Birkbeck
UNIVERSITY OF LONDON

BabyLab & ToddlerLab

2025
BABYLAB & TODDLERLAB
NEWSLETTER

THE BIRKBECK BABYLAB & TODDLERLAB WOULD LIKE TO THANK ALL OF THE FUNDERS WHO HAVE SUPPORTED US IN OUR RESEARCH

Action Medical Research & Great Ormond Street Hospital Children's Charity *www.action.org.uk*

Autistica *www.autistica.org.uk*

Autour des Williams *www.autourdeswilliams.org*

Baily Thomas Charitable Fund *www.bailythomas.org.uk*

BIAL Foundation *www.bial.com/com/bial-foundation*

Bill and Melinda Gates Foundation *www.gatesfoundation.org*

Brain & Behaviour Research Foundation *bbrfoundation.org*

Brain Canada Foundation *www.braincanada.ca*

British Academy *www.thebritishacademy.ac.uk*

CareTech Charitable Foundation *www.caretechfoundation.org.uk*

Department of Health, UK *gov.uk/government/organisations/department-of-health-and-social-care*

Economic and Social Research Council *www.esrc.ukri.org*

Education Endowment Foundation *www.educationendowmentfoundation.org.uk*

Edward Glover CMG and Dame Audrey Glover

Elizabeth and Daniel Peltz OBE

Engineering and Physical Sciences Research Council *www.epsrc.ukri.org*

European Union *www.ec.europa.eu/info/index_en*

Garfield Weston Foundation *www.garfieldweston.org*

Genetics Society *www.genetics.org.uk*

Great Ormond Street Hospital Charity *www.gosh.org*

The Great Britain Sasakawa Foundation *www.gbsf.org.uk*

Innovate UK *www.ukri.org/councils/innovate-uk*

Innovative Medicines Initiative - EU *www.imi.europa.eu*

James S. McDonnell Foundation *www.jsmf.org*

Jacobs Foundation *www.jacobsfoundation.org*

Japan Society for the Promotion of Science *www.jsps.go.jp/english*

Jérôme Lejeune Foundation *www.lejeunefoundation.org*

Kansai University *www.kansai-u.ac.jp/English/index.html*

L'Oreal UK and Ireland *www.loreal.co.uk*

Leverhulme Trust *www.leverhulme.ac.uk*

The Maurice Wohl Charitable Foundation *www.wohl.org.uk*

Medical Research Council *www.mrc.ac.uk*

MQ: Transforming Mental Health *www.mqmentalhealth.org*

National Institute for Health Research *www.nihr.ac.uk*

National Institutes of Health *www.nih.gov*

Nuffield Foundation *www.nuffieldfoundation.org*

Riksbankens Jubileumsfond *www.rj.se/en*

Royal Society *www.royalsociety.org*

Simons Foundation *www.simonsfoundation.org*

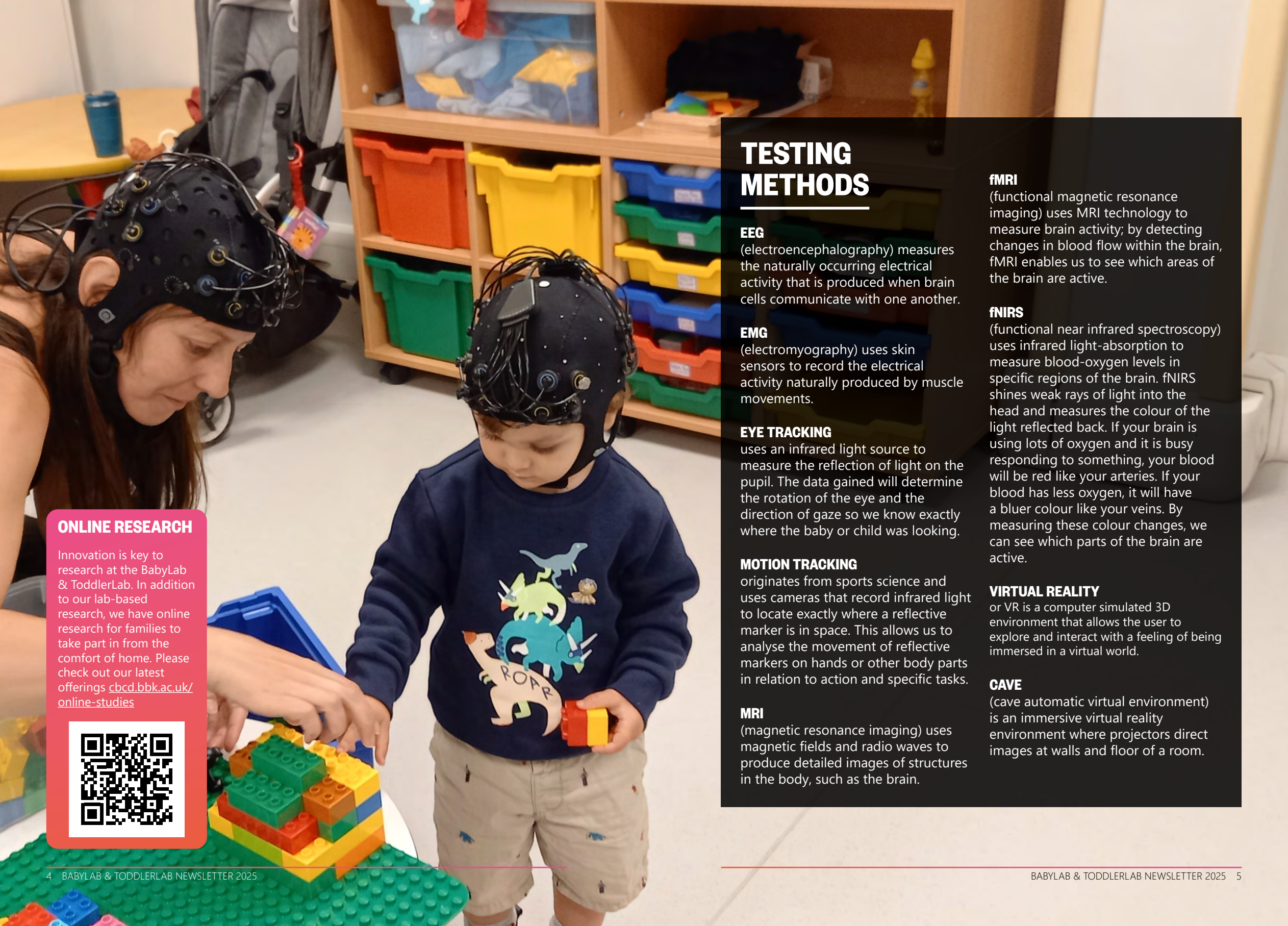
Society for Education, Music & Psychology Research *www.sempre.org.uk*

VolkswagenStiftung *www.volkswagenstiftung.de*

The Waterloo Foundation *www.waterloofoundation.org.uk*

Wellcome Trust *www.wellcome.ac.uk*

The Wolfson Foundation *www.wolfson.org.uk*



ONLINE RESEARCH

Innovation is key to research at the BabyLab & ToddlerLab. In addition to our lab-based research, we have online research for families to take part in from the comfort of home. Please check out our latest offerings cbcd.bbk.ac.uk/online-studies

TESTING METHODS

EEG
(electroencephalography) measures the naturally occurring electrical activity that is produced when brain cells communicate with one another.

EMG
(electromyography) uses skin sensors to record the electrical activity naturally produced by muscle movements.

EYE TRACKING
uses an infrared light source to measure the reflection of light on the pupil. The data gained will determine the rotation of the eye and the direction of gaze so we know exactly where the baby or child was looking.

MOTION TRACKING
originates from sports science and uses cameras that record infrared light to locate exactly where a reflective marker is in space. This allows us to analyse the movement of reflective markers on hands or other body parts in relation to action and specific tasks.

MRI
(magnetic resonance imaging) uses magnetic fields and radio waves to produce detailed images of structures in the body, such as the brain.

fMRI
(functional magnetic resonance imaging) uses MRI technology to measure brain activity; by detecting changes in blood flow within the brain, fMRI enables us to see which areas of the brain are active.

fNIRS
(functional near infrared spectroscopy) uses infrared light-absorption to measure blood-oxygen levels in specific regions of the brain. fNIRS shines weak rays of light into the head and measures the colour of the light reflected back. If your brain is using lots of oxygen and it is busy responding to something, your blood will be red like your arteries. If your blood has less oxygen, it will have a bluer colour like your veins. By measuring these colour changes, we can see which parts of the brain are active.

VIRTUAL REALITY
or VR is a computer simulated 3D environment that allows the user to explore and interact with a feeling of being immersed in a virtual world.

CAVE
(cave automatic virtual environment) is an immersive virtual reality environment where projectors direct images at walls and floor of a room.

MEDIA STORIES

The BabyLab & ToddlerLab have been featured in a variety of news articles

SCAN QR FOR ALL NEWS STORIES

BABY BRAINS

Our wonderful research fellow Dr Chiara Bulgarelli was interviewed by 'BabyBrains' for their WOW podcast. Have a listen to her describing her fascinating research on the development of empathy in toddlers.

Watch: youtube.com/watch?v=7rHjgkomy_o

PROFESSOR DENIS MARESCHAL CONSULTED FOR GUARDIAN

Our centre director, Professor Denis Mareschal gave expert comment on infants' artwork preferences in The Guardian article, "Adults' penchant for Van Gogh mirrored in babies". He explained "in a nice nod to Goldilocks, infants prefer to explore stimuli that are neither too simple nor too complex to decipher, spending the longest time exploring stimuli that are 'just right'".

Visit: theguardian.com/artanddesign/2023/aug/02/adults-penchant-for-van-gogh-mirrored-in-babies-study-finds

NATURE OF THINGS – "THE SECRETS OF FRIENDSHIP" DOCUMENTARY

This Canadian documentary on friendship from acclaimed programme, Nature of Things, was partly filmed in our labs. We await the UK release date. In the meantime, if you have access to TV in Canada, Japan, Sweden, Finland, France, Germany or Taiwan, you can check us out!

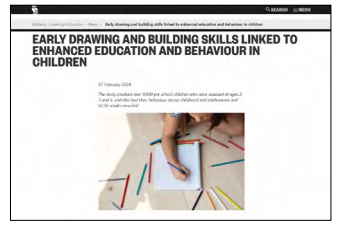
Visit: cbc.ca/natureofthings/episodes/the-secrets-of-friendship

MEDIA STORIES

BEHIND THE SCENES IN OUR TODDLERLAB

Celebrating Birkbeck's 200th birthday, come behind the scenes of our ToddlerLab where you will find Professor Emily Jones discussing the research aims and possibilities of this exceptional space. There is also a sneak-peek into research fellow Dr Chiara Bulgarelli's virtual reality study in the CAVE lab.

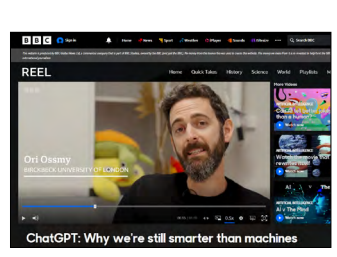
Watch: youtube.com/watch?v=PHr3rva-_Ps



FINE MOTOR SKILLS IN YOUNG CHILDREN LINKED TO LATER GCSE SCORES AND BEHAVIOUR

CBCD's PhD student Aislinn Bowler published research covering over 9500 children, which identified a link between fine motor skills in toddlers (drawing, folding paper and block building) and later GCSE scores and behaviour. Interestingly, the researchers found preschool fine motor skills were linked to better GCSE scores and fewer behavioural problems in childhood and adolescence.

Visit: bbk.ac.uk/news/early-drawing-and-building-skills-linked-to-enhanced-education-and-behaviour-in-children?



BBC BRAIN HACKS

Lecturer Dr Ori Ossmy was filmed in the ToddlerLab for BBC's 'Brain Hacks' documentary series. Check out his insight on why babies are the best learners, even compared to Chat GPT!

Visit: bbc.com/reel/video/p0fc9tlx/chatgpt-why-we-re-still-smarter-than-machines

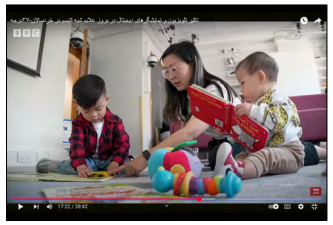
BRAIN IMAGING FEATURE ON ITV NEWS

The BabyLab & ToddlerLab's 'DOT' Study and the Lumo fNIRS brain imaging device featured on ITV news with Martin Stew! We had the pleasure of hosting ITV news while they filmed our collaborator Dr Liam Collins-Jones and Professor Emily Jones. Most importantly, we wish to thank all our star infant participants and mums who made this research possible. Overall, a huge success!

Visit: bbk.ac.uk/news/wearable-brain-imaging-device-sheds-light-on-how-babies-respond-in-real-world-situations

Watch: itv.com/news/2024-09-11/wearable-baby-brain-scanner-finds-early-emotional-intelligence?utm_medium=Social&utm_source=Twitter#Echobox=1726078559-1

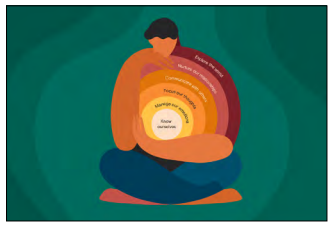
BABYLAB FEATURE ON BBC PERSIA



Calling all Persian speakers! Professor Emily Jones and Dr Jannath Begum Ali of the BabyLab & ToddlerLab were featured on BBC Persia about their work studying ASD in babies and children.

Visit: youtube.com/watch?v=C-elcd1Nv9M

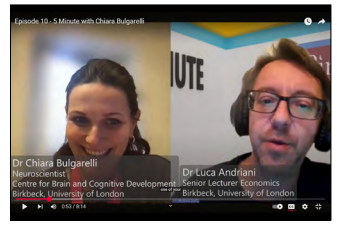
ROYAL FOUNDATION LAUNCHES "SHAPING US FRAMEWORK" WITH FOREWORD BY PROFESSOR EMILY JONES



We were delighted to see the publication of the Royal Foundation Centre for Early Childhood's 'Shaping Us Framework'. Social and emotional development begins in early childhood. This new framework describes core social and emotional skills in an accessible way, which everyone can use and understand, as the basis for action. Our Professor Emily Jones wrote an essay supporting the launch, focusing on the importance of communication.

Visit: centreforearlychildhood.org/news-insights/guest-essays/communication-the-gateway-to-the-world

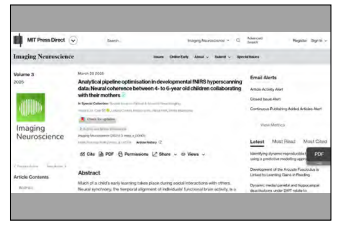
"5-MINUTE" INTERVIEW: VIRTUAL REALITY RESEARCH WITH YOUNG CHILDREN



Have a listen to Dr Chiara Bulgarelli's "5-Minute podcast" interview, where she explains how and why we use virtual reality to study the development of socialisation and social preferences in young children.

Watch: youtube.com/watch?v=fJzGcs-MgA0

PUBLISHED FNIRS RESEARCH FROM THE TODDLERLAB'S PRESCHOOL LAB



Our postdoc Dr Victoria St.Clair's paper on brain activity in mothers and their children in the ToddlerLab was published. Researchers found that when mums and kids solve puzzles together, their brains synchronise.

Visit: direct.mit.edu/imag/article/doi/10.1162/imag_a_00509/128247/Analytical-pipeline-optimisation-in-developmental

'SURE START LEGACY' HIGHLIGHTED IN THE GUARDIAN

A Guardian editorial lauded the legacy and lasting benefits of the 'Sure Start' programme. The original £17 million grant in the late 1990s was awarded to psychology researchers at Birkbeck. The aim was to bring together early education, childcare, health services and family support to promote the physical, intellectual and social development of babies and children.

Visit: theguardian.com/commentisfree/2024/oct/24/the-guardian-view-on-sure-starts-legacy-investing-in-children-brings-rewards

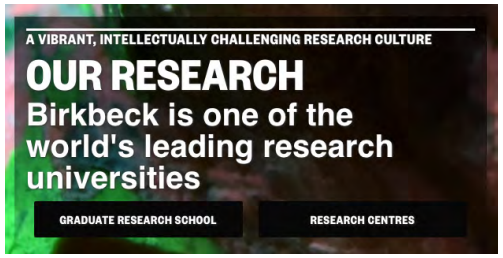
CHANNEL 5 'ARE YOU AUTISTIC?' DOCUMENTARY

The BabyLab, Professor Emily Jones and the STAARS study feature heavily in Channel 5's documentary about autism with presenter Dr Claire Taylor. Watch to see babies visiting the labs and hear how Emily clearly explains what the data collected tells us about early differences in how brains process sensory information.

Visit: channel5.com/show/are-you-autistic

Check out our webpage for info about upcoming events and podcasts!
www.cbcd.bbk.ac.uk

200 YEARS OF ADULT EDUCATION AT BIRKBECK



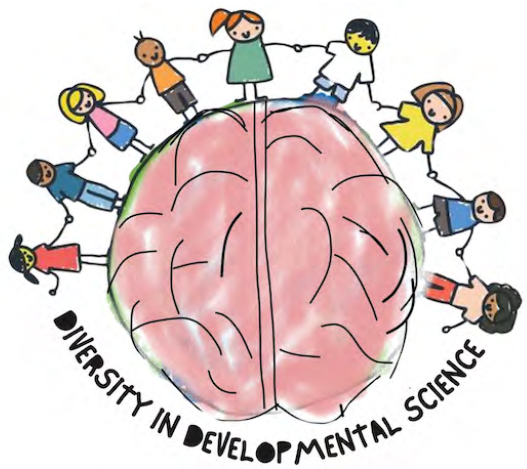
As the Centre for Brain & Cognitive Development approaches its 27th birthday, Birkbeck celebrated its 200th anniversary! This has been recognised with events for students and the public, highlighting the notable and impressive people who have contributed to the history and success of Birkbeck over the years.

Info: bbk.ac.uk/about-us/200th-anniversary

DIVERSITY IN DEVELOPMENTAL SCIENCE NETWORK – GET INVOLVED!

The Diversity in Developmental Science Network is a new initiative at the Birkbeck BabyLab & ToddlerLab and aims to bring together researchers, practitioners and community members who are committed to making developmental science more inclusive. We aim to address the lack of representation in research - both in terms of the families who take part in studies and the researchers conducting them. By working together, we hope to ensure that developmental research reflects the full diversity of children and families.

One of our key upcoming projects is a series of focus groups with parents from underrepresented backgrounds. We want to hear about the challenges and barriers families face when taking part in research studies so that we can make developmental science more inclusive and accessible.



If you are interested in sharing your experiences and helping shape the future of research, we would love to hear from you!

Email: diversity-network@bbk.ac.uk

Website: sites.google.com/view/diversityindevsci/home

BABYLAB & TODDLERLAB SOCIAL MEDIA

Birkbeck BabyLab & ToddlerLab is now on Instagram, Facebook, TikTok and X! We share research findings, showcase what visits to our labs are really like (hint = fun!) and we are always searching for new participants to take part in exciting studies.

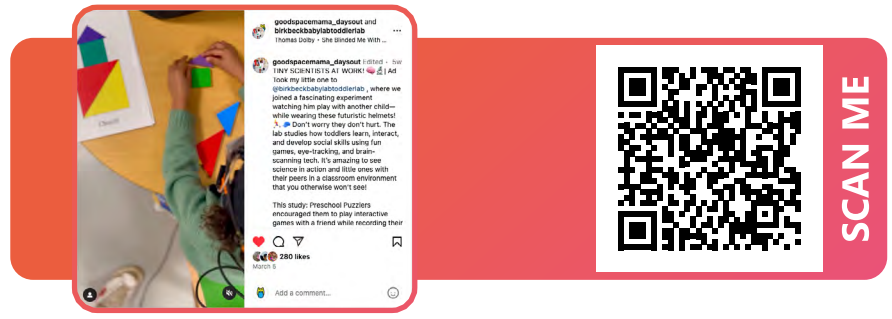
Check out our content and follow us to stay up to date!

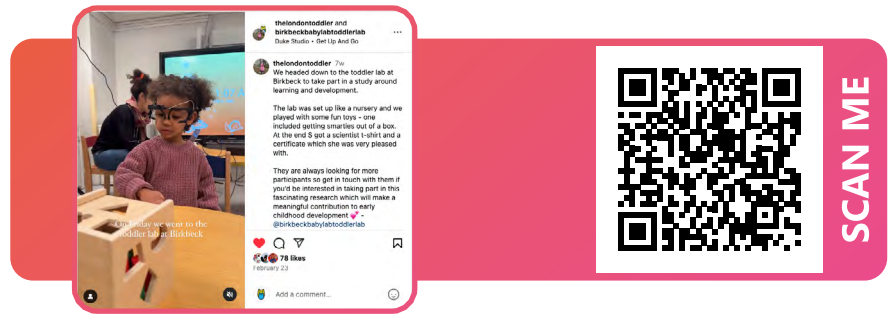
Instagram: instagram.com/birkbeckbabylabtoddlerlab

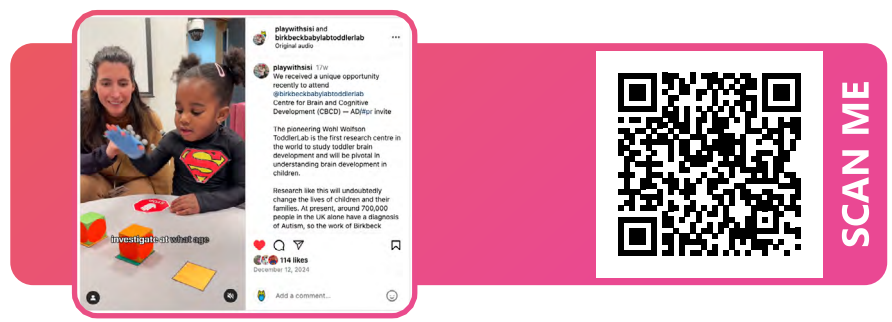
Facebook: facebook.com/BirkbeckBabylabToddlerlab

X: x.com/BirkbeckBabylab

TikTok: tiktok.com/@birkbeckbabylab







OUR NEW ARRIVALS

We would like to welcome the newest additions to the CBCD, recently born to our members. Congratulations!

Our Senior Lab Developer Paola had her very own infant scientist last year. We have no doubt he will be an expert in fNIRS, just like his mum!

Research Fellow Chiara now has two helpers, an infant scientist and a young scientist! We are so grateful for the number of times (too many to count!) her mini scientists have helped with our research.

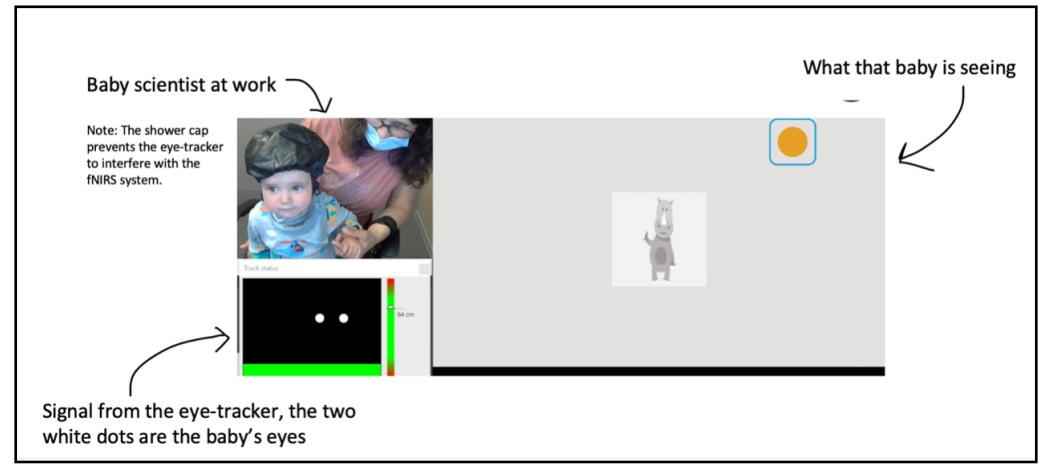
Postdoc Tommaso welcomed his beautiful daughter / infant scientist. She will be an eye-tracking master in no time!

STUDIES

LET'S GET DISTRACTED: A STUDY OF ATTENTION DEVELOPMENT DURING INFANCY THE INTERNATIONAL PROJECT

Giulia Serino, Paola Pinti, Denis Mareschal, Gaia Scerif & Natasha Kirkham

As adults, we've had years of experience learning to focus on what matters and to ignore distractions – like how we notice our own name called out in a busy shop but tune out someone else's name. Babies, however, have so little experience about the world and are just starting to learn what's important. How do they tell what to pay attention to and what to ignore?



To find out, we showed **8-month-old** babies two shapes: one paired with a smiling woman (something babies love at this age), and one shown alone. Later, while babies watched a cartoon of a dancing rhino, both shapes reappeared occasionally (this time without the smiling woman) acting as potential distractions from the cartoon. During this task, we recorded babies' brain activity and where they looked.

What did we find?

Babies were more distracted by the shape that had been paired with the smiling woman. They quickly shifted their gaze from the cartoon to that shape, showing it had captured their attention.

Even more fascinating – babies' brain activity resembled patterns we see in adults when something meaningful distracts us. This suggests it takes very little time for the baby brain to become more sensitive to stimuli that have previously proven meaningful - like the shape associated with a smiling face - and that babies can use past experiences to guide and redirect their attention amongst all the information they constantly receive.

Thank you to all the families and babies that joined our study!

STAARS: KEEPING UP WITH THE SCIENTISTS

Emily Jones, Jannath Begum Ali, Chloe Taylor, Rebecca Holman, Louisa Gossé, Emily Phillips, Marta Perapoch Amado, Marian Aguiló Mayans, Tom Deadman & the STAARS Team

The STAARS (Studying Autism and ADHD in the eaRly yearS) study is a subset of the BASIS project and aims to identify early markers in the development of Autism and/or ADHD. By better understanding these neurodevelopmental conditions, we hope to develop more effective early interventions. We recruit infants both with and without a family history (close relative diagnosis) of ASD and/or ADHD, seeing those infants at 1, 5, 10 and 14 months with follow up toddler visits at 2 and 3 years. This allows us to see how they grow and develop over the first few years of life.

Since 2013, over 300 families have taken part providing invaluable insights. But to keep up with scientific developments, it's time for a protocol change!

1. **Naturalistic play during EEG**
   We've added a play task to our EEG sessions! While babies wear EEG nets (made up of small sponge sensors) we observe how they explore new objects, play alone and interact with caregivers. Both baby and parent wear heart rate stickers, letting us track moments of synchrony – when they're most "in tune".

2. **Introducing mobile fNIRS**
   We're now using portable fNIRS devices; these are like swimming caps made of neoprene with sensors that shine infrared light into the scalp and measure the light that comes out the other side. This shows us what areas of the brain are involved in current processing by looking at the colour differences in oxygenated and deoxygenated blood. Baby and caregiver wear these caps while playing together, and the best part: they're wireless and movement-friendly!

3. **Home wearables (optional extras!)**
   Families can now take home small wearable devices that measure heart rate, activity, and proximity between baby and parent. Plus, a camera and microphone (which can be turned off anytime) to record what babies see and hear during daily life. This gives us a unique look at how babies behave in the natural environment of their home.

What have we learned so far?

STAARS data has contributed to many scientific papers. A recent finding is related to babies' sleep and later ASD traits. This study looked at sleep patterns in 164 babies at 5, 10 and 14 months. By 14 months, babies with a family history of ASD were sleeping 70 minutes less per night. Poor sleep was associated with weaker cognitive skills, difficulty adapting socially, and more ASD traits later in toddlerhood. We also found that night-time sleep and social attention (like looking at faces) are closely connected, highlighting sleep's vital role in brain development.

Coming soon: sleepy STAARS!
We are about to start a new phase to explore sleep more deeply. Our research has shown that babies with a family history of autism tend to sleep less at night (parents have told us this too!). To measure infant sleep in the home, we'll send families wearable sleep monitors (similar to fitness bands) to record baby's heart rate, oxygen levels, respiration rate and movement.

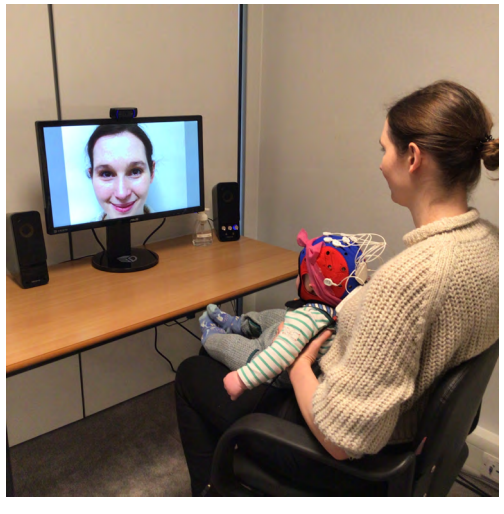
Over one to two weeks, this information will paint a picture of how much they are sleeping in the day and/or night. Parents will then be sent a report of their baby's sleep!

For more info check out our website staars.org or email staars@bbk.ac.uk

BONDS: PERSONALISED NEUROIMAGING TO STUDY SOCIAL DEVELOPMENT

Antonia Jordan-Barros, Elena Throm, Anna Gui, Francesca Penza, Rianne Haartsen, Robert Leech & Emily Jones

Over 200 baby scientists have now taken part in our BONDS study! The BONDS study combined an innovative artificial intelligence method called Neuroadaptive Bayesian Optimization (NBO) with wearable neuroimaging to understand what social cues produce the strongest brain activation in each of our little participants. Using electroencephalography (EEG), we measured brain activity from babies between 5 to 12 months while they viewed images of their caregiver's face or engaged face-to-face with an experimenter.



Three studies from BONDS have now been published in scientific journals. The results challenge traditional approaches used to study infant social development. **Rather than reacting in the same way, babies showed highly individual patterns of attention to cues like eye contact, facial expression, and speech.**

What did we find?

Attention during face-to-face interaction

Using NBO, we identified the specific combinations of gaze and speech cues that most strongly engaged each baby's brain during a face-to-face interaction with an experimenter. These individual preferences were linked to parent-reported social behaviours, showing that this new AI tool can detect meaningful differences in early attention styles.

Attention to gaze and emotion cues

In a second study, we looked at how babies respond to combinations of gaze (direct versus averted) and emotional expression (happy versus angry) in their caregiver's face. The largest group of babies (43%) was most engaged by faces with an angry expression and direct gaze, although many individual differences were found. Babies who attended preferentially to faces with direct gaze were also found to have increased positive affectivity (more laughs and excitement) and decreased negative affectivity (less distress, crying and clinginess) in everyday life.

Familiar versus unfamiliar faces

Finally, NBO was combined with EEG to study how babies' brains attend to their mother's face compared to a stranger's. While we did not find group-level differences, 85% of infants showed clear individual preferences to particular faces, suggesting traditional studies may overlook important individual variation. Our findings suggest that even within this critical developmental period, infants show unique patterns of attention to faces, rather than following a uniform developmental trajectory. NBO (AI tool) allows us to go beyond group-based approaches and explore individual neural profiles.

Thank you to all the families who took part and contributed to this wealth of research!

Learn more on our website: sites.google.com/view/bonds-project

THE BABYMIND STUDY

Maheen Siddiqui, Francesca Penza & Emily Jones

The BabyMIND study aims to understand social and sensory development in babies between 4 and 7 months. Previous baby brain imaging studies have mainly focused on how different parts of the brain respond to specific sights and sounds, but we don't fully understand how the brain's energy use supports early social and sensory development. **Therefore, the goal of this study is to better understand the role of brain energy in early development and how this might relate to sensory differences and differences in social interactions.**

In the BabyMIND study, we show babies different sets of social videos, including clips of people singing nursery rhymes. We also have a sensory paradigm to study sensory development. We use a combination of baby-friendly brain imaging techniques - EEG (to track brain waves), NIRS (to measure brain oxygen levels and brain energy use) and MRS (to look at brain energy metabolism). By combining these methods, we can build a more complete picture of how the baby brain uses energy during different activities.

We are looking for babies aged between 4 - 7 months to take part! If you'd like to learn more or sign up, please contact us at cbcd-babymindstudy@bbk.ac.uk
Your participation will help us uncover new insights into how babies' brains grow and develop!

OTTER: NOVELTY AND FAMILIARITY DETECTION IN INFANTS

Amy Lawson, James Ives & Emily Jones

The world around us is full of stimuli for our brains to process; the ability to become familiar with stimuli (be it objects, places, or people) is a fundamental cognitive process called habituation. This process allows our brain to conserve energy and allows us to distinguish familiar (old) from novel (new).

Novelty detection is a key part of development, and one of our earliest forms of learning. When this process of habituation is disrupted, it can impact our ability to cope with the sensory world around us.

Although habituation research with infants exists, the mechanisms are not fully understood and the focus tends to be on short term familiarity. Our study, OTTER, looks at how infants habituate to visual pictures in both the short term and over a longer time scale (seven days). In the study, parents are asked to show a short video to their baby each day for 6 days, before coming to the BabyLab to watch the same video plus new images while their babies' brain activity is monitored using EEG.

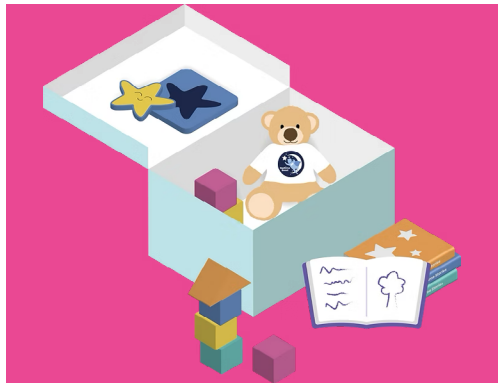
We'll share our findings in the next newsletter!

THE BEDTIME BOOST STUDY

Hannah Pickard, Claire Essex, Emily Goddard, Petrina Chu, Ben Carter, Rachael Bedford & Tim J. Smith

In the first few years of life, infants' sleep patterns change substantially. During this time, we often see an increase in night-time sleep together with a decrease in day-time sleep. A good night's sleep is important for child development and can help children develop the ability to focus their attention; a skill which becomes very important in early school years. It is thought that certain bedtime activities such as having a bath, quiet play, reading, and dimming lights help calm infants and get their bodies ready for sleep. While some activities, such as screen time, may lead to sleep difficulties.

Our Bedtime Boost Study is the first to test whether screen time in the hour before bed has a direct impact on toddler's sleep and attention.



Over 100 families, all of whom routinely used screens before bed with their young children (16 - 30 months old), were randomly assigned to one of three groups. In the intervention "PASTI" group (Parent-Administered Screen Time Intervention), parents were instructed to eliminate all screen time in the hour before bed, replacing it with a Bedtime Box containing non-screen-based activities (eg books), for a seven-week period. In the Bedtime Box-only group, parents were instructed to use the same Bedtime Box but were not instructed to intervene on their child's screen time before bed. The control group received no instruction to intervene on their child's pre-bed activities and were told to continue as normal. Toddler sleep was monitored before and after the intervention using a wearable motion tracker. Families also visited the BabyLab at the beginning and end of the intervention, where children took part in screen-based games designed to measure attention using an eye-tracker.

What did we find?

Parents in the intervention group successfully removed screen time in the hour before bed, and initial findings from the study suggest doing so resulted in improved sleep quality, including more restful sleep and fewer night awakenings. We did not find evidence that removing screen time in the hour before bed resulted in improved attention.

Thank you to all the families who took part!

You can read the full journal article here: jamanetwork.com/journals/jamapediatrics/fullarticle/2825196

THE LOONEY TOONS STUDY: FANTASTICAL KIDS TV – ENCHANTING OR BEWILDERING?

Claire Essex, Teodora Gliga, Rachael Bedford & Tim J. Smith

Kid's cartoons often include weird breaks with reality that are believed to entertain children and provide an opportunity for learning. But are these fantastical moments too much for the developing brain to process? We wanted to know if there is an immediate impact of viewing fantastical cartoons on 18 month olds' attention skills.

To answer this question, we used an eye-tracker to measure toddlers' attention while they watched cartoons and while they completed a task designed to measure inhibitory control (the ability to override an automatic behaviour in favour of a goal-directed behaviour). In the inhibitory control task, toddlers must learn to look away from a visually distracting cue and look towards a rewarding cue. This task was presented before, during, and after, children viewed two sets of specially edited Looney Tunes cartoons. One set of videos contained events which violated physical laws, such as characters or objects defying gravity, solidity, or continuity. The second set of videos, taken from the same Looney Tunes episodes, did not contain these fantastical events.

Stills taken from cartoons with fantastical events (Warner Bros. Entertainment, 1930-1969)

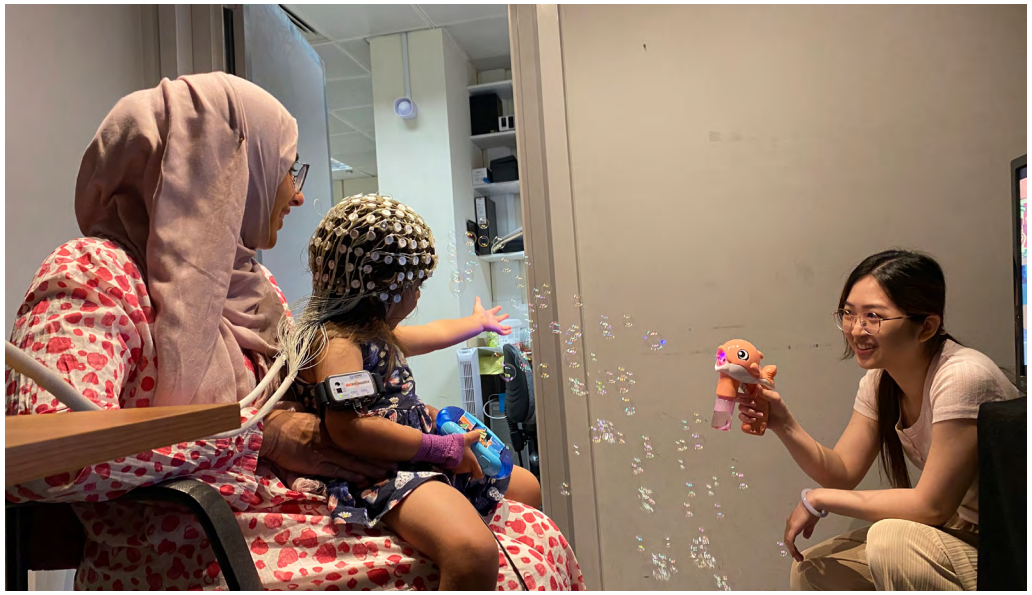
Stills taken from cartoons without fantastical events (Warner Bros. Entertainment, 1930-1969)

What did we find?

Our results, recently published, suggest toddlers successfully learnt to control their attention (inhibit looks to the distractor to make looks to the rewarding cue) when viewing cartoons without fantastical events. However, when the same children viewed the fantastical cartoons, they were not able to do so. This suggests viewing fantastical cartoons limited toddlers' ability to direct their attention in a goal-driven manner in the short-term, and as a result they were less able to learn to succeed on the task. These preliminary findings are the first to show an impact of viewing fantastical cartoons in children under two years of age. Further replication of these findings is needed to confirm the effects, but they provide valuable insights into the specific aspects of cartoons which may be most challenging for very young viewers.

Thank you to all the families who took part in our study!

You can read the full journal article here: onlinelibrary.wiley.com/doi/full/10.1111/desc.70008



SENSE STUDY - INVESTIGATING HOW FULL- AND PRE-TERM BABIES EXPERIENCE TOUCH AND HOW THIS SHAPES SENSORY EXPERIENCES AND BEHAVIOURS IN TODDLERS

Tessel Bazelmans, Nicole Gregorio & Emily Jones

The SENSE study is a collaboration between University College London (UCL), UCL Hospital and Birkbeck. We study how the brain responds when newborn babies experience touch, and how this differs between babies born full-term and born prematurely (before 37 week's gestation).

Somatosensory processing is how our brain responds to touch, movement, and body position. It is one of the earliest ways babies explore and interact with the world. This system starts developing before birth, allowing babies to respond to touch and movement in the womb. For babies who are born early, the sensory experience outside the womb is very different and we are interested to see how this affects motor, cognitive and sensory development over the first years of life.

Our research can improve newborn care and early interventions to support babies in reaching their full potential.

We are looking for (almost) 18-month-olds to take part in our study, both children born full-term as well as preterm (<37 weeks). We will invite all families to visit the labs when their baby is 18-months and again a year later (at 30-months).

Contact us to take part or learn more: CBCD-sense@bbk.ac.uk

Contact us to take part or learn more: CBCD-sense@bbk.ac.uk

BABY GROW

Jasmine Hall, Hannah Rowan, Saber Sotoodeh (Sussex University), Gillian Forrester (Sussex University), Ori Ossmy

Researchers at the CBCD and the University of Sussex have created new "smart onesies" that gently track a baby's natural movements from birth up to 18 months, right in the comfort of their own home. Each week, for just a few minutes, the intelligent onesie records how infants kick, squirm, and spontaneously move their body - giving us a precise picture of how motor skills develop over time. With our new technology, babies can be studied as they play, rest, and interact with their caregivers in real-world conditions

What did we find?

So far, families using these "smart onesies" have been able to record thousands of minutes of movement data. Early results suggest that even from the first few days of life, these sensors can pick up subtle variations in spontaneous activity that may be linked to later developmental milestones.

In addition to the sensors, we also ask parents to take a short video each week of their baby in the suit. Analysing these videos with advanced computer-vision algorithms and combining them with the sensor data allows us to study those little kicks and wiggles in even finer detail and identify whether they are early markers for subsequent skills that are still developing, which could lead to new ways of spotting early signs of cognitive or communication delays. More results to come!

NEURAL SYNCHRONY IN COLLABORATING TODDLERS (TODDLERSYNC STUDY)

Rebecca Terry, Paola Pinti & Denis Mareschal

Being able to work with others is a crucial skill for life. It involves not only thinking about what your partner is going to do next, but also planning your own actions around theirs. Studies have shown that toddlers first develop their collaborative skills with adults (parents and caregivers) before moving on to work with their peers.

We are interested in how these collaborative skills are reflected in the brains of the child and the person they are working with. Using a technique called hyperscanning allows us to simultaneously measure activity in the child's and their parent's brains. We can see if they show similar patterns of activation in their brains – this is called 'neural synchrony'. Studies with parents and older children have found that synchrony between two brains is greater when people work together. Do toddlers,

who are just learning to work with others, show the same pattern?

To answer this question, we invited mother-child pairs with children aged 24-36 months old to the ToddlerLab to take part in a Lego building game. During the study, both the mother and child wore our wireless fNIRS caps. They built Lego structures together and on their own (separated by a curtain). We compared the patterns of activity in their brains to see whether they were similar and showed neural synchrony.

What did we find?

We found that different regions of the mother's and child's brains showed greater synchrony depending on whether they were working together or individually. Neural synchrony may also have been affected by interacting with other people in the room.
We'd like to give a huge thank you to all the families that took part in the first phase of this study!

If you are a parent of a 2-year-old and are interested in taking part in the next phase of this study, please email Becky: rterry01@student.bbk.ac.uk or babylab@bbk.ac.uk

THE EMPATHY PROJECT

Chiara Bulgarelli, Paola Pinti & Emily Jones

Your child's best friend has lost their favourite toy and starts crying. Your child stares at their friend with a very sad face. Your child is likely experiencing "empathy" — understanding and sharing someone else's emotional state. While we know that this skill is fundamental for social interactions, how and when it develops is unclear. By understanding this better and what factors promote the development of empathy, we can help foster these skills in children who have difficulties in social interactions.

We think that understanding others' emotions (cognitive empathy) might emerge earlier than actually sharing those emotions (affective empathy). In the first phase of our Empathy Project, we tested this to see which empathy component emerges first. We saw nearly **100 3 to 5 year olds** and asked them to play a game about empathy while wearing a fNIRS cap and heart rate monitor. This allowed us

to identify internal markers (neural and physiological) of empathy.

What did we find?

We found that brain regions supporting affective and cognitive empathy in toddlers resemble those observed in adults. Importantly, we found age plays a role, with brain activations of cognitive empathy (understanding others' emotions) stronger in younger compared to older preschoolers, and brain activations of affective empathy (sharing those emotions) stronger in older compared to younger preschoolers.
These results provide the first evidence that cognitive empathy develops earlier than affective empathy in preschoolers, suggesting that scaffolding the understanding of others' emotions may be crucial for empathy development.

The Empathy Project is ongoing! Please join our database to take part or email babylab@bbk.ac.uk

You can learn more about our project here: birkbeck.shorthandstories.com/new-research-birkbeck-todderlab/index.html

THE COLLABORATION STUDY

Victoria St. Clair, Paola Pinti & Denis Mareschal

Last year, the Collaboration Study investigated how children learn during interactions with their mothers. Children between 4 to 6 years old came to the Preschool Lab for a fun day of puzzle-solving and games. Kids and their mothers wore functional near-infrared spectroscopy (fNIRS) caps that measured their brain activity and wearable eye-tracking glasses and solved puzzles either collaboratively or individually, with a curtain between them. We aimed to: (1) test whether kids were happy wearing the caps and glasses, (2) examine whether we could use the kit to measure brain activity reliably, and (3) investigate neural processes that might underlie children's interactive problem-solving.

What did we find?

We found that, overall, children were quite happy to wear the caps and glasses! Even if they were a bit unsure at first, most warmed up to the kit once they felt the caps, saw how cool they looked wearing them, saw their mums wearing them, and got excited about solving puzzles. We also found the data was high-quality – we could remove traces of movement, physiological noise, and even toilet breaks from our data whilst retaining meaningful information about brain activity. Finally, **we found that the brain activity of children and their parents aligned to "get on the same wavelength" when they were working together, but not when they were working separately.**

You can read the full journal article here: direct.mit.edu/imag/article/doi/10.1162/imag_a_00509/128247

In our next study called Preschool Puzzlers, we're investigating whether the same is true for children working with other children. We're also examining whether familiarity with the interactive partner plays a role in what children's brains and bodies do.

We're inviting **3 and 5 year olds** to come to the lab to play with their siblings, friends, and children they're meeting for the first time, like in a new school or play group. If you have a child keen to take part in our Preschool Puzzlers study, please email Victoria at cbcd-preschool-puzzlers@bbk.ac.uk!

ACT-UP: THE EMERGENCE OF HUMAN PLANNING

Arezoo Alford, Tommaso Ghilardi, Matthew Longo & Ori Ossmy

ACT-UP is part of a series of exciting research projects that explore how planning skills develop from the ground up. While many previous studies focused on "high-level" thinking (where our brains plan ahead every step first), we're interested in the "bottom-up" processes that shape how children plan in real time (on the fly).

In this project, we invite children to solve fun, multi-functional tool-use tasks. Essentially, they try to figure out how to use various objects to achieve a goal. As they do this, we use an integrative research approach that combines: eye-tracking (measuring where and when participants look), EEG (a safe, non-invasive method of measuring brain activity), motion tracking (how do they move their bodies and the tools?), and video recordings (to capture the full picture of their actions). By applying principles from psychophysics - the science of systematically measuring how we perceive and respond to our environment - we can see exactly how planning unfolds over time. We're especially curious about how a child's brain, eyes, and body coordinate in real-time, and how planning bias or instability can emerge when they juggle lots of information at once.

What did we find?

Our data collection is still ongoing. The results so far suggest that children's planning is probabilistic and biased towards habits, and they learn to be more adaptable by learning to gather the relevant visual cues from the environment on time to build their plan. Every participant helps us piece together the puzzle of how planning emerges and changes with age and experience. Ultimately, we hope this research will shed light on the building blocks of human planning, showing the different ways children learn to adapt and solve problems in a complex world, and tailor future intervention accordingly.

A STAARS FOLLOW UP: THE STAY COOL STUDY

Emily Jones, Ruihan Wu, Jannath Begum Ali, Hodo Yusuf, Kitty Wells & Julia Landstedt

For many years, the STAARS (Studying Autism and ADHD Risks) study has been dedicated to understanding the early developmental pathways of autism and ADHD. Now, as some of our wonderful STAARS participants are entering childhood, we're inviting them back for a new follow-up study! Stay Cool is exploring how self-regulation develops in the brain, body, and behaviour of STAARS children aged 4-9.

Self-regulation is the skill to manage emotions and behaviours. Essentially, it's a child's inner ability to stay cool, calm and collected! This ability is key to building friendships, learning new skills, and bouncing back from challenges. Whilst traditional studies of self-regulation often focus on tasks like complex planning, sustained attention, and multitasking, this doesn't always capture the playful, dynamic nature of childhood. That's why in the Stay Cool study, we're focusing on fun, age-appropriate games and activities that resonate with kids. Our goal is to capture the essence of how children manage their emotions in a way that is both engaging and insightful!

To see how kids 'Stay Cool', we are using a mix of exciting activities and cool measurement tools. Many of these measurements are similar to those used in the STAARS study, so we can track long-term patterns of our participants' development. We are looking at how the brain, body and behaviour work together when kids manage their feelings. This includes wearing EEG/fNIRS caps- cozy hats that allow us to peek at participant's brain activity whilst they play. We'll also show some fun videos and use special-eye trackers to see where participant's eyes wander. And of course, there's lots of games to enjoy, plus some developmental assessments. Parents will be part of the fun too! You'll get to join your child in activities like colouring, solving puzzles, building Lego, and even creating masterpieces on an Etch-A-Sketch whilst you both wear super cool neuroimaging cap that help us see how your brains work together.

The Stay Cool study is currently ongoing, and we can't wait to see what new discoveries we make. More updates and exciting insights to come!

SNAP: SENSORY ACTIVITY IN PRESCHOOLERS

Ottavia Ollari, Julia Landstedt, Priscilla Poon, Zelal Gulbahce, Emily Jones, Eva Loth, Jannath Begum-Ali, Nick Putz & Teresa Tavassoli

Sensory differences are an important part of Autism, with 70-90% of Autistic children experiencing either heightened or reduced sensitivity to different types of sensory input. Touch, in particular, plays a crucial role in how young children learn, perceive the world, and interact with others - from as early as their first year of life. But how can we understand the varying ways in which individual children experience their surroundings? And which types of sensory input do they prefer?

The Sensory Activity in Preschoolers (SNAP) study is exploring how Autistic children aged 3-6 process sensory information and what types of sensations they have preference for. To do this, we use a combination of fun and engaging activities designed to measure sensory preferences and responses. By combining different measures, we can create a personalised sensory profile for each child.

Understanding sensory differences is important because they can affect learning, social interactions and overall quality of life. Our research aims to uncover how specific sensory traits might relate to later skills in areas like education and socialisation.

If your child is between 3-6 years old, has an Autism diagnosis (or is in the process of getting one), and is high-functioning, we would love to hear from you! For more information, please email us at cbcd-snap@bbk.ac.uk

SENSOR STUDY: UNDERSTANDING WHY SOME CHILDREN ARE MORE RESPONSIVE TO EVERYDAY SENSORY EXPERIENCES?

Virginia Carter Leno, Farah Ghosn Yassine & Vanessa Madeira

Children live in a world filled with constant sensations – for example, things to see, hear and feel. Some children are more sensitive to everyday sensory sensations (the feeling of tags in clothing, the sound of a hairdryer) than others, and this can affect their daily activities and well-being.

The Sensory Sensitivity & Over Responsivity (SENSOR) Study aims to understand how children's brains process different sensory inputs, why some children respond more strongly, and what impact this increased responsivity could have on their development. We do this by measuring how children's brains respond to different sights, sounds, and touch, and assessing mechanisms children use to regulate their behaviours when they encounter heightened sensory environments. The SENSOR study will follow children from 3 years to 5 years, as they grow and start school. Children will visit the lab once a year, for three years,

to participate in a mix of fun activities, brain imaging and different sensory games. This will help us understand how children process and respond to different sensory experiences, and how these change as they get older.

The goal of this research is to understand how best to support children who experience sensory over-responsivity (sometimes referred to as sensory overload). Better support will ensure positive well-being and that children are able to engage in normative developmental experiences such as attending school, visiting the park, or going on holiday with their family.

We are looking for parents/ caregivers and their neurotypical or neurodivergent 3 year olds to take part. Please join us to explore how the body and brain respond to different sights, sounds and tactile sensations. We hope children don't want to leave at the end of the visit because they have so much fun!

Please visit our website for further info: cbcd.bbk.ac.uk/research/sensor
Email: cbcd-sensor-study@bbk.ac.uk

NEUROCAVE STUDY

Chiara Bulgarelli, Paola Pinti, Giulia Serino, Siofra Heraty, Silvia Dalvit-Menabe, Samuel Powell, Nicholas Everdell, Nadine Aburumman, Tony Charman, Essi Viding & Antonia Hamilton

The NeuroCAVE study aims to make science more inclusive by tailoring virtual reality (VR) and the latest brain imaging technology for neurodiverse children.

Over the past year, we've had the joy of welcoming over 50 children aged 3 to 7 - both neurotypical and neurodiverse (including children with ADHD, autism, or a higher likelihood of these conditions) - into the CAVE, our specially designed virtual reality room.

Each family visited us twice. During their first visit, children were equipped with a special cap to measure brain activity, followed by 3D glasses and a motion tracking glove to play in our VR room. Once ready, they entered the virtual world to play a bubble-popping game! After the first session, we collected feedback from both children and parents. We then made personalised adjustments to testing protocol for each child's second visit - making it more comfortable and engaging, based on their preferences and needs.

What did we learn?

We received very positive feedback from neurotypical children, children with ADHD, and those at higher likelihood of ADHD. This is an important finding, as it shows that we can extend our field of research and gain a deeper understanding of the developmental trajectories of ADHD by simulating everyday environments in our virtual reality room.

Many autistic children also enjoyed the play sessions - especially when we tailored the space to their preferences, such as adding a favourite cartoon or offering a reward after the game. However, not all autistic children found the experience enjoyable. Some, particularly those with sensory sensitivities, felt a bit overwhelmed by our current setup. We're now working hard to improve the environment so that it can fully accommodate every autistic child in the CAVE. This project has shown us that, with continued collaboration between researchers, families, and industry partners, we're on the right path toward making virtual reality more inclusive for all children.

We are incredibly grateful to all the families who visited, shared their thoughts, and to the children who played and explored with us. This experience has been essential in helping us understand how to make research more accessible for every child.

Stay tuned! We'll soon be sharing more about the exciting brain data we collected!

SMARTY TOYS STUDY: UNDERSTANDING THE ROLE OF PLAY IN DEVELOPMENT

Giulia Serino & Ori Ossmy

Children spend hours playing—exploring, touching, and moving toys in countless ways. But does playing with a physical toy support a child's development differently than playing with a tablet version of the same toy?

To answer this question, we're visiting nurseries and inviting children aged 3 to 4 to play with a range of toys - either physical toys or the iPad version of them. These toys and iPad games have been carefully selected to support key cognitive skills like memory, mental rotation, attention, and motor coordination.

After playtime, we assess each child's performance on a series of fun cognitive tasks to better understand how different types of play influence early development.

If you know of a nursery that would like to be a part of this research, please contact us! babylab@bbk.ac.uk

LEARNING THROUGH INTERACTION

Imogen Green, Paola Pinti & Denis Mareschal

What happens in the brain when children learn through interaction? This project is investigating the similarity between brain activity in children and teachers during different types of learning activities.

Research in adults suggests that people learn more from interactive teaching than from listening to their teacher talk. We decided to investigate this in children by holding one-to-one learning sessions in our lab with qualified teachers. Children and teachers wore fNIRS caps to measure their brain activity.

What did we find?

Our results showed that when teaching was more interactive, a child's brain activity was more similar to their teacher's brain activity than when teaching was less interactive. Children who had more similar brain activity to the adults during the learning session also remembered more of the facts after one week. This shows us that the quality of interaction with a teacher might be important for remembering information over time.

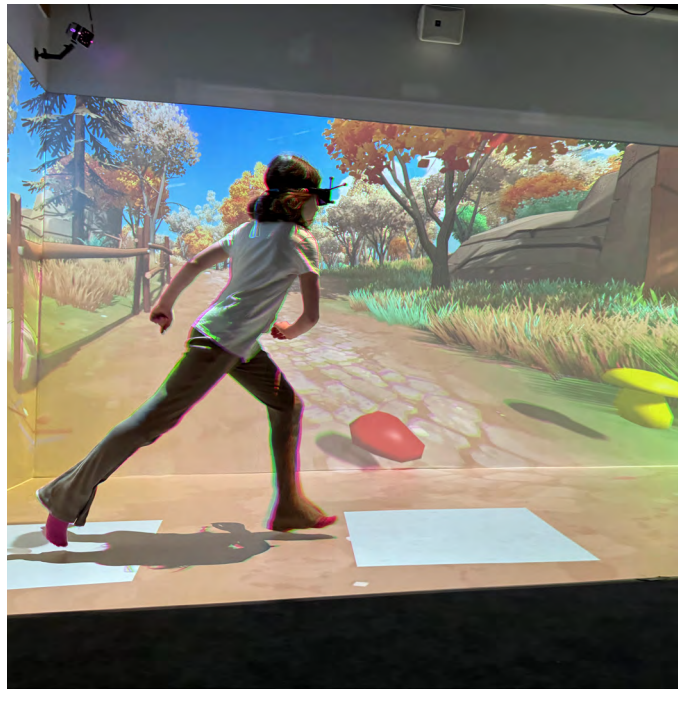
Unexpectedly, we also found that when participants couldn't see each other during learning, their brain activity was more similar than when they could see each other. This might be because they are communicating in a different way when they can't see each other.

Following on from this research, we are also trying to find out how online learning is different from in-person learning. We are currently running learning sessions using face-to-face and video call teaching. We are interested to find out whether learning online leads to reduced similarity in brain activity.

Thank you to all of the families that have participated in this research so far! We look forward to sharing more results in the next newsletter!

THE LEAVES STUDY: LEARNING, EXERCISE AND ADAPTABILITY IN VIRTUAL ENVIRONMENTS

Marianna Muszynska, Giulia Serino, Rosie Dalton & Ori Ossmy



Does your child ever struggle to sit still and listen all day in the classroom? But perhaps when playing a game outside they can be engaged for hours?! Attention Deficit Hyperactivity Disorder (ADHD) is a common condition that can affect children's focus, behaviour and motor skills. Recent research suggests that physical activity can improve attention and self-control in children with ADHD.

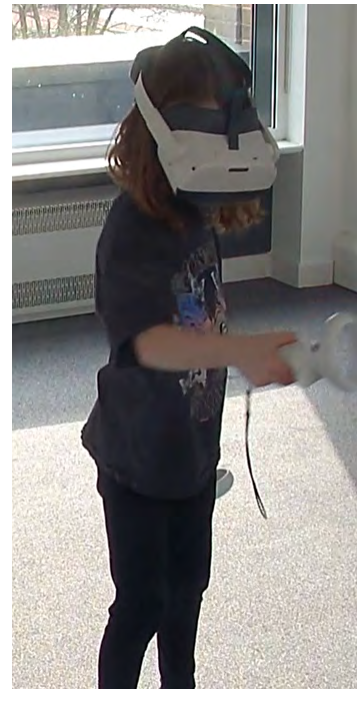
The LEAVES study provides an exciting new approach to understanding cognition by utilising innovative technology and specialised tasks that require children to think and move at the same time! Using fNIRS, we also measure the connectivity between different brain areas to understand why these physical activities might help.

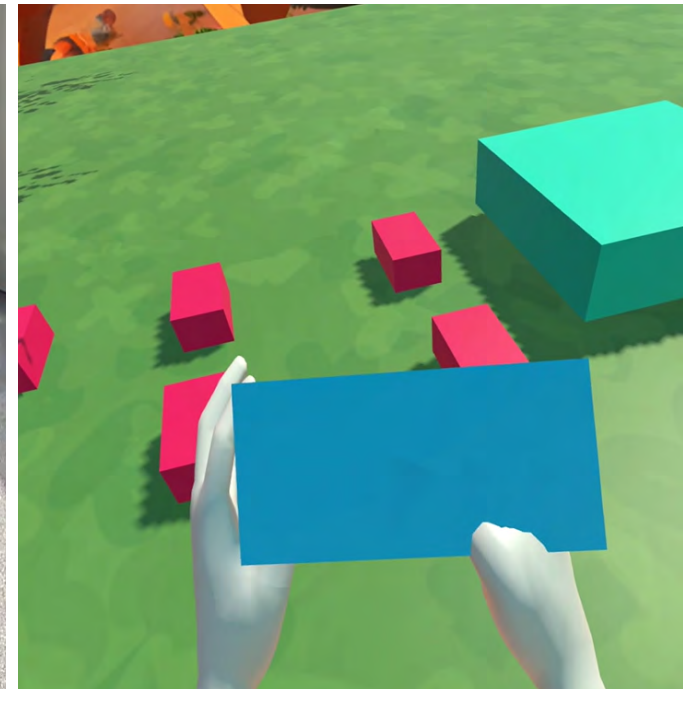
By catching falling objects in a virtual-reality setting or by playing other engaging games, children's behaviour in those games help us to understand if an "active learning" approach helps them better regulate their behaviour and attention.

What have we learned so far?

Early results suggest that when children have to switch their focus quickly (for example, going from sorting objects by shape to sorting them by colour), they find it more difficult to succeed, especially if they have higher levels of impulsivity. We also found that these differences in how children handle sudden rule changes are linked to their parent-reported ADHD traits, such as impulsivity and inattention. These initial findings suggest that the more a child struggles with these traits, the more they need slower-moving or easier tasks to do well.

We are looking for young scientists with ADHD or suspected ADHD (age 7-11) to come and help us – if you would like your child to take part, please get in touch! Email cbcd-leaves@bbk.ac.uk or babylab@bbk.ac.uk





THE BLOCK QUEST PROJECT

Marianna Muszynska & Ori Ossmy

Block Quest is a new virtual-reality game designed to explore how children with ADHD interact with their surroundings while they move, think and solve tasks. Traditional assessments and interventions of ADHD involve seated, computer-based activities and do not capture everyday skills like planning actions while standing, walking or looking around. By contrast, Block Quest lets children physically move around as they open virtual boxes and build structures, recording details of how they see, think and act in real time.

Through motion tracking and computer vision, this embodied approach to ADHD aims to offer "digital behavioural phenotyping," which means creating a detailed picture of how different children plan and solve problems but instead of only measuring right or wrong answers, we also look at the exact sequence of steps each child takes. This way, we can see how attention, impulsivity, and movement work together, providing a more realistic view of children's everyday experiences with ADHD.

We hope that this immersive approach will help researchers, parents, and educators understand ADHD in a more natural context - potentially shaping new support strategies and interventions. We will share results in the next newsletter.

If you have a 7-11 year old who would like to take part, please email babylab@bbk.ac.uk

EMBODIED REASONING

Hélène Grandchamp des Raux, Gaia Giulio, Elisa Raffaella Ferrè & Ori Ossmy

Ever wonder how kids naturally figure out how objects move and interact in the world around them? We do, too! Previous studies showed that this reasoning skill is critical when humans need to adapt to real-world environments that are variable, unpredictable, and full of novel situations.

Our exciting new study explores what happens when '7-12 year olds are challenged by different "worlds" with altered physical laws. By playing fun, computerised games in both normal and "twisted" gravities—and in different body positions—kids will help us understand how real-time, hands-on experiences influence big-picture thinking skills.

Over 100 children have now played our gravity games. We will share our findings in the next newsletter!

We have lots of exciting research for older children to take part in.

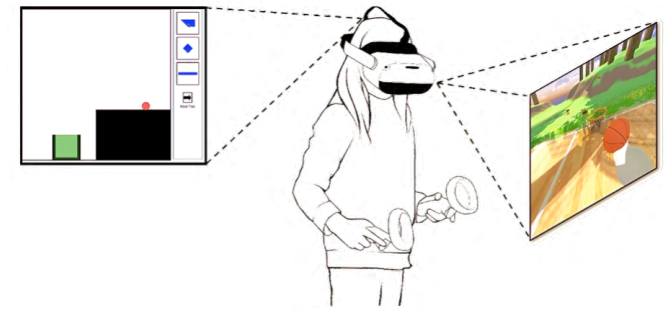
Please join our database or email babylab@bbk.ac.uk for the latest opportunities.

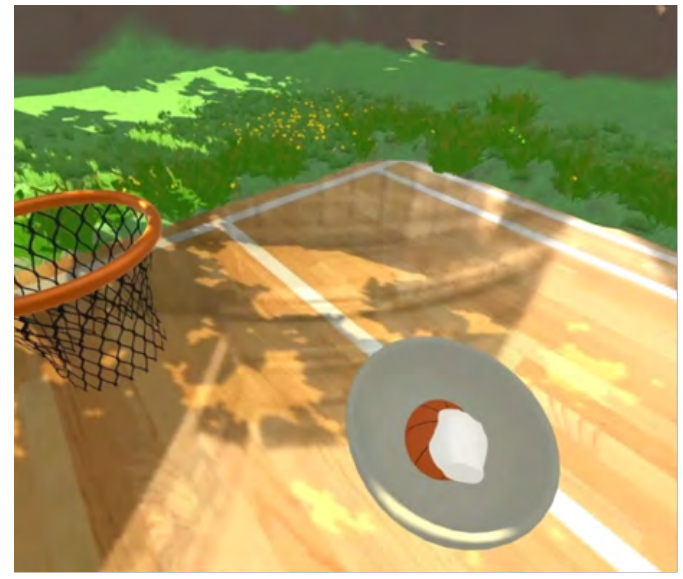
ADAPTABLE BASKETBALL

Maryam Haq, Sara Hornby & Ori Ossmy

How do physical experiences shape children's ability to know the world's physical laws? Children learn early on to predict how objects move or fall - crucial skills for thriving in a world full of surprises. But how exactly do different hands-on experiences help them adapt when gravity or other physical rules suddenly change?

In this project, we're exploring these questions using virtual reality where we can alter gravity. By letting children interact in different planets like the Moon or Venus, we can observe how their real-time experiences - like feeling the effects of heavier or lighter gravity - affects their broader reasoning about where objects will land or how fast they'll move.



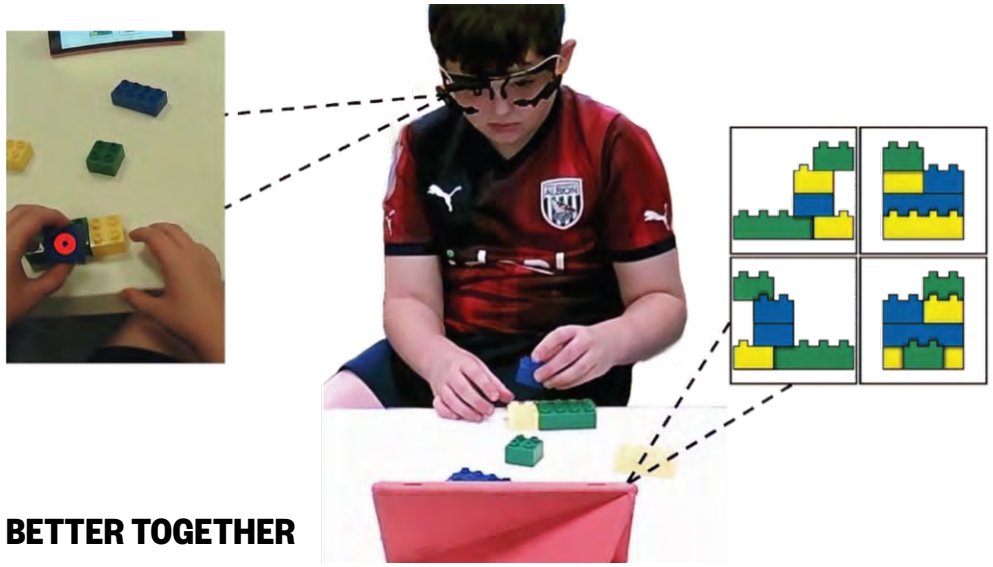


What have we learned so far?

Early results suggest that children have a flexible mental model of physics, and with a little push from highly variable experiences, they can become even better at reasoning 'on the fly'. By discovering how (and which) embodied experiences boost adaptability, we aim to find new ways to support children's growing understanding of the physical world.

The study is ongoing! We are looking for more 7-12 year olds happy to take part! Please join our database or email babylab@bbk.ac.uk

STUDIES



BETTER TOGETHER

Nina Peleg, Andy Tolmie, Denis Mareschal & Ori Ossmy

Spatial skills are foundational to science learning throughout school and beyond. This is because science learning involves understanding how different entities interact and transform over time and space, something which is hard to represent verbally. Instead, learners must form and manipulate spatial representations, allowing them to understand and reflect such concepts.

While there have been many spatial-skills interventions targeted at school-aged children, few have focused on collaborative learning - where children must work in a group to solve spatial challenges. In this project, we invented a new spatial skills intervention, specifically requiring child learners to work together to integrate spatial information from different sources into a unified spatial representation. We think this is more reflective of the spatial skills necessary for science learning and a better focus for intervention.

What did we find?

Our findings from 9-10 year olds suggest that children still developing these skills show different patterns of eye and hand movements compared to adults, especially when the task is more complex. We also found that children use different strategies when collaborating with each other compared to when they complete the task themselves. They also look differently at the different viewpoints, which leads them to make different construction moves.

Ultimately, we hope that by targeting and strengthening these core spatial abilities through collaborative learning, we'll help children develop their science and maths skills, both in their classrooms and in everyday life.

We are always looking for more schools to take part in our research! Please email babylab@bbk.ac.uk if you work in a school or have a child aged 9-10 years who would like to take part!

FREQUENTLY ASKED QUESTIONS

What does participating in a study involve?

Generally, our studies take the form of simple games in which we present various interesting things to look at and listen to. In some studies, we show short video clips or cartoons on a computer screen. Other studies are more interactive and involve toys or objects. For example, a researcher might play a game with your baby or child to understand more about how they think and learn different skills. When you arrive at the BabyLab or ToddlerLab to participate in a study, the researcher who is running the study will be there to greet you and explain what the study is about and answer your questions.

What do I get for participating?

Participation is free. All babies and children who take part in our research receive a certificate and thank you gift. We refund travel expenses up to £40.

Will I be separated from my baby/child?

If you decide to come and visit us, you will be with your baby/child at all times. Your baby will either sit on your lap or in a baby chair. Your child will sit or play independently with you in the same room.

How long do studies take?

The whole visit usually takes about 45-60 minutes, but the studies themselves are usually just 5-15 minutes. Some of our studies are longer, but others are very brief. It depends on the research question and methodology. You will always be informed ahead of your visit what to expect on the day.

Although I received my welcome email a while ago, I have not been asked to participate in a study. Will I get a call?

Sometimes you will be contacted straight away, other times it may take longer. Each study has an age range and inclusion criteria specific to a particular stage of development. If you have not been contacted, it is not that we have forgotten about you, it is just that your baby or child is not the right age for any of our current studies. Our studies are constantly beginning and ending so new opportunities will arise!

How are appointments scheduled?

We will usually phone and email you 1-3 weeks before your baby/child is the right age for one of our studies. Participation in studies at the BabyLab & ToddlerLab is on a voluntary basis, so although you may be asked to come in several times, you can always decline participation in a study. You are of course also free to let us know if you no longer wish to be contacted. ***We simply invite you to take part in the hope you'll say yes!***

What sort of travel arrangements do you provide for families?

We will cover any travel expenses up to £40 when you visit the BabyLab or ToddlerLab. Please keep all receipts or take screenshots. We appreciate families using public transport to reach us, but where this is not possible (and if you live within certain surrounding postcodes) we can provide a taxi service. If you are outside our taxi zone you will need to make your own arrangements. If you choose to drive, there is ample street parking, and we have a few

FREQUENTLY ASKED QUESTIONS

parking spaces available close by. We will reimburse petrol costs and the congestion charge, though please remember to pay it yourself on the day! We are happy to help you through any additional questions when planning your visit.

You're called the BabyLab & ToddlerLab, but do you test older children?

Yes! We are interested in infant and child development, so our studies range from newborns to school age children and even adolescents. We have something for everyone! Our purpose-built labs were designed to make testing babies, toddlers and children as easy as possible. Our brains develop throughout life, so we strive to study babies and children of all ages!

What if my baby or toddler is asleep, hungry or needs changing upon arrival?

Many babies (& toddlers!) fall asleep during their journey to visit us. We try to let the little ones make their own schedule as it helps us have happy participants who will sit through our studies. If a baby (or toddler!) is tired, hungry, or wet, they are unlikely to want to participate. Therefore, we encourage you to carry on with their normal schedule as much as possible, even if it is during a visit. We have changing facilities and you can also feed your baby or toddler in the reception area. Water, tea and coffee are available for parents and carers. However, if you know that your child naps or eats at a certain time, please mention this when booking an appointment.

If my baby or child is ill but we're scheduled to visit for a study, should we still come?

Please don't bring your baby or child to visit us if they or you are ill. Please let us know and we can reschedule your visit. This helps us keep illnesses away from the BabyLab & ToddlerLab. We are flexible!

What if my baby or child does not want to participate on the day?

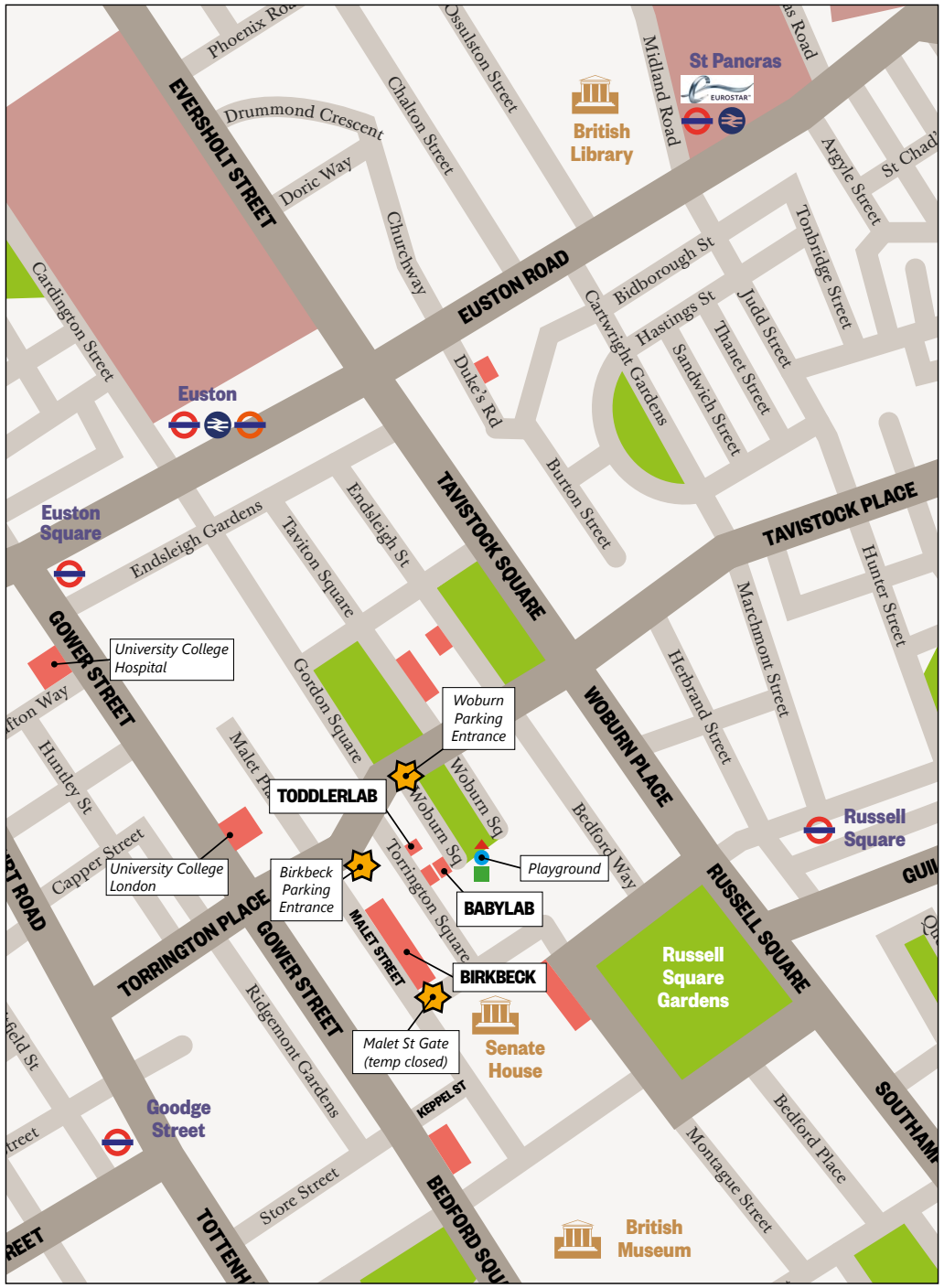
Don't worry if your baby or child decides they do not want to participate on the day of your appointment. They may be tired, teething, feeling unwell or just find the study too boring! This does not mean that they will always react this way during a study. We will be happy to invite you for future visits for different studies. Babies and toddlers change hour-to-hour, day-to-day and month-month so every visit is different and full of new opportunities!

How do you keep my details secure?

We take the protection and storage of your data very seriously. We are extremely grateful to all the parents and volunteers who join our database to take part in our research. Our database is stored on a secure, encrypted, password protected server and meets UK data protection guidance. We will only contact you if your baby/child is eligible for a study or event that may interest you, or to communicate research findings.

If you no longer wish to be a part of our future research and would like to unsubscribe from our database, please let us know and we will delete your details. Contact us on babylab@bbk.ac.uk or 020 3926 1207.

HOW TO FIND US



Directions

The *Birkbeck BabyLab* is located in the Henry Wellcome Building, just off Torrington Square, around the corner from the Clore Management Building (on the walking path between Torrington Square and Woburn Square). Signs on either side of the doors read 'The Wolfson Institute for Brain Function and Development' and 'The Henry Wellcome Building'.

The *Birkbeck ToddlerLab* is located a few doors down from the *BabyLab* at 33 Torrington Square.

By public transport

We are within walking distance from the following stations: Russell Square, Goodge Street, Euston, Euston Square, Warren Street, King's Cross and St Pancras.

By car

If driving and using satnav, please input WC1E 7HX which will bring you to the main Birkbeck entrance on Malet Street. The entrance is temporarily closed, but for shorter lab visits, there is ample street parking nearby (cashless system, payable via RingGo). You can also use the RingGo app/ website (myringgo.co.uk/parkinglocator) to look for available parking. Do not use QR codes to pay. Please read signage carefully!

If street parking is not possible, we can prearrange parking behind Birkbeck Central, just after the junction with Malet Street at the start of Byng Place (entrance on right). If full, there is access controlled parking in Woburn Square (Warburg Institute Side), entrance at junction of Gordon Square and Woburn Square. Please note there are various one-way roads in the area.

By taxi

BabyLab: Please ask the driver to drop you adjacent to 28 Woburn Square (or if the gate is locked, at the start of Woburn Square). Once at the top of the square turn right and walk up the paved slope. The Henry Wellcome Building is the building on the right. If you have any problems, contact the researcher you booked with.

ToddlerLab: Please ask the driver to take you to the corner of Byng Place and Torrington Square. The *ToddlerLab* is a few doors down on the left. Any issues, please contact the researcher you booked with.

PLEASE JOIN THE BABYLAB & TODDLERLAB OR UPDATE YOUR INFORMATION!

Don't lose touch! If you are moving house or having another baby, please let us know so that we can update our records.

e-mail: babylab@bbk.ac.uk
phone: 020 3926 1207
secure online registration: cbcd.bbk.ac.uk/babylabtoddlerlabregistration
(SAME SIGN-UP PAGE REGARDLESS OF YOUR BABY OR CHILD'S AGE)

If you have a friend who you think may enjoy a visit to the BabyLab & ToddlerLab, *please ask them to contact us too*. Babies and children grow up quickly! **We are constantly in need of young babies and children through school age to help us with our research.** Our studies have a wide range, from 1-month olds to 12+ year olds.

It's easy to sign up online! Just click the 'REGISTER HERE' link on our website: cbcd.bbk.ac.uk/babylab or scan the QR code below

REGISTER HERE

CONTACT US:

Phone: 020 3926 1207
E-mail: babylab@bbk.ac.uk
Website: www.cbcd.bbk.ac.uk

The Birkbeck BabyLab & ToddlerLab
FREEPOST RRGX-ARGH-SESR
Centre for Brain & Cognitive Development
The Henry Wellcome Building
Birkbeck, University of London
Malet Street
London WC1E 7HX

REMEMBER TO CHECK OUT OUR ONLINE STUDIES YOU CAN DO FROM THE COMFORT OF HOME!

cbcd.bbk.ac.uk/online-studies

BabyLab & ToddlerLab