

At the Back of Your Mind
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[00:00:00] **Juliette:** Hello, and welcome to *At the Back of Your Mind*, the *Inspire the Mind* podcast that brings you the sciences on mental health, with a no-nonsense attitude. I'm one of your hosts, Juliette, together with my scientist friends, Carolina and Maryam. We're often joined by fabulous guests, so grab a cup of tea and let's dive into what's exactly at the back of your mind today.

Hi, everyone. Welcome to a brand-new episode of *At the Back of Your Mind*, a no-nonsense podcast about mental health with the new kids in science. With me, I have Maryam an avid gamer who watches way too many cute animal videos on YouTube.

[00:00:47] **Maryam:** Hi, everyone! I'm Maryam, I'm a research assistant on the eBRAIN study and we're looking at young people's mental health and brain development.

[00:00:55] **Juliette:** I have Carolina, who's an inflexible Yogi and fierce feminist that loves to dance reggaetón in the shower.

[00:01:02] **Carolina:** Hi, everyone. My name is Carolina. I'm actually a project manager on a big program called SHAPER and what we do is we upscale small community art interventions to bigger samples. So, we test how these art interventions can improve people's mental wellbeing and physical wellbeing.

So, we work with Parkinson's, postnatal depression, and stroke, and our art interventions are singing, dancing, movement, spoken word, uh, and it's really, really exciting.

[00:01:31] **Juliette:** And I'm Juliette, a musical lover who has a slightly overconfidence singing voice and is very enamoured with her Google

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Calendar. I'm currently a PhD student and I'm working on how stress in early life affects development of new brain cells, particularly how that could lead to depression.

[00:01:52] **Carolina:** First of all, I want to say that it's really cool that we all work in the same research group, but we have such distinct research projects.

[00:01:59] **Juliette:** Yeah. That's how we all came together, right? We all have that shared interest despite how different our specific research projects are, we're all super interested in mental health. And I think that's basically what led us to do this podcast together.

Our lab has a blog associated with it. Maybe Carolina, do you wanna tell the listeners a little bit more about it since you're quite involved in it?

[00:02:27] **Carolina:** So, *Inspire the Mind* is a platform, and at the moment its biggest output is a blog, and we publish scientific content on psychiatry, mental health research, and we also publish on lived experience and everything in between really!

[00:02:43] **Juliette:** Yeah, yeah, yeah and I think it's just from that, you know, we decided that we wanted something that people could listen to on the tube and something where we could have guests and have longer discussions, which we can't have as much on the blog. Also, all three of us loved to chat, so that [a podcast] was the perfect medium.

Our aim with this podcast is really to talk to you about mental health as young researchers in a very relaxed way. And we can explain to you what all the latest research is about or more complicated concepts of

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mental health with our friends and experts, and also people with lived experience who can talk about mental health from their own perspective.

[00:03:30] **Carolina:** Absolutely because we're, we're all learning, right? We're sort of micro-experts in maybe a little bit of the research that we do, but there's so much we don't know, and we're fascinated about, and we want to, to get you excited about this world of mental health research.

[00:03:47] **Maryam:** I think the podcast is particularly relevant now, following what we've all gone through the last couple of years with the pandemic. We're not gonna talk about the pandemic too much, just the fact that there is much more of a spotlight now on mental health, more than like I've ever experienced in my life. A lot of people who never would've thought about mental health in the first place are now talking about it and I think the discourse around mental health definitely needs to increase. So, hopefully we can help do that with this podcast.

[00:04:21] **Juliette:** Yeah, I think for me, it's partially why I'm so into mental health; the fact that it historically has never been treated the same way as physical health. And I know we've had this discussion off the podcast a couple of times already, but you don't see somebody who's struggling with their mental health or has the mental illness. It's not as obvious as a broken leg, but it should be taken just as seriously.

[00:04:47] **Carolina:** Yeah, and I, I feel like. With physical health people will look for help much sooner. You know, if your head hurts, you take some paracetamol, but with your mental health, you might have a set of symptoms you don't even associate with mental health to,

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to start with - you know, an upset stomach, you can't sleep very well, and you might only look for help when things are a bit- more tricky, more complex, and by normalizing mental health and symptoms and experiences of mental health, maybe we can- when- when we are swaying off balance, we can go back to balance more easily and quicker, rather than waiting for things to get a bit too difficult. Not too difficult, but more difficult.

[00:05:35] **Maryam:** I agree with you, Carolina, and I feel like in a lot of ways, mental health is physical health. You know, they- they're very much intertwined and our brain is one of the most important organs in our body, and that's- that's where a lot of the stuff kind of goes wrong—

[00:05:51] **Juliette:** Yeah

[00:05:52] **Maryam:** —in mental illness, so...

[00:05:53] **Carolina:** I went for dinner with a friend a couple nights ago and he- he suffers from an anxiety disorder, he takes medication, and he said that the first time he realized something was wrong with his mental health was- was when he had a panic attack. Clearly, there was much happening behind the scenes that he wasn't even aware of, and it had to go to an extreme where essentially his body wasn't able to cope for him to actually inquire was what was happening with his mind, and you know, panic attacks are very common; a lot of people experience them, but the goal might be to minimize them and work towards, you know, more, a balanced way of being.

[00:06:34] **Juliette:** Yeah.

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[00:06:34] **Carolina:** But balance is a very personal, subjective thing, but you know, to be in a state where you wouldn't be experiencing panic attacks and you'd be going through the motions, but in a way, you know what's going on and you can bring yourself back to balance to homeostasis like a scientist would.

[00:06:51] **Juliette:** Question for you girls, have you ever had a panic attack?

[00:06:54] **Maryam:** Yes, multiple!

[00:06:56] **Juliette:** 'Cause I was going to ask whether you recognised it as a panic attack, the first time it happened to you.

[00:07:03] **Carolina:** Oh no! I went to A&E. I was dying! There was something wrong with me. Yes.

[00:07:07] **Juliette:** I- it is exactly what happened to me, uh, when I had my first one, I didn't know what was happening to me. I thought I was dying. Like, I was dying. It was what was happening, I was sure of it. And the irony was that I was studying all of the symptoms of panic attacks for my upcoming psychiatry exams... But it shows that even us, right, we're a lot more, I feel, attuned to mental health and we still can't always recognize it when it hits us in the face.

[00:07:37] **Maryam:** Yeah, I feel like I only really became aware of mental health in my late teens. You know, we didn't really talk about it at school. We didn't get taught anything about mental health. I mean the most we got taught in PSHCE was how to say no.

[00:07:51] **Juliette:** Wait, what is PSHCE? Translate for us?

[00:07:55] **Carolina:** Yes. Translation for a non-natives please.

[00:07:57] **Maryam:** Okay, I actually need to look up the- every single word 'cause I-. Okay! So, it's Personal, Social, Health, and Citizenship Education. It was a subject that we took in secondary school.

[00:08:10] **Juliette:** So, does everyone have that?

[00:08:11] **Maryam:** Yeah. So, you're supposed to learn about social skills and things that will help you in your life. But all we really got taught was how to say no to sex, which I didn't find that helpful. Like every lesson, but—

[00:08:25] **Juliette:** Important social skills guys!

[00:08:28] **Maryam:** —or like how to have protected sex and stuff like that, like just how to be safe. But there was nothing about mental health at all in school or building resilience or anything like that.

And one thing I've noticed while being a researcher on the e-BRAIN study — 'cause we're working with a lot of young people in secondary schools — is they are so much more switched on. They know so much more than I did at that age about anxiety, about mental health. They know about stigma. You know, we tested them on myths about anxiety and they were- they were great! They knew so much. So, it gives me a lot of hope, for the next generation. They're definitely learning a lot more than we did- than I did at least, going through the UK education system.

[00:09:17] **Carolina:** Why is this topic so important to you? Why are so passionate about it?

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[00:09:22] **Maryam:** So, I've actually had some experience with mental illness myself; ongoing battle since I was 17 years old. So, it's been a bit of a journey, and that's how I always explain it to people. I'm like, it's a journey. It's a process. It's gonna take time. And my own experience with it is what's made me so enthusiastic and passionate about it now and like, why I- why I care at all.

I think I was quite naive beforehand. I'd never really faced any major adversity in my life, luckily, and I'm quite grateful for that, but then a lot happened when I was 17 and now, I'm still working on my mental health because of that. That's why it's so important to me, and because I know how much people suffer. Like, my experience has like quadrupled my empathy skills, and my ability to just understand where other people are coming from, how they're feeling, what they're going through. I think that's so important in just every aspect in your life, let alone mental health.

[00:10:20] **Juliette:** I remember being in primary school and I always wanted to like stick up for like the different kid or the kid who was rejected, or the kid who had issues, and people just saying, *'oh, you know, but people are just different!'* and, and I was like, but why, what, where does it come from? Like, why are we different and why are we who we are?

And I think the best explanation that people had, you're like, *'oh, it's-it's the brain! It's just how you like- how you are mentally!'*. And I think those questions of like, *'How does it work?'* And you know, *'What happens? What makes us US?'*, that never really left me. Because if you think about it, your brain is like the tiny little squishy organ inside your

skull, and it makes up so much of what you are and who you are... I just love it.

[00:11:11] **Maryam:** That curiosity that you described, Juliette, is what fuels science and fuels research and- and pushes people to go into these areas. So, it's so key.

[00:11:23] **Carolina:** I know exactly what you mean, me feeling heartbroken for people not being accepted and you know, they- they might not have any mental illness, but maybe they were shy, maybe they were going through things. Maybe they were, you know, different neurologically. I- I don't know, but I completely relate to what you're saying. And even now I can't watch things like *The Office*, you know, cringe shows that make people's uncomfortableness a joke that makes me very uncomfortable. I can't really relate to that kind of humour, and I think it comes from that; from feeling sorry about people on the screen.

And at the same time, I've always been very, very interested in how our minds work, how we're all so different. So... Little puzzles made of pieces from memories of our past the way that we- we experienced life. And I guess when, when I had a moment in my life, when I was very anxious, I went on a- on a very deep journey of self-knowledge because I don't think I knew who I was. I had a very superficial understanding of myself until then.

And I have to say that the first thing I turned to was yoga. I was already practicing before, but when I started feeling this anxiety that I didn't know where I came from that same day said, okay, this has been here

for a few hours. This is not normal. What I'm going to do. I'm going to really dive into yoga.

And that's when I- when I started taking it more and more seriously.

[00:12:53] **Juliette:** It's kind of like a whole field of research that we're very much involved in. It's this kind of interaction between your brain and your body and how it goes back and forth. I think we... we, shouldn't always generalize and say that everything is in the brain. It's not all about that one organ, mental health.

[00:13:12] **Maryam:** We refer to mental health as separate from physical. But when I started learning more about mental health, you realized that they are very much intertwined and that if anything, mental health is physical health because your brain is an organ, which is physical it's in your head. And your mental health can have actually devastating physical effects, if you don't look after it.

[00:13:39] **Juliette:** It is a relationship that's really nice to explore, also on a personal level, like Carolina, you did with- with yoga. I didn't start enjoying sport until I really realized the impact of my mind on my body and that I needed to work with, like both to actually enjoy exercise and find a way that worked for me.

[00:14:03] **Carolina:** I think there's a really interesting — sorry if I keep talking about yoga in these episodes, but it's sort of my persona — a really interesting way of looking at the interplay between mind and body in yoga is: in yoga, we say that all the diseases come from a more energetic field that you have. And then it goes into the mental,

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emotional, and physical, and physical is the most obvious manifestation of disease.

So, everything that happens in the body starts in the mind. So, if you're anxious or you're a bit depressed, you're going to feel it in your body straight away. And in fact, in yoga, we say that it starts in the stomach, it starts in the digestive system. So, you're going to get stomach cramps, or you're going to have to run to the bathroom, or you're going to lose your appetite or you're going to emotionally eat.

So, it's really interesting that so many philosophies have picked up this, you know, thousands of years ago, the interplay between your mind and your body, and illness.

[00:14:57] **Maryam:** I totally agree with you, Carolina. I mean, I dunno how many times I went to the toilet before we... before we recorded this because of how nervous and anxious I was feeling. So yeah, definitely.

[00:15:24] **Carolina:** I have a question for you, Maryam, and Juliette, for you too: what do you feel about the term that our generation and the generation below has been coined? So, the snowflake generation.

[00:15:36] **Juliette:** Isn't the snowflake generation, the millennials?

[00:15:39] **Maryam:** Avocado on toast and Starbucks or...?

[00:15:42] **Juliette:** Yeah.

[00:15:43] **Maryam:** What are we referring to?

[00:15:45] **Juliette:** In any case, younger people.

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[00:15:47] **Carolina:** So, I've- I've heard the term, the expression being used because we're so in tune with our wellbeing and our mental health, that lots of us have created lots of boundaries. We speak up when something isn't doesn't feel right, we prioritise your, our wellbeing and our mental wellbeing above, you know, workload expectations from employers' expectations from professors.

And so, some, you know, middle-aged white man decided to start calling us the snowflake generation. Uh, as in, we don't have mental resilience and I find that very infuriating and I wanted to know your opinion.

[00:16:22] **Maryam:** I feel it comes from a place of ignorance is a bit harsh, maybe just a lack of understanding of mental health.

Because again, I mean, even I didn't have that. We didn't have that. So, it's way worse for the older generations who have only just started hearing about mental health and trying to understand it. Um, and it's something so complex and it's something that they've probably experienced, you know fluctuations in their mental health, but not been able to acknowledge what's going on.

I feel it comes from the same place of "suck it up!" and "just get on with it", and I really disagree with that, that way of thinking. I feel like it's more destructive, you know, than progressive than helpful.

[00:17:03] **Juliette:** I think also older generations, they've never been taught which tools to use even to talk about their mental health.

Um, and I think also because as a society, our generation, and the generation, like right after us, there was a lot more space to talk about

that. Um, but one thing, I was kind of wondering then, bouncing off of that, because a lot of the time you'll hear two generations above us or something people will say, "It's all in your head", but we also have a lot of science now showing that it's not just, you know, in your head, it's actually in your brain, there's actual physical, physiological changes that you can measure in your brain and also in the rest of your body when you suffer from anxiety, from depression. So as scientists, guys, what's your take on this, you know, physical versus mental illness type of thing.

[00:17:58] **Carolina:** Well, I can give you a very good example from one of the studies I work in. There's a study that we do called SHAPER PND, it's the Melodies for Mums study, and in that study, we're measuring improvements or changes in mental health, following a 10-week singing intervention for new mothers, with their babies.

And what we see, or we've seen in previous studies, is that there's an improvement with singing. So, depression scores of women, they improve with the singing.

Now, alongside this, we're also testing a bunch of biological measures that have been shown before to be related to mental health. We measure cortisol, which is called "the stress hormone". We're measuring that in saliva and hair. You can measure that in your hair. Which is really incredible. Uh, we're measuring oxytocin to- to measure the, the interaction that the bond created between the mother and the baby. We're measuring cytokines, which are inflammatory markers because we know that these are related to mental health.

We're measuring other hormones and other stress markers, because there's so much information that we can get biologically this is directly associated with mental health. And this is just an example of one of the studies we're doing. There's so much more, you know, can get so much information from, you know, MRI scans of the brain.

You can get so much informa- hello, Maryam, and her e-BRAIN study!

[00:19:19] **Maryam:** MRI scans!

[00:19:21] **Carolina:** Can you tell us more?

[00:19:23] **Maryam:** Yeah, of course. So, I think what's really exciting about the e-BRAIN study for me is that we're looking at so many different aspects and bringing them together, these different factors, to look at, like get a more holistic view of these adolescents' mental health, when they come in to see us.

You know, we interview them, we ask them about their mental health, their emotional wellbeing, their life experiences, if they've had trauma or difficult life experiences, which is really important to us, but then we are also looking at, similar to you Carolina, we're looking at samples like really gross ones.

We look at their urine, their blood... urine, blood, saliva. You know, some of the kids they're- they're aged 11 to 14 when they come in for their first study visit. So obviously they're super grossed out a lot of the time by having to give us a pot of their pee. But! It's really helpful to us 'cause we'll be able to delineate, you know, what makes some young people more resilient in the face of difficult life experiences.

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And then on top of the interviews and the biological samples, we're also doing MRI scans. We get to see what's going on when they're doing these different tasks, how the different parts of their brain look...

[00:20:33] **Carolina:** So, you're basically looking at structures, kind of lighting up—

[00:20:37] **Maryam:** Exactly!

[00:20:37] **Carolina:** —in the screen when you're doing an MRI scan. I'm just trying to give our listeners sort of a visual idea of what that would look like. So, they would be doing a certain task and then you could see on a screen their brains and certain areas sort of popping.

[00:20:49] **Maryam:** Exactly.

[00:20:50] **Juliette:** Do you guys wanna know a fun fact? Cytokines, so the inflammatory markers, have also been measured basically in snot in children, because it's very difficult to take blood from them. And sometimes it's also difficult to get the right amount of saliva.

One of the things with hair samples is that if you measure, for example, cortisol levels, so stress, hormone levels, in the hair, it mostly measures it kind of over time. So, it's a bit more, I guess, a retrospective measure. But, for example, these inflammatory markers to have more right on the spot measurements I've seen that they've used, they have—

[00:21:29] **Carolina:** On tap!

[00:21:29] **Juliette:** Yeah. Yeah.

[00:21:30] **Carolina:** On tap, in fact!

[00:21:32] **Juliette:** They, they have used that, which I think is fascinating!

[00:21:50] **Maryam:** I wanted to ask you guys what you are self-proclaimed expert in.

[00:21:54] **Juliette:** I mean, I've been debating this in my mind for... for like- for a little bit. I'm like, what am I a self-proclaimed expert in?

Because, as I was telling the girls before this podcast, I rap *Hamilton* like nobody, but I know I'm not the only self-proclaimed expert in that area. I think many people would fight me, but I'm also very good at having like random existential crises at frequent intervals throughout the day. So, I'm very good at that.

[00:22:24] **Maryam:** I can definitely relate to that. I think that's something that I go through daily basis, but what would I say I'm actually self-proclaimed expert in... maybe not an expert, but I play a lot of video games. I spend a lot of time on my computer... I'm quite good at using computers, but I wouldn't say I'm like the best person in the world.

Um, I've been playing video games since I was like four years old, and I've been on the PC since I was around that age as well. I was very lucky to have a PlayStation 2 in the house and we would play a lot of Tekken and GTA and all that good stuff that a four-year-old should really not be playing. So that's definitely where that hobby has come from.

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[00:23:10] **Carolina:** What am I a self-proclaimed expert in? This is something that I've been a self-proclaimed expert since I was a child, and I'd like to think that I've been getting better and better, which is to cook a meal out of nothing. Give me your empty fridge, your cupboard with like a tin of chickpeas and, you know, some random sauce that you brought from holiday a couple of years ago, I will make you a meal. I will. It might not be the best meal ever, but I can go days and days without going to the shop and still cook full meals! Two or three courses!

[00:23:44] **Maryam:** I will definitely take you up on that, Carolina. I expect you at my flat in a few hours, so you can cook dinner for me, um.

[00:23:53] **Juliette:** I wanna say, I think this is too cute! And like, Maryam, like a super cute talent. And then you have Carolina who's just like, "*I can make a meal out of nothing!*". Which, by the way, I'm very jealous of. I feel like we could talk about this forever though.

[00:24:13] **Carolina:** Yeah.

[00:24:13] **Juliette:** Well, I think we've gotten to know, well... our audience has gotten to know us a little bit better.

So, I think we're going to wrap it up for today. It's been really nice talking with everyone, and... we'll talk to you next time. Bye!

[00:24:34] **Maryam:** Bye everyone!

[00:24:36] **Carolina:** Bye!

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[00:24:49] **Celeste:** Hey everyone, it's Celeste. This episode of *At the Back of Your Mind* was recorded on the 10th of September 2021, featuring our hosts, Juliette, Maryam, and Carolina. Be sure to check out our Instagram @ATBOYMPodcast and visit inspirethemind.org/atthebackofyourmind for more episodes, transcripts, social media, and contact information.

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See you next time.