 ACE	19 A	23 ACE
Scent products (e.g., perfume, candles, incenses, etc.)	12 F	13 F	17 ABDF	11 F	18 ABDF	8
Plants and flowers	11	13	19 ABD	11	18 ABD	22 ABDE
Fabrics (e.g., leather, cotton, freshly washed laundry, etc.)	11	12	15 AD	10	16 ABD	15 AD
Vegetables and fruits (e.g., cucumber, citrus, mint, etc.)	11 D	9	14 ABD	8	14 ABD	12 BD
Coffee	11	12 D	22 ABDF	9	20 ABDF	11
Animals and farm smells	10	14 A	14 A	13 A	22 ABCDF	15 A
Cooking spices (e.g., cumin, cinnamon, parsley, oregano, etc.)	10 F	13 ADF	19 ABDF	8	17 ABDF	7
Tea	9	8	14 ABD	9	18 ABCD	20 ABCD
Partner smells	8	13 ADF	17 ABDF	9	15 ADF	10
Andouillette (pork intestine sausages) / French Baguette	5	---	---	---	---	---
Bacalao (dried & salted codfish)	---	7	---	---	---	---
Apple Pie	---	---	25	---	---	---
Pecorino (sheep cheese)	---	---	---	5	---	---
Currywurst	---	---	---	---	14	---
Natto (fermented beans)	---	---	---	---	---	9

6. Please respond about your personal opinions regarding the following smells.  
Letter indicates significantly higher than corresponding column at 95% confidence level