

# Cognitive Development Lab Newsletter

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*Summer 2024*

## Greeting from the Cognitive Development Lab!

We hope you and your family are doing well. The campus is in full bloom and there are teenage goslings at every turn.

We would like to share with you the results from studies we have conducted since the last newsletter.

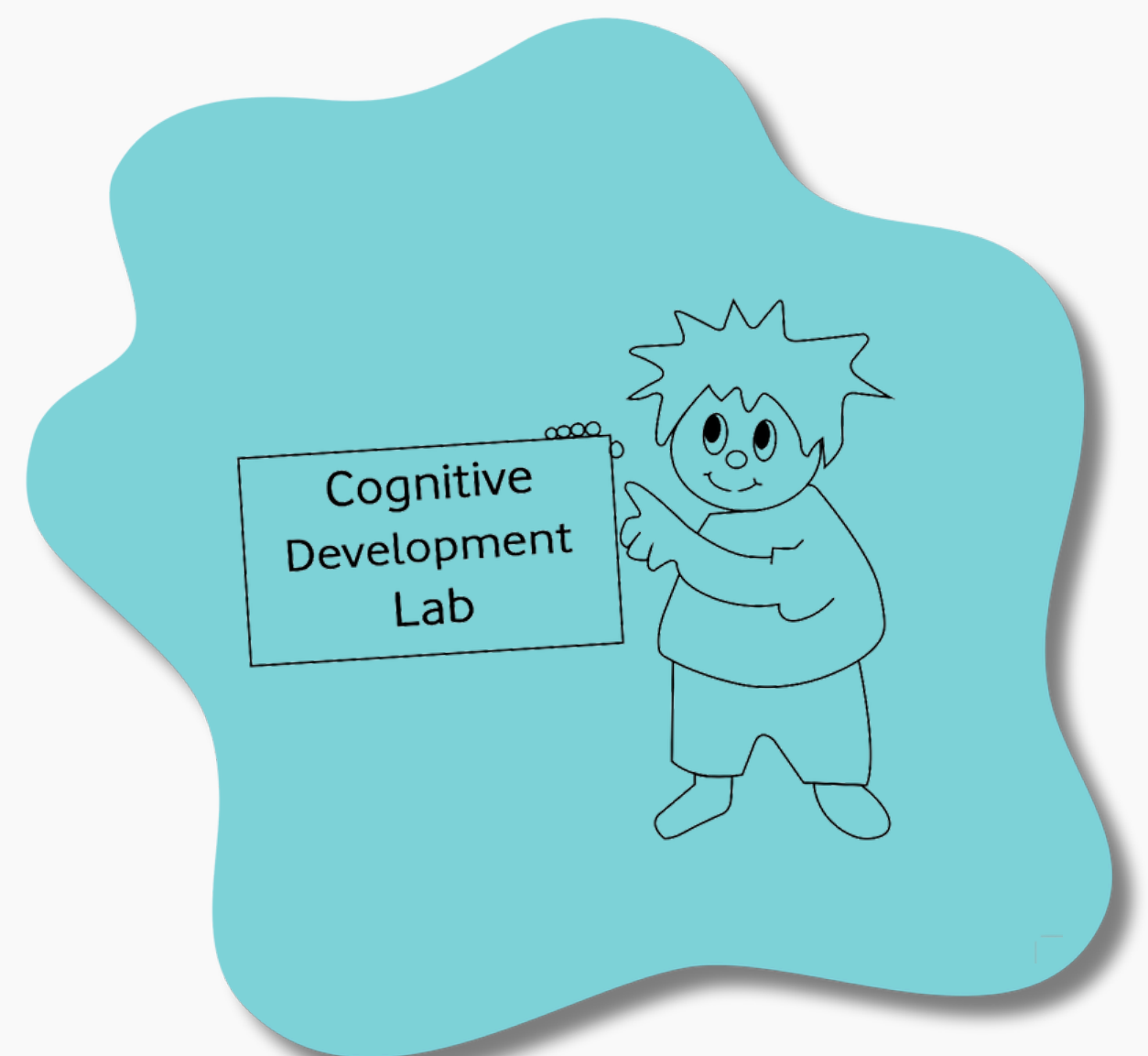
While our work consistently has the general theme of looking at how children and adolescents interact successfully with those around them, the specific studies in the last couple years have been quite varied: from adolescents' social media use, to children teaching robots, to understanding how parenting relates to youth social functioning, to behaviour during competitive games and children's prosocial lying. This work is in the process of being written for publication and has been shared at national and international conferences. And, of course, would not be possible without your support!

Thank you to you and your children for all your involvement!

Please read further to find out what your/your child's participation helped us learn and the implications for such findings.



If you see our booth at a local festival/event this summer, please do come and say hello. As well, feel free to stay connected through our social media platform. In particular, we welcome questions from you regarding children and adolescents' socio-cognitive development for our **"Ask a Researcher"** series where our graduate student researchers dive into the research literatures to answer your question. Please reach out if there are things that you are wondering about – or take a look at our previous Q&As (**Ask a Researcher**).



## Interested in Participating?



Please feel free to pass this newsletter or our contact information to your friends. We welcome new families! We are currently running in person studies at our research lab at the University of Waterloo for **children aged 3.5-4.5** as well as **youth aged 10-12** (see section below for more information), but will be starting up an online study for older adolescents in the Fall.

Interested parents/caregivers, who haven't already signed up, can contact the Cognitive Development Lab by emailing [childresearch@uwaterloo.ca](mailto:childresearch@uwaterloo.ca) OR go to [Join the Participant Database](#) . By doing so, we will be able to let you know when there are studies running that you/your child may be eligible to participate in.



## Findings from our recent studies:

Published work can be found on our website ([papers](#)). Please let us know if you would like a copy of any of the articles. Below we summarize the findings from recently completed studies.

### 1 *What insight do teens have into what they/others want in response to social media posts?*

Social networking sites can provide opportunities for positive communication between teens. However, social media users may also experience negative online interactions, which can impact their well-being. We were interested in understanding what sorts of responses adolescent want from other social media users when posting on social media. Further, we explored if these motivations were transparent/clear to other users viewing the posts on social media. First, teens (ages 13-17) created social media posts (on a simulated Instagram platform) about various topics and then indicated what sort of responses they hoped to receive from others. In a second phase, teens viewed the posts from others and guessed at what they thought the original poster would have wanted to receive. We found that teens mostly wanted engagement (e.g., likes/comments) and to entertain others (e.g., receive laughs/smiles) from others (more so than support or advice). Others were able to perceive this, but interestingly, viewers thought that posters would want less of each type of response.

This mismatch between what posters want and what viewers think they want may lead to feelings of dissatisfaction from social media use. We also found that the individual characteristics of the teens related to the types of responses they hoped to receive. Namely, adolescents who reported more positive peer relationships, and those who had more adaptive emotion regulation, were more likely to want others to feel entertained by their posts. Teens who reported greater levels of empathy, as well as those with lower moods reported wanting more engagement from their posts.

This work was presented at the 2024 Society for Research in Adolescence conference and the 2023 Canadian Psychological Association.

## 2 *How does competition affect children's behaviour?*

There have been recent conversations in the media about whether competition is something that should be decreased within various academic/sports contexts, or whether it provides children with a valuable opportunity to practice meeting their own needs while maintaining social relationships. Regardless of one's views on this, children face competitive situations on a regular basis where their goals are at odds with another (e.g., competing during board/video games, for limited art supplies, or the biggest piece of pie). In this work, we were interested examining children's behaviour during competitive games. We created an interactive competitive game that was rigged such that children (ages 4 to 9) always won/lost the same number of games regardless of how well they played. We then looked at how well they performed and their social behaviour towards their opponent. We found several interplays between children's individual characteristics and the game outcome. In particular, girls performed better and provided their opponent with more stickers (reflecting prosocial behaviour) than did boys – but only when they were winning.

When losing, both boys and girls behaved similarly. As well, we found that children who were better able to consider the perspective of others tended to provide less stickers to their opponents, potentially because this skill allowed them to see the divergent viewpoints during the competition more easily. And finally, we found that children with better emotion regulation skills showed better performance in the game when winning – suggesting that the ability to regulate oneself is important not just for managing reactions to negative outcomes (when losing), but also within positive outcomes. Additionally, we found that children's prosocial behaviour towards a non-opponent child did not change before/after the competitive games. Thus, we did not find that being immersed in competition changed their behaviour afterwards.

Together this work highlights that to understand children's reactions to competition, we need to consider both the contextual factors as well as their own individual characteristics. This work has been submitted for publication in a scientific journal.



## 3 *Do parental factors affect the degree to which COVID-19 disruption impacted adolescents' well-being?*

Much research has emerged since the pandemic that finds that adolescents' mental health was negatively impacted by COVID-19. However, this is not uniformly the case, with some adolescents reporting no or positive changes. Thus, in this work, we sought to determine whether there were parental factors that may affect the degree to which pandemic disruption related to youths' well-being. We found that increased disruption from COVID-19, particularly disruption within the family context, was related to increases in both youth's self-report and parent's report of youth's emotional and behavioural difficulties. However, this effect depended on the degree to which parents were able to consider their youth's mental states (i.e., mentalizing ability). That is, there was no association between COVID-19 disruption and parents' report of youth difficulties when parents were able to consider the mental states of their youth, whereas for parents who had difficulty with mentalizing, greater COVID-19 disruption related to greater difficulties. Additionally, perceived parental support was also associated with better youth well-being, though, this factor did not affect the association between COVID-19 disruption and youth well-being. Together this work highlights the important role that parents play for the mental well-being of adolescents, particularly during times of environmental stress such as a pandemic.

This work was presented at the 2023 *Canadian Psychological Association* and is currently submitted for publication in a scientific journal.

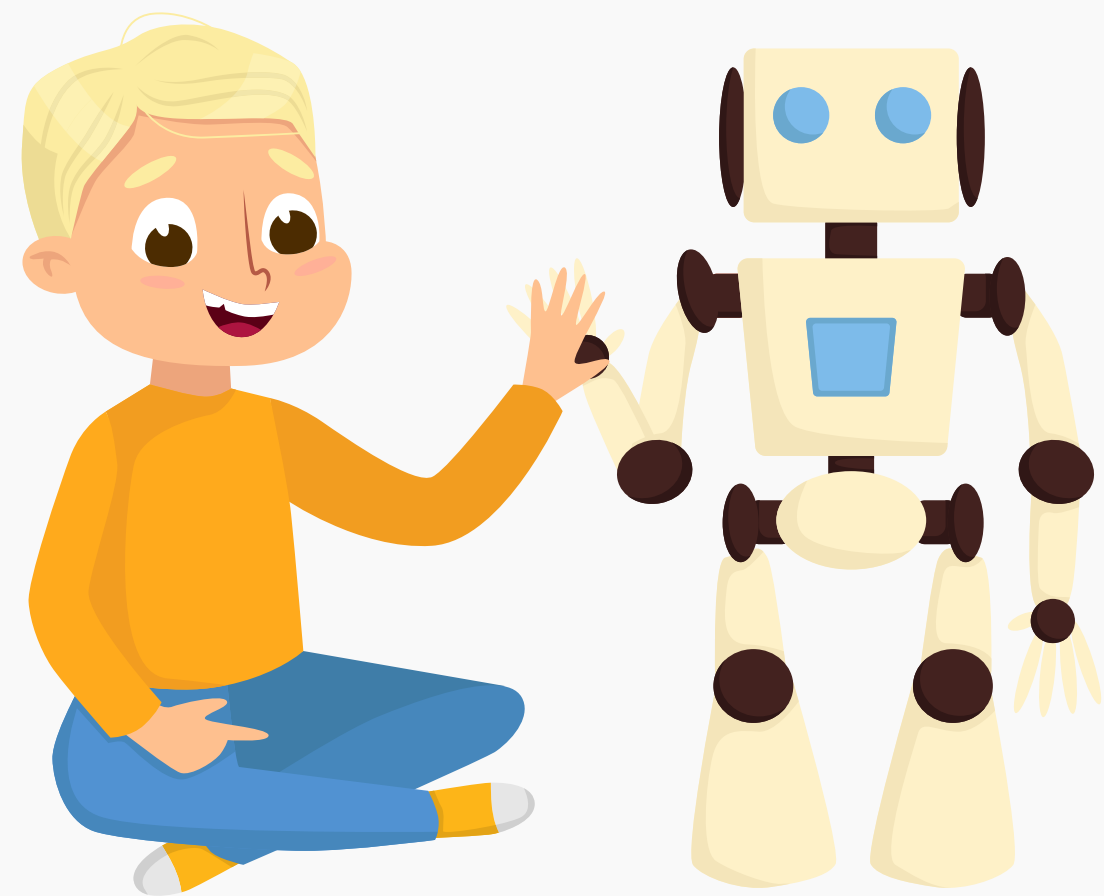
## 4

## Does interacting with a (non)cooperative peer change a child's social behaviour?

Given the degree to which children work in pairs within their school, home, and extracurricular activities, we were interested in whether the type of peer they work with changes how they behave following that interaction. To look at this, we created an interactive game where a child was able to control the number of turns (and amount of time for each turn) taken by them/their partner to complete a collaborative goal. Children (aged 4-6) played this game before and after an experimental manipulation which allowed us to look at whether there were changes in how often and for how long they gave their partner an opportunity to play the game. The experimental manipulation was a similar game played by a fictional partner who controlled the game. The partner either provided the child with an equal amount of turns (cooperative peer) or kept all the turns to themselves (uncooperative peer). We found that experiencing an interaction with a cooperative partner made children more cooperative when they were assigning the turns with their next partner. Moreover, this was especially the case for girls, who showed a greater influence of the experimental manipulation.

This work suggests that children can learn from social behaviours modelled in the context of peer-to-peer dyads. Thus, this work has relevance for settings where it may be useful to strategically partner children to maximize benefit.

Preliminary findings from this work were presented at the *Development 2022* conference.



## 5

## Can children learn from teaching a robot?

This study reflected a fun collaboration with Computer Science. We were interested in finding out whether children (ages 8-10) learned a novel classification system (where aliens were from) through the process of teaching it to a social robot ("Beta"). As well, we were interested in knowing whether the robot's type of behaviour, namely, whether it made mistakes or not, and the type of mistakes made (i.e., whether they followed a typical learning pattern or not) affected children's perceptions of the robot, teaching strategies, and learning outcomes. We found that children learned better from teaching robots who made mistakes, in particular mistakes that did not follow a typical learning pattern. We suspected that this may be because the unexpected nature of the mistakes leads to greater engagement. We also found that mistakes in general lead children to engage in more advanced teaching strategies (e.g., explaining the rules) – and that greater levels of these teaching strategies were associated with greater learning gains. We are currently conducting further analyses to determine whether children's individual characteristics related to their perceptions of and behaviour towards the robot.

This work was presented at the 2024 *Cognitive Development Society* conference the *Jean Piaget Society* conference.

## 6

***Would children tell a white lie to someone who knows the truth?***

Prosocial lies (also known as “white lies”) are lies that are used to make someone feel better. Although lying is generally discouraged, white lies are used by both adults and children with relative frequency because of their social benefits (e.g., protecting others from harm, keeping friendships). For instance, in our past work, we found that children feel that the emotions of both the person telling the lie – and the person receiving the prosocial lie will feel better. In this study, we were curious as to whether children ages 8-11) were more or less likely to endorse that they would tell a prosocial lie based on the other person’s knowledge (of the lie situation) and the type of lie being told. Showing children different scenarios via comics in an online session, we found that children were just as likely to tell a prosocial lie (e.g., “*your ball bounced really well*”) to someone who knew about the situation (e.g., that their ball didn’t bounce at all) compared to someone who was unaware of the situation. This suggests that children may see benefit from telling prosocial lies even if there is not deception involved. Interestingly, children were more likely to say they would lie about their opinion (e.g., “*I like this ball*”) compared to a lie about reality (e.g., “*your ball bounced really well*”). This may reflect children’s sensitivity to the fact that lying about an opinion is easier to hide versus lying about what really happened. Together, this work shows that children consider some types of information when deciding to tell a white lie during a conversation.



## 7

***Do parents’ ability to consider the mental states of their adolescents relate to better social functioning?***

Given the crucial role that peer relationships play for the psychological well-being of adolescents, it is important to understand the factors associated with social functioning. In this study, we were interested in understanding how adolescents’ and parents’ ability to infer the mental states of others is related to adolescents’ peer relationships. This question is something that previously has been looked at within earlier developmental stages. However, because recent work shows that the ability to mentalize continues to develop well into adolescence, we sought to explore whether similar or different patterns emerged within an older age range.

We found that youth who performed better on a task that asked them to consider the internal states (thoughts, feelings, intentions) of others reported more positive relationships with peers. As well, parents who reported better ability to consider their youth’s mental state, had adolescents who reported better peer relationships. It seems that when parents are able to consider their child’s mental state, these youth have better mentalizing skills, which in turn is associated with better social functioning. Interestingly, when we looked at the degree to which parents and youth agreed on the youth’s social functioning, it was the youth’s mentalizing that was the best predictor: youth with better mentalizing had more agreement between them and their parents on their positive peer relationships.

This work was presented at the 2024 Society for Research in Adolescence and the 2023 Canadian Psychological Association.

# Current studies running in the lab:

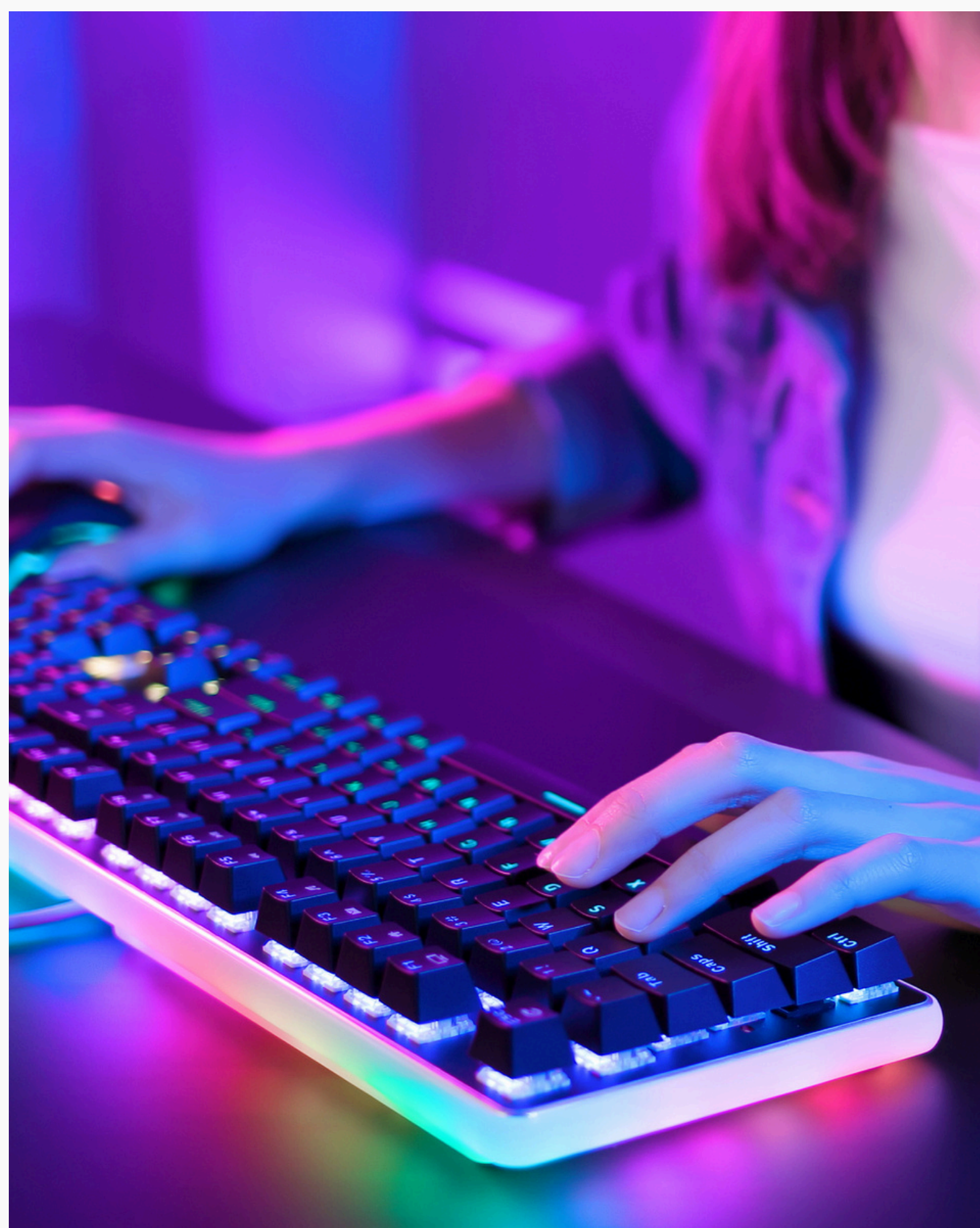
We are currently running two studies, both in-lab studies. Please reach out if you would like additional information, or follow the information on the bottom of each link to learn how to sign up:

**1. Children ages 10 – 12:** In this study, we are looking at how skills, such as perspective-taking relate to children's communication skills and peer relationships. Findings from this work will have implications for how best to support youth at they transition into the adolescent years, a time when social relationships are important predictors of well-being. Additional information about this study can be found here: [Youth perspective-taking](#).

**2. Children ages 3.5 to 4.5:** In this study, we examine whether communication skills can be enhanced through a short activity. This study is designed as a series of games that look at children's thinking and reasoning skills as well as language and communication. Findings from this work will have implications for theoretical models of communication as well as applied relevance for how to provide experiences that bolster children's ability to communicate successfully with others. Additional information about this study can be found here: [Preschool communication](#).

## In the works...

We are in the process of developing a study for **adolescents (ages 15 – 19)** that examines how different game features relate to communication during **video games**. While we have examined youth communication previously in the lab, investigating how youth interact online in the context of video gaming is a new direction. Interested participants will be able to take part in the study remotely. Stay tuned for more information!



# Thank you for reading!

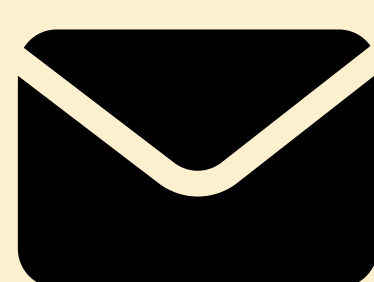
*and we wish you all the best for  
the summer months!*



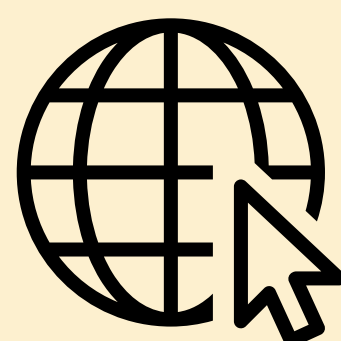
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## Contact

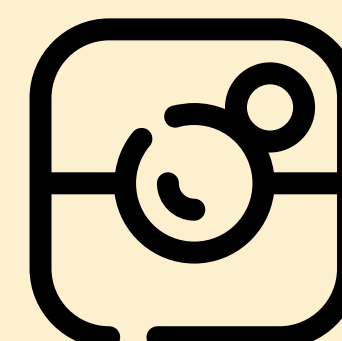
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For any questions or to sign up  
to participate, email  
[childresearch@uwaterloo.ca](mailto:childresearch@uwaterloo.ca)

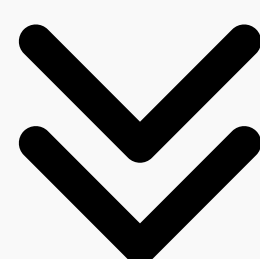


For more information about our  
research, visit our website at  
[https://uwaterloo.ca/cognitive-  
development-lab/](https://uwaterloo.ca/cognitive-development-lab/)



Check out our instagram  
[@uwcogdevlab](https://www.instagram.com/uwcogdevlab)

*And don't forget to check out the posters below for additional  
information on our upcoming studies 😊*



# Research Opportunity for Junior Scientists!



For children  
aged 3.5–4.5  
years!



Executive functioning (i.e., thinking skills that enable goal-directed behaviour) play an important role in children's ability to communicate successfully. The purpose of this study is to determine if training in these thinking skills can generalize to improved communicative performance for children aged 3.5 - 4.5.

\*This study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Board.

## Kids

Children will participate in a series of learning tasks designed to be like games.

Check out our Instagram:  
[@uwcogdevlab](https://www.instagram.com/uwcogdevlab)

## Parents

Parents will fill out a brief demographic questionnaire and have the opportunity to watch their child participate in the study.

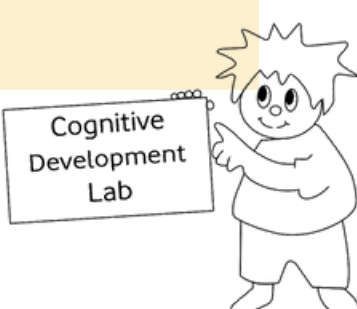


**SCAN ME!**



UNIVERSITY OF  
**WATERLOO**

Questions? Contact us! [childresearch@uwaterloo.ca](mailto:childresearch@uwaterloo.ca)





# Research Opportunity

Help us learn more about children and teens' social development!



## Understanding Social Development

Important thinking skills like perspective-taking are key to developing effective communication skills and social relationships. However, some youth may not benefit from these skills as much as others. We want to learn why!

Youth will engage in interactive tasks and questionnaires to understand how their thinking skills and social style relate to future peer relationships over a 3-year period.

1

### WHO IS ELIGIBLE

All **10 - 12 year-old children and their parents** are eligible for this study. Parents will be asked to provide consent.

2

### WHAT TO EXPECT

**60 minute sessions Once a year for 3 years**  
**Visit 1:** at the University of Waterloo  
**Visit 2 & 3:** In-Lab or virtual from home!

3

### WHAT'S INVOLVED

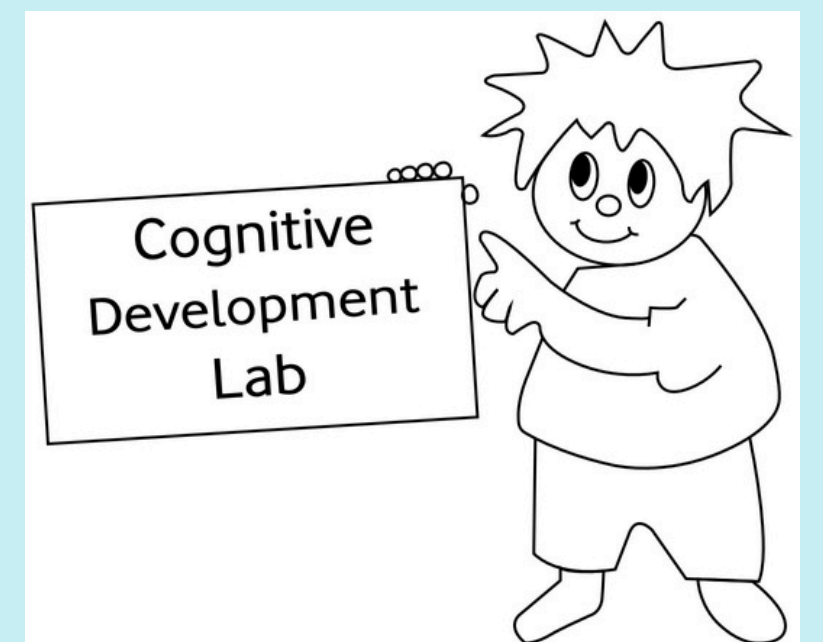
**Parents:** short surveys on your youth's thinking and social relationships  
**Youth:** Short surveys & interactive tasks on thinking skills and social relationships

### More Info

Participation is voluntary; participating in phase 1 does not obligate you to continue with phases 2 & 3

This study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Board and through the WRDSB Ethics and Review Board (#44896)

### Contact Us



[childresearch@uwaterloo.ca](mailto:childresearch@uwaterloo.ca)  
(519)-888-4567 ext. 38542

### Sign Up Now

