

BABYLAB

NEWSLETTER 2024

Thank you!

Hello to all the grown ups and baby scientists! First of all, we would like to say a huge thank you to everyone who gave up their time to visit the BabyLab and help us with our research – we couldn't have done it without you guys and for that, we are very grateful! This newsletter will talk about all the different studies that have taken place in the lab this year, and any updates/results that have been found so far. Enjoy!



News...

Since September, we have had over **400 families** visit the lab, with children from just 3-months-old, all the way up to 10-years-old! With all of your help this year, we have been able to complete a range of studies, as well as introduce some new studies into the lab. Some of which were carried out by our wonderful project students, including 2 undergraduate students, 2 master students, and 1 PhD student. Over the past year, you may have met Macie & Freya, who have taken a year out of their degree to gain experience in the lab! They will sadly be leaving us this month to finish their degree, but will be replaced by 2 new students, Mohima and Eve!



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PLYMOUTH
School of Psychology

Baby & Toddler Groups

We would like to thank all of the baby/toddler groups we've had the opportunity to partner with. Thanks to you guys, we have managed to recruit **428 babies** to our database since September, which is incredible!



Special thanks to Emmagination, Hartbeeps, Moo Music, the Stay & Play Hub, as well as the Plymouth Libraries' Rhymetime sessions, for your continued support for the BabyLab.

This year, we've also been able to visit some fun and educational multi-cultural groups. Because of this, we've had **83 bilingual kids** sign up to the lab. Amazing!



Freya & Macie



Thank you to the incredible Freya and Macie for being outstanding placement students this year! Many of you who visited us will recognize their friendly faces from the lab and their helpful emails. We are so proud of the creative and positive impact they have brought to our team. Their ability to make families feel welcome and comfortable, and their dedicated work ethic has been truly commendable.

Between the 2 of them, they have ran studies with **244 children** from 3 months to 3 years old! It has been a pleasure to watch them grow in confidence and master new skills. We will miss them very much, but we are delighted that they will still be making appearances next year as they carry out their 4th year dissertation project with us! We will wish them all the luck in the world for their final year ❤️



Fun things we've done this year...

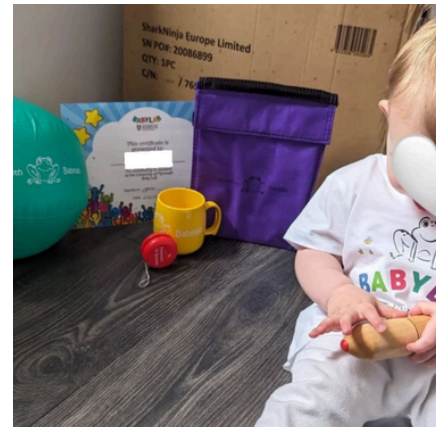
Found a Christmas tree on the FaceBook marketplace, and found out the seller was a BabyLab mum that had came to the lab a couple days ago! So she gave us the tree as a gift to decorate the lab with - thank you!



Went on lots of flyer handouts... did anyone manage to spot us & Gerry the Giraffe around Plymouth?



Did our first BabyLab giveaway! Our winner received 1 of every prize we have...



Designed and made some BabyLab kit! Now when we go on visits to baby & toddler groups, you'll be able to recognise who we are!



Made a TikTok page! Here, we post fun videos we create in the BabyLab, and talk about some of the studies we have going on. Be sure to follow us on our socials so you don't miss anything!



@plymouthbabylab



@plymouthbabylab



@Plymouth Babylab

PhD Students

A huge congratulations to **Delphine Nguyen** for completing her PhD this year! She has done lots of amazing work for the BabyLab through the years, and is now a lecturer at the University of Southampton!



And another congratulations to **Madeleine Martinaud Castro** (who you may have met in the lab this year), as well as last years placement students: **Rachel Riley, Yasmin Merrett de Souza & Roxana Rosculet** for completing their undergraduate degrees – we wish them the best of luck in the future!

We also want to wish good luck to **Alvise Rogers & Darya Klymenko**, who will be beginning the second year of their PhDs in the BabyLab in September!

A bit about Alvise's work...

“Different languages have vastly different structures, sounds, speeds, and countless other properties. Infants from various countries don't always pay attention to the same properties of language. For example, monolingual infants who speak Mediterranean languages are more likely to notice when a consonant changes rather than a vowel compared to those who speak English. My present research aims to see **how bilingualism affects this “mental word searching”** at such a young age. Will bilingual children exhibit a preference for consonants in one language over the other? Will there be no difference? Only via the contribution of you, the wonderful parents and children that take part in our research, will we find an answer!”

A bit about Darya's work...

My Masters dissertation focused on a pilot study for an fMRI investigation of the neural processing of regional and foreign accents. I am now continuing this as a full-scale study, and am very grateful to the Babylab parents who participated in the voice recordings for this project. I am now also starting a project looking into **unfamiliar accent understanding in infants** who hear either one or multiple accents at home.

From a BabyLab placement student in 2020...



...to a PhD student in 2024!



The new placement students!

In September, we will have the lovely Mohima & Eve joining the team. Both second year Psychology students, they can't wait to start conducting research in the lab with our baby scientists! Here's a fun fact about each of them:



Mohima

Mohima says: "I used to be obsessed with chillies when I was younger to the point that I would outright refuse to have lunch without them!"

Eve says: "I love spending time outdoors and exploring nature!"

Thank you and Goodbye...



We had 4 international apprentices working on the Bilingual Language Environments project with Anna Caunt this year. **Joline, Ana, Keitija** and **Yoshino** helped to annotate and translate speech from audio recordings into Dutch, Latvian, Romanian and Japanese! They all did an amazing job and spent many hours in the lab listening to speech in different languages and translating them. Their work will contribute to the research conducted on the input that multilingual infants growing up in London hear on a day-to-day basis. Thank you! / Bedankt! / mulțumesc! / Paldies! / ありがとう!



Goodbye to **Alys** and **Amy**, who have both completed their placement year with Patricia Kanngiesser and helped carry out over 200 studies combined with children aged 5-10 years old! They have done an outstanding job, and we wish them the best of luck in their final year.



2023-2024 Conferences

Evaluating Measures of Language Input to Multilingual Infants



BabyLab manager, Anna, went to the 'Many Paths to Language 2023' conference at the Max Plank Institute in Nijmegen, The Netherlands.



Anna is also currently presenting at a conference in Lisbon, Portugal, where's talking about her research project: 'Language Mixing in Multilingual Homes: Evidence from Day Long Recordings'.

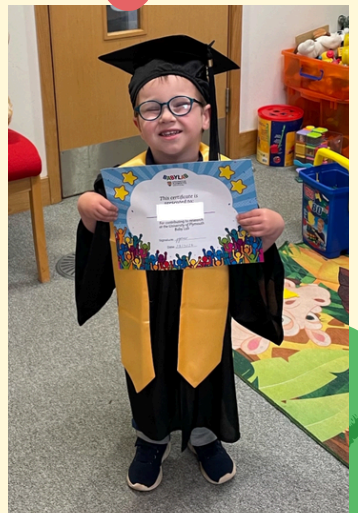
Southwest Undergraduate Conference 2024



Our lovely project student, Madeleine, took part in the Southwest Undergraduate Conference 2024 organised by the University of Plymouth in partnership with the The British Psychological Society.

Madeleine had the opportunity to give a poster presentation on her dissertation project 'Children's norm-reasoning skills in the context of environmental protests', for which she got awarded a certificate for Best Poster Presentation alongside other candidates. Well done Maddie!

Graduates of the Year!



Head Turn Booth Studies

FARS - Syllable Sounds

5 and 8-month-olds

When we hear someone speaking our language, we can pick out each individual word, like looking at beads on a string. However, when we hear a foreign language, picking out individual words becomes incredibly difficult. For babies who are starting to learn their native language, it must be a similar experience to hearing that confusing foreign language, and yet they somehow start to learn the puzzling new language and at around **one year** of age are able to speak their first words. So how do very young children achieve this?



From 5 months old...

This study examines the possibility that **babies start with very little parts of speech**, like syllables, to retrieve larger parts like words. If that's correct, they must have learned the most frequent syllables. So we presented them with **syllables that are very frequent like "too"**, versus **others that are not**.

We used the head-turn procedure and presented five-month-olds with commonly heard syllables, and very rarely heard syllables, to see if they recognised the syllables they hear frequently. However, at 5 months, there was **no sign of a preference** for either list. So this year, we tested a new group of 8 month-olds (**51 in total!**), but.. we haven't analysed the results yet!



...to 8 months old!

Eye Tracker Studies

ME Preference (Funny Words)

17-month-olds

This study investigates how **monodialectal** and **bidialectal** children (either exposed to 1 accent or 2 different accents) label new objects, through a word learning technique called “**mutual exclusivity**”. Mutual exclusivity is the assumption that **objects can only have one label**. This means that when children hear a new word in the presence of objects they have a name for and one which they do not, children assume the new word refers to the unknown object. Prior research has found that the mutual exclusivity constraint typically develops at around 17 months for monolingual children, and around 20 months for bilingual children. Our hypothesis is that our results will be similar to this, and that **monodialectal children at 17 months will use the mutual exclusivity constraint more than bidialectal children**, and pair the new words they hear to the unknown objects.

So far, we have tested **38 children**, and are aiming to get to **48** in September. By the next annual newsletter, we will be able to tell you all about our findings!

Body Postures

12-24-month-olds

Our Master student, Maryam Rostami Aghoui, began carrying out her study in March, titled “**Investigating the Visual Preferences of Infants**”. Her study aims to explore the early development of human social cognition by examining the visual preferences of infants. It seeks to understand **how infants react to various visual stimuli** and whether they demonstrate **preferences for specific objects, scenes, or patterns**. The research aims to shed light on the underlying cognitive processes in infants’ visual perception, contributing to a broader understanding of human visual preferences from a young age.

So far, **25 children** have participated in this study. The data analysis will commence shortly, promising new insights into early cognitive development.



Word and Picture Pairings (LABSPR)

18, 24 & 30-36-month-olds

We have continued to collect data for our **semantic priming replication (SPR)** study which looks at the **words we know a child associates** (e.g. bed – teddy) from the Word Association task we ran previously in the BabyLab, compared to **words that an adult might associate** (e.g. bed – blanket).

In the online semantic priming study, we found that **children looked longer at a named picture if it is first primed with a child word association** (bed before teddy) **compared to an adult word association** (bed before blanket). We wanted to see if the same strong effect of priming can be found when children do the experiment **in the lab**.

We have been testing at different ages to see **how young we can find an effect** of child-specific word associations in infancy. We have had help from **40 18-month olds, 40 30-36-month-olds, and 27 24-month-olds**, all of which have helped us tremendously with our research! We are **very close to collecting all the data** we need for these experiments (just **13 more** 24-month-olds to test!), and we will start to analyse the results very soon.

The findings from the online version of the experiment have recently been published (scan the QR code to read!)



Scan to find out more info!!



Bilingual Studies

Words & Gestures (WinG) - Monolinguals & Bilinguals

35-37-month-olds

This project explores how **environmental and demographic factors affect the words known** by bilingual children compared to monolinguals in direct and indirect assessments. We also wanted to see how monolingual and bilingual children **communicate with their interlocutors**. We hypothesized that **bilingual children would use gestures more** often than monolingual children to enhance communication. To test this, we used the WinG (Word in Game) card task, where children were shown three cards at a time. First, they pointed to an image to demonstrate word comprehension. Then, after two cards were removed, they named the final card to show word production.



We began this project a few years ago (2019/20) and recently collected more data from monolingual and bilingual children aged 35–37 months. Thanks to your support, we have tested **22 monolingual** and **18 bilingual children** since March 2024! Our previous data (from 2019/20) showed that some children used more gestures than others, but **monolingual and bilingual children used a similar number of gestures**. Once we have collected more data in this round we will see if these results stay consistent. We plan to continue this study in the next academic year.

We would love to hear from caregivers of monolingual and bilingual children in this age group. Please bring your child to the Babylab to help us understand how many words your child knows and uses!

Language Mixing Patterns in Multilingual Homes

Anna Caunt, Caroline Floccia and Rana Abu-Zhaya

Our project examines the everyday language environments of **24 infants** growing up in **multilingual homes around London**. Each family received a **small audio recorder** with an infant t-shirt to hold the device and was asked to **record the language input** their child was exposed to at home for two full days.

Since the last newsletter (2023), we have **annotated all our data** and can now begin analysing various language input features. We have also started investigating **language mixing patterns**. Previous studies have shown that infants experience language switching, but the variability of this phenomenon throughout different parts of the day has not been explored. Research on language input in monolingual families indicates variability throughout the day. We examined how the time of day affects caregivers' language-mixing behaviours and whether the presence of more than one caregiver increases the likelihood of infants hearing more than one language.



Our results showed that the presence of **two speakers** (as opposed to one) **increased the likelihood of the infant hearing mixed utterances**. Older infants also encountered **more language-switching** instances compared to younger infants. However, the time of day did not affect the amount of language-switching heard by the infants in our sample. Future analyses will explore speaker-specific language-switching (between and within sentences) and differentiate between language mixing directed at the child and speech directed at others.

Older Children Studies

Children's Views on Environmental Norm Violations 6-9-year-olds

In recent years, disruptive protests that demand climate action have become increasingly frequent. This has led to a growing amount of research focused on the general public's perception of these behaviours. However, research has mostly focused on adults' perceptions, and there are few studies on what children think about climate protests.


This study investigates children's understanding of **disruptive, environmental protests** and whether they **distinguish between different types of justifications** for protesting. We asked a total of **99 children**, aged 6 to 9, to judge scenarios that described a group of people who **violated a social norm** (e.g., missing school) to protest a local environmental issue (e.g. cutting down trees in the local park), a global environmental issue (e.g. cutting down trees in the Amazon rainforest), or due to a preferential reason (e.g. they don't want to go to school). Children provided ratings (from VERY OK to NOT OK AT ALL) for the scenarios based on each justification and were asked to justify their reasoning.



Our preliminary findings suggest that participants, across all age groups, **judge disruptive actions more positively** based on environmental reasons than preference-based reasons. Additionally, we found that **ratings are similar in the global and local environmental issue scenarios**. The findings from this paper add to our understanding of children's norm-reasoning abilities and the development of sociomoral cognition. We are still carrying out additional analyses of the data we collected to gain a deeper understanding of the reasons children give for their ratings.

Cross Cultural Investigation of Children's Creativity: Across UK and Pakistan

5-10-year-olds



Our study investigated the cross-cultural views of both children (5-10 years) and their parents on how they define creativity and what do they think about perceived importance of creativity. To do this we have conducted the interviews with both parents and children separately in the lab.

For both parents and children the interview was consisted of set of 7 question each. The interview questions were about asking definition of creativity, perceived importance of creativity and asking what brings more creativity in children individual or group conditions.

Each interview took 15-20 mins to complete. The same procedure were used to collect the data collection from Pakistan as well. In total, we tested **25 children & 25 parents** from both countries, meaning we had **100 people** help us with our research! We are so grateful for all the kid scientists and their grown ups for contributing towards our work!

We are at the data analysis stage, and we are planning to do the thematic analysis. We are expecting to find similarities and differences across cultures in defining creativity, perceived importance of creativity and conceptualization of creativity.



5-8-year-olds

The Development of Children's Creativity

In this project, we are investigating children's creativity when they do tasks by themselves or in groups. Specifically, children (either alone or in groups) **created fantasy creatures** and were asked to **name as many uses as possible for everyday objects**. This project will help us understand **how creativity develops in children** and what **factors may influence their creativity**.

At the moment, we have tested **45 children** for this study, all of which have done amazing jobs! We hope to test a total of **80 altogether** for this study, and are planning to run this study through the summer holidays. If you have a child aged **5-8** that has yet to complete this study, feel free to **send us an email!**

Children's views of accents in Collaboration with Sergio Rojo from Lund University

7- 11 -years-old



People associate **different traits** to people speaking with **different accents**. For example, someone speaking with a standard Southern accent is considered intelligent, while someone speaking with a Northern accent is considered less intelligent but friendlier. Our study investigated how children learn these associations. To learn about this, we collected data in Plymouth and London. This helped us see whether growing up in different places affects when children learn these associations.

Thanks to the BabyLab and your help, we collected data from **249 children: 136** from (around) **Plymouth** and **113** from **London**.



The results show that accent associations do not rely on how easy/difficult to understand accents are. That is, children do not have negative views towards those accents they understand worst and they do not have positive views towards those accents they understand best. This was the case in both Plymouth and London.

When asked to rate speakers after hearing the bear story, children from Plymouth started to show accent associations from the age of 9.5 years (they rated French-accented speakers and Standard speakers as smarter and more hardworking). In London, children already had accent associations by the age of 7. In this case, they rated the Plymouth and Standard accent as smarter and more hardworking. But, by the age of 11, children from London changed their associations. At this age, they rated the French-accented and Chinese-accented speakers as smarter and more hardworking.

In the final task, children from London between the ages of 7 and 9.5 did better than children from Plymouth. But from the age of 9.5, children from both cities performed equally good.

The results from the third and the second tasks show that being able to differentiate accents is important to learn accent associations, since Plymouth children showed these associations at the same age when they caught up with London children in the third task.

The main difference between the children from Plymouth and London is that London children listen to more accents regularly. As a consequence, we can propose that accent exposure helps children differentiate accents, which in turn help them in learning accent associations earlier.

Finally, and perhaps most importantly, **thank you all very much** for helping us carry out this study! Without the help from all of you it would have been impossible.

Virtual Reality Study

6-9-year-olds

This study investigated search and foraging behaviour in adults with Down syndrome (DS) using a Virtual Reality task where **participants searched for hidden objects**. Children aged 6-9 from the Babylab list were invited to take part to provide a developmentally matched comparison group. Participants also took part in **cognitive tasks using an iPad**. This was an exploratory study, testing the potential of this procedure to **detect differences in search behaviour** using the VR task.

So far, we found that both children and people with DS were able to do the VR task, but that these groups generated quite **different results**. Children tended to **find many more hidden objects** than people with DS, and this was possibly because they moved around the space more quickly and easily than people with DS.

We are **still collecting data** in this study and we are very grateful to all the children who took part as this has allowed us to understand much more about the potential of these methods of research, and some key differences between typically developing children and people with DS. Importantly, all of our participants seemed to enjoy using the VR and this information will help us to plan future studies.

Goodbye...

We hope you enjoyed reading through our study updates, and perhaps even learned a thing or 2 about your baby scientist!

If you have any questions or concerns, or would like your information removed from our database, please do not hesitate to contact us
@plymouthbabylab@plymouth.ac.uk.

We look forward to seeing your faces (both new and old) next year!

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