What gender do you identify as? `12` ⓘ

What gender do you identify as?	Average	Minimum	Maximum	Count
Female cis	1.00	1.00	1.00	8
Male cis	3.00	3.00	3.00	2
Nonbinary person	5.00	5.00	5.00	1
Other	6.00	6.00	6.00	1

How old are you? `12` ⓘ
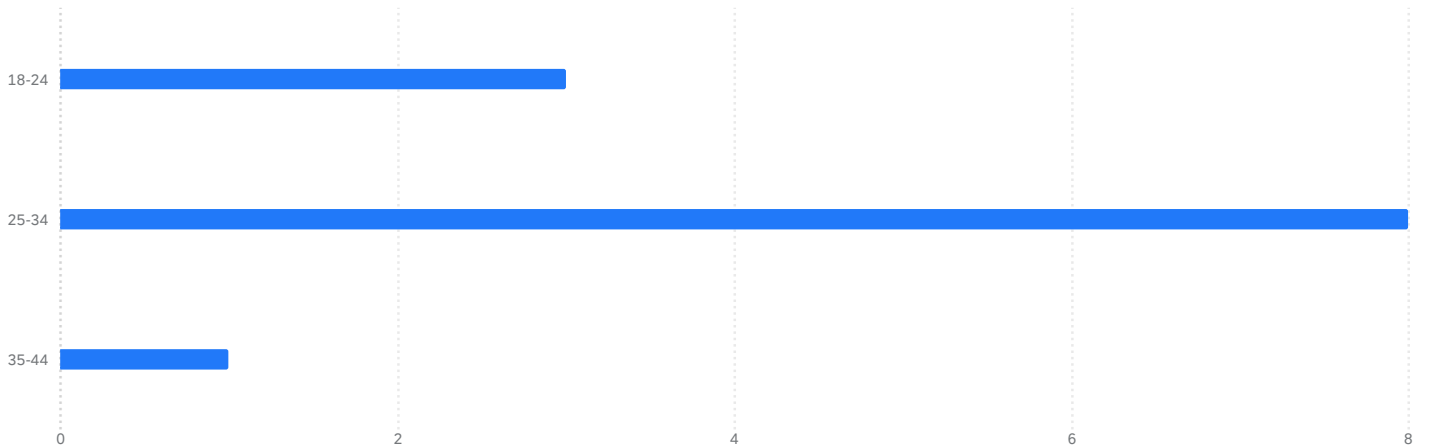
How old are you? `12` ⓘ

Q2 - How old are you?	Percentage	Count
18-24	25%	3
25-34	67%	8
35-44	8%	1

How old are you? `12` ⓘ

How old are you?	Average	Minimum	Maximum	Count
18-24	1.00	1.00	1.00	3
25-34	2.00	2.00	2.00	8
35-44	3.00	3.00	3.00	1

Rate your experience with bio-based materials from '0 - No experience' to '100 -Advanced' `11` ⓘ

Rate your experience with bio-based materials from '0 - No experience' to '...	Average	Minimum	Maximum	Count
My experience with bio-based materials	34.45	0.00	89.00	11

A circular economy in the context of textiles is... 12 ⓘ

A circular economy in the context of textiles is...

Zero waste

future

from the sources of the material to the textile itself is processed in substainable ways, the idea of reduce, reuse and recycle are applicable.

sustainablity

transparent supply chain with reduced waste

Closing the loop between the consumer and the producer. Feeding used textiles back into the system to be regenerated as a new product.

remake

zero waste and remake

SECOND HAND,VINTAGE CLOTHES

about creating zero waste, preserving raw materials (including things like water) and utilising the materials we already have. It is about turning a linear system (where products have an 'end') into a circular one with no end.

an opportunity to reduce the waste that comes out from the sector.

How often do you buy clothes? 12 ⓘ
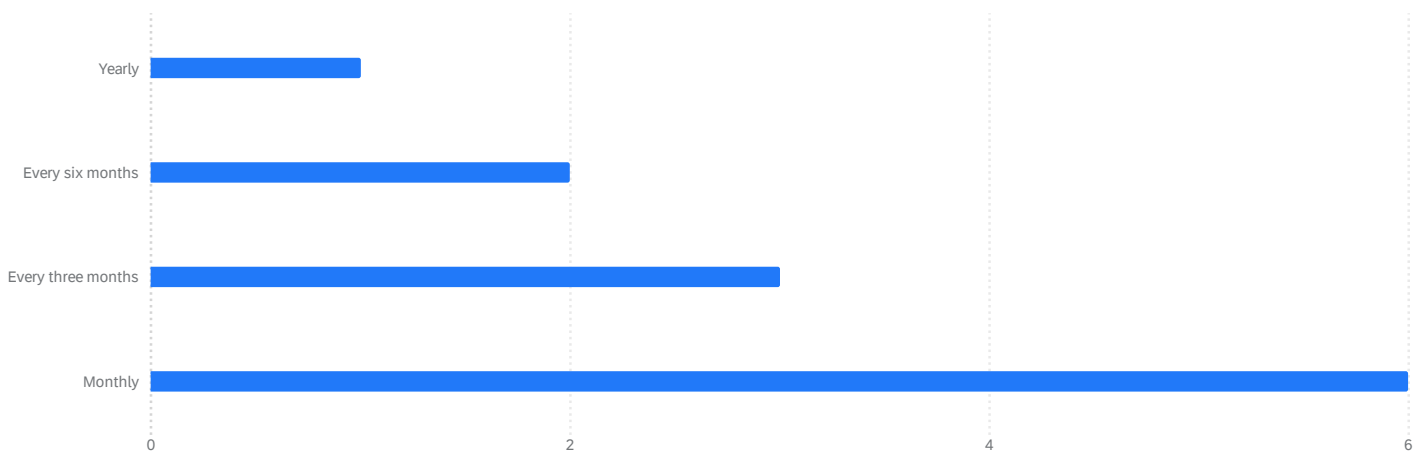
How often do you buy clothes? 12 ⓘ

Q5 - How often do you buy clothes?	Percentage	Count
Yearly	8%	1
Every six months	17%	2
Every three months	25%	3

Q5 - How often do you buy clothes?	Percentage	Count
Monthly	50%	6

How often do you buy clothes? 12 ⓘ

How often do you buy clothes?	Average	Minimum	Maximum	Count
Yearly	2.00	2.00	2.00	1
Every six months	3.00	3.00	3.00	2
Every three months	4.00	4.00	4.00	3
Monthly	5.00	5.00	5.00	6
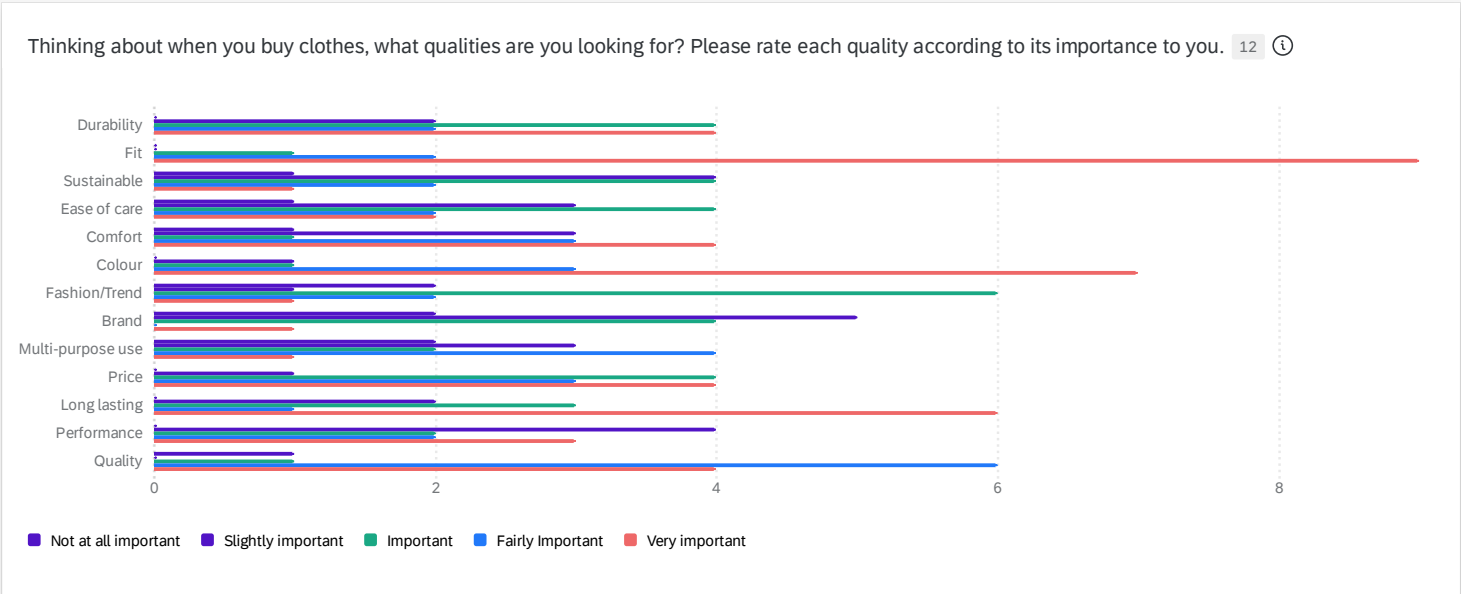
Thinking about when you buy clothes, what qualities are you looking for? Please rate each quality according to its importance to you. 12 ⓘ

■ Not at all important ■ Slightly important ■ Important ■ Fairly Important ■ Very important
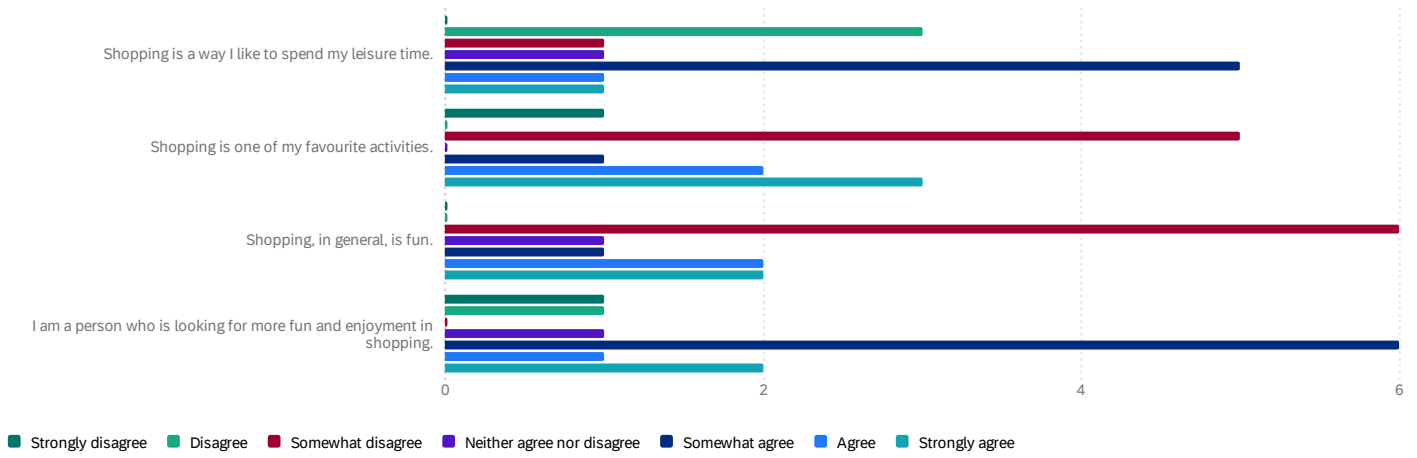
Thinking about when you buy clothes, what qualities are you looking for? Please rate each quality according to its importance to you. 12 ⓘ

Thinking about when you buy clothes, what qualities are you looking for? Pl...	Not at all important	Slightly important	Important	Fairly Important	Very important
Durability	0	2	4	2	4
Fit	0	0	1	2	9
Sustainable	1	4	4	2	1
Ease of care	1	3	4	2	2
Comfort	1	3	1	3	4
Colour	0	1	1	3	7
Fashion/Trend	2	1	6	2	1
Brand	2	5	4	0	1
Multi-purpose use	2	3	2	4	1
Price	0	1	4	3	4
Long lasting	0	2	3	1	6
Performance	0	4	2	2	3
Quality	1	0	1	6	4

Thinking about when you buy clothes, what qualities are you looking for? Please rate each quality according to its importance to you. 12 ⓘ

Thinking about when you buy clothes, what qualities are you looking for? Pl...	Average	Minimum	Maximum	Count
Durability	3.67	2.00	5.00	12
Fit	4.67	3.00	5.00	12
Sustainable	2.83	1.00	5.00	12
Ease of care	3.08	1.00	5.00	12
Comfort	3.50	1.00	5.00	12
Colour	4.33	2.00	5.00	12
Fashion/Trend	2.92	1.00	5.00	12
Brand	2.42	1.00	5.00	12
Multi-purpose use	2.92	1.00	5.00	12
Price	3.83	2.00	5.00	12
Long lasting	3.92	2.00	5.00	12
Performance	3.36	2.00	5.00	11
Quality	4.00	1.00	5.00	12

To what extent do you agree with each of the following statements on a scale of 1 (strongly disagree) to 7(strongly agree)? `12` ⓘ

Legend: ■ Strongly disagree ■ Disagree ■ Somewhat disagree ■ Neither agree nor disagree ■ Somewhat agree ■ Agree ■ Strongly agree

To what extent do you agree with each of the following statements on a scale of 1 (strongly disagree) to 7(strongly agree)? `12` ⓘ
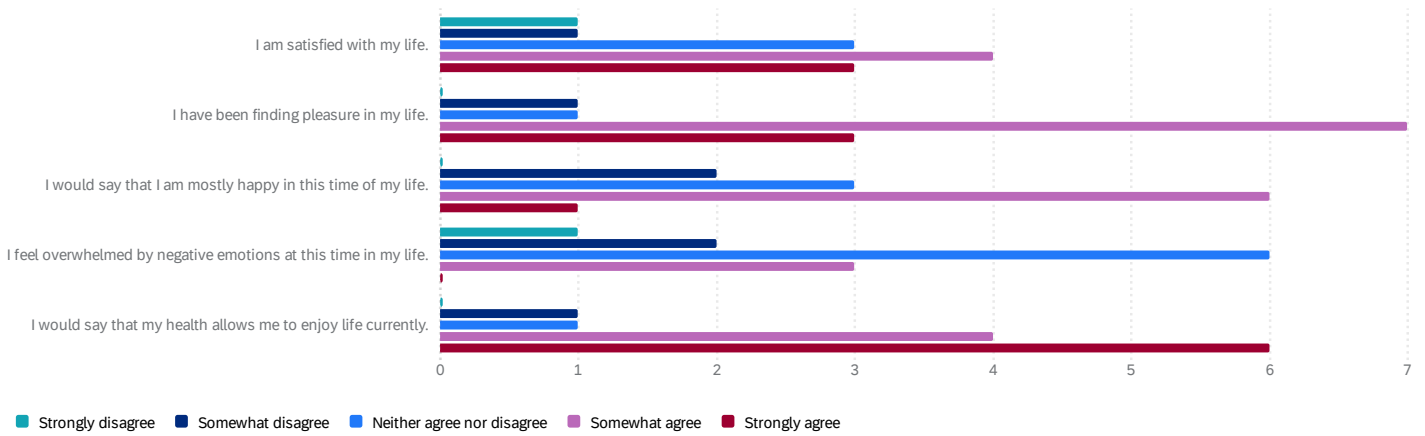
To what extent do you agree with each of the following statements on a scal...	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Shopping is a way I like to spend my leisure time.	0	3	1	1	5	1	1
Shopping is one of my favourite activities.	1	0	5	0	1	2	3
Shopping, in general, is fun.	0	0	6	1	1	2	2
I am a person who is looking for more fun and enjoyment in shopping.	1	1	0	1	6	1	2

To what extent do you agree with each of the following statements on a scale of 1 (strongly disagree) to 7(strongly agree)? `12` ⓘ

To what extent do you agree with each of the following statements on a scal...	Average	Minimum	Maximum	Count
Shopping is a way I like to spend my leisure time.	4.25	2.00	7.00	12
Shopping is one of my favourite activities.	4.50	1.00	7.00	12
Shopping, in general, is fun.	4.42	3.00	7.00	12
I am a person who is looking for more fun and enjoyment in shopping.	4.75	1.00	7.00	12

The following 5 statements refer to how you currently feel about your wellbeing. Read each statement and decide the extent to which you agree/disagree.

12 ⓘ

- ■ Strongly disagree ■ Somewhat disagree ■ Neither agree nor disagree ■ Somewhat agree ■ Strongly agree

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The following 5 statements refer to how you currently feel about your wellbeing. Read each statement and decide the extent to which you agree/disagree.
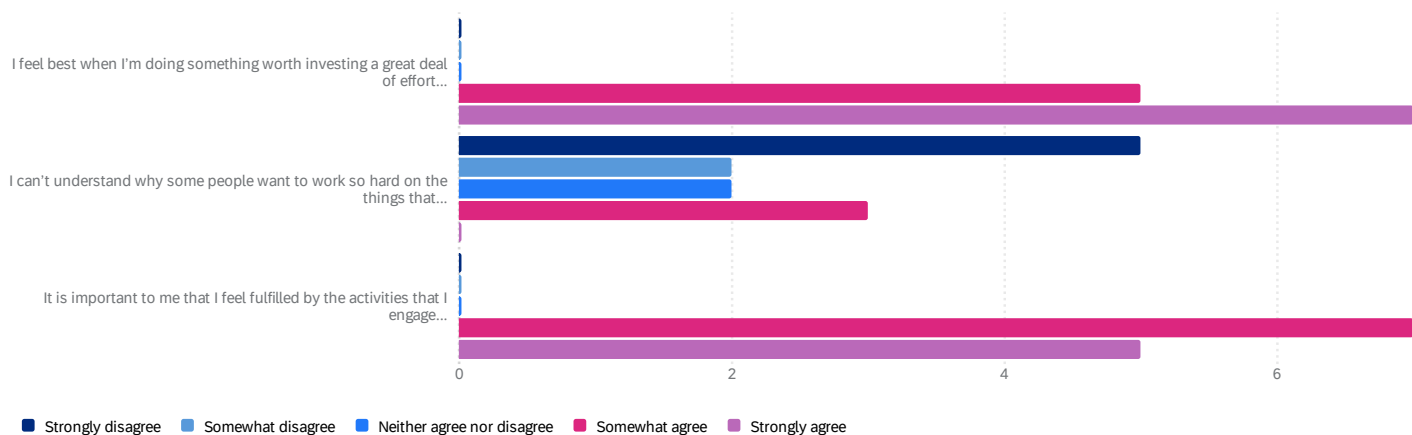
12 ⓘ

The following 5 statements refer to how you currently feel about your wellb...	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I am satisfied with my life.	1	1	3	4	3
I have been finding pleasure in my life.	0	1	1	7	3
I would say that I am mostly happy in this time of my life.	0	2	3	6	1
I feel overwhelmed by negative emotions at this time in my life.	1	2	6	3	0
I would say that my health allows me to enjoy life currently.	0	1	1	4	6

The following 5 statements refer to how you currently feel about your wellbeing. Read each statement and decide the extent to which you agree/disagree.

12 ⓘ

The following 5 statements refer to how you currently feel about your wellb...	Average	Minimum	Maximum	Count
I am satisfied with my life.	3.58	1.00	5.00	12
I have been finding pleasure in my life.	4.00	2.00	5.00	12
I would say that I am mostly happy in this time of my life.	3.50	2.00	5.00	12
I feel overwhelmed by negative emotions at this time in my life.	2.92	1.00	4.00	12
I would say that my health allows me to enjoy life currently.	4.25	2.00	5.00	12

The following 3 statements refer to how you currently feel when you participate in activities in your daily life. Read each statement and decide the extent to which you agree/disagree. 12 ⓘ

Legend:
- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
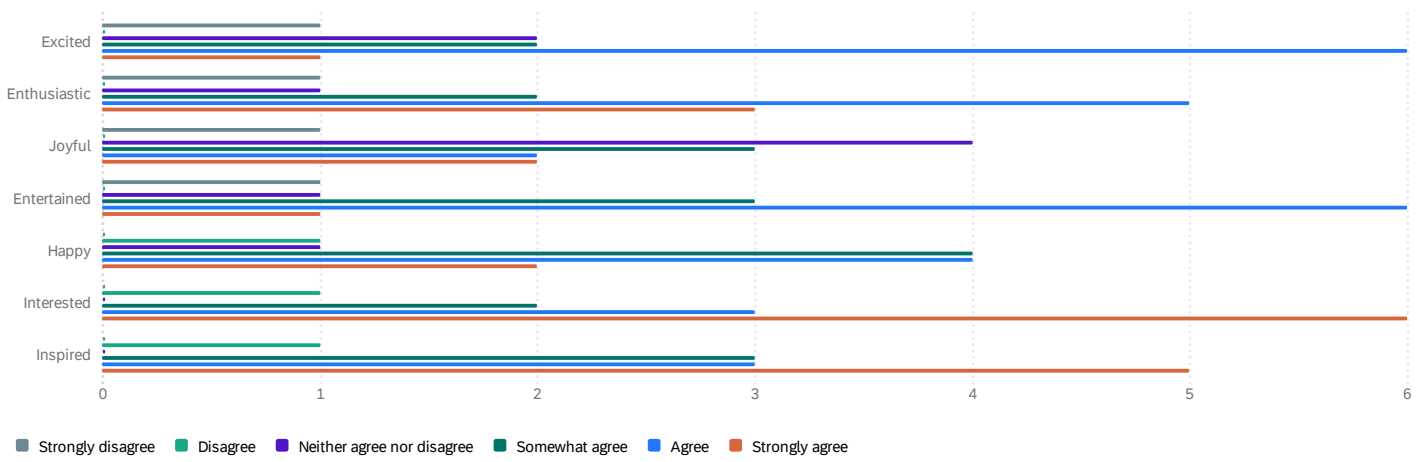- Somewhat agree
- Strongly agree

The following 3 statements refer to how you currently feel when you participate in activities in your daily life. Read each statement and decide the extent to which you agree/disagree. 12 ⓘ

The following 3 statements refer to how you currently feel when you partici...	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I feel best when I'm doing something worth investing a great deal of effort...	0	0	0	5	7
I can't understand why some people want to work so hard on the things that...	5	2	2	3	0
It is important to me that I feel fulfilled by the activities that I engage...	0	0	0	7	5

The following 3 statements refer to how you currently feel when you participate in activities in your daily life. Read each statement and decide the extent to which you agree/disagree. 12 ⓘ

The following 3 statements refer to how you currently feel when you partici...	Average	Minimum	Maximum	Count
I feel best when I'm doing something worth investing a great deal of effort...	4.58	4.00	5.00	12
I can't understand why some people want to work so hard on the things that...	2.25	1.00	4.00	12
It is important to me that I feel fulfilled by the activities that I engage...	4.42	4.00	5.00	12

To what extent do you agree with each of the following statements: "Right now, I feel..." 12 ⓘ

Legend: ■ Strongly disagree ■ Disagree ■ Neither agree nor disagree ■ Somewhat agree ■ Agree ■ Strongly agree
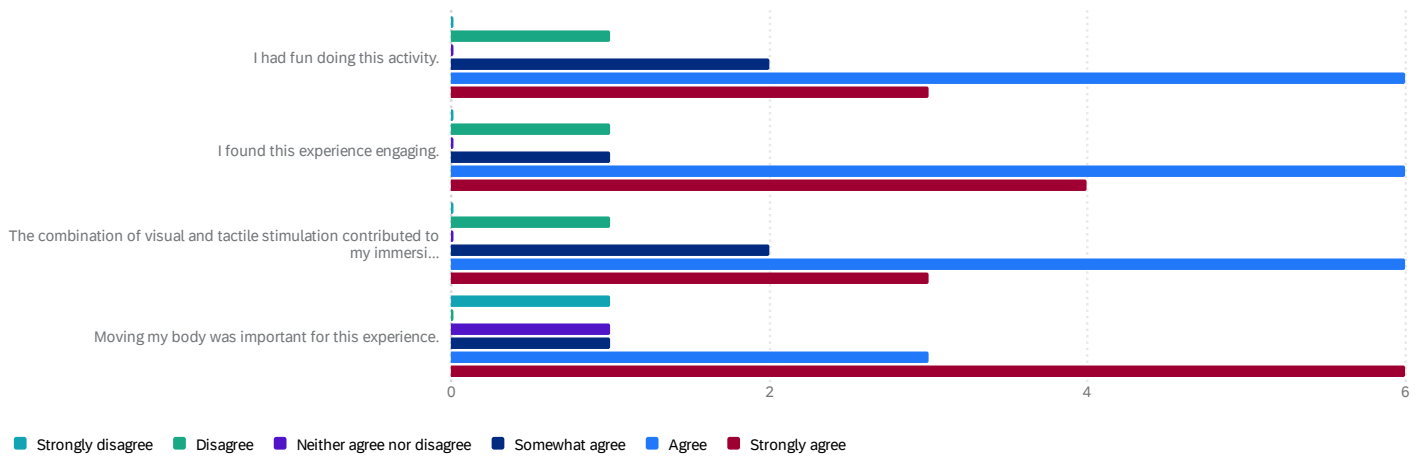
To what extent do you agree with each of the following statements: "Right now, I feel..." 12 ⓘ

To what extent do you agree with each of the following statements: "Right...	Strongly disagree	Disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Excited	1	0	2	2	6	1
Enthusiastic	1	0	1	2	5	3
Joyful	1	0	4	3	2	2
Entertained	1	0	1	3	6	1
Happy	0	1	1	4	4	2
Interested	0	1	0	2	3	6
Inspired	0	1	0	3	3	5

To what extent do you agree with each of the following statements: "Right now, I feel..." 12 ⓘ

To what extent do you agree with each of the following statements: "Right...	Average	Minimum	Maximum	Count
Excited	5.17	1.00	7.00	12
Enthusiastic	5.50	1.00	7.00	12
Joyful	4.83	1.00	7.00	12
Entertained	5.25	1.00	7.00	12
Happy	5.33	2.00	7.00	12
Interested	6.00	2.00	7.00	12
Inspired	5.83	2.00	7.00	12

In relation to your engagement with biobased materials. To what extent do you agree with each of the following statements: 12 ⓘ

Legend: ■ Strongly disagree ■ Disagree ■ Neither agree nor disagree ■ Somewhat agree ■ Agree ■ Strongly agree

Categories (top to bottom):
- I had fun doing this activity.
- I found this experience engaging.
- The combination of visual and tactile stimulation contributed to my immersi…
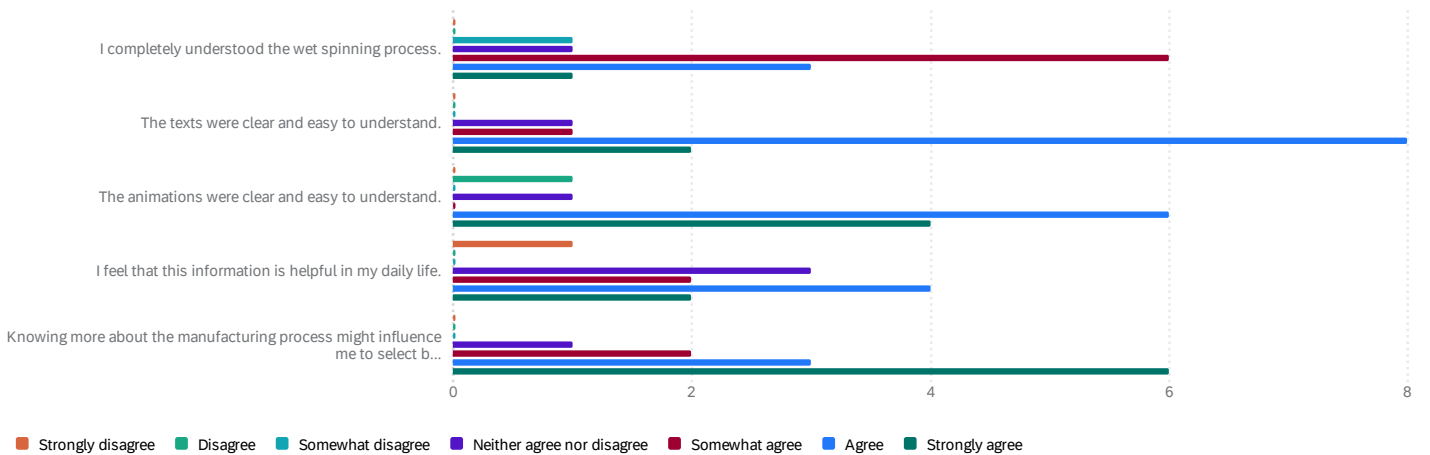- Moving my body was important for this experience.

In relation to your engagement with biobased materials. To what extent do you agree with each of the following statements: 12 ⓘ

In relation to your engagement with biobased materials. To what extent do y...	Strongly disagree	Disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I had fun doing this activity.	0	1	0	2	6	3
I found this experience engaging.	0	1	0	1	6	4
The combination of visual and tactile stimulation contributed to my immersi...	0	1	0	2	6	3
Moving my body was important for this experience.	1	0	1	1	3	6

In relation to your engagement with biobased materials. To what extent do you agree with each of the following statements: 12 ⓘ

In relation to your engagement with biobased materials. To what extent do y...	Average	Minimum	Maximum	Count
I had fun doing this activity.	5.75	2.00	7.00	12
I found this experience engaging.	5.92	2.00	7.00	12
The combination of visual and tactile stimulation contributed to my immersi...	5.75	2.00	7.00	12
Moving my body was important for this experience.	5.83	1.00	7.00	12

When it comes to improving your knowledge, please indicate your level of agreement with the following sentences: 12 ⓘ

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree
- Strongly agree

When it comes to improving your knowledge, please indicate your level of agreement with the following sentences: 12 ⓘ

When it comes to improving your knowledge, please indicate your level of ag...	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I completely understood the wet spinning process.	0	0	1	1	6	3	1

When it comes to improving your knowledge, please indicate your level of ag…	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
The texts were clear and easy to understand.	0	0	0	1	1	8	2
The animations were clear and easy to understand.	0	1	0	1	0	6	4
I feel that this information is helpful in my daily life.	1	0	0	3	2	4	2
Knowing more about the manufacturing process might influence me to select b…	0	0	0	1	2	3	6

When it comes to improving your knowledge, please indicate your level of agreement with the following sentences: 12 ⓘ

When it comes to improving your knowledge, please indicate your level of ag…	Average	Minimum	Maximum	Count
I completely understood the wet spinning process.	5.17	3.00	7.00	12
The texts were clear and easy to understand.	5.92	4.00	7.00	12
The animations were clear and easy to understand.	5.83	2.00	7.00	12
I feel that this information is helpful in my daily life.	5.08	1.00	7.00	12
Knowing more about the manufacturing process might influence me to select b…	6.17	4.00	7.00	12
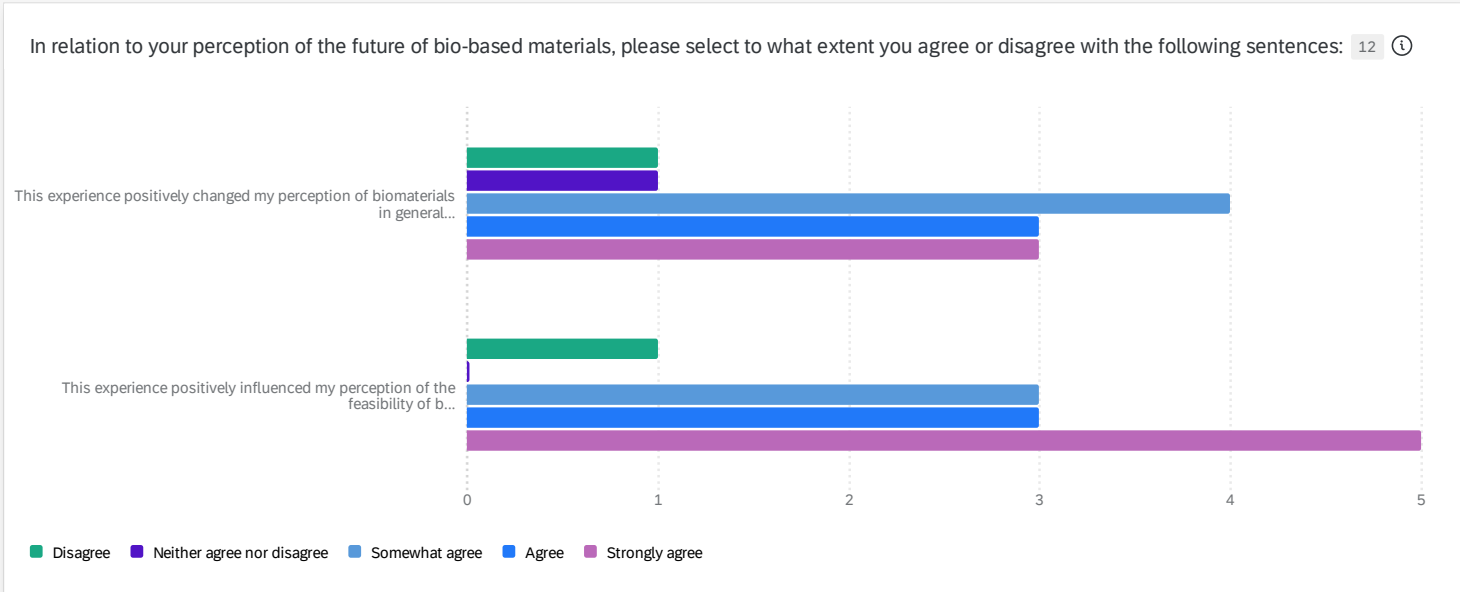
In relation to your perception of the future of bio-based materials, please select to what extent you agree or disagree with the following sentences: 12 ⓘ

Legend: ■ Disagree ■ Neither agree nor disagree ■ Somewhat agree ■ Agree ■ Strongly agree

In relation to your perception of the future of bio-based materials, please select to what extent you agree or disagree with the following sentences: 12 ⓘ

In relation to your perception of the future of bio-based materials, please…	Disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
This experience positively influenced my perception of the feasibility of biomaterials for real-world applications.	1	0	3	3	5

In relation to your perception of the future of bio-based materials, please...	Disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
This experience positively changed my perception of biomaterials in general.	1	1	4	3	3

In relation to your perception of the future of bio-based materials, please select to what extent you agree or disagree with the following sentences: 12 ⓘ

In relation to your perception of the future of bio-based materials, please...	Average	Minimum	Maximum	Count
This experience positively changed my perception of biomaterials in general...	5.42	2.00	7.00	12
This experience positively influenced my perception of the feasibility of b...	5.83	2.00	7.00	12

What is the most memorable part of the experience? 12 ⓘ

What is the most memorable part of the experience?

Identifying the correct symbols and interacting with the AR app to complete the biomaterial production processes.

Brewing

When people start discussing sustainability and circular economy, we only focus on reducing consumption. However, this experience gave me a glimpse of how we can process materials in a more circular way instead of merely focusing on the post-consumption activity.

to see the real materials

The facts ab about bacterial cellulose

The Design station. I liked that I was able to touch the cellulose on the fabric.

the sample of the fabric

See how sustainable yarn is made

We need to keep moving when using the AR app.

the animation

The 3dimensional AR space that I was able to explore that put the process of wet spinning into context and made it more 'real'

The use of augmented reality! This gave me an appreciation of the process of creating clothing using bio-based materials. Impressive!

Were there any specific aspects of the augmented reality presentation that stood out to you as particularly effective or ineffective? (please provide details)

12 ⓘ

Were there any specific aspects of the augmented reality presentation that...

Having to hold down the button to complete the process made me engage with each stage more than if I had just identified each process and then moved onto the next. I could clearly understand what was happening in each animation. I think the amount of information and detail given was appropriate and wasn't overwhelming.

Scanning the images to read stories is very interesting.

The presentation made me feel attractive and willing to follow the instructions of each step, which not only allowed me to have text explanations of what the experience would like to express, but the images and photos were also very eye-catching and made me focus on the presentation.

The display of the raw materials, they effectively shows what could be transformed late

the spinning process

The action was quite repetitive - holding the button at each station. I got distracted /bored.

The combination of animation and text is very clear

It's interesting to know how the material transfers to the garments.

not really

The gamified aspects of filling up the beaker and syringe were engaging, the visuals that explained the wet spinning process were clean and concise.
I'd like more info!

The creation of the shirt, the last process in the augmented reality showcase, stood out to me because my eye then moved around the room (in real-time) to see actual shirts that might be created using these bio-based materials.

What improvements or changes would you suggest to enhance the effectiveness of using augmented reality to communicate about new materials in the future? 12 ⓘ

What improvements or changes would you suggest to enhance the effectiveness...

It would be nice if the symbols where brighter and more highly contrasting in colour. This may also be useful for visually impaired users. It would also be helpful to have some more instruction about interacting with the AR before starting the experience i.e. you can move closer or further away, rotate the phone to get a better view of the animation. It was intuitive for me to start doing this after the second process, but I think it would improve the experience to know this at the start. I would like to see the final garment in more detail, to be able to zoom in or rotate around the whole garment, as I couldn't seem to do that. I liked the combination of sound/vibration and action when completing each process, but I found the vibration too strong as I feel it took some of my attention away from observing the process and taking on board what was happening.

More field experiense

Apart from the texts and images, if it is possible to add some sound effects, that would be great.

Maybe visitors can try on , so they can really feel the relation between them

I thought the experience was overall very successful. A right balance between text and augmented reality, comprehensible even for beginner

I would suggest using "Cooking Mama" style actions for the AR presentation, so that the user's action more closely matches what's happening at each station.

I think they can add some activities which could let people get involved in the remake process, it might be more immersive.

What improvements or changes would you suggest to enhance the effectiveness...

The augmented reality of the larger scene allows one to experience the whole body

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Maybe we can add some motion capture to experience better.

The interaction is too weak, and AR seems to be unnecessary

I would love to know more!
What kind of scale can this happen at? How does creating a bio-filament in this method compare to more traditional textile fibre processing / manufacturing? What aspects help make this process more circular (aside from usitlisng waste streams)?

Nothing.
This being the first time I have experienced something like that, I would love to see it on my social media feed through your accounts! (Instagram) Screen recording the process and sharing it with those who may not be able to see the AR process in person may increase the scope and accessibility.